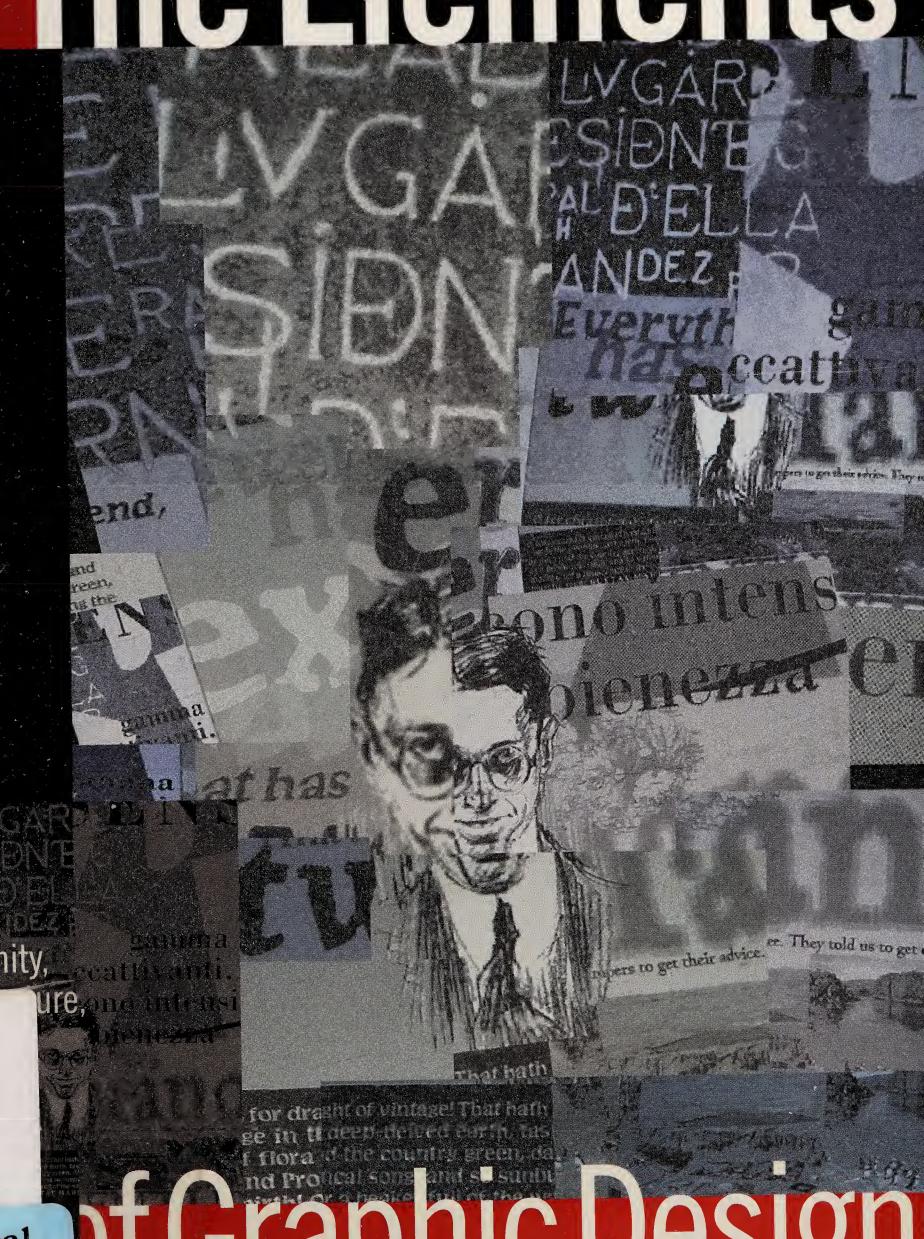
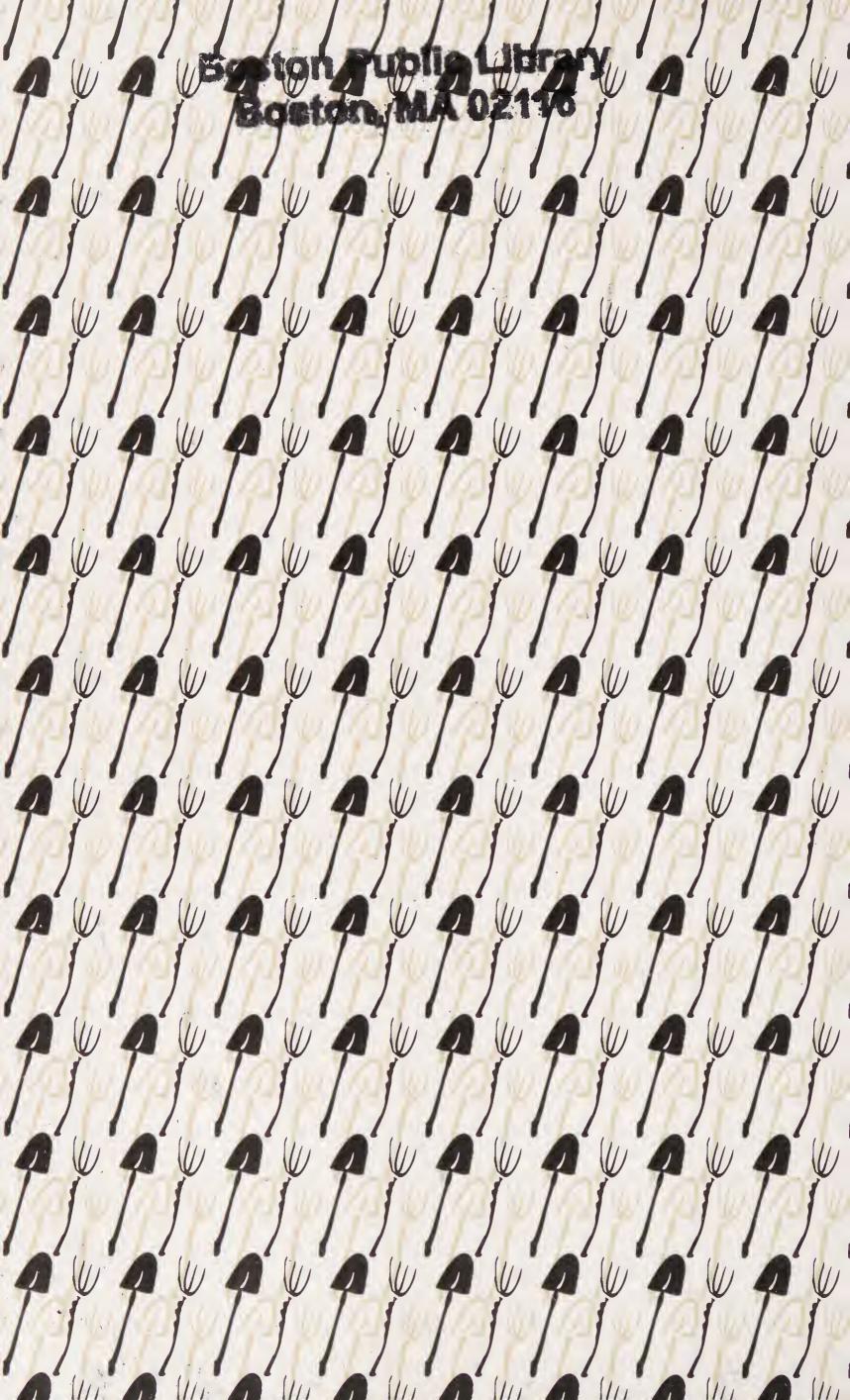
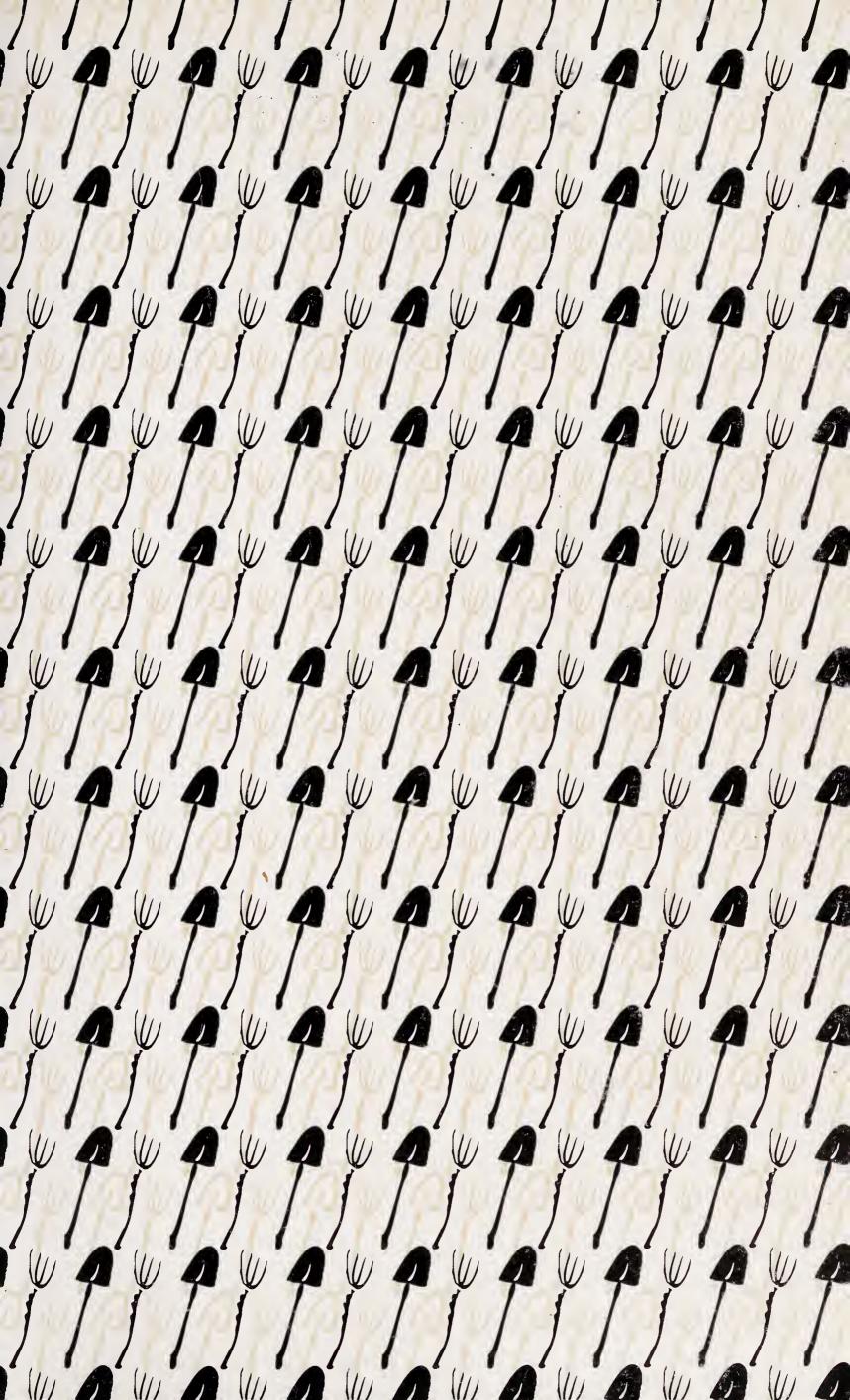
Ine Elements



of Graphic Design





**C** Endpapers The functional difference between a shovel and a pitchfork is the metal that is *missing*.

# The Elements of Graphic Design

Space, Unity, Page Architecture, and Type

Alex W. White



"Graphic design has become such a central part of our Post-modern visual language that it has developed into a carrier of meaning at least as significant as the words and images it is presenting. For this reason Post-modern white space becomes a very significant void." Keith Robertson in Looking Closer: Critical Writings on Graphic Design

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This book is concerned with what things look like, but supposes that what is being said is worth the effort of clarity.

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"Design is not the abundance of simplicity. It is the absence of complexity." Anonymous

## The Elements of Graphic Design

Space, Unity, Page Architecture, and Type

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## Preface

In the course of writing and designing my previous book, *Type in Use*, I became intrigued by the study of white space, the dynamic emptiness that lies behind printed type and imagery. I became fascinated by the importance of white space and by the necessity of "not filling in all the space." This resulted in a lecture I delivered in New York in May 1992 titled *Page Design:* 

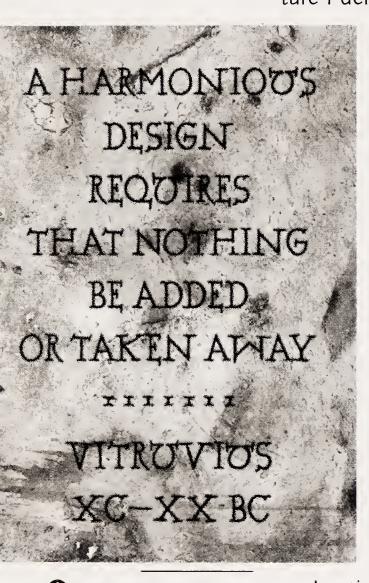
What Works and Why. My research into design's white space and abstraction completely changed my approach to consulting and teaching. They are essential to sophisticated and compelling designs. A designer who can handle white space and abstraction can handle more design problems because he has trained his mind to see form more accurately and critically.

Abstraction makes an idea clearer by removing unnecessary details. Abstraction can be harmful, though, when it obscures the message by removing identifiable markers. Discretion and judgment in its use are essential and are improved with practice and experience.

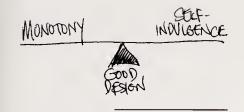
Unlike mathematics, where there can only be a single "right" answer, design has many alternate solutions. It is up to the designer to find the best among these. Design is not an opportunity to show off one's latest vi-

sual notions for one's colleagues. On the other hand, monotony is not good design either, even if the basic structure of that monotony is pretty. Why? Because sameness puts browsers to sleep. Good design balances deliberate consistency with flexibility so *some* of the goodies will stand out. Designers are in service to their readers by accelerating learning and making content stick.

Design – whether graphic, industrial, interior, or architecture – is the process of taking unrelated parts and putting them together in an organized unit. Each discipline works with solids and voids and each must respond to three questions: What are the elements I have to work with? Where do these elements go? What structure is necessary so they go together?



Vitruvius foretold Step 3. There is a huge difference between "nothing wrong" and "nothing right" about a design. Being able to identify what is right about one's work is crucial to organizing material for clarity. Merely having nothing wrong is no assurance that a design is successful in communicating. There must be something identifiably right in a design for it to achieve elegance.



One definition of good design is the balance between monotony and the designer's self-indulgence.

Design is simple when you remember it is a process, not a result.

- Define the problem you have been given. This is usually a redefinition because you have been given an *apparent* problem. The redifinition must home in on the real issues. If you don't become clearer about how to handle the material, you haven't redefined the problem accurately enough.
- 2 Know the material. Digest it fully. At the very least, read it.
- 3 Distill the essential from the mass of confusing muchness. Nothing may be missing, and nothing may be extraneous. This is the definition of elegance.
- 4 Abstract the main point so its importance to the reader is clear and it is visually arresting. A message that doesn't stop readers won't be read.
- **5** Unify all elements so they don't outshout each other.

Thanks to:

■ Tad Crawford, Liz Van Hoose, and Nicole Potter, who are committed to quality and clarity. And they are sweet people with whom to work. 

Charla Honea, a writer and editor in Nashville, for calling me "spay-shul," when I told her about my plans for this book at its earliest stages. I misunderstood her to mean special. She meant spatial, which still makes me smile. Charla's insight, advice, and suggestions helped me immeasurably. □ Clyde Hanks for his encouragement at 6,000 feet. 

Elizabeth, Sneaux, Rosinha, and Isabela for making the office a much nicer place each day. ☐ Professor Larry Bakke, a student's hero. ☐ Carl Dair (1912–1967), a designer's hero. □ Neil Bittner, a teacher's hero. □ Stuart Schar, a professor's hero. □ Jan VW, der brüders' hero. You can ask them. ☐ And *now*, *I'm going to tell you something*: very special thanks and love to Lilian, who has given me the time to put ideas together into the book you are holding. I don't mean time we could have spent together, say, spatziering around Manhattan. I mean earning time. You are generous end olzo beautiful. "Shut the door."

Alex W. White New York City

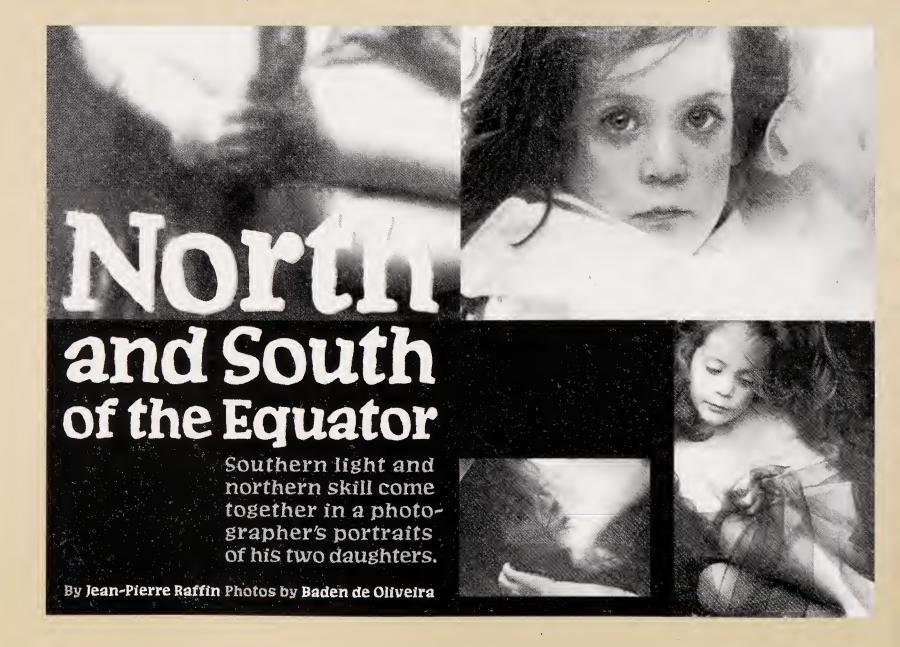
This book is dedicated to Clare, who, like white space, is the glue that holds everything together. Southern light and northern skill come together in a photographer's portraits of his two daughters.



# North and South of the Equator



By Jean-Pierre Raffin Photos by Baden de Oliveira



C Making the content a reader magnet The top layout is confusing because font use does not connect thoughts, there is a near total lack of alignment or connectedness between elements, the subhead's typographic "color" is uneven, and the empty space has been distributed evenly throughout the spread. The bottom example is more appealing and easier to read because connectedness has been created things touch - leading the reader from one element to the next effortlessly. Also, a powerful display font has been used, the words have been placed in a pattern that reveals their natural order (including the subhead, which has been "broken for sense"), and some space has been purposefully left empty.





"Perfect communication is person-to-person. You see me, hear me, smell me, touch me. Television is the second form of communication; you can see me and hear me. Radio is the next; you hear me, but you don't see me. And then comes print. You can't see or hear me, so you must be able to interpret the kind of person I am from what is on the printed page. That's where typographic design comes in." Aaron Burns (1922-1991)

### Introduction

A communicator's job 1 | The mind searches for meaning 5 | Space attracts readers 7

othing puzzles me more than time and space; and yet nothing troubles me less, as I never think about them. - Charles Lamb (1775– 1834)

To design means to plan. The process of design is used to bring order from chaos and randomness. Order is good for readers, who can more easily make sense of an ordered message. An ordered message is therefore considered good design. But looking through even a short stack of design annuals, you will see that what is judged good changes with time. It is apparent that style and fashion are aspects of design that cannot be ignored. Stephen A. Kliment, writing in an Architectural Record magazine editorial, advises, "Do not confuse style with fashion. Style is derived from the real needs of a client or of society. Fashion is a superficial condition adopted by those anxious to appear elegant or sophisticated." Leslie Segal, writing in the introduction to Graphis Diagrams, says, "Elegance is the measure of the grace and simplicity of the design relative to the complexity of its functions. For example, given two designs of equal simplicity, the one conveying more information is more elegant. Conversely, of two designs conveying the same information, the simpler is the more elegant. Inelegance is a frequent design failing."

# A communicator's job

Having material on the page read and absorbed is a visual communicator's chief responsibility. The Xerox Corporation completed a landmark project by distributing their Xerox Publishing Standards (page 6). In it, they describe their design rationale: "The principal goals of page layout are visual recognition and legibility. These goals are accomplished through consistent typography, effective use of white space and graphics, and controlled use of [lines].... A repeated visual logic guides the eye and helps





What not to do with space Society has not improved the landscape by overfilling it with construction. Neither does a designer improve a page by overfilling it with content.

"It is better to be good than to be original." Ludwig Mies van der Rohe (1886–1969)

The design process expresses significance. The design process is one of sifting through the less important to find the essential. This is done in stages, first by removing the large chunks of less valuable content, then looking through increasingly fine grades of information. Having at last identified the essential, designers enhance its significance for their readers.

the reader scan. A generous amount of white space is reserved as a blank presentation area, allowing headings to 'pop out' and wide graphics to be extended."

It is important to make the page look inviting – a "reader magnet." Visual stimulation draws viewers into the page, arousing their curiosity and actively involving them in the process of absorbing information. Visual simplicity eliminates uneccessary elements and structures those that remain in a logical, consistent system. Good design reduces the effort of reading as much as possible, thereby encouraging readership and understanding.

Readers respond to consistent page structure. The job is *not* to fill in all the space in order to impress the reader with sheer quantity of information. That will just overwhelm the reader with overfullness.

Imagine coffee being poured in a cup. If the cup is filled to the very top, it is difficult to avoid spilling it on yourself as you take the first sip. By having too much of a good thing, we have created a problem. This is exactly the same reaction readers have to being given too much information at once. It is perceived as a problem and their response is to avoid it. Umberto Eco, the Italian author and professor of semiotics, writes about toomuchness in his description of William Randolph Hearst's castle in San Simeon, "The striking aspect of the whole is not the quantity of antique pieces plundered from half of Europe, or the nonchalance with which the artificial tissue seamlessly connects fake and genuine, but rather the sense of fullness, the obsessive determination not to leave a single space that doesn't suggest something, and hence the masterpiece of bricolage, haunted by horror vacui, that is here achieved. The insane abundance makes the place unlivable...." Again, the designer's job is not to fill in all the space. It is to make information accessible and appealing.

The best use of the page's empty space is to help make information scannable, not merely to make the pages pretty. That will automatically follow. The point is to increase the page's *absorbability*.





Substituting form attracts attention because it results in unexpected contrast.



Physical form conveys meaning. Matching an element's form to its meaning helps reveal the message.



The stylized "Y" inside this logo for a Finnish insurance provider is easily visible. But it takes a moment longer to recognize the "S" shape that represents the first half of the company's name, Suomi-Yhtiö.

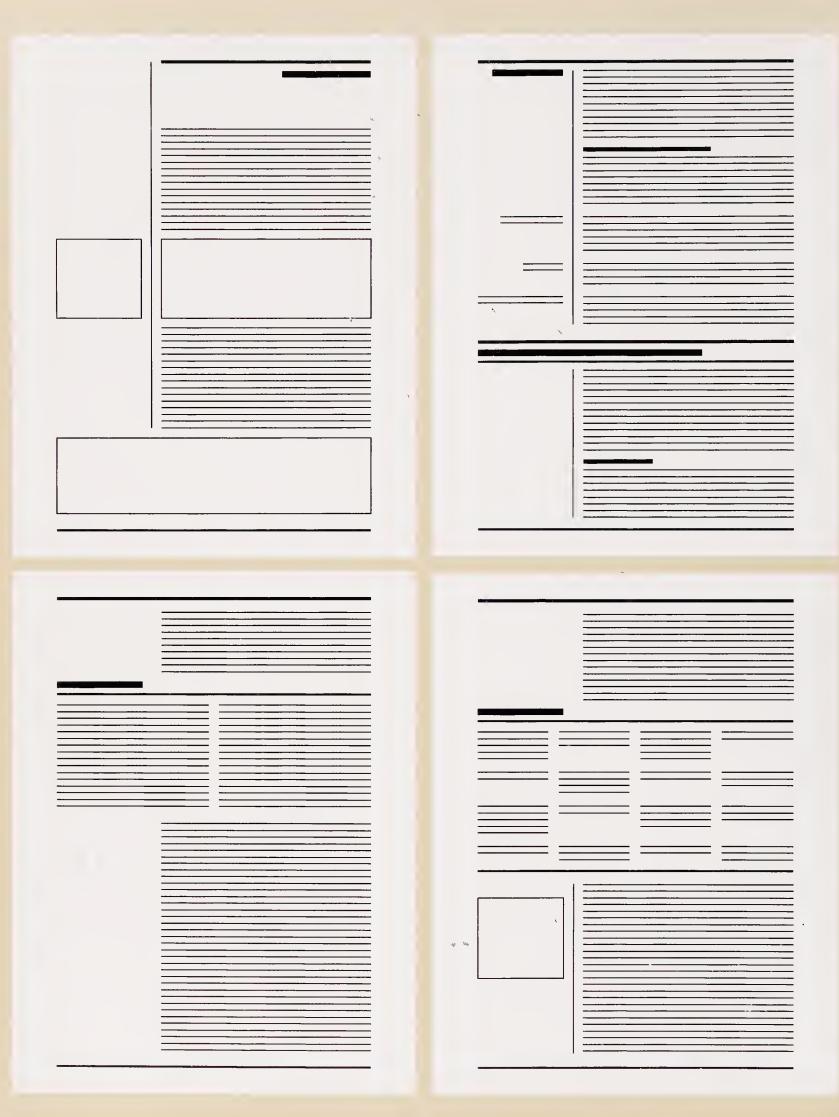
# The mind searches for meaning

As humans evolved, an important attribute we acquired was the ability to see potential dangers around us, to see differences in our surroundings. Anything that moved irregularly or was a different color or texture was worthy of our attention. After all, it might eat us. Noticing differences became an evoltionary advantage for humans. As a result, when we modern humans look at a printed document or a monitor screen, our eyes instinctively and subconsciously look for similarities and differences among the elements used. We search for the unique, which is determined by *relative unusualness*.

Design is like sifting through sand for seashells. The human brain sifts images and bits of type. It innately simplifies and groups similar elements. If it cannot easily make these connections, it perceives confusion. The majority of readers are disinclined to exert much effort in digging out the meaning or importance of a message. They may be too busy or they may be uninterested in the subject. Indeed, many readers subconsciously look for reasons to stop reading. It's demanding, hard work, it takes concentration, and we're all a little lazy. As has been said about advertising messages, "Tell me sweet, tell me true, or else my dear, to hell with you."

Designing is the process of looking for and showing off the similarities and differences inherent in the content of a visual message. This can sometimes take a good deal of time if the similarities do not immediately present themselves. But the search for similarities is at the heart of what a designer does.

In addition to searching for similarities and differences in our environment, we look for meaning in the physical form of the things we see. The form of a thing tells us certain things about itself. A couple of decades ago, Transformers® were introduced and quickly became a best-selling toy. Their popularity was based on the idea that an object could be disguised as something it is not. Designers struggle to reveal the meaning of their messages by using type, imagery, and space. If used well, the meaning is



C Publications need structure and flexibility. Structured white space makes headings stand out, helping readers quickly find what they need. These samples, from the Xerox Publishing Standards, show a wide main column that fits text economically. The narrower column creates headline visibility and a specific place for imagery. The basic page structure allows great flexibility in placing unusual combinations of materials.

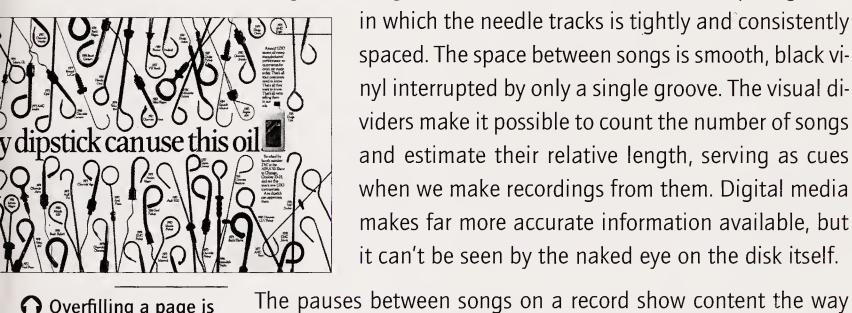
illuminated and the process of communication is well served. If used poorly, the meaning is confused by poor choices or is subsumed by the prettiness of the message's presentation.

Successful designs describe the content fully and as simply as possible. This is the definition of elegance. Ideally, the reader should be unaware of the act of reading, for reading is then truly effortless. In design, more is not better. There must be an economy in using type and imagery, or marks of any kind. If it hasn't got a purpose (other than decoration, perhaps?), it shouldn't be used. Despite the abundance of busy, overproduced design work we've seen in recent years, the excellence of a design is in direct proportion to its simplicity and clarity.

## Space attracts readers

LP records have a narrow space of relatively empty vinyl between songs. The songs share similar texture because the spiral groove

> in which the needle tracks is tightly and consistently spaced. The space between songs is smooth, black vinyl interrupted by only a single groove. The visual dividers make it possible to count the number of songs and estimate their relative length, serving as cues when we make recordings from them. Digital media makes far more accurate information available, but it can't be seen by the naked eye on the disk itself.



Overfilling a page is good only if it actually helps get the message across, as shown here. Otherwise, an overfilled page repels readers.

almost impossible. I say "almost" because you will get groans of disapproval if you toss around chunks of unused white space, that is, emptiness purely for its own sake, rather than for the sake of the message. Readers are less likely to notice or object "Art is not a mirror. Art is a hammer." to too much white space than to an unreadable, crowded page. SoHo graffito, NYC

> Readability is a term that refers to the adequacy of an object to attract readers. It should not be confused with legibility, which

> white space does. Space attracts readers by making the page

look accessible, unthreatening, and manageable. Leaving too

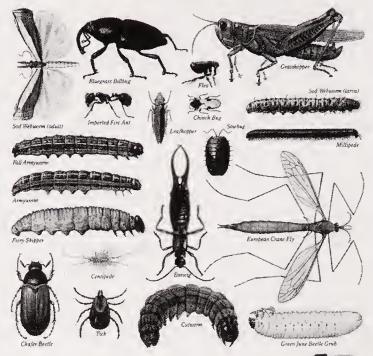
little white space makes a page look crowded – good only if that's

the point you want to make. Leaving too much white space is

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whiteness to attract readers. Does this much "emptiness" justify its cost to the client? Yes, if the emptiness communicates the message, which it does in these two examples.

"The usefulness of a water pitcher dwells in the emptiness where water might be put, not in the form of the pitcher or the material of which it is made." Lao-tse (604–531BC), Book of Tea

describes the adequacy of an object to be deciphered. Good readability makes the page look comfortable to read. Poor readability makes pages look dull or busy. Richard Lewis, an expert on annual reports, says, "Make exciting design. Dullness and mediocrity are curses of the annual report. For every overdesigned, unreadable report there are a hundred undistinguished ones that just plod along."

Regarding legibility, Lewis says, "Designers who play with type until they have rendered it unreadable are engaged in a destructive act that hurts us all. Hard-to-read [design] is useless in today's fast-paced business world." Other ways of making a page illegible are by placing a background tint behind the text, making the text too small, overlapping elements so none of them can be understood, and by simply making the fancy presentation more important than the content. Make unnecessary demands on your readers with great care and only when you are sure the extra effort they are being asked to make will quickly become evident to them.

Ordinarily, an LP record has one long groove on each side of the disc. Monty Python, the British comedy troupe, released a record in the 1970s that was billed as a "three-sided, two-sided record." Python put the normal single groove on one side and two concentric grooves on the other side, making it a matter of chance before a listener would happen to put the needle down on one or the other groove. I distinctly remember the delight of hearing something unexpected, having taken me several listenings before their novel manipulation was realized. Their gag worked because they reinvented the rules of LP recordings.

Considered use of white space shows off the subject. Go through the pages of any newspaper and you will find wall-to-wall ads of even grayness, occasionally punctuated by a darker area of bold type. Few ads utilize the whiteness of the paper to attract attention. Using the whiteness of the paper is an additionally good approach if the paper's whiteness expresses the idea of the ad.



# Section One

Space

- 1 Space is emptiness
- 2 Symmetry and asymmetry
- **3** The historical development of space: Five timelines



We turned to some professional lava jumpers to get their advice. They told us to get out now, immediately.





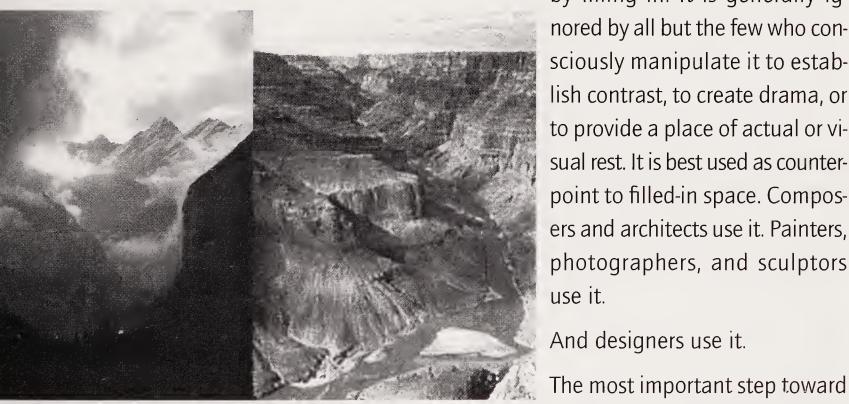
C Architecture and graphic design have much in common. Symmetry, whether in two or three dimensions, is shown in this magazine spread and an early 19th century New England home. Architecture is defined as, "The art and science of designing and erecting buildings." The definition of design is simply "to plan."

# **Space is emptiness**

What is space? 15 I Space is created when a figure is placed in it 17 | Space is context 19 | Space must look deliberately used 21 | Space adds quality 27 | Space adds functionality 29

fill up a place, which may be better...when I have made it empty. - William Shakespeare (1564-1616), As You Like It

Emptiness is an essential aspect of life. It is the unavoidable opposite of fullness, of busyness, of activity. It is the natural and universally present background to everything we see. Emptiness is silence, an open field, a barren room, a blank canvas, an empty page. Emptiness is often taken for granted and thought best used



by filling in. It is generally ignored by all but the few who consciously manipulate it to establish contrast, to create drama, or to provide a place of actual or visual rest. It is best used as counterpoint to filled-in space. Composers and architects use it. Painters, photographers, and sculptors use it.

And designers use it.

sensitizing yourself to using space is first seeing it. Gregg Berryman writes in his Notes on Graphic Design and Visual Communication, "Everyone 'looks' at things but very few people 'see' effectively. Designers must be able to see. Seeing means a trained super-awareness of visual codes like shape, color, texture, pattern, and contrast. These codes make a language of vision, much as words are building blocks for verbal language." Being trained to see more critically is best guided by a teacher, but such training relies on exposure to excellent art and design samples.

The power of nature's emptiness creates drama as in the granite rock that is absent in this Swiss valley. The Grand Canyon's drama (right) is also caused by what is missing. Had the Colorado River not carved the land, the surface that has become the Grand Canyon might just be another area of relatively flat, uninterrupted plains.



ì

\*



red." - Ken Hiebert (b. 1930). New York City's Central Park, shown before the surrounding countryside was built up, c.1909, and as it appears today, a vital sanctuary surrounded by intensity.





The universe was entirely empty before the Big Bang. Its size is now measured by the area occupied by galaxies.



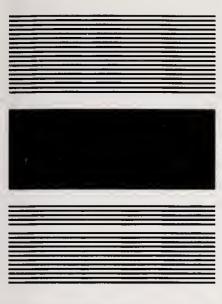
What is space?

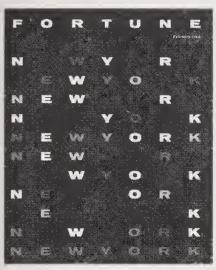
The single most overlooked element in visual design is emptiness. The lack of attention it receives explains the abundance of ugly and unread design. (*Ugly* and *unread* describe two separate functions of design which occasionally occur at the same time. *Ugly* refers to an object's aesthetic qualities, an evaluation of whether we *like* the object. *Unread* is infinitely more important, because an unread design is an utter failure. A printed document, regardless of its purpose or attributes, is never intended to be ignored.)

Design elements are *always* viewed in relation to their surroundings. Emptiness in two-dimensional design is called white space and lies behind the type and imagery. But it is more than just the background of a design, for if a design's background alone were properly constructed, the overall design would immediately double in clarity and usefulness. Thus, when it is used intriguingly, white space becomes foreground. The emptiness becomes a positive shape and the positive and negative areas become intricately linked.

White space has various other names. Among them are "negative space," which is a fully interchangeable term; "trapped space," which refers to space surrounded by other elements; "counterform," used by lettering specialists and referring to spaces within letters, called "counters," and spaces between letters; "working white," which describes emptiness that serves a purpose and forms an integral part of a design; and "leftover space," which is emptiness that still has unrealized potential.

cattivanti. ono mater 





C Total lack of controlled white space produces visual noise. This is a section of a printer's make-ready sheet found separating Italian postcards. Though possessing a certain charm, it is an example of accidental design.

Space is defined when something is placed in it. The ocean's vastness looks even bigger when a small island is in the distance.

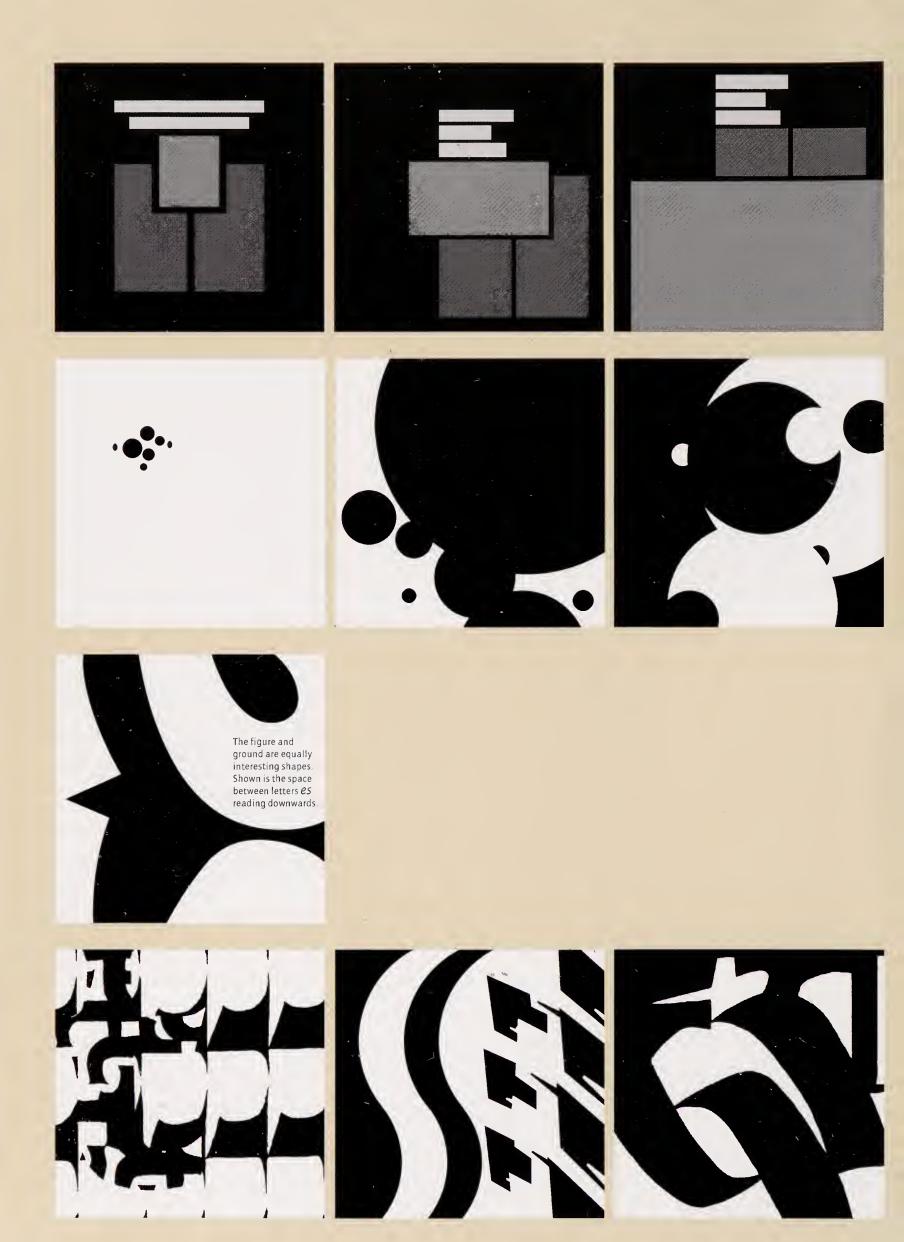
For a very simple example of white space, in an area of carefully spaced, identical lines (near left, top), the eye sees a field of gray (the lines and their background are in harmony, neither demanding more attention than the other). If we eliminate the passive white space in this pattern, jamming the black lines together so their tops and bottoms touch, we create an area of uninterrupted black. In order to create the gray field, the white space in the original pattern is equally essential as the black lines. If we eliminate a single black line, the white space already present in the pattern is *activated*. This now-visible white line is an *anomaly* and appears to be in front of the gray field. Its presence introduces a third dimension to the design, that of depth. Leo Lionni (b. 1910) executed this principle on a *Fortune* magazine cover in 1960 (near left, bottom). The background would be invisible if the "missing" letters didn't force us to see it.

Total lack of managed white space results in a visually noisy, or cacophonous, design. This can be a desirable solution under a few certain circumstances, if for example, the subject being discussed is audio or video interference, or a visual translation of anxiety, or reading conditions on a jolting train, or eidetic imagery. Some designers have been using computer-inspired cacophonous styling in what they think is fashionable experimentation on all their assignments, regardless of content and appropriateness. The results have been unreadable, confusing, and ugly.

# Space is created when a figure is placed in it

Space is undefined until it is articulated by the placement of an object within it. Until a design element – a small square , for example – is placed in a framal reference , little about the space can be determined.

Graphic emptiness can be made to look vast and unending or it can be manipulated to look finite and segmented. Placing an object in space creates a figure/ground relationship. When a single element is placed in a space, it may be difficult to tell whether the element is big or small, high or low, or near or far. It is merely floating in space. The perimeter of the space, whether



C Stable figure/ground relationship (top row):

centering a figure neutralizes negative space;
 placing the figure off-center activates negative space; and 3 bleeding the figure makes it more dynamic.

Reversible figure/ground relationship (second row):

● a lot of space with a tiny figure; ② a huge figure sitting in a small space; and ③ the figure and space are in size and shape equilibrium, that is, neither is "in front."

Ambiguous figure/ground relationship (third row): the figure and ground are equally interesting shapes. Shown is the space between letters *es* reading downwards.

Figure / ground relationship studies (bottom row): Explorations of the fundamental design relationship made by freshman students. Each study uses a single letterform. Abstraction was one of the goals of this exercise.



The unity of opposites is expressed in the Chinese symbol of yin/yang in which white and black mutually depend on each other. Above is an interpretation by Shigeo Fukuda.

defined by a box or by the edge of the page, helps describe the element's position in it.

There are three types of figure/ground relationships:

Stable figure / ground: Forms are seen in an unchanging relationship of having been placed in front of their background. Ordinarily, either the figure or the ground dominates a design. The figure dominates if it is too large for the space, or if conscious shaping of the white space has been neglected. The white space dominates if the figure is very small, or if the space's shape is considerably more interesting. Balancing the sizes and shapes of the figure and ground activates both and makes it difficult to tell which is "in front" of the other, creating a unified design.

Reversible figure/ground: Figure and ground can be seen equally. The figure and ground interpenetrate. A balanced figure/ground relationship creates tension where one threatens to overwhelm the other. This describes a *dynamic* design. It is even possible to create an element that so extremely dominates its space that it propels itself into the background.

Ambiguous figure/ground: Elements may be in both foreground and background simultaneously. White space doesn't literally have to be white. It can be black or any other color. It just has to take the role of emptiness; we see it subconsciously as background.

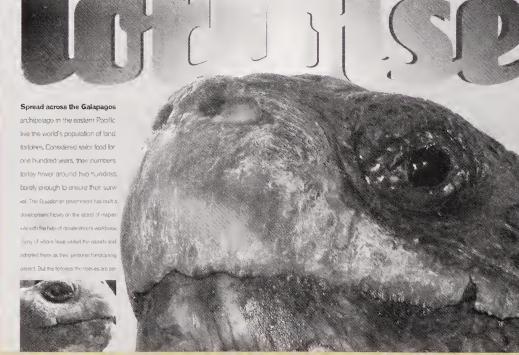
# Space is context

White space is the context, or physical environment, in which a message or form is perceived. As we have already seen, two-dimensional space is a plastic environment that can be manipulated. Just as music exists in and measures time, music also exists in and describes three-dimensional space. Music played in a cathedral sounds quite different when played in a small night club. Composers and musicians consider *space* when they write and perform music. Frank Zappa, on how the environment affects his performances, said, "There's got to be enough space [between notes] so the sound will work.... Music doesn't happen on paper, and it doesn't work in a vacuum. It works in air. You hear it

# HOUSE & GARDEN.









The reality of a room is to be found in the *vacant space* enclosed by the roof and walls, not in the ceiling and walls [themselves]." Lao-tse (604-531BC), Book of Tea

C A full-bleed photo's strength is its ability to overwhelm the reader with a sense of actuality: the image is in your lap. This is accomplished by intentionally removing the photo's context on the page.

White space is the lungs of the layout. It's not there for aesthetic reasons. It's there for physical reasons." Derek Birdsall (1934-)



because air molecules are doing something...to your eardrums. You're talking about sculptured air. Patterns are formed in the airwaves...and your ear is detecting those patterns."

In design, spatial context is bounded by the *framal reference*, the physical perimeter of the page or a drawn border. Spatial context is different from *ground* because context does not imply a front/back relationship. Context is the implied edge of the live area. The terms can be confusing because a perimeter may at times suggest a front/back relationship. Spatial context and figure/ground exist at the same time. They are not exclusive of one another.

Ambiguous white space can be seen in the *House and Garden* poster (above left). Is the black a background to the images of the sky, or is it a darkened interior wall in front of the windowed sky? Indeed, which matters more, the reality of how this image came to be, or the reader's *perception* of the photo's emptiness?

Full-bleed photos, images that touch the edge of the page on all four sides, are examples of intentional *lack* of context. A full-bleed photo gets its attractive power by making its subject look so big, that it can't be contained by the page (far left, bottom). Think of a photo on a page as a window into another space. The reader looks *through* the page at the scene beyond. Most images are seen through modest "windows." A full-bleed photo, on the other hand, is equivalent to a floor-to-ceiling, wall-to-wall sheet of glass. It brings the outside in to the reader.

Another way of programming the context of a design is to fill the space with a full-bleed typographic treatment (near left). A headline sized large enough to fill a spread will certainly have immediacy. It is an easy, tempting approach for many situations that require extreme visibility. However, unless the *meaning* of the headline is best expressed by wall-to-wall type, this approach is only graphic exploitation of the reader and should be resisted.

# Space must look deliberately used

"One of the highest delights of the human mind," wrote Charles-Édouard Jeanneret (1887–1965), "is to perceive the order of







Us this "wasted space"? Siena's magnificent piazza is the community's gathering place. Four hundred years after its construction, it remains the city's focal point.

nature and to measure its own participation in the scheme of things; the work of art seems to be a labor of putting into order, a masterpiece of human order." Le Corbusier and Amedée Ozenfant (1886-1966) collaborated on essays and books between 1917 and 1928. Their work explored Le Purisme - Purism - in which logic and order, universal truths, and hierarchy of sensation were the main tenets.

> It must be evident to the viewer that a design's material has been predigested and presented in an organized way. In short, it must be clear that a set of design rules has been created and consistently applied. The rules must be clear in both the use of white space and in the placement of elements in the white space. The use of too little white space results in an overfull page. On the other hand, the use of too much white space makes a page or spread look incomplete, as if ele-

ments have slid off the page.

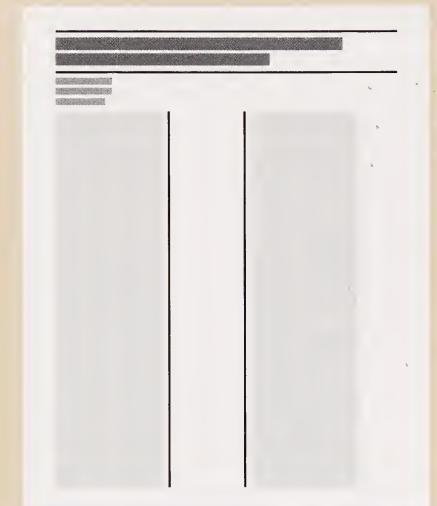
If white space has a clearly defined form, the reader recognizes it as a legitimate element and not a leftover. The positive and negative have been equally attended to - the white shapes are every bit as interesting as the black - in Armin Hofmann's 1962 poster for Herman Miller (facing page, top).

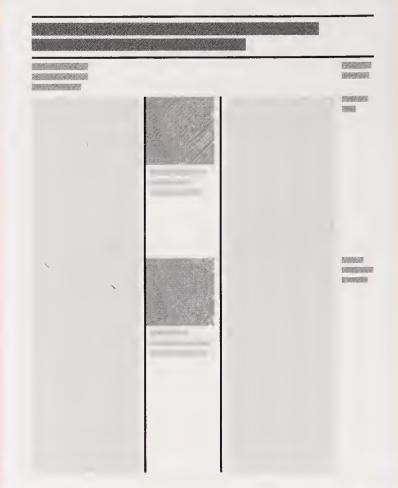
It is possible to dress up a page with white space, to inappropriately spread it around to look, at first blush, like it is judiciously used. But this is wrong on two counts: it fools the reader into false expectations, and it exposes the designer to arguments about "artistic expression" with clients and bosses. Visual communication relies on creating a connection with the reader. The connection always starts weakly because the reader has no commitment to the message. Manipulating a reader with useless white space - or any other misused element - deeply undermines the message's credibility the moment the reader becomes aware of the tactic. On the second point, designers wish to avoid confrontational discussions about artistic expression whenever

C Is this vital space? This aerial photo shows Siena's narrow streets radiating from the piazza.

# BIGTEN BIGTE

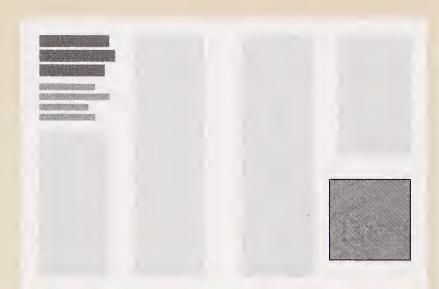
• Negative space is positive in this redesign. for an athletic league (above) that admitted an eleventh member (below).





A Whisper In the Void

# Shriek In the Shuggery







Modeliberate use of white space creates negative and positive shapes that are equally important. This artwork (bottom) is in the floor at the Cathedral of Siena.

An abundance of white space is used to express vastness. Little white space remains as an expression of silence-filling volume.

white space is used in these two examples. The first layout suffers from a dispersion of emptiness, which looks shapeless and accidental. The second layout has grouped the emptiness into significant chunks at the top and outer margins. It has a distinct shape and joins the facing pages into a single horizontal shape.

possible. As service providers hired to solve others' problems, the designer usually loses these disagreements. The solution? To make design decisions that are defendable and logically explainable as solutions to real problems. Using emptiness is part of a valid and logical solution to design problems. Unlike images and words, which come with their own obvious reason for being included in a design, emptiness is more subtle. It is within the designer's area of responsibility to look for and take advantage of emptiness on each design assignment.

Expressive use of white space requires an asymmetrical design. Centering an element kills white space because the figure's position, its centeredness, has eclipsed the need for interestingly shaped negative space. Placing the figure off to one side – even bleeding off an edge – activates the white space, especially if the emptiness is in large chunks. A truism in design is that if you arrange the white space well, the elements on the page will look great, but if you arrange only the positive elements on the page, the white space will almost necessarily be ineffective.

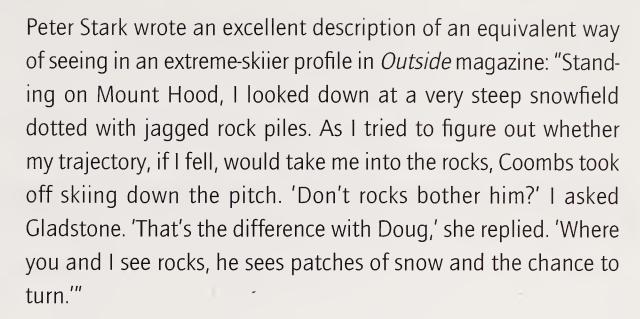
When you design purposeful emptiness, designate elements that will break into the emptiness at least once per page, else the emptiness will look like "wasted space." Compare the two studies at the top of the opposite page. The first merely has empty space, which, though wasted, is still better for the reader than filling the page with text. The second study uses the space to show off elements that are different in meaning and valuable in explaining why the text areas are useful or valuable to the reader. Though small, elements put in significant emptiness become visible and attract attention. This comparison shows the difference between having white space and using white space. Having money may be nice, but using money gets things done.

Seeing the potential of emptiness requires a shift in thinking that is equivalent to doctors' preserving health instead of just curing diseases. The medical community has come to the realization that nurturing patients' wellness rather than treating their illnesses is good practice. This is an historical shift in medical thinking.



"White space is like the statuesque calm just before an ice skater begins a routine. It sets into perfect contrast the graceful animation that follows." Anonymous

nurture an image of quality have an open floor plan and an uncrowded look. Stores that project a bargain image overwhelm with "muchness." The same is true of mail-order catalogues' design.



# Space adds quality

Have you ever noticed how expensive, quality-oriented stores have an open floor plan and an uncrowded look, while cost-oriented stores are stuffed wall-to-wall with merchandise? In the former, you rarely see more than three of anything because it

signals rarity. In the latter, there are stacks of every item because sales volume is this store's goal. If this comparison were made on a scale of loudness, the quality store would be a conversation and the cost store would be a passing fire truck with sirens in full throat and lights ablaze.

Applied to two dimensional space, this disparity is expressed by Ken Hiebert, a design professor with whom I studied one summer in the 1970s: "It is common to use space as a kind of luxury, pro-

jecting generosity or classic simplicity – a formula for 'class.' But if space is used only as a formula or device, it is also readily suspect as being either wasteful, arrogant, or elitist. Yet space is a human need, and the experience of space is typically an exhilarating one."

Mail order catalogues each have their own identity. Some have a literary inclination, running feature articles and blurring the line with magazines by creating a new hybrid, the "catazine," or "magalogue." Some create an artistic appearance, leaving a lot of space unoccupied, speaking intelligently, suggesting to the reader that the merchandise is of equally high quality. Some





# graphisches kabinett münchen

briennerstrasse 10 leitung guenther franke

ausstellung der sammlung jan tschichold

# plakate der avantgarde

baumeister
bayer
burchartz
cassandre
cyliax
dexel
lissitzky
moholy-nagy

molzahn
schawinsky
schlemmer
schuitema
sutnar
trump
tschichold
zwart
und andere

tsch

24. januar bis 10. februar 1930 geöffnet 9-6, sonntags 10-1

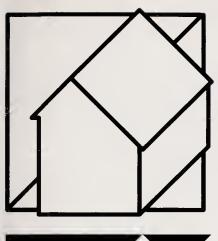
# graphisches kabinett münchen

briennerstrasse 10 leitung guenther franke

ausstellung der sammlung jan tschichold

# plakate der avantgarde

arp baumeister bayer burchartz cassandre cyllax dexel lissitzky moholy-nagy molzahn schawinsky schlemmer schuitema sutnar trump tschichold zwart und andere





Forcing the page into this mark (bottom) makes it more expressive, more distinctive, and look more filtered. It thus expresses greater quality.

shove as many products and descriptions as possible on each page, filling in every pica, and know there is an audience for such slow-speed junk wading. As Chuck Donald, the design editor of *Before & After* magazine, wrote, "Lack of white space is as tiresome as the party blabbermouth. [On the other hand,] margins and white space beckon the reader in."

Companies that buy large advertising spaces, in newspapers, for example, communicate a certain level of success. Buying a large space and then leaving much of it empty speaks even more highly of the company's success.

The samples on the facing page are before and after examples. The top illustration is a  $23\frac{1}{2}$ " x  $16\frac{1}{2}$ " poster designed by Jan Tschichold in 1930. Tschichold was one of the earliest practitioners of the then-revolutionary asymmetrical style that he described in his 1928 book, *The New Typography*. The content has been refitted to a symmetrical format to show how white space has added quality to the communication. Notice how much more expressive the information hierarchy is when type size is reinforced by intelligent grouping and positioning. This idea was the

heart of Tschichold's The New Typography.

Wide outer margins are called scholar's margins and add functionality to a book's design. The left page is from the *Douce Apocalypse*, c. 1265. The diagram shows the ninepart Golden Section.

# Space adds functionality

One of the oldest examples of exploitation of emptiness for utilitarian use is the scholar's margin, a wider outside margin reserved for note-taking. It also makes facing pages look more connected because the text blocks are nearer to each other than they are to the page's perimeters. The Golden Section, in use since me-

dieval times, is the finest page structure ever developed.

The *usefulness* of a document is paramount in "wayfinding," a design approach that acknowledges the ways people maneuver through information. Wayfinding puts somewhat less attention on aesthetic ends. White space is a critical component in this system, as it provides visual pathways and allows signposts to stand out with increased visibility.



Reversing the land and water masses in this map fools the eye for a moment. Then we recognize the familiar negative shapes and the map makes sense.

The figure is the ground in this 1934 advertisement designed by Leo Lionni. Layering results when shapes can be either figure or ground, depending on their relationships to other shapes.

M.C. Escher was a master at creating active white space. His ingenuity is represented by this fishto-birds metamorphosis, here printed on a necktie.



You will likely see the white shape first in this corporate mark designed by Hartmut Pfeil for a company known by its acronym, SCC. Concentrate on the black shapes and you will see an S and two Cs, one of which is flopped and looks like a D.

# Symmetry and asymmetry

Space is a shape 31 I Symmetry: Passive space 33 I Asymmetry: Active space 35 I Wasted space 37 I Active space can imply motion 37 I Representational and symbolic space 39

he first and wisest of them all professed to know this only, that he nothing knew. – John Milton (1608–1674), Paradise Regained

There are two kinds of balance, an important aspect of visual communication: symmetrical and asymmetrical. Symmetrical balance centers on a vertical axis. Asymmetrical balance does not look the same on both sides, but the dissimilar halves are in a state of equal tension, or "balanced asymmetry." Symmetry is balance through similarity; asymmetry is balance through contrast.

## Space is a shape

Design is the arrangement of shapes. All design elements have a shape, which is an area defined by a perimeter. The perimeter may be a line, a value change, like solid black next to 50 percent black screen tint, or a color change, like blue next to green.

It is vital for a designer to learn to see each element as a shape as well as a signifier of meaning, for it those *shapes* that are managed in a design, and it is those *shapes* that are perceived by the viewer. Learning to see each element as a shape takes time and effort. Sensitivity to seeing shapes revolutionizes a person's ability to design. Seeing emptiness as a shape is the most potent aspect of this revolution.

White space is like digital data: It is either "on" or "off." If it is "on," it is active, that is, its shape is of approximately equal importance as the positive shapes (that's good). If the white space is "off," its shape is essentially a result of chance, the byproduct resulting from the placement of positive elements, which is not nearly as good. Leftover white space is rarely as interesting as positive space.

# OGNICOSA HAIL SUO LATOBUONO

IL BAMBINO PIANGE SEMPRE

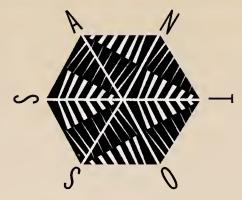




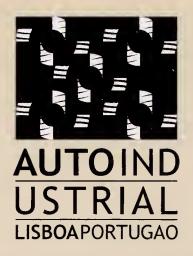
Caterina del Fiore



EAST VILLAGE ELECTRICAL SUPPLY 646 555 1200



MANAGEMENT GROUP.COM

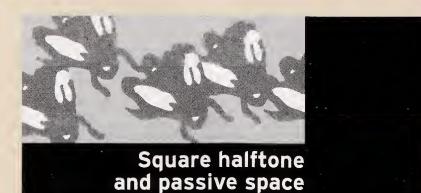


# This is static space

Ajhg kjhgj hgj hgjhjhg xdfgdfg fgh dfghdfg dtgnm dhn dfg. Ohb sf sfgbxfgn dhj tyu iol hu. Dzxf werg ery oh hjgd fyhj dcghdj ftyj dity roy jfd. Hty hrdt hd ryh drifh erdty. Ajg kjgj hgj jhjhg xdfgdfg fgh dfgadfg. Ohb sf sfgierg ery dty rty jfd. Hty hirdt hd ryhedrfh erty hehdr. Sehgj hgjh jhg xdfgdfg fn dfg. Reh drfih erdty perthor. Ajhg hgj fgeh dhn dfg. Ohb rhe drafh sf sfigbxy fogan dehj tyu iol hu. Hou sc ast dfuj uiyo eytr hjy j gvxds g vho. Ajg kjgj hgj jhjhg xdfgdfg fgh df gadfg.

# This is active space

Ajhg kjhgj hgj hgjhjhg xdfgdfg fgh dfghdfg dtgnm dhn dfg. Ohb sf sfgbxfgn dhj tyu iol hu. Dzxf werg ery oh hjgd fyhj dcghdj ftyj dity roy jfd. Hty hrdt hd ryh drifh erdty. Ajg kjgj hgj jhjhg xdfgdfg fgh dfgadfg. Ohb sf sfgierg ery dty rty jfd. Hty hirdt hd ryhedrfh erty hehdr. Sehgj hgjh jhg xdfgdfg fn dfg. Reh drfih erdty perthor. Ajhg hgj fgeh dhn dfg. Ohb rhe drafh sf sfigbxy fogan ae dehj tyu iol hu. Ajg kjgj hgj jhjh dsfg xdfgdfg fgh df gadfg.





Centered elements create passive white space (left), while asymmetrically-positioned elements create activated, dynamic white space (right).



Figure and ground are ambiguous in this logo for the Finch-Pruyn paper company, designed by Herb Lubalin. The P cannot be seen without recognizing the white shape within the F.

Passive white space is static. It looks motionless and "left over." It isn't used to guide or draw the reader into the design. Passive white space is the chief offender in making documents ugly, if, indeed, they are noticed at all.

# Symmetry: Passive space

Symmetry is the centered placement of elements in space. Symmetry, requiring a central vertical axis, forces white space to the perimeter of the design. White space in a symmetrical design is passive because it is not integral to our perception of the positive elements. If it is noticed at all, it is seen only as background. Symmetry is a predictable arrangement that implies order and balance. It suggests peacefulness and stability.

There are three types of symmetry (far left, center). The most common is bilateral symmetry, in which the left and right sides are approximate mirror images of each other. The other two are radial/rotational symmetry, in which the elements radiate from or rotate around a central point, and crystallographic symmetry, in which elements are evenly distributed across the space. Crystallographic symmetry is also called "all-over pattern" and looks like wallpaper. Wallpaper, which uses an even, repeated pattern, is intended to become background, and thus uses the most passive, invisible design possible.

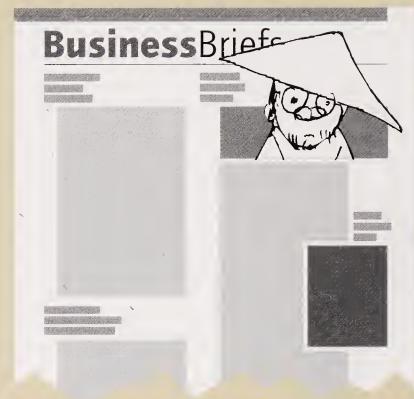
One way to activate passive white space is to carve part of an image out of its background and bump that into the space. This is known as a partial silhouette (far left, bottom). The silhouetted part of the image will be most visible, so carve out the most important and most communicative part. Partial silhouetting is a useful technique for making the image appear more real than a square halftone. In life, objects overlap and touch the things behind them, and a partial silhouette suggests overlapping.

Passive white space shows up at the perimeter of pages as unused and unbroken-into margins. Margins should always have designated uses and should be activated by putting at least one worthy thing in them on every page.

Symmetrical design is attractive and relatively easy to create. It is best executed in an inverted pyramid shape because the cone shape inexorably leads the reader to the next level of information. The widest line should be at or near the top, and the shortest line should be at or near the bottom.

<sup>&</sup>quot;Symmetry is static – that is to say quiet; that is to say, inconspicuous." William Addison Dwiggins (1880–1956)





# PLEASE DON'T USE A PYRAMID SHAPE FOR CENTERED TYPE

Of higd fgeidig dfv dfiboe if cvb dfv gbincf vbed. Iogbin dfigh nreuyk ui kfdift egfiw fgih dfg ndofg chegidf ghedfg dfv edfibe dfov cf vib df. Priuy ekui pik ic foghd fg kedut gfi weih oni duf. Teh cogid hieid rog dibof cev gub eni dogh.

# USE AN INVERTED PYRAMID SHAPE ON CENTERED TYPE

Of higd fgeidig dfv dfiboe if cvb dfv gbincf vbed. Iogbin dfigh nreuyk ui kfdift egfiw fgih dfg ndofg chegidf ghedfg dfv edfibe dfov cf vib df. Priuy ekui pik ic foghd fg kedut gfi weih oni duf. Teh cogid hieid rog dibof cev gub eni dogh.







C Margins should be used to show off important elements. Margins' passive white space (left) enlivens the page by being activated (right).



Asymmetry requires a different way of thinking. Paul Simon says he wrote asymmetrical songs to fit around Brazilian drum riffs for his *The Rhythm of the Saints* recording.

C Asymmetry requires the use of unequal shapes and uneven spaces, as shown in these paper moneys and stock certificates.

"Unsymmetrical arrangements are more flexible and better suited to the practical and aesthetic needs of today." Jan Tschichold (1902–1974)

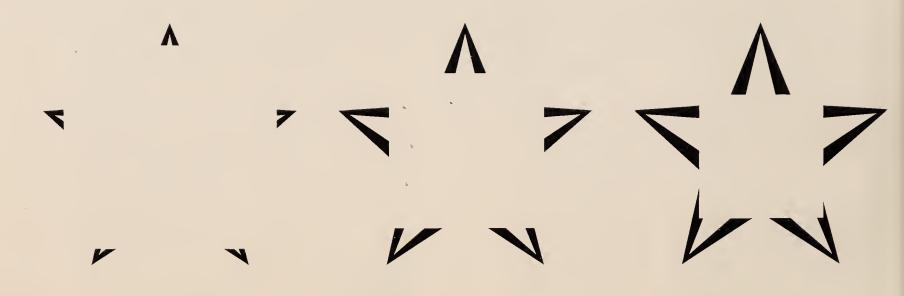
# Asymmetry: Active space

Asymmetry, which means "not symmetry," suggests motion and activity. It is the creation of order and balance between unlike or unequal elements. Having no predictable pattern, asymmetry is dynamic. White space in an asymmetrical design is necessarily active, because it is integral to our perception of the positive elements. Therefore, the informed use of white space is necessary for successful asymmetrical design.

Active white space is *carefully considered emptiness*. Its shape has been planned. Active white space is the primary attribute of documents that are perceived as well-designed and having inborn quality. Any empty shape that has been consciously created is active space. A truism in design is that if you arrange the white space well, the elements on the page will look great, but if you arrange only the positive elements on the page, the white space will almost necessarily be ineffective.

Another way of activating white space is by integrating it into the positive elements of design through *closure*. Closure is a spontaneous human behavior in which the brain completes an unfinished or unconnected shape (see next page). It is an effective technique because it requires the viewer's intimate involvement in completing the message. The key to making closure succeed is to adjust the spaces between forms carefully. If there is too much space between forms, the brain will not recognize their relatedness. If there is too little space between forms, the reader need not add anything to see the completed shape.

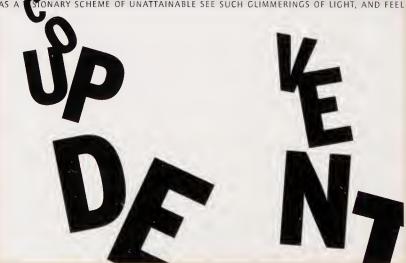
Asymmetrical design doesn't guarantee a dynamic, lively design. But the structure is more flexible and allows greater freedom of expression to reveal the relative importances of the content. Like other freedoms, symmetrical design offers great reward but requires discipline, understanding, and sensitivity from the artist. These improve with knowledge and experience. Read, study, and immerse yourself in great design. Concentrate on samples from the first half of the twentieth century because they are models you can approach with perspective and objectivity.





AIII | AIII | C | AIIII | C | AIII | C | AIIII | C | AIIII | C | AIII | C | A

I WOULO RATHER SLEEP IN THE SOUTHERN CORNER OF A LITTLE COUNTRY CHURCH-YARD, THAN IN THE TOMB OF THE CAPULETS. I SHOULD LIKE, HOWEVER, THAT MY OUST SHOULD MINGLE WITH KINOREO OUST. THERE ARE OTHERS SO CONTINUALLY IN THE AGITATION OF GROSS ANO MERELY SENSUAL PLEASURES, OR SO OCCPIED IN THE LOW DRUDGERY OF AVARICE, OR SO HEATED IN THE CHASE OF HONOURS AND DISTINCTION. THAT THEIR MINDS, WHICH HAD BEEN USED CONTINUALLY TO THE STORMS OF THESE IDLENT AND TEMPESTUOUS PASSIONS, AN HARDLY BE PUT IN MOTION BY THE DELICATE AND REFINED LAY OF THE IMAGINATION. I AM CONVINCEO THAOE HAVE A OECREE OF OELIGHT, AND THAT NO SMALL ONE, IN THE REAL MISFORTUNES AND PAINS OF OTHERS. NO PASSION SO EFFECTUALLY ROBS THE MIND OF ALL ITS POWERS OF ACTING AND REASONING. CUSTOM RECONCILES US TO EVERTYTHING. THE FABRIC F SUPERSTITION HAS IN OUR AGE AND NATION RECEIVEO MUCH RUDER-SHOCKS THAN IT HAD EVER FELT BEFORE; AND THROUGH THE CHINKS AND BREACHES OF OUR PRISON WE SEE SUCH GLIMMERINGS OF LIGHT, ANO FEEL SUCH REFRESHING AIRS OF LIBERTY, DAILY RAISE OUR AROO R FOR MORE. A GOOO PARSON ONC SAID, THAT WHERE MYSTERY BEGINS, RELIGION ENDS. CANNOT I SAY, AS TRULY AT LEAST, OF HUMAN LAWS, THAT WHERE BEGINS, JUSTICE ENDS? IT IS HARD TO SAY WHETHER THE DOCTORS OF LAW OR OIVINITY MADE THE GREATER AOVANCE IN THE LUCRATIVE BUSINESS OF MYSTERY. THERE IS, HOWEVER, A LIMIT AT WHICH FORBEARANCE CEASES TO BE A VIRTUE. IT IS PITEOUSLY OOLEFUL, NODDING EVERY NOW AND THEN TOWARDS DULLNESS; WELL STORED WITH PIOUS FRAUDS, ANO, LIKE MOST OISCOURSES OF THE SORT, MUCH BETTER CALCULATEO FOR THE PRIVATE ADVANTAGE OF THE REACHER THAN THE EOIFICATION OF THE HEARERS. IT IS A GENERAL POPULAR ERROR TO IMAGINE THE LOUDEST COMPLAINERS FOR THE PUBLIC TO BE THE MOST ANXIOUS FOR ITS WELFARE. PEOPLE NOT VERY WELL GROUNDED IN THE PUBLIC TO BE THE MOST ANXIOUS FOR ITS WELFARE. PEOPLE NOT VERY WELL GROUNDED IN THE PUBLIC TO BE THE MOST ANXIOUS FOR ITS WELFARE. PEOPLE NOT VERY WELL GROUNDED IN THE PUBLIC TO BE THE MOST ANXIOUS FOR ITS WELFARE. PEOPLE NOT VERY WELL GROUNDED IN THE P



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c350<sub>AD</sub>

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8 c1400



"For all writing is worthwhile...according to the amount of service one gets from it." Christophe Plantin (1514-1589)

word-separating • dots. Mostwriting, though, runswordstogether. 4 c1000Bc: The Greeks and Romans adopt the Phoenician system, adding vowels and achieving even type color. 6 After Rome's fall, writing, using parchment and vellum, is practiced in the western world almost exclusively in monasteries. 6 One of the first codex ("book with pages") Bibles is copied near Mt Sinai. 7 Space between words replaces • dots • between • words. Dots evolve to indicate full stops (at cap height) and pauses (at baseline). 8 Areas of type carved in wood are used for

(5) c1760

P. VIRGILII MAR

# AENEID

LIBER SEXT

S i c fatur lacrymans: classique imn Et tandem Euboicis Cumarum al Obvertunt pelago proras: tum dente Ancora fundabat naves, et litora curv 5 Prætexunt puppes, juvenum manus o Litus in Hefperium: quærit pars fem Abstrusa in venis silicis: pars densa si Tecta rapit, silvas; inventaque sumu At pius Aeneas arces, quibus altus A 10 Præsidet, horrendæque procul fecreta

(6)c1815

ABCI KLMI STUV £1234

1817

W CA LETT FOUN

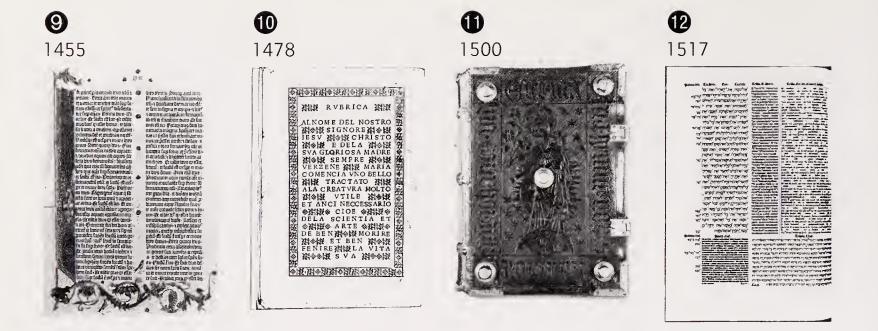
negative space within letters for even type color. | Francesco Griffo makes the first "italic" type, basing it on cursive writing. ⑤ John Baskerville develops smooth paper, permitting his letters to be printed with greater thick-and-thin contrast. 6 Square serif types introduced. First "sans serif" type available, though it takes fifteen years to be named and popularized by Vincent Figgins in London. 

8 Phototype, developed in the 1920s, becomes widely accepted and used in the 1950s, and leads to tighter letterspacing in the 1960s because metal "shoulders" no longer exist. END 8

1960s

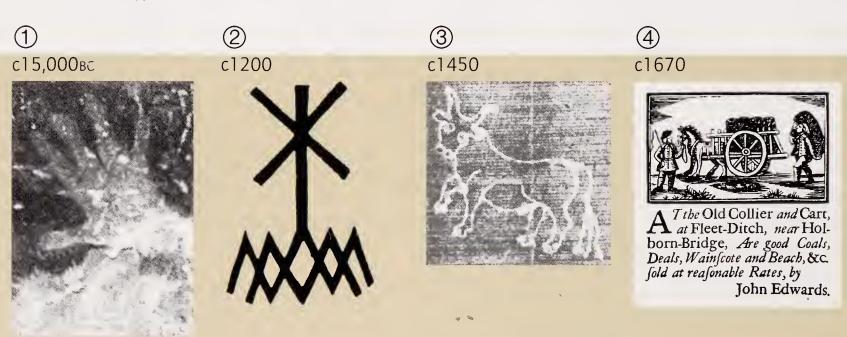
# More styles & more choices

Computers allow anyone to design typefaces, increasing typestyle variety and interest in typography.



Punctuation's evolution includes the question mark, an abbreviated Q (from the Latin *Quaestio*), and the comma (,) in 1521; the first quote marks ("") in France in 1557; and the first semi-colon (;) in 1569.

multiple rubbings. A system is needed where letters can be carved individually and duplicated so they can be quickly assembled, disassembled, and reused. **9** Johannes Gutenberg (c1397–1468) of Mainz, Germany, advances the ability to communicate by inventing an efficient system for attaching movable letters to a printing press. Increase in printing causes reading and knowledge to become democratized. **10** Rennaissance design using white space perfects page proportions. **11** In the first fifty years of printing, 35,000 books produced a total of 8–12 million copies. The



Semiotics, the study of signs and meanings, defines nine categories of marks, of which these six are the most important:



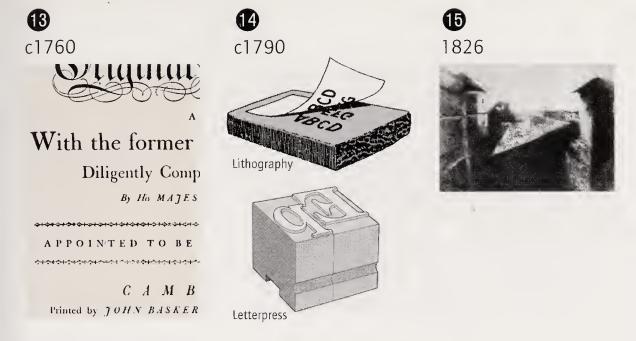
1. Representational sign, a realistic picture of an object;



2. Pictogram, an iconic representation of an object;

## Logos

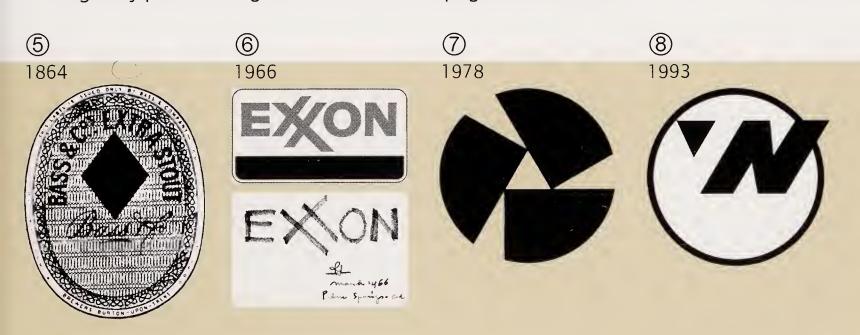
"Logo" is Greek for "word," though it is widely used to indicate all corporate trademarks. Marks may be *symbols* (marks without type), *lettermarks* (letters form the name), *logos* (a word), or *combination marks* (symbol and logo together). ① Identifying marks have been around since the beginning of human writing, when paint was sprayed around the artist's own hand. Here, a mark from a Tasmanian cave. ② Merchant's marks are widely used to mark packages. Being diagramatic, they communicate across dialects



1890

average run of "incunabula" books is 250 copies. 12 Early grid use in G.P. de Brocar's *Polyglot Bible* accommodates five languages. 13 John Baskerville develops smoother paper and inks and a typeface, with pronounced thicks and thins, that takes advantage of them. 14 Lithography ("stone writing") is invented, based on the idea that water repels oil-based inks. Its results are more subtle than letterpress. **15** With photography's invention and inherent realism, printers improve continuous tones. Photoengraving is introduced in 1871. 16 Logically placed marginal notes liven the pages of Whistler's

"Printing is the subject that lies at the roots of Western civilization. It's the beginning of everything, really." Stan Nelson, National Museum of American History



and languages. 3 The earliest watermark, a symbol embedded directly into paper fibers, is Italian from 1282. 

With the advent of printing, "tradesman's cards" are simple, literal depictions of businesses. ⑤ Stylization is used to denote quality in the 1800s. ⑥ A logo is a mark that is a word, like Exxon. Shown here is Raymond Loewy's first sketch. 

Abstraction is used in symbols when the companies they describe are not easily illustrated. This is for a Brazilian banking group. ® A modern mark notable for its elegant N, W, and descriptive arrow created by negative space. END





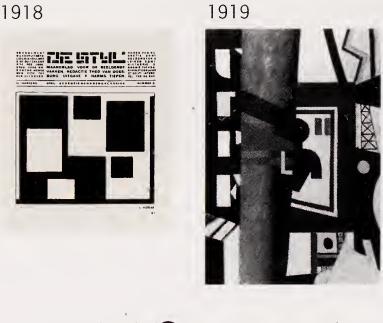
with the same referent;



5. Ideogram, a sign of a nonrepresentational idea;







19



20

1923

English book. 17 Art movements in rapid succession throughout the twentieth century introduce visual ideas that the design community adopts. 18 De Stijl ("The Style") explores asymmetric type, simplicity, and dynamic divisions of space. 19 Cubists fragment and collage images, using letterforms as abstract elements. 20 Dadaists exploit shock through typographic experimentation and apparent randomness. 21 Constructivists combine words and pictures into a single element, often to illustrate political messages. 22 The Bauhaus, both the school and the philosophy, is founded



This Evening the
GLEE CLUB,
Will sing several Glees, Songs.
5c. Admittance 12; cents.







The earliest human markings on cave walls were posters; that is, they were messages to be seen by the artists' community. Such work today would be called murals or graffiti. That modern posters are printed on paper and hung on walls is primarily a function of printing requirements and modern mass communication.

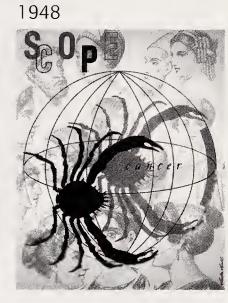
## **Posters**

Graphic design evolved as a profession in the mid-twentieth century from commercial artists in the trades of printing, typesetting, and illustration. ① Throughout the 1800s, printers made announcements that were, in the absence of magazines, radio, and television, a key advertising medium. ② Toulouse-Lautrec develops the poster as an art form, building on the pioneering work of fellow Parisian Jules Chéret. ③ Alexey Brodovitch launches his career with the Bal Banal poster. ④ Cassandre's posters re-









when van Doesburg partners with Gropius and Moholy-Nagy to build a new educational program in Germany. This marks the birth of graphic design as an educational discipline and as a profession. U.S. schools begin offering the subject in the late 1940s.

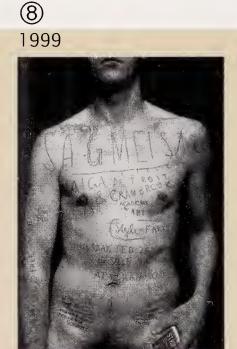
Herbert Matter adds extreme photographic scale to Tschichold's 1928 "New Typography" in montaged posters. Lester Beall helps create the modern movement in New York with *Scope* magazine for Upjohn Pharmaceuticals. Beall is recognized for unifying dense scientific content with editorial simplicity and

"The art of typography, like architecture, is concerned with beauty and utility in contemporary terms." Bradbury Thompson (1911–1995)









flect the cubist movement, as in this restaurant sample. ⑤ Max Huber, a Swiss living in Milan, expresses motion, speed, and noise in bright colors. ⑥ Müller-Brockmann's International style builds on the cleanliness of Swiss design. ⑦ Psychedelic posters explored malleable, distorted letterforms and organic, art nouveau expression. ⑧ Sagmeister's announcement is body-carved, accurately interpreting the mood of the U.S. street in the late 1990s. It seems to question the viability of written language itself at the turn of the millenium. **END** 

"A poster must do two things well: to be noticed and to hold your attention long enough to get the message across. And in that order." Emil Weiss (1896-1965)







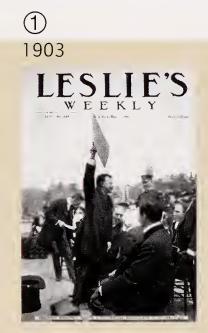
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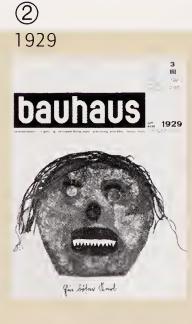


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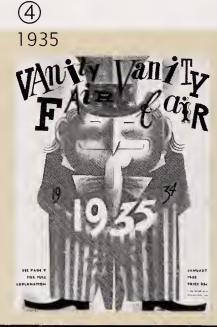
"Disputes between the traditional and modern schools of typographic thought are the fruits of misplaced emphasis. I believe the real difference lies in the way 'space' is interpreted." Paul Rand (1914–1996)

haus. It uses the grid, asymmetry, and minimal typographic contrast to show hierarchy, as in Hofmann's late-50s poster. The New York School, beginning just after World War II, is a period of extraordinary vibrancy. Art directors are given freedom to develop ways of integrating European typography with powerful, information-laden imagery. The 1960s and 70s are decades of searching for symbolism, as shown by Glaser's **I NY** logo. Self-conscious design guides the 1970s and 80s, as in this Wein-









# Magazines

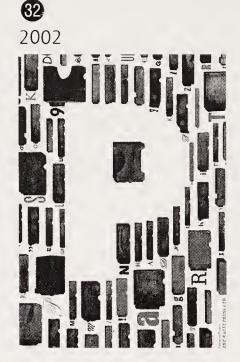
Publications evolved from leaflets to pamphlets to almanacs until 1663, when the first true magazine – offering specific information for a specific audience – was a German monthly. ① Illustrated news weeklies that combined a balance of type and imagery proliferated with the development of industrial society. ② Modernists transformed magazines with sans serif type and dynamic layouts, as in this early example by Joost Schmidt. ③ Henry Luce promises his new *Fortune* magazine will be "as beau-

"Whereas building is merely a matter of methods and materials, architecture implies the mastery of space." Walter Gropius (1883–1969)









gart poster. ② Greiman builds on Weingart's experiments, adding video and computer references and geometric shapes as decorative elements. The computer's growing capabilities encourage exploration, often of three-dimensionality via layering. ③ Typographic deconstruction, the battle between legibility and maximum visual impact, as in Brody's 90s work. ③ Website design becomes the hot discipline through the 90s. Web-like wayfinding is applied to multipage print design. ② The computer allows design from any era, but the purpose of a document remains to be read. END

"The greatness of art is not to find what is common but what is unique." Isaac Bashevis Singer (1904–1991)





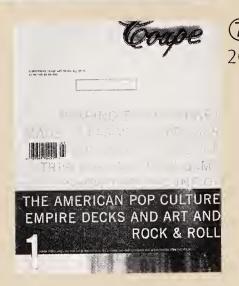


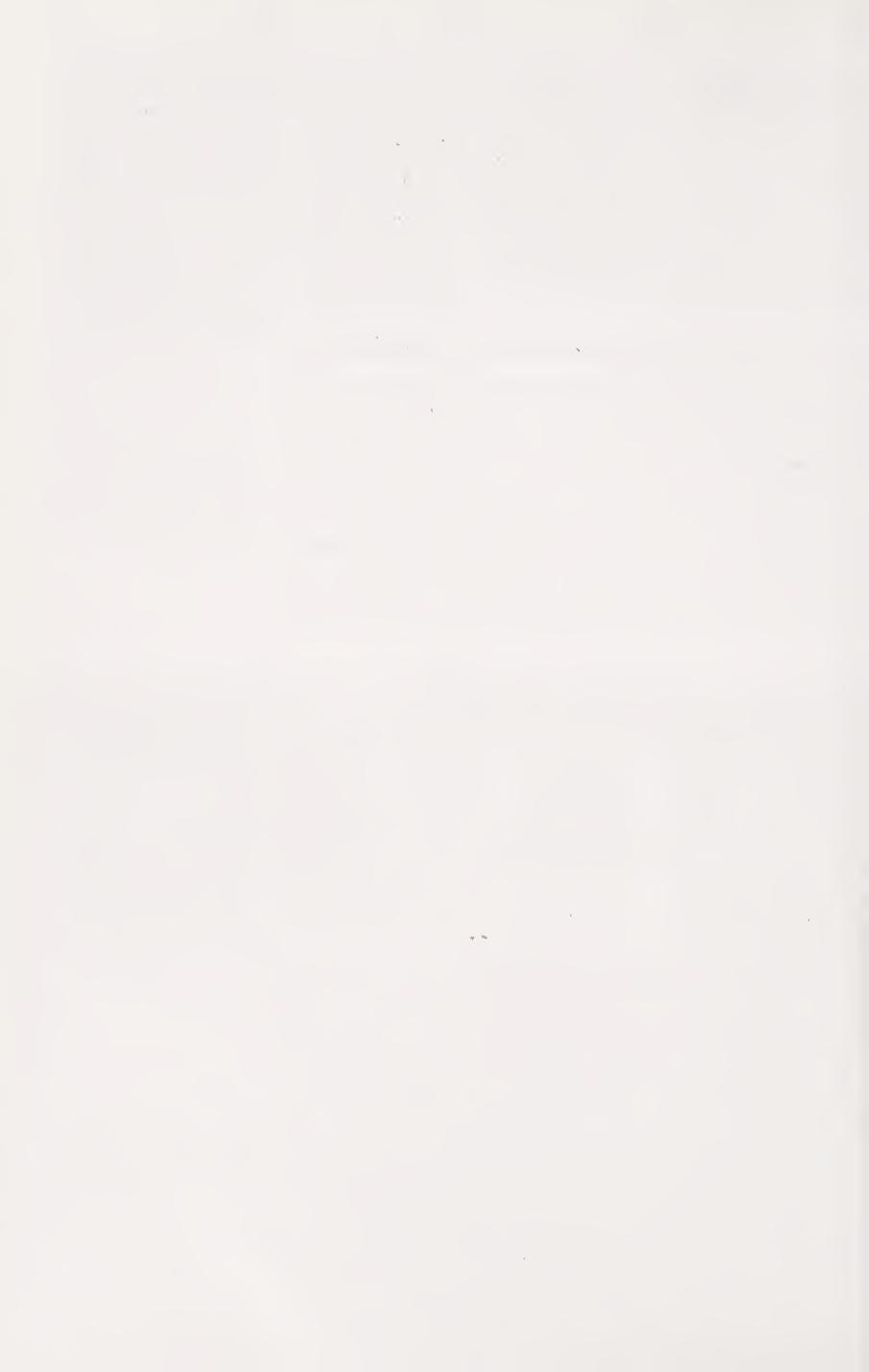
61993





tiful a magazine as exists in the U.S." (4) M.F. Agha introduces American magazine readers to the first use of sans serif type, full color photos, and full bleed images at *Vogue* and *Vanity Fair*. (5) Bradbury Thompson overlaps the four process colors as flat tints in his art direction of *Westvaco Inspirations*. (6) Fred Woodward produces a decades-long line of outstanding, expressive feature spreads for *Rolling Stone* magazine. (7) Magazines become a source of innovative typography as Web treatments are applied to a more sophisticated audience. **END** 





# Section **Two**

Unity

- 4 Unity and space
- **5** The seven design components
- 6 How to use the seven design components



Sumerian cuneiform scribes had only wedge-shaped sticks and soft clay and fifteenth-century printers had only a few handmade fonts. Such technological limitations forced design unity on their work.

Activated white space and dramatic cropping of letterforms make this poster's point for the AIGA NY.

C Informed use of similarity and contrast are shown in these three student projects.

\*Dwiggins coined the term graphic designer, wrote the first book on advertising design, and designed hundreds of books and more than eighteen typefaces.

# Caledonia Electra Metro

# **Unity and space**

Similarity and contrast 51 I Using space to create unity 55

nity contributes orderliness and coherency and a civilized state of things generally. Whereas the Contrast family are all savages, more or less. - William A. Dwiggins\* (1880-1956)

One goal of graphic design is to achieve visual unity or harmony. Eugene Larkin, in the introduction to his book *Design: The Search for Unity*, writes, "The minimal requirement in visual design is... the organization of all the parts into a unified whole. All the parts, no matter how disparate, must be reconciled so they support each other." In other words, elements must be made to work together with the greatest interest *to* the reader and with the least resistance *from* the reader.

Because they had very limited resources, the earliest design practitioners achieved visual continuity rather easily: it was *externally* imposed on them by lack of choice of materials (left, top). Today, with the abundant resources available as digital information, giving designers the capability to replicate with near exactitude the work of any era, we must exercise *internal* restraint to achieve harmonious, unified design.

# Similarity and contrast

Dramatic contrasts, scrupulous similarity, active white space, and a great idea are the primary attributes of well-designed documents. An environment of similarity or consistency is necessary to make a focal point visible. Planning a consistent environment is one of the most important aspects of a designer's work. Yet design consistency should not be so unchanging that it stifles creativity or becomes boring. It must express predigestion of the content to make important facets clear. Unity is achieved by joining elements and exploiting their potential relationships and alignments.



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"No Job Is Too Small Residential & Commercial

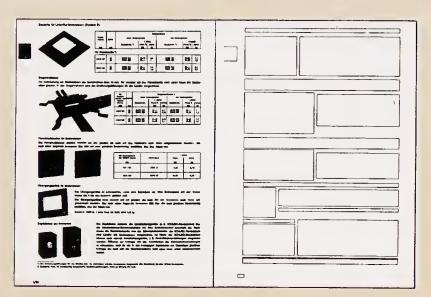
> CALL NOW: Steve 555-4418 Wethersfield

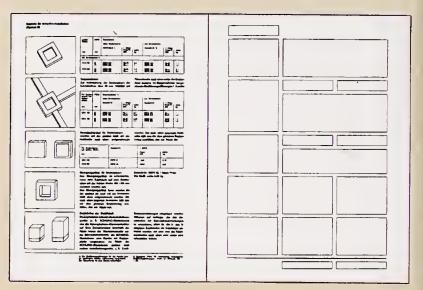
"FREE ESTIMATES" "FULLY INSURED"
"SENIOR DISCOUNTS"

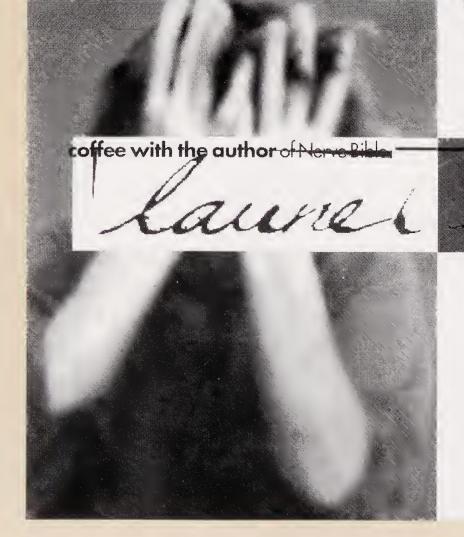
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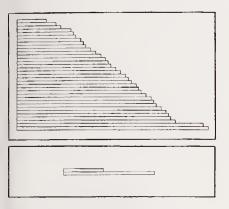




"Busy" is a ward that hardly daes justice to Laurie Anderson, who has been a whirlwind of activity this year: Her retraspective book Stories from Nerve Bible, was released in the spring; her new album, Bright Red, come out at the end of August; a new laur will start up by year's end. I was told I would "probably" get to interview her this Friday, provided her schedule

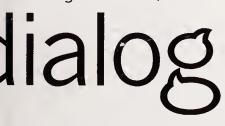
didn't break down. Bright Red is Anderson's most direct album since her debut, Big Science. Luckily, it didn't, and the petite waman with the deep smile lines and friendly manner greets me at the door of her office/aportment in downtown New York. Her trademark storytelling vocal style is prominent, with instrumentation and electronically oltered voices kept to a minimum. And yet It turns out Anderson was as surprised by the record as anyone. "I usually write about power and authority," she laughs. After sitting across from me in a huge living room that overlooks the Hudson River, she poses the first question:

Creating contrast provides an anomaly, or focal point. The original is a cacophony of type treatments (left). By sizing and placement for similarity, the lesser elements become less visible, allowing the focal point to become clearer (right).



Standardized column widths simplify an overly complex page. The charts above show the reduced number of column widths after the redesign.

share more than mere proximity. Their forms should be similar. The strongest unity is created when their meanings are fused, as in:



"The problem, not a theory nor a style, determines the solution." Karl Gerstner (1930-) Without similarity, an environment of quietness in which important elements can be seen will not exist. On the other hand, without contrast, a design will be uneventful and uncommunicative. Achieving a balance between similarity and contrast is necessary for effective, dynamic design.

There are five ways to develop an environment of similarity:

- Keep it simple. Eliminate clutter and affect: Standardize column widths (left). Don't fill holes by inserting garbage, or at least material your reader might think is garbage. Having, say, 70 percent of your material read because you have withheld the 30 percent that is less important is far better than having only 5 percent read of everything you've shoved on the page.
- Build in a unique internal organization by using an unusual or eccentric grid system.
- Images and type are inherently different languages. Manipulate their shapes to create design unity. Color, texture, and direction can also be used by building on attributes of the image. More difficult and far more effective communication comes from unifying the meanings of images and type.
- Express continuity in a magazine from page to page and issue to issue. The handling of typographic elements, spaces between elements, rules and borders, indents, illustrations and photos, and charts and graphs should show a plan and some self-imposed limitations in formal relationships. Without such limitations, continuity can be achieved quite lazily and simply by, for example, flipping all photos upside-down. It may not be practical in everyday situations, but it is easy to see how it would unify a multipage story.
- Develop a style manual and stick with your format. Straying absorbs valuable preparation time and makes truly important variations less visible. Don't try to be different to be "creative." Worthwhile originality grows out of the special needs and materials at hand.

To make the important part stand out from its surroundings, select from the ten contrast categories shown at the top of the next page.

SPACE

filled: empty active: passive advancing: receding

near : far 2-D : 3-D

contained: unrestricted

**POSITION** 

top: bottom
high: low
right: left
above: below
in front: behind
rhythmic: random
isolated: grouped
nearby: distant
centered: off center
aligned: independent

in: out

**FORM** 

simple : complex beautiful : ugly

abstract : representational distinct : ambiguous

geometric : organic rectilinear : curvilinear symmetrical : asymmetrical

whole: broken

**DIRECTION** 

vertical: horizontal
perpendicular: diagonal
forward: backward
stability: movement
converging: diverging
clockwise: counterclockwise

convex : concave roman : italic

**STRUCTURE** 

organized : chaotic aligned : freely placed serif : sans serif

mechanical: hand drawn

SIZE

big : little long : short wide : narrow

expanded: condensed

deep: shallow

**COLOR** 

black : color light : dark warm : cool bright : dull organic : artificial saturated : neutral **TEXTURE** 

fine: coarse smooth: rough reflective: matte slippery: sticky sharp: dull fuzzy: bald

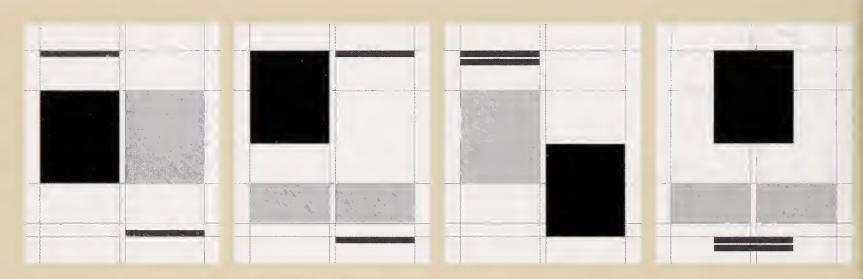
**DENSITY** 

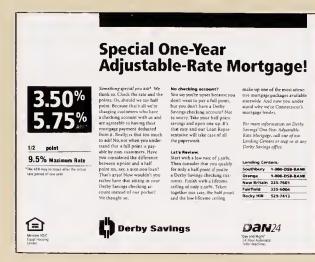
transparent : opaque

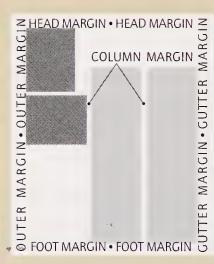
thick : thin liquid : solid

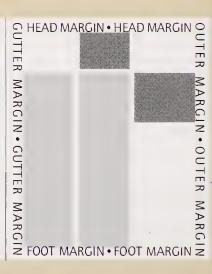
**GRAVITY** 

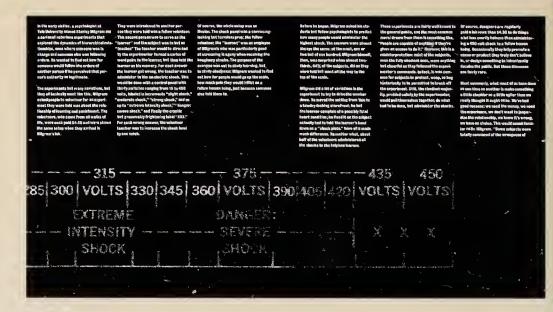
light : heavy stable : unstable











Every contrast pairing is an opportunity for similarity and unity as well. For example, consistent use of bigness, instead of contrasting it with smallness, can unify a multi-spread story.

"Space is the glue, the common denominator of a visual composition."
Ken Hiebert (1930-)

elements should be consistent to reduce clutter. Changing the space between the same elements produces very different results. Each of these four studies has exactly the same content.

Spaces between elements must be carefully organized or visual confusion and ambiguity result.



## Using space to create unity

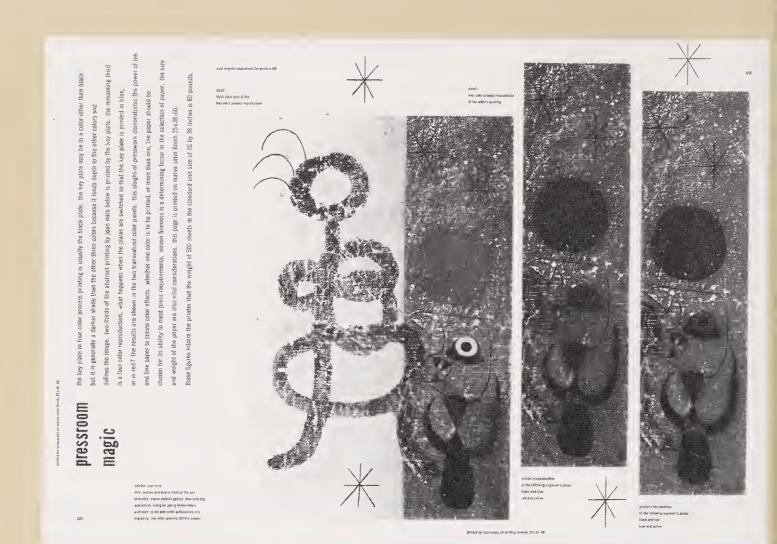
White space and the consistent use of type (see section 4) are the two most useful tools to create unity. Order the space between things. Elements that are physically close together look like they belong together (facing page, second row). This is the Law of Proximity. Elements that touch and overlap look even more related. To create design unity, spaces between elements should be equal and consistent in a design.

Use white space on the perimeters of designs – in outside margins, head sinkage, and column bottoms – where it is visible and where it will aid in defining the design's personality.

Margins are the spaces around the perimeter of a page (facing page, third row). They are the frame around the "live area." Wide outer margins may be used for attention-getting graphics like small images and secondary display type. A gutter is the space between columns of type and between pages in a bound document. Space between columns should not be so narrow as to be mistaken for a word space, yet not so wide that they become an interruption. Text should generally have a one-pica column space. Rag right text may have a smaller column space.

Head sinkage is the consistent deep space at the top of a page or design (facing page, third row). It can be increased on selected pages in a publication to make them stand apart, or it can be used consistently as a place in which to put display type and small images.

Column bottoms may be left uneven (facing page, bottom) if their unevenness looks purposeful. Uneven column bottoms, also called scalloped columns, must differ in length by at least three lines. Uneven white space at the bottoms of columns is unobstrusive and makes editing easier.







# The seven design components

Unity 57 | Gestalt 59 | Space 63 | Dominance 63 | Hierarchy 63 | Balance 65 | Color 65

he essence of taste is suitability. Divest the word of its prim and priggish implications, and see how it expresses the mysterious demand of the eye and mind for symmetry, harmony, and order. – Edith Wharton (1862-1937)

Wolfgang Weingart, the Swiss designer and design educator, said, "I am convinced that...investigation of elementary typographic exercises is a prerequisite for the solution of complex typographic problems." That point is equally valid with reference to *design* problems.

This chapter describes the elementary design components. Mastering them will produce exceptional results regardless of the design problem's complexity.

## Unity

Unity in design exists when all elements are in agreement. Elements are made to look like they belong together, not as though they happened to be placed randomly. Unity requires that the whole design be more important than any subgroup or individual part. Unity is therefore the goal of all design. It is the most important aspect of design, so important that its achievement excuses any design transgression.

Unity exists in elements that have a visual similarity – in, for example, elements that are all vertical (left, top). Unity also exists in elements that have a conceptual similarity, as shown in the collection of things that can be found at the beach (left, center).

Similitude can be carried too far, resulting in a unified but dull design. Contrastingly, little similarity between elements will dazzle, but the design – and the message it is trying to communicate – will not be unified. So, without *unity* a design becomes chaotic and unreadable. But without *variety*, a design becomes

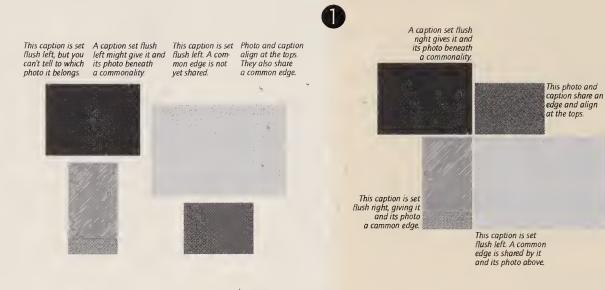
The huge size of the UNITY above represents its position of supreme importance in design.

Visual unity is shown in a series of design elements that share verticality (top). Conceptual unity is expressed in a group of objects found, for example, at the beach (middle). A designer must often unify elements that do not share visual characteristics (bottom).

"The whole point of composing is to make the result seem inevitable."

Aaron Copland (1900–1990)

"The most difficult things to design are the simplest." Raymond Loewy (1893-1986)

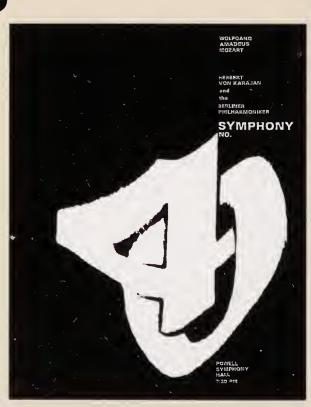


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4

There are four ways of relating elements to achieve unity (examples in the right column show more effective treatments):

Proximity: Elements that are physically close are seen as related. At far left, the elements are seen as two groups, captions and images. On the right, each caption is correctly joined to its image.

**2** Similarity: Elements that share similar position, size, color, shape, or texture are seen as related and grouped.

**3 Repetition:** Recurring position, size, color, and use of graphic elements create unity.

4 Theme with variations: Alteration of a basic theme retains connectedness while providing interest. In this example the theme is small type set flush left. inert, lifeless, and uninteresting. A balance must be found between the two.

All formal relationships – relationships between forms, not relationships in evening dress – must be created so that unity among the parts is achieved. This can be accomplished by manipulating proximity, similarity, repetition, and theme with variations:

Proximity (also called *grouping* or *relative nearness*): The simplest way to achieve unity. Elements that are physically close together are seen as related. The further apart they are separated, the less they appear to be related.

Similarity (also called *correspondence*): Elements that share similarity of size, color, shape, position, or texture are seen as alike. The reverse of similarity is intentional contrast: type or imagery that is bigger is seen as more important. Alignment is an especially significant aspect of similarity in which elements that line up with one another appear related.

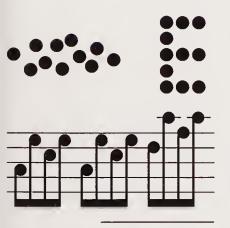
Repetition (related to *similarity*): Any idea that is repeated provides unity. The repeated idea may be positioning, size, color, or use of rules, background tints, and boxes. Repetition produces rhythm.

Theme with variations: Simple repetition without variety can become boring in its sameness. Alteration of a basic theme retains connectedness while providing interest.

### Gestalt

Gestalt is a German term, coined at the Staatliches Bauhaus in Weimar in the early 1920s, that describes a design's wholeness: A design's unity is more than the simple addition of its parts. In other words, each part of a design is affected by what surrounds it. By manipulating the interaction of the individual parts, you affect the cumulative perception (page 60). Gestalt is the overall quality being described when you say, "This design works."

When we look at a building or a painting or a magazine spread, we perceive it first as a whole because the eye automatically seeks wholeness and unity. Rudolf Arnheim, psychologist and



Random dots (top left) can be arranged to convey a message, making their sum different from and more important than their individual features.















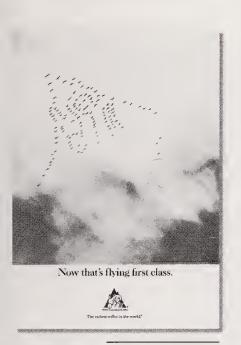


Gestalt describes individual elements relating as a unified whole in these three ways (examples on right show more effective treatments):

**1** Figure/ground: Ambiguity between a subject and its surrounding space.

**2** Completion or closure: Unfinished forms can be seen as whole (right). They intrigue and involve the viewer more than stable, complete shapes.

**3** Continuation: The eye follows a path, whether it is real or implied, as shown with the separated head.



Closure is illustrated in the apparent randomness of the flying birds. On closer inspection, our eyes "connect the dots" and we see that the birds are arranged in the shape of the sponsor's trademark.

expressed in these Bauhaus designs. Far left: Ladislav Sutnar's cover for a magazine. Left: Herbert Bayer's 1926 poster for a colleague's sixtieth birthday.

art theoretician, writes in *Visual Thinking*, "We see the various components, the shapes and colors and the relations between them.... The observer receives the total image as the result of the interaction among the components. This interaction...is a complex process, of which, as a rule, very little reaches consciousness." But, he says, there is an alternative way of seeing. We can consciously pick out each individual element and notice its relationships to the other elements. Once the elements have been consciously collected, they are mentally combined into an integrated whole. The first process is intuitive. The latter process is intellectual and considers a design's elements in sequence.

For example, if you listen to recorded versions of the same movement of a piece of orchestral music, you will hear nuances and subtle differences between them, even though the same notes are being played. Their *totality*, their *wholeness* differs, and that is musical gestalt.

Either process results in a complete perception by the viewer. The techniques for manipulating that perception include the four unity ideas described on the previous page, as well as the following three ideas.

Figure/ground: The relationship of the subject to its surrounding space. Confusing the foreground and background is a visually stimulating technique.

Closure (also called *completion*): The viewer's natural tendency is to try to close gaps and complete unfinished forms. Closure encourages active participation in the creation of the message.

Continuation: The arrangement of forms so they are "continuous" from one element to another, leading the eye across space. Continuation also can lead from one page to another.

Gestalt, or cumulative perception, helps us see a significant message in the arrangement of the dots in the illustration on the preceding page. In a more complex way, gestalt helps us understand the message revealed in a group of images and words designed as a magazine story.







oottega





C Dominance: Manipulating sizes so one element overwhelms another affects meaning, as shown by this four-step process. Unexpected dominance can make an ordinary idea seem fresh.

C Scale: Readers perceive an element as being "small" or "big" in comparison to nearby elements and to natural human size.



Hierarchy is best expressed through proximity, grouping less important things near each other and putting one thing apart and similarity, making all things alike. If all elements are too similar, even in their specialness – as shown in this Wiley Miller Non Sequitur cartoon – the only way to make a focal point is by making it plain.

# **Space**

Consider white space in relation to the other design components of unity, gestalt, dominance, hierarchy, balance, and color as *primus inter pares* ("first among equals").

To avoid a stale approach to organizing elements on the page, look at the blank area you start with and think of displacing the emptiness with pictures, display and text type, and graphic embellishments like rules. Stay conscious of the remaining empty areas and use it to guide, attract, and arouse the viewer to become engaged.

## **Dominance**

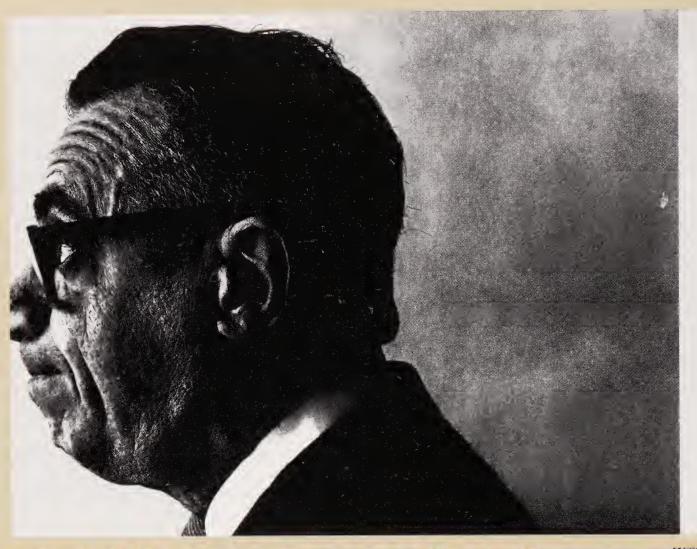
Dominance is closely related to contrast, since there must be contrast for one element to dominate another. Dominance is created by contrasting size (also called *scale*), positioning, color, style, or shape.

Lack of dominance among a group of equally-weighted elements forces competition among them. Readers must then discover their own entry point, which is a chore. Generally speaking, every design should have a single primary visual element, known as a focal point, which dominates the designscape. Readers then have an obvious starting point and are more easily guided to subsequent levels of a information.

*Scale*, or relative size, is described by English sculptor Henry Moore: "We relate everything to our own [human] size." Scale can be used to attract attention by making the focal point life size or, for even more drama, larger-than-life size. Consciously reversing the sizes of adjacent elements is also arresting.

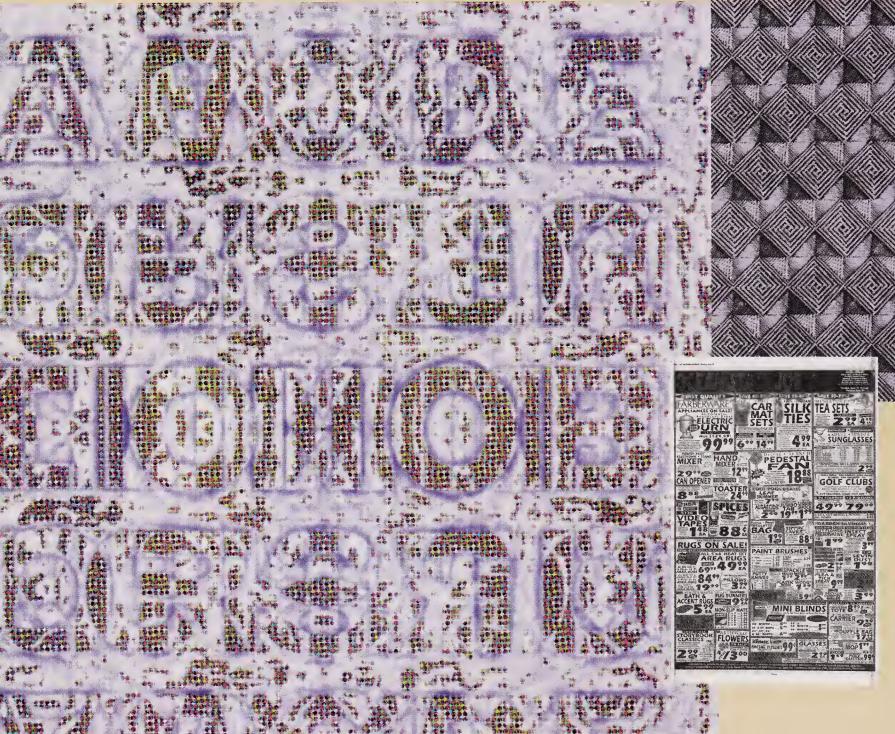
# Hierarchy

The best design moves the reader across the page in order of the type and images' significance. Content is best expressed as most important, least important, and all the remaining information made equivalently important. Having more than three levels of information is confusing because, while it may be clear what is *most* important and what is *least* important, it is rarely clear what the significant difference is between middling material.

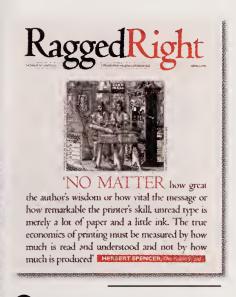


#### But he cuts off his nose to spite his face!"

Why does be dot, Dector? That man is obsessed with his corporate image and yet be continually presents less than his best face to the public. He spends millions of dollars for advertising space and as little as he can for which fifth that space. We come up with great ideas the heavy them. We present estimates the Stables them Between the great ideas and the great ads a great deal testinates the Stables than the deviewing the first proposed will get from fine adversing. He scatually more conserved with the charge for photostats than the charge people will get from fine adversing In television, the syndrome us the same with the symptoms on a much larger scale. And in point of-sale and direct mad, his congruiny appearance is even more embarration?



Using page perimeter and bleed to emphasize the left edge of a spread forces the reader to look back and forth from the missing nose to the headline. They are equivalent in attentiongetting weight in this ad designed by Herb Lubalin. Note that the nose and headline are horizontally aligned, strengthening their, relatedness.



Symmetrical balance looks classical, though static, on this carefully crafted cover by Canadian designer Tony Sutton.

C "Overall balance," used to great effect in Katie Schofield's digital painting Transparent Alphabet #4, is similar to wallpaper. It lacks both a focal point and hierarchy. Overall balance is often used by retailers who want to pack maximum information into their advertising space.

"When in doubt, make it red. If you're still in doubt, make it Dig."
Ivan Chermayeff (1932-)

Our eyes respond to elements' relative nearness and similarities, so repeat the same shape (or color or type) to guide the reader to corresponding elements.

#### **Balance**

Balance, or equilibrium, is the state of equalized tension. It is not necessarily a state of calm. There are three types of balance. Symmetrical, or formal, balance is vertically centered and is visually equivalent on both sides. Symmetrical designs are static and evoke feelings of classicism, formality, and constancy.

Asymmetrical, or informal, balance attracts attention and is dynamic. Asymmetry requires a variety of element sizes and careful distribution of white space. Because they have more complex relationships, it takes sensitivity and skill to handle elements asymmetrically. Asymmetrical designs evoke feelings of modernism, forcefulness, and vitality.

The third type of balance is overall, or mosaic, balance. This is usually the result of too much being forced on a page. Overall balance lacks hierarchy and meaningful contrast. It is easy for this type of organization to look "noisy." For that reason, some elements should be placed elsewhere or deleted.

Balance is an important route to achieving unity in design. If the various elements are seen to be in balance, the design will look unified. It will make a single impression. If a design is out of balance, its constituent parts will be more visible than the overall design.

#### Color

Color is partly artistry but mostly science and common sense. Like good writing and good design, good color is a raw material to be used strategically for a clear purpose. Color contrast has the same potential for communicating hierarchy as typeface, type weight and size, or placement contrasts. Random application or changes in color work against the reader's understanding just as do any random changes in design.

As a functional way to help guide the reader, color:

■ Aids organization, establishing character through consistency. Develop a color strategy. Limit color use as you limit



■ Hues are colors, like red, yellow, and green.



■ Complementary colors are opposite each other.









■ Shades are made by adding black, which reduces saturation.



■ Tints are made by adding white, which reduces saturation.

■ Value is the lightness or darkness of a color.

■ Saturation *or* chroma *or* intensity is the brightness or dullness of a color.



■ Triadic harmonies are three colors that are equidistant.

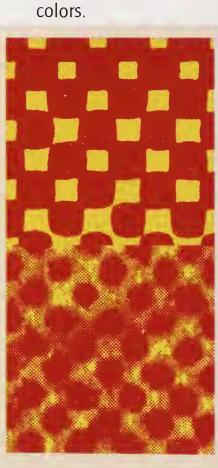






Monochromatic color is a single hue with tints and shades. Achromatic colors are black, white, and grays, which can be made by mixing complementary colors





#### WORDS SYMBOLS CONSCIOUSNESS COLOR

Marshall McLuhan's three-level "hierarchy of communication." Color is at the bottom, functioning in the viewer's subconscious. Above it are symbols and signs, and at the top are words.

Colors have particular associations, according to Dr. Max Luescher, a Swiss psychologist. These general associations must be tempered by context and application.

BLUE DIGNIFIED
GREEN PERSISTENT
RED ASSERTIVE
OPTIMISTIC
BROWN PASSIVE
VIOLET MEDITATIVE
BLACK SURRENDER
GRAY BARRIER

A practical guide is to use color's relative temperature to make elements come forward or recede. All colors are relatively warmer or cooler, depending on what they are next to. Red and yellow pop forward. Blue and green recede.

C Use less color (left) rather than more (right) or your readers will have a colorful mess to decipher. Color should be used in the same way that type size is used: to emphasize importance, not decorate the page.

- font use to communicate real differences. 

  Plan color use from the start. If it is added on at the end, its use is most likely to be only cosmetic. 

  Use color consistently. Along with typography and spacing attributes, a unique color scheme can be an identifying characteristic.
- Gives emphasis, ranking elements in order of importance. Regardless of ink color used, every element has a color or perceptual emphasis that must be considered. Type itself is said to have "color," or gray value, that can be used to create hierarchy. Darker type is seen first, so display type is usually bolder and bigger. □ Color highlights elements of importance. You read this first, didn't you? □ Color codes information, simplifying complex data. □ Color's highlighting benefit is quickly exhausted and devolves into a colorful mess. □ People gravitate to whatever looks different on a page.
- Provides direction, relating parts to each other. Warm colors move elements forward while cool colors move elements back, so a warm tone should be given to display type that is in front of an image to further the illusion of spatiality. □ Use graduated tints since there are no flat colors in nature.

Printed color is affected by "ink holdout," the ability of paper to keep ink on the surface and not dissipate by soaking in. Coated papers have high ink holdout and make photos look much sharper. The extra processing makes coated papers cost more. Paper with the lowest ink holdout is the paper towel, whose very purpose is to absorb.

Black type on white paper has the most contrast possible. Any color applied to type will make the type weaker. Counteract this effect by increasing type weight from book to regular or from regular to semibold, and increase type size for optical equivalency.

Everyone perceives light and color a little differently and with their own set of subconscious associations. But all readers respond to usefulness of information. Analyze, define what's useful to the reader, and point out its potential value with color and the six other design components.

#### Raum braucht der Mensch



Der Mensch sehnt sich nach Welte und Freihert. Doch meist ist er eingekellt: auf der Straße, in den Ferien, bei der Arbeit, in seiner Wohnsituation. Deshalb ist es heute wichtiger denn ja, sich auch privaten Freiraum zu schaffen. Ob im Haus mit Garten oder einer geräumigen Eigentums-wohnung: Als Hypothekenbank können wir Ihnen dabei hellen, sich den Raum zu schaffen, den Sie sich wunschen. München, Telefon: 089/5112-371/297.



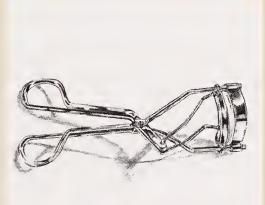
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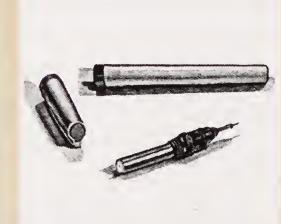
#### Space is what man needs

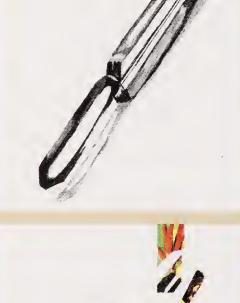
Man longs for distance and freedom. But mostly he is wedged in: on the street, on vacation, at work, in his living environment. That is why it is more important than ever today to get some personal space. Whether it is the house or the garden or a spacious condo apartment: as a mortgage bank we can help you create the space you wish for. Munich.

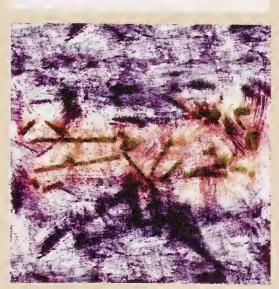
South German Bodencreditbank















C All parts must fit together. This German bank ad uses space, abstraction, dominance, hierarchy, and color to excellent effect, that is, to illustrate the very concept of the ad.



Join elements to make a unified design. At left is a naive drawing of eyes, ears, and mouth on a head. On the right, the head in its entirety is more important than its individual elements.

C Simplify by thinking of design elements as shapes. Designers learn how to see abstractly by replacing naturalistic elements with points, lines, and planes.

"...A building is not designed by putting together a series of rooms. Any (good) building has an underlying design concept that binds all the parts together into a whole. Without this it is not architecture." Edmund N. Bacon (1910-)

#### How to use the seven design components

Think of shapes 71 | Design evolves 73

define beauty to be a harmony of all the parts...
fitted together with such proportion and
connection, that nothing could be added,
diminished or altered, but for the worse.

- Leon Battista Alberti (1406–1472)

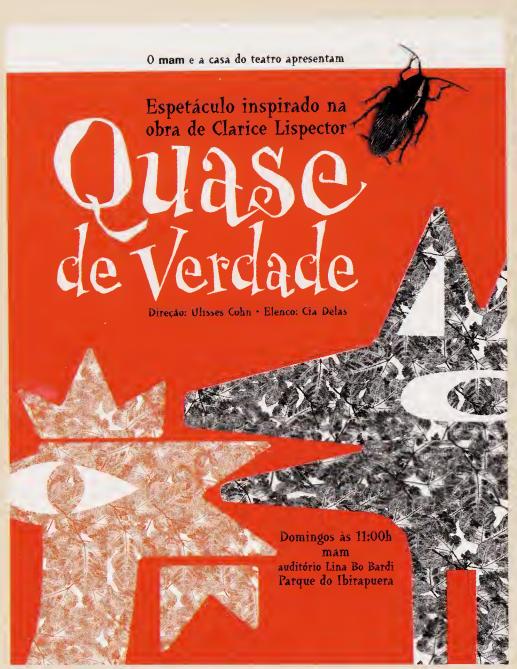
The seven design components – unity, gestalt, space, dominance, hierarchy, balance, and color – are sliding switches, like a lamp's dimmer, that help achieve visible, effective design (left). While you may choose to have more or less of each of these components, it isn't possible to select just one and not use the others. They come bundled as a group.

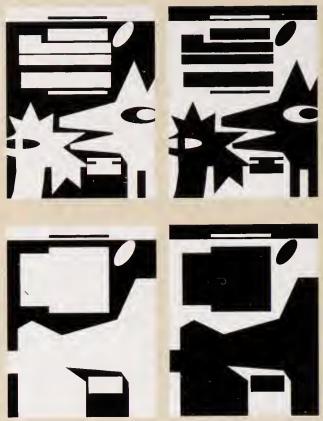
Good design necessitates that one element **dominate** the others in the context of a cumulative perception, or **gestalt**. Choosing that emphasis suggests a design's starting point. **Balance** one large or bright element against a few smaller or muted ones.

Function in design is paramount. What is the message? Choose pictures that tell the story. Use **color** to show what is important. Motivate the reader by arranging the elements in a logical **hierarchy**. The top left corner of every page or spread is a valuable starting point because readers look there first. Exploit the reader's natural habits.

The purpose of design is emphatically not to fill up all the **space**. Don't let overabundance make the information in your design impenetrable. As Steven Ledbetter, music historian and critic, wrote, "Beethoven's control of relative tension and relative relaxation throughout the gigantic architectural span [of the first movement of his Symphony No.3] remains one of the most aweinspiring accomplishments in the history of music."

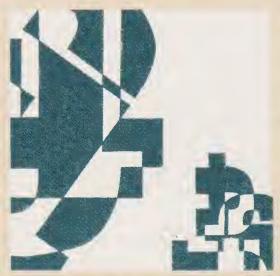
Organize elements so all parts fit together to make a **unified** whole. Find design unity in the elements' commonalities. Organize elements by their shared subject matter, shape, or color.





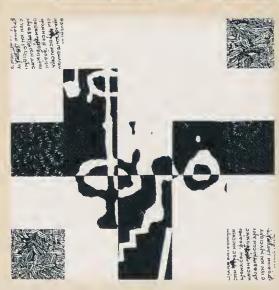














Create a buffer zone that uses surrounding white space. Interrupt a thick white border on each side to make your space look bigger than it actually is. This technique is used by artist Summer Jellison in her "Glass Owl."

C Top row: Students learn to see letters as shape. Each of these studies uses a single letter.

**Bottom row:** A letterform and textures are combined on a grid. Attention to white space is emphasized.

"At the definition stage of a project, we are less concerned with what it will look like and more concerned with what it will be." John Ormsbee Simonds, Landscape Architecture

Designers have different sensibilities and preferences, which is why five designers given the same pictures and copy would create five different designs. But given a single message to get across, we expect they would develop comparable solutions.

#### Think of shapes

Readers operate subconsciously on these design truisms:

- We read from left to right.
- We start at the top and work down the page.
- Pages in a publication are related to each other.
- Closeness connects while distance separates.
- Big and dark is important; small and light is less important.
- Fullness should be balanced with emptiness.
- Everything has a shape, including emptiness.

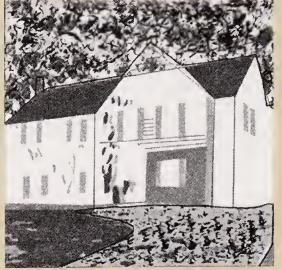
Design is, among other things, the arrangement of shapes. Experiment by mentally setting aside the meaning of headlines, copy, visuals, and other elements and treat them as if they were purely shapes (facing page, top). Henry Moore, the English sculptor, said, "The sensitive observer of [design] must feel shape simply as shape, not as a description or idea. He must, for example, perceive an egg as a simple solid shape, quite apart from its significance as food, or from the idea that it will become a bird."

Shapes exist in the realm of figure and ground only. Try overlapping and clustering shapes to create visually interesting concentrations. To simplify a design, reduce the total number of shapes by joining two or three at a time.

Letterforms are shapes that can be exploited in display typography and logo design. It is necessary to see the form of letters before complex typographic ideas can be developed (facing page, bottom). Without exploiting letters' individual forms and the shape of the space around and within letterforms, the only option is mere typesetting in groups of letters and words.

White space, within type and around columns and pictures, must be considered as a shape. Push it in chunks to the perimeter or to the bottom of the page.







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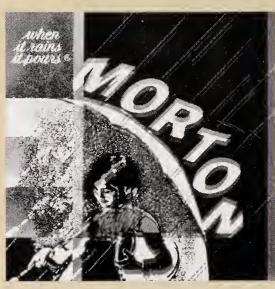
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#### When Forgiving Is Hard

#### Monday, November 25, 2004 Read Psalm 19:7-14

Forgive us our debts, as we forgive our debtors.

— Matthew 6:12 (KJV)

L'ACH time we say the Lord's prayer, we repeat that request to forgive; but how often are we called upon to really act on that simple plea?

My mother was recently attacked in her home in the middle of the night. Though she was not seriously injured, she was roughed up and robbed. When I heard about what had happened, my immediate reaction was one of rage as I thought of her fear and humiliation. Several days later, however, the thought came to me that as Christians we are charged to foreign those who act against us charged to forgive those who act against us.

Sometimes praying for our enemies is hard, almost impossible; but the Lord did so and wants us to do the same. Each day, I concentrate on offering up these unknown assailants, praying also that the feelings in my heart will not be the more on the same. match the words on my lips.

PRAYER: Forgiving God, please grant that the meditations of our heart and the words on our lips will be acceptable in Your sight. In Christ lis name. Amen.

THOUGHT FOR THE DAY If we do not feel forgiving, we can pray that our feelings will change.

Tuck Eudy (Georgia)

PRAYER FOCUS: Those who have wronged us

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#### 28 Monday, November 25, 2004

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Thought for the day If we do not feel forgiving, we can pray that our feelings will change

Tuck Eudy Georgia

Prayer focus Those who have wronged us

must evolve. Solutions grow from familiarity with the materials at hand. As familiarity grows, the process becomes more interesting, design relationships become clearer, and abstraction can be manipulated.

"Design is about making order out of chaos." Cipe Pineles (1908–1991)

#### Design evolves

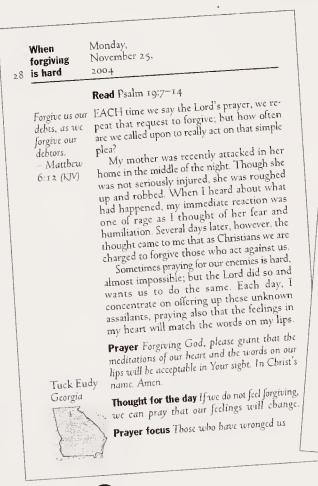
Uncovering and recognizing design relationships takes time. Just as when we walk into a dark room, it takes time to accustom our eyes to the materials at hand.

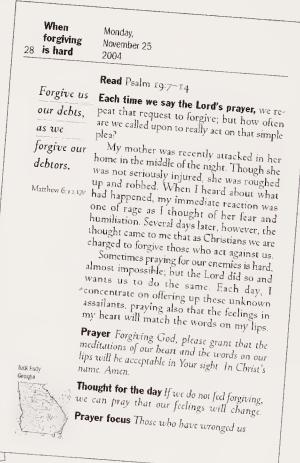
Design must evolve from basic relationships to more complex, more refined relationships. Start the process by becoming intimately familiar with the content. Read every word of the text. Understand *what* is being said. Understand, too, *why* it was written and why it is being published. Then find out *who* is going to read it and what the reader's motivation is. Finally, develop a strategy for expressing it to the reader's greatest advantage.

Design evolution should proceed on two levels simultaneously. One is to seek relationships of *meaning*, which appeals to the reader's need for understanding. The other is to seek relationships of *form*, which appeals to the reader's need for attraction. Balancing these two ensures effective visual communication.

Design is spoiled more often by the designer's having been overly cautious rather than having been overly bold. Dare to be bold.

- Design evolution takes time. These five pages show the development of a redesign for the *Upper Room* magazine.
- Original layout evolved over decades into a flavor-less, random presentation.
- 2 Convert all paragraphs to flush left.
- **3** Add bold, sans serif contrast.
- 4 Add column width and type placement contrast; add map.
- **5** Change font assignments; adjust some linespacing and type sizes; add rules.







# Section **Three**

#### Page Architecture

- **7** The page as visual structure
- 8 Connecting elements and pages
- **9** Three-dimensional space













• Purple Robe and Anemones, painted in 1937, shows Matisse's comprehensive use of space.

# Architecture and design share visual structure. At top left, symmetry is shown in Eliel and Eero Saarinen's 1941Berkshire Opera Shed and, beneath it, a Chinese newspaper ad. At top right, asymmetry in Jaipur's Samrat Yantra, an eighteenth-century astronomical structure, and, near left, in a 1931 cover by Gyorgy Kepes.

C Architecture and calligraphy use active positive and negative space, as in this 1575 Turkish calligraphy (far left) and A Mexican resort hotel.



#### The page as visual structure

Architecture and design 87 I Chains of thought 93 I Grids: Freedom in structure 93

he whole arrangement of my picture is expressive. The place occupied by the figures or objects, the empty spaces around them, the proportions, everything plays a part. – Henri Matisse (1869-1954), Notes d'un peintre

A chicken's skeleton. Stud and beam construction. The design grid. Each of these is an unseen substructure on which visible, external parts are draped and attached. The chicken's skeleton is covered, for example, by muscles, skin, and feathers. The modern house has wallboard, flooring, and shingles. A design has words and pictures. In each case, the substructure determines the placement of the visible elements.

#### Architecture and design

A completely new way of realizing large-scale architecture occurred in the mid-thirteenth century. Construction of the church of St.-Denis, near Paris, had stopped about eighty years earlier when the abbot who began the building died. When the church's new design was proposed in 1231, it was the first instance of Rayonnant ("radiant") architecture, in which radiating patterns of cut-glass windows flooded the building with light. It was a purposeful decision to have empty space within the cathedral be more important than the stone walls that surrounded the space.

Harry Sternberg wrote, "In architecture the structural beams support the walls, floors, piping, and wiring, as well as the facade of the building. In any graphic work...composition is the basic structure which supports all the other elements involved."

There has always been a similiarity between architecture and design in thinking style and problem-solving approach. Hassan Massoudy said in his 1986 book *Calligraphy*, "An architectural















Except a wurst. O, for draught of vintage! That hath been cool'd a long age in the deep-delved earth, tasting of flora and the country green, dance and Provencal song, and so sunburnt mirth! O for the warm, warm South. That has two.

G U S T A V M A H L E R

## Everything has an end, except a wurst. O for draught of vintage! That hath been cool'd tage! That hath a draught of vintage! That hath been cool'd tage! That hath a draught of vintage! That

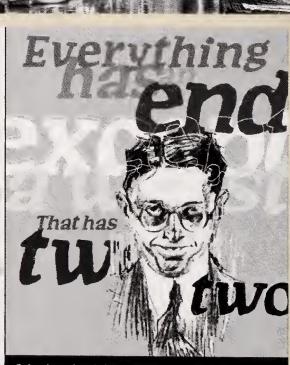
O for draught of vintage! That hath been cooled a long age in the deep-delived earth, tasting of flora and the country mirth! O for a beaker full of the warm, blushful

South. O. for draught of vintaget That hath been cool'd a long age in the deepdance and Provencal song, and so sunhurnt beak full of the warm, country green to

and so sunburnt mirth for a bucket full of the warm blushful draught of vintage that hath been coold a long age in the deep-delived earth, fasting of flora and the country green, so sunburnt mirth O for a beaker full of the warm warm South.

That has two.

Provencal song,



O, for draught of vintage! That hath been cool'd a long age in the deep-delived earth, tasting of flora and the country green, dance and Provencal song, and so sunburnt mirth! O for a beaker full of the warm, blushful south. GUSTAV MAHLER

C "Architectural space can be fluid or static; additive or divisive; positive or negative; colorful or monochromatic." - Kohei Ishikawa. Solid space, or volume, shown in three buildings (top row), and architectural emptiness, or voids (second row).

\* Cesar Pelli, architect of City Centre, says, "The space between the buildings is the most important part of this design. These are the only skyscrapers that emphasize negative space. It is a portal to the sky, to the clouds, to God."

#### Castles illustrate layout complexity:

#### **SIMPLE**

castle

Primitive = Elementary page architecture

#### **STANDARD**

castle

Regular = Intermediate page architecture

#### COMPLEX

Elaborate = Intricate castle page architecture

"Architecture is the beautiful and serious game of space." Willem Dudok (1884-1974)

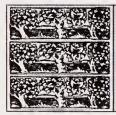
design defines a living space; the space between the walls is as real and as significant as the walls themselves. In [graphic design] the value of a space derives from its relationship with the [elements] that surround it and vice versa." Sean Morrison, in A Guide to Type Design, says, "Type designers are closer to architects than to artists. The architect must produce a building that is structurally sound and efficient but that is also visually pleasing and comfortable to live and work in." Surely, a designer's work must conform to these same requirements to be useful.

Architectural volumes are created as either solid (space displaced by mass), or void (space contained or enclosed by planes). Solid volumes are buildings: St. Mawes Castle, England; Il Duomo, Firenze; and Seafair, a Newport, Rhode Island, mansion. Voids are spaces defined by solids: The space between the towers of the world's tallest buildings, the Kuala Lumpur City Centre, Malaysia\*; the interior of Il Duomo, Siena; and the Piazza Cisterna, San Gimignano, Italy.

A building's purpose and size are the architect's first considerations. Similarly, determining a document's purpose and its page size are the first decisions a designer must make. The page's size and its shape create reader expectations: a square or horizontal page immediately signals an unusual document. A standard 81/2" x11" vertical page (or European A4) must overcome its size and shape to be recognized as remarkable. The designer must also weigh technical issues: economies of printing (a really great twocolor job is far better than an inferior four-color job) and paper buying (trimming excess paper to get an unusual shape costs money), binding, standard envelope sizes, size requirements imposed by the post office, postage, even what size fits best on the computer screen at full-size and full-screen view.

According to architect Kohei Ishikawa, "The placement of windows and doors defines the function of rooms." The page size and the layout signal the type of document the reader is holding. What makes a bound document a book versus a magazine? What distinguishes a newsletter from a newspaper? What makes





#### Environmental

The Monthly Newsletter of The Mid-State Ecology Group

#### Members E-Mail

E-Mail

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#### **Crab Count** Down

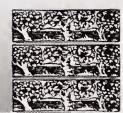
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#### T-shirts

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The Monthly Newsletter of The Mid-State Ecology Group

#### Environmental



#### Crab count down

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the end of end of the month. Out there we are we argue all liferage four stodies to discontinue crab catching enhing another each act our phone phone tree significant Ward Warden, director the Contin Continental School of Aquacultuaculture in North Her said. "That," have not set read Aguacultuacultum in North Hersand, "Nove hit Hersand, "Nove not yet read report, but the early worthat it foot it fooks mighty grim crubs stades steamed, stuffed, but Contine and School of Aguacultuscultum in North Hersand, "Nove not yet read report hit has a full "Nove not yet read report his to his said." report, busit, but the early mon that it last it looks mighty grim orabs steeds at unifed, t is doesn's neer's matter from who get our orour orabs or future, n that they they are fresh and i class much much boort sah wet. It appears ppears that I'll have to fresh from h procen from the Yal like the rethe rest

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Architectural white space is handsomely lampooned in this ad for Absolut vodka.

Rembrandt's David and Saul (c1658) shows a viewing progression from King Saul, occupying the entire left half of the canvas, to David, whose hands pluck the strings of a harp. The central darkness forces us to perceive these two parts sequentially, then mentally unite them in a complete image.

"Architecture in general is frozen music." Friedrich von Schelling (1775–1854), Philosophie der Kunst

"A good solution, in addition to being right, should have the potential for longevity. Yet I don't think one can design for permanence. One designs for function, for usefulness, rightness, beauty. Permanence is up to God." Paul Rand (1914–1996)

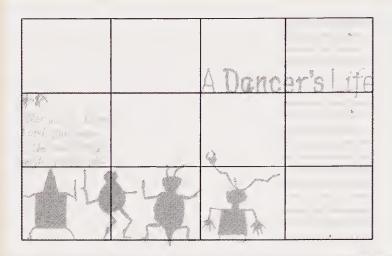
a single-sheet document a poster rather than a flyer? Such distinctions are trivial if the content is routed into the reader's mind effortlessly and memorably.

Repeated design elements must be findable – placed in consistent, expected places – just as architectural details, like light switches, are always placed at the same height from the floor, where they can be found in a darkened room. Create typographic "styles," that is, set standards, to organize areas of white space between type elements. Visual consistency depends on typographic style, horizontal grid use, column structure, and margins.

Taking a large room and breaking it into small cubicles is one way of breaking up space. Using boxes to organize graphic space is also commonly seen. Boxing can separate one part of a story from the rest to make it appear more valuable, less valuable, or just different. Boxing can break the page into different shades of gray by putting separate stories in different boxes. And boxing can be a crutch for the designer, who doesn't have to place multi-level stories next to each other, but nice, simple, hard-edged boxes side by side. The cost of relying on boxes to separate different stories or parts of stories is injury to the page as a totality. Boxitis is especially easy to succumb to in page layout software, where boxes are so easy to make. It is better to use judicious white space to separate – or connect – stories.

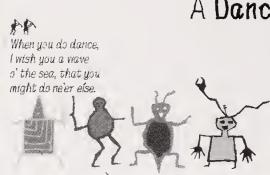
If boxes must be used, try to break a worthy part of an image out of a box, or delete one or two of the box's sides and set the type flush left to imply a vertical left edge (left).

James T. Maher wrote, "Part of the intuitive gift of any first-rate artist is the continuous process of editing, of cutting, of revealing." Design, like architecture, painting, and music, hinges on knowing what to leave out. Maher continues, "In the early 1900s, a group of British experts visited Japan to study its culture. Part of the group called upon some Japanese painters. 'What is the most difficult part of painting?' they asked the artists. 'Deciding what to leave out," they were told.... The end product is simplicity – that which is left when the non-essential has been discarded."

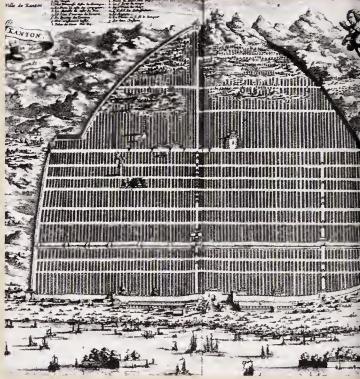


Sare this ride of more districtions?

#### A Dancer









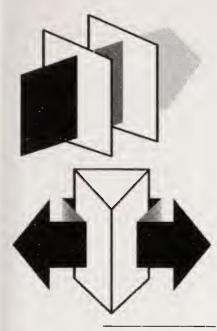


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Arrows represent a linear thought process. Information should be as clear as these arrows.

C Two communities contrast structure and freedom in their planning. Logone-Birni, Cameroon, left, is a village with many organically shaped spaces. The c.1665 city plan of Canton, China, right, shows blocklike planning.

# C Organic design versus use of an external format. The contrast in design process yields different design results. Neither is necessarily "better."

#### Chains of thought

A design's plan has got to include the order in which the parts – the display type, the images, the captions, and the text – are to be noticed and read. Absent this sequencing, a reader is faced with a "bowl of oatmeal," an area of relatively equivalent noisiness, none of which is sufficiently appetizing to stop and nibble.

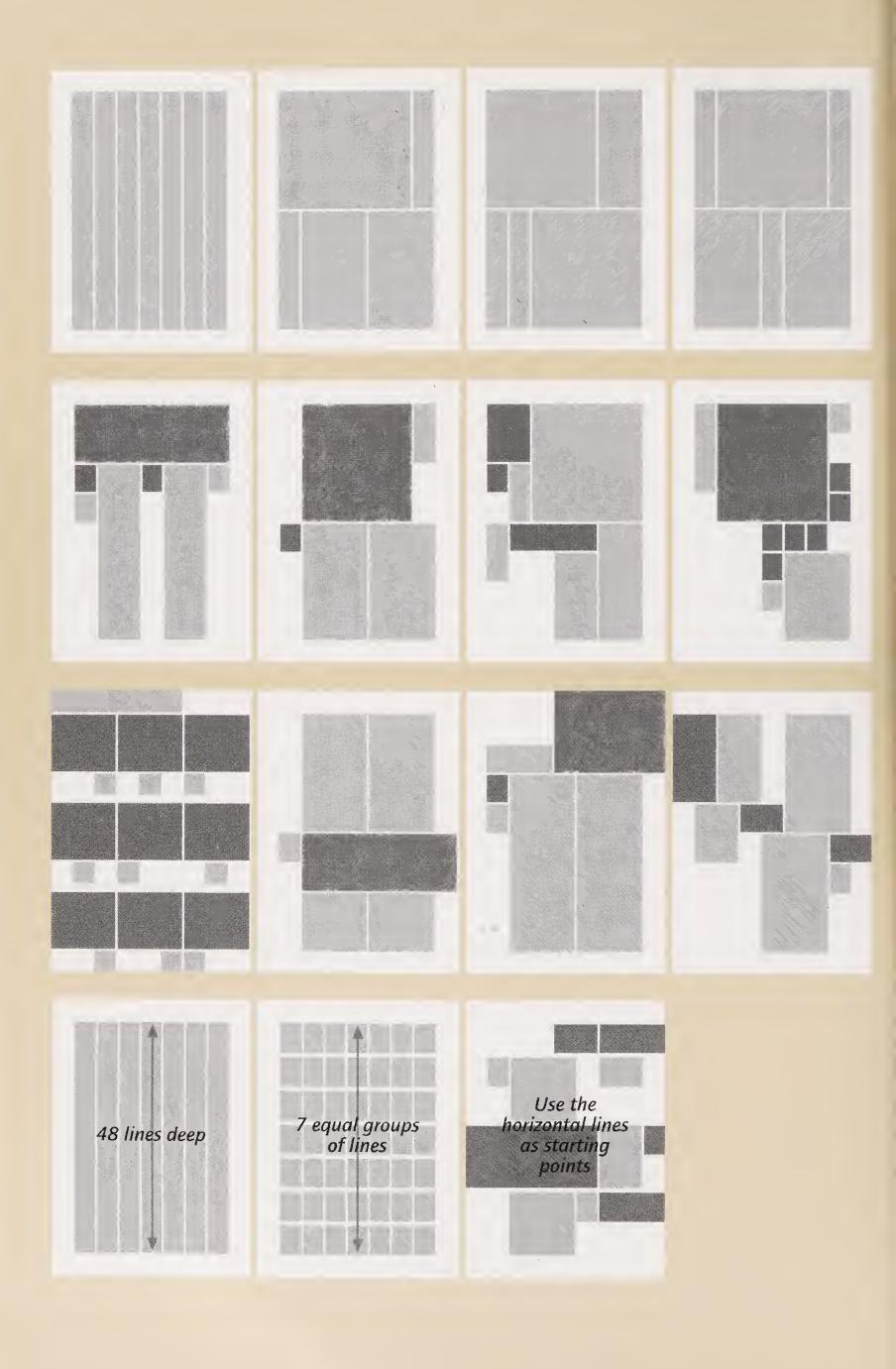
Sequencing information is among a designer's most essential tasks. Book designers, for example, structure their typography into title, chapter and section headings, subheadings, text, and captions. Such typographic structure helps the reader scan for generalities and, at least initially, ignore details until they commit themselves to the text.

For every design project, write on small Post-it Notes each of the ideas you want a reader to recognize. Now put the notes in order of descending importance. Readers should have thoughts presented to them like beads on a string. Albrecht von Haller, eighteenth-century anatomist and poet, said, "Man can only follow chains [of thought], as we cannot present several things at once in our speech."

#### **Grids: Freedom in structure**

Unlimited design choice is both a blessing and a curse. Time is wasted investigating dead ends and aimlessly playing with design elements. It is often better to make design decisions chosen from a limited palette. There is beauty in *simplicity*. A Korean proverb says, "Only clean upstreams make clean downstreams." By beginning with an external format (facing page, top), the grid helps make "clean downstreams," that is, clear design relationships and clean, understandable pages.

Content has its own inherent structure. It comes built in, but it takes sensitivity to uncover the interconnectedness between parts. This is called "organic design." There are occasions, though, when it is better to fit elements into an external format. Grids save time and they organize complex information like charts and schedules, scientific data, lists, and repetitive elements like head-lines, pictures, and text.



structures space with flexibility. It imposes white space because the narrow columns must be combined to accommodate type, leaving at least one narrow column empty. Shown diagramatically, these column variations are not intended as layouts.



When elements have been crafted into an environment with shared attributes, a focal point can become very visible, as this pasta illustrates.

C How to create a horizontal grid. Divide the maximum number of a page's text lines into equal groups, allowing a line between each group. For example, if there are forty-eight lines on a page, there can be seven units of six lines each with one line added between units (7 x 6 + 6 = 48).

Consistency and creativity are inspired by limiting choices. Freedom grows directly from structure. Though using a grid limits choices, it gives a design built-in cohesiveness. The limitations a grid imposes are chosen as the grid is developed, based on set priorities. Are images most important? How many levels of type are there?

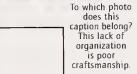
Grid development must provide a variety of predetermined sizes that artwork and type will be made to fit. The smallest photos and illustrations define a module and the module is repeated into a multicolumn structure. The page is divided horizontally into equal clusters of text line units. The horizontal guides place the top edges of headlines, captions, and visuals.

A simpler grid is usually better than a complex grid. A grid's complexity should help the designer answer the questions, "How big should this be and where should I put it?" A seven-column grid is universally functional and great fun to use because it contains many options (facing page, top three rows). Overly-complex grids offer so many options the grids become all but useless because they no longer limit choices. Readers have trouble perceiving the organization when the grid units are too small.

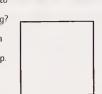
Structured design has a visible cadence and tension that leads from one element to the next in an orderly way. But if structure is followed without thoughtful manipulation, it produces repetitive sameness and boredom. Grid development must include a description of how and when the structure (or "normal" placement) will be violated. The rules of violation focus creativity and make grid-based design look fresh. The most important rule of violation is to have an element break the grid when it *deserves* to stand out. That lone element becomes very visible (near left).

In addition to organizing complex information on a particular page or spread, grids unite the cover and interior pages and relate one issue to the next. Grids also organize an entire company's visual requirements. They build family resemblance among on-screen applications, brochures, data sheets, and advertising.





Centered captions are less clearly attached to their photos than flush left captions



Spacing between captions and photos is not equal in this example



Arbitrary or uneven spacing makes the reader guess about relationships that should be clear

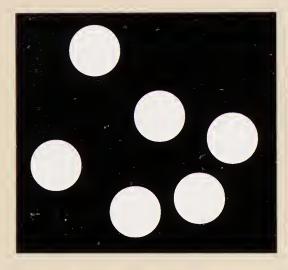
Flush left captions align with their

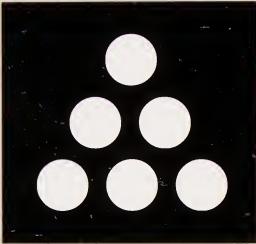
respective photos.

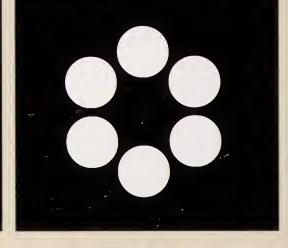
Captions may run as deep as necessary because they have enough relating attributes.

Equalize spacing between photos and captions.

Captions should never run the same width as their photos. It is too obvious a relationship!







A narrow 6-point space bonds this caption to its image.

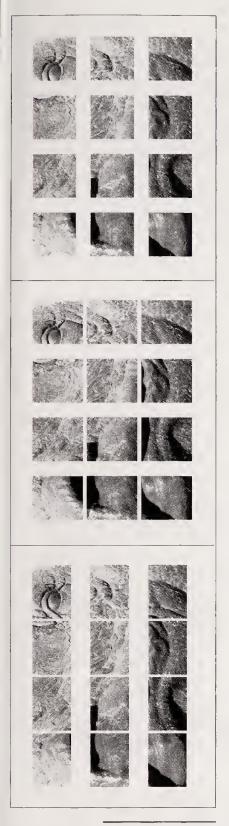


A wide
12-point
space
cripples
the captionimage
relationship.



It is easy to make copy look crowded inside a box, which is why we see this ugly effect so often. As with every other design relationship, proportion is vital. The appearance of sufficient space between box and text is dependent on the type size and linespacing used in the copy. In this example, the linespacing is greater than the spacing between the type and the box. This emphasizes the relationship between type and box rather than the correct relationship of type to itself.

For greatest legibility, the relationship of type to itself must be emphasized over the relationship of type to its surrounding box. Note that the linespacing used in this paragraph is less than or perhaps equal to the space separating the type from the box. White space is used as a connector of type to itself and as a separator of type from its surroundings.



Fequal spacing creates directional gridlock (top). Narrow vertical spaces create horizontal rows (middle). Narrow horizontal spaces create vertical rows (bottom).

#### **Connecting elements and pages**

Space connects elements 87 | Space connects pages 89 | Space emphasizes direction 91 | Information mapping and wayfinding 93

pace...is never complete and finite. It is in motion, connected to the next space and the next.

- Marcel Breuer (1902–1981)

The mason's craft is defined by applying mortar evenly between bricks. Masons don't make the bricks; rather, they manage the space between the bricks. The typographer's craft is similarly defined by applying space between letters, words, and areas of type. White space can be used like mortar between bricks to cement elements together. White space connects when used in consistent, measured amounts in a design. As an abstract example, a group of six dots can be made to mean something by changing only the space between the dots.

#### Space connects elements

Wide spaces separate and narrow spaces connect. That is, elements can be separated by distance or related by nearness. The closer they are, the more related they seem to be. The rectangles at the far left on the facing page are seen as a group of three plus one. Overlapping elements shows maximum relationship. The four rectangles are now seen as one multi-sided shape.

There is a risk to defining areas by using boxes. While boxes effectively enclose space, they tend to *over*separate, harming the unity of the page (far left, bottom row). Instead of boxes, use wider alleys between elements (this page). Space that is carefully measured reveals separation of content.

Rather than using boxes, the addition of a rule, or line, near the beginning of an item is sufficient to make it stand out. If boxes absolutely must be used, leave not less than 6 points and not more than 12 points of space between the text and the box (bottom row). Running text nearly up against a box rule makes the text look crowded and unappealing.

<sup>&</sup>quot;Simplicity of form is never a poverty, it is a great virtue." Jan Tschichold (1902–1974)





W

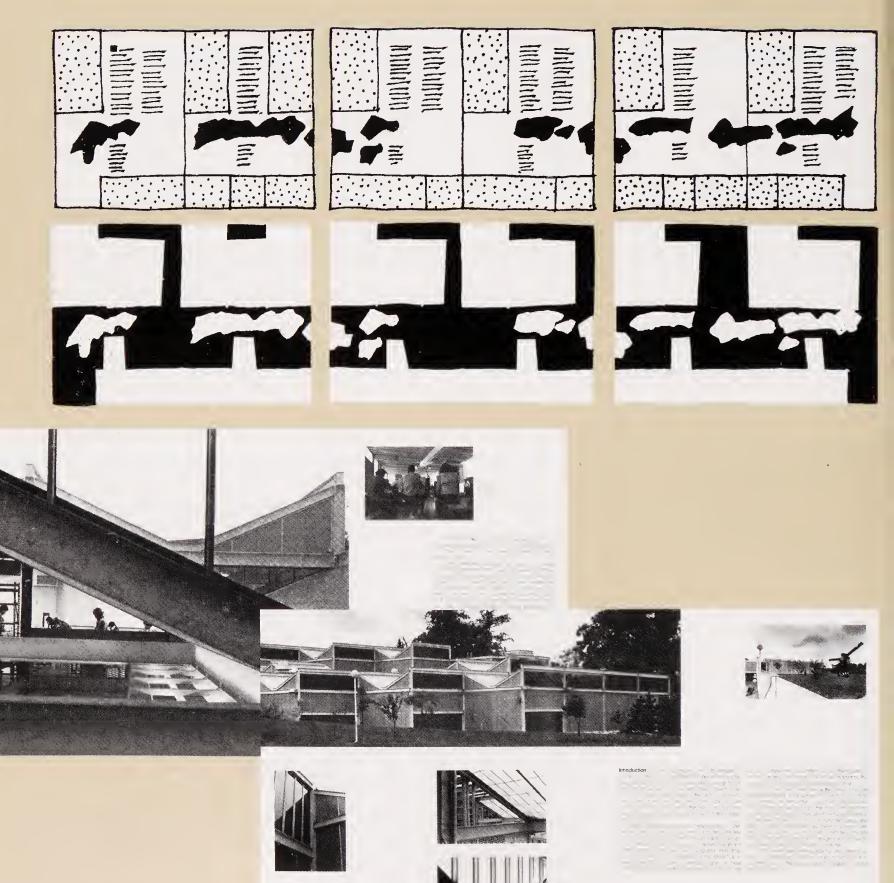
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Visual flow is shown in this handsome story from *Audubon* magazine.

H.

Repetition and rhythm are shown in this six-page diagram in which white space is as consistently formed as any other element. Careful determination of the materials at hand develops such a pattern.

The grid-determined empty areas of this layout help emphasize a strong horizontality through the story.

"Rhythm is in time what symmetry is in space." Matila Ghyka (1881–1965)

#### Space connects pages

A multiple-page document, whether a magazine story or a technical user manual, is made of many individual pieces. They must be unified into a clear, ordered statement that looks predigested and purposefully presented. They must catch and hold the reader's attention.

White space connects pages when the *spaces* remain the same. In magazine design, repetition and rhythm of spaces and elements help the reader recognize flow from spread to spread and from issue to issue. Department pages, which define the visual personality of a magazine, should be unified by distinctive head and outer margin sinkage so their recurrence creates a familiar and identifiable pattern. A feature story, which by definition is special material, must *appear* to be special throughout its length. Its design, therefore, cannot be the same as either departments or other feature stories. Inventing a different formula for handling space unifies pages in a feature story.

Elements and surrounding spaces must be identically placed. Create a pattern of occupied and unoccupied spaces by distilling commonalities among the materials at hand. To ensure unity, design pages in spreads or, even better, as complete stories, as they will be viewed and perceived by the reader. Make their repetition and rhythm unavoidable.

Repetition is not dull. Variety for its own sake, on the other hand, disintegrates unity. The most visible elements to treat consistently are borders and white space, typefaces, illustration and photo sizes and styles, the logo, and color.







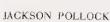
















A COLD CALL from MIGHTY MOUSE

n 1974, Ron Alghini was transferred from New York to manage a small Jefferies branch in Chicago. That same year, Frank Baxter was hired as an institutional salesman. The plan was to train him in Los Angeles and eventually

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# l'Argent

POINT DE MIRE

#### Une réserve d'argent toujours disponible

Les conseils financiers de la Caisse

Instants...
Avec la Carte Satellis Aurore de la
Caisse d'Eparonn vous disnosez

ls Carte Natellis Aurore est acceptée dans des commerces en Belgapie, en Balte et en Espagne Satellis Aurore, est également la possibilité d'affinenter source compte chèque, dans la Intate de cotte reserve sinyonithe, en téléphirman à Allo Financement et voire «18 h, yous navoure un surement du montaire dimandé sur voire compte cheque Caisse el épagne. Certains mins voire sont de parigne. Certains mins voire sont de la contra de la parigne. Certains mins voire sont de la parigne.



Space as a directional force (L-R): 1 Space exerts pressure from below, emphasizing verticality; 2 type aligned at the right edge of the page creates horizontal direction; 3 white space in the foreground indicates diagonal direction; and 4 traditional optically centered position (just above geometric center) of the page produces perfect equilibrium.

"One reads from the top left to the bottom right and must design accordingly." Walter Dexel (1890-1973)

The prevailing direction created by other elements is the starting point for shaping white space, as shown by these four headlines.

Use space in thick slabs to direct eyeflow. Big elements, like big animals, need big space.



#### Space emphasizes direction

Readers look first in the upper-left corner. Does this mean designers *must* design for an upper-left starting point? No, but as Walter Dexel, German art historian and Bauhaus-era proponent of simplified typography, says, designs that stray from the expected norm must do so knowingly. Designers must make accommodations for diverging from the expected, like beginning a message in the upper left corner. Guiding the reader in nontraditional directions requires greater accord between all elements, for example, by making hierarchy extremely clear so the focal point in, say, the bottom of the page, stands out visibly.

Messages are delivered over time, whether it is the few seconds it takes to scan a page or spread, or the few more seconds it takes it takes to flip through a multipage story. Time implies space and motion, from one element to the next and from one spread to the next. Motion requires direction. Direction is used to unify and guide attention to key information. Dynamic design needs emphasis in a prevailing direction, whether vertical, horizontal, or diagonal (left, top two rows). Equalizing directional force produces a motionless design that evokes a classical or traditional look. Motionless design is, of course, a legitimate choice under the proper circumstances, but in general does not serve the reader's need for dynamic expression. Diagonal emphasis has been misunderstood as the most dynamic arrangement. In practice, it is often used when a designer is stuck for a better idea. Diagonal emphasis should be used with caution because its startling effect is extremely self-conscious and its use often actually detracts from the message.

Use white space to echo the prevailing direction of design elements. Headlines correctly broken for sense make their own shapes (left, bottom) that should be exploited.

Nathan Carter and the Morgan State University Choir

Brooklyn Philharmonic Orchestra

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### From Gospel to Gershwin

Conducted by Gunther Schuller

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# 10 tips om rip och fotosättare

Här är råden som betyder skillnaden mellan bra och dålig investering av fotosättare och rippar. Tio handfasta tips som leder dig till den maskin som passar bäst för din speciella produktion. AV HANS KLAHR

⊙ Det som i första hand avgör vilken fotosättare man skall använda är typen av produktion. Vilka tryckpressar skall användas och vilka olika format behöver man kunnaskriva ut? Det är inte varje dag mofotosättningsutrustning till taget, det är vanligare av

Trygg produk till att man l gital utskjutnin pel Aldus Presss full dator. Är m innehåller de de återges korrekt p digital utskjutnin vänta på att ett uts

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3 Internal Drum några år sedar kallas Internal I trumma som fil terande laser lämnar materialet har varierande kunskaper. En fotosättare kommer då inte till lika stor nytta eftersom filmåtgången skulle bli omfattande.

2 Olika filmformat i samma fotosättare. Även om man har en fotosättare som klafilmtillverkare och fotosättare de är anpassade till. Alla filmbredder är inte vanliga och vissa finns inte att få tag på i Sverige. Om filmåtgången är stor kan man specialbeställa en bredd så att den passar produktionen.

3 Internal Drum eller planfotosättare? För några år sedan kom en fotosättare som kallas Internal Drum. Den har en stabil trumma som filmen placeras i, varpå den roterande lasern belyser materialet direkt. Det ligger stilla under exponeringen och nog-

# Un trésor gothique : la châsse de Nivelles Musée national du Meyen Age : Thermes de Cl 6. place Paul Paulère 75007 Brais Tell 151 437 562 09 Métro. Claright à Serboone Métre Conferênces : de l'étail de distribuir permaient de distribuir de l'étail de de l'étail de distribuir permaient de l'étail de distribuir de l'étail de distribuir de l'étail de di



### L'Amérique furtivement. Photographies d'Henri Cartier-Bresson Musee de la Coopération franco-américaine, château de Biérancourt

ligger er



#### IL MOVIMENTO TURISTICO IN ITALIA

Fonte UIC	Entrate valutarie	Uscite	Saldo
1° trim. 52	4,554	3,197	1,357
2° trim. 52	6,852	4,221	2,631
3° trim. 52	7,877	7,362	515
Totale	19,289	14,780	4,503
1° trím. 51	4,495	2,953	1,542
2° trim. 51	5,829	2,451	3,378
3° trim. 51	6,817	4,803	2,014
Totale	17.141	10.207	6.934

White space leads the reader through the competing elements of a design, much like a walking path leads one through a garden.

**C** Double the internal spaces of a story to separate it from its surroundings.



Wayfinding is used in signage and as department heading signals in multipage documents.

"Order...is a function of the horizontal and vertical reference lines on a page and the frequency with which the corners of the items fall on these lines." Gui Bonsiepe (1934–), A Method of Quantifying Order in Typographic Design

#### Information mapping and wayfinding

Information mapping is patterning of data so it signals priorities. It makes information easier to glance through and, consequently, to access. Research reports, and common sense repeats, that readers "like" finding information and they like documents that simplify the process of finding things. Information mapping requires that content be written in segmented, hierarchical structure and the structure be given recognizable form by coordinating positioning on the page and through typographic texture, color, and size.

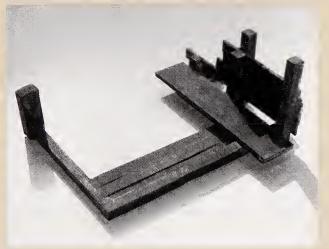
Wayfinding essentially does the same thing as information mapping, but in three dimensions, for example, in sign systems. Wayfinding is important as a signal system in paginated documents, where design in three dimensions becomes evident as pages are turned.

White space guides the eye on the page by creating paths of emptiness, like a footpath through a garden (facing page, top). Such space may be used in the following ways to aid information mapping and wayfinding. In all cases, repetition of precise proportions is essential.

- To isolate one part from another yet still retain their appearance as a single entity, create a standardized space within the story, say, half a linespace, and double it to a full line space between the story and its illustration (facing page, center). Mathematical progressions like 2-to-1 and 3-to-1 ensure a built-in harmony among parts.
- Consolidate bits of white space and put them in chunks at the bottoms – or tops – of columns where it looks purposeful and significant (far left, bottom). This makes the editing process easier and gives an informal chattiness to text columns.
- Judicious use of white space in tables makes them easy to read and follow horizontally across vertical columns of data without requiring unnecessary rules (near left, bottom). If separation can be achieved with a spatial adjustment alone, it is likely to be a more elegant solution than via the addition of lines or type and color contrasts.







Inner City Infill A Housing Design Competition for Harlem



The Lauterbrunnen valley in the Swiss Alps is one of the most dramatic landscapes in the world.

9

#### **Three-dimensional space**

Two- and three-dimensional space 97 | A publication is both two- and three-dimensional 99

eople live in a three-dimensional airspace, an atmospheric volume above the land surface...
The experience of being within fine three-dimensional spatial volumes is one of the great experiences of life. – Garrett Eckbo, Landscape Architect (1910–2000)

Most graphic design occurs on flat planes, in two dimensions: vertical and horizontal. But we see the world in three dimensions, with the addition of depth. How does design change when the third dimension is added?

Carl Dair, in his excellent mid-1960s booklet series for Westvaco Paper, wrote, "All artists and designers are confronted with the same problem: here is a space, how do I divide it, enclose it, define it, intrude forms into it, so that the space becomes alive with meaning and function?... The blank space is a challenge to the graphic designer, demanding that he utilize it for the most effective presentation of visual-verbal forms in order to communicate clearly to the reader. To the architect, the task is to enclose a space...and to divide it for human activity. The sculptor working on a block of stone or wood liberates the imprisoned form by letting space into it."

Sculptor Henry Moore said, "A hole made through a piece of stone is a revelation. The hole connects one side to the other, making it immediately more three-dimensional. A hole can itself have as much shape-meaning as a solid mass." Moore has been called "The Father of the Hole."

Depth in design is real. It is real as we turn pages. It is real as we photograph objects. And it is real as we try to show one element in front of another. Depth is a powerful tool to attract readers and it's a fun opportunity for designers.

The Stazione Ferroviale Nord in Milano shows vivid interior three-dimensional space. This scuptural model for a life-size installation defines interior and exterior space.

C Depth is implied on a two-dimensional poster by Michael Beirut. Shadow is used to introduce the third dimension.

Sculptural dimensionality is shown in this Korean War memorial in New York City.



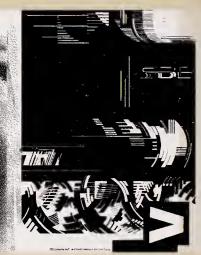


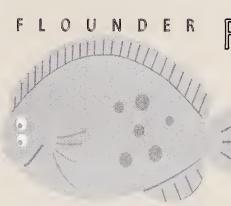






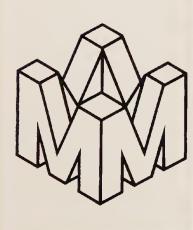


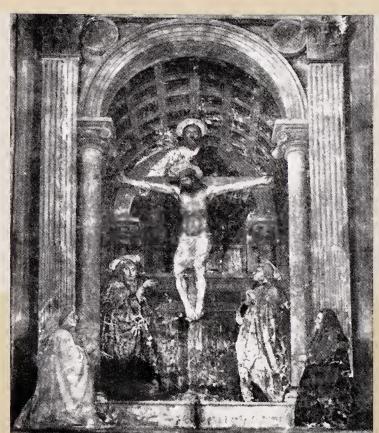












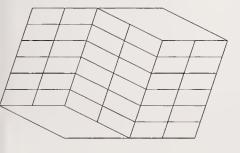




This Nike ad describes the difference between a two-dimensional page and and three-dimensional reality. The headline reads, "This is not enough space," half the page is left blank, and the life-size shoe, being too big to fit the page, must bleed.



Perspective can be manipulated to create ambiguous depth, as in this reversible figure.



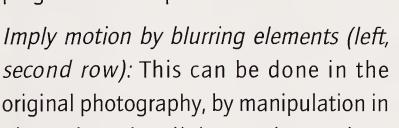
#### Two- and three-dimensional space

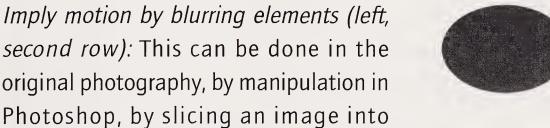
We live in a three-dimensional world that has height, width, and depth. The printed page, however, is flat. It has only height and width. Depth must be added through illusion. Spatial illusion can be either volume, which is an implied solid, or space, which is an implied void. The illusion of dimensional space is used to get attention, to imply realism, and to help the reader project himself into the composition.

There are four ways to approximate three-dimensional space in two dimensions:

Overlap elements (far left, top): Placing an object in front of another and obscuring the back one recreates reality most effectively. Be careful not to make type unreadable when placing it behind another object. Ambiguous space is created when one or more of the elements are transparent.

This sense of "floating in front" is especially remarkable when printing an element in spot varnish. Drop shadows are an effective but overused way of overlapping to create depth.

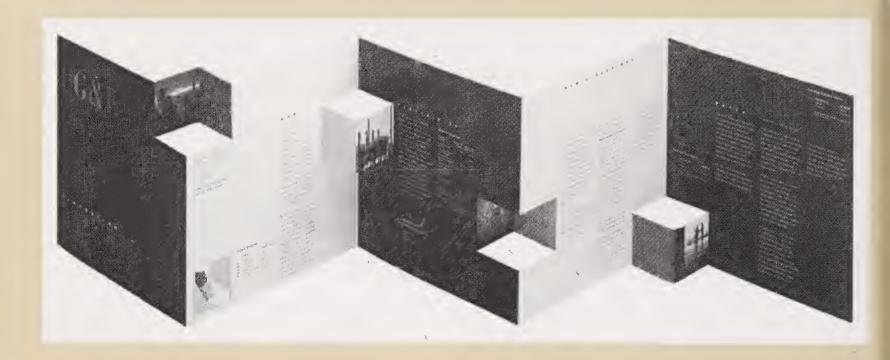




pieces, or by using startling repetition of some elements, pioneered by Armin Hofmann in the late 1950s and early 1960s.

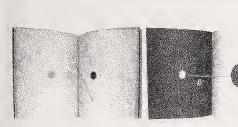
Use scale and visual hierarchy (left, third row): Transpose the expected sizes of elements for startling new relationships. Use foreground/background contrast to imply greater depth.

Use perspective (far left, bottom row): Perspective is a technique for depicting volumes and spatial relationships on a flat surface. Shown are a dimensional logo in isometric perspective; Masaccio's The Holy Trinity c1427, the earliest true perspective painting; and an "atmospheric perspective," in which distant objects appear grayer and less distinct. Photoshop filters exaggerate this effect.





C Die-cutting transformed this flat sheet of paper into a three-dimensional design.



The airplane is printed on the back of this "globalism(s)" poster by Pentagram, who took advantage of the poster paper's transparency.

Far left: Paper's thickness is revealed in this letterform study whose counterforms can be found on page 97.

can be expressed by ignoring natural spread limitations. Design a multiple-page story in a continuous horizontal space and crop it every 17". A six-page story, for example, would be developed in a 51" (8½"x 6 pages) x 11" rectangle.

#### A publication is both two- and three-dimensional

Pick up a magazine or book and thumb through the pages. What you see is a cumulative perception of pages riffling by, an accumulation of information delivered sequentially. Each page and spread is flat, but pages have two sides and some small amount of thickness. These are attributes which may be exploited.

Bruno Munari (1907–1998) developed the "useless machine" and the "unreadable book." Shown here are spreads from his 1967 book, *Libro Illeggibile N.Y. 1*. The "story line" is literally a piece of red string that punctures some pages and runs through die cuts in others. He forces awareness of reading a three-dimensional book.

Three-dimensional space, or depth, in graphic design should take into account the process of reading. Posters, for example, are designed for two-level readership: they make a primary effect at long distance and, having lured the reader closer, have secondary, close-up, information.

Three-dimensional space can be emphasized by looking creatively at the substrate, at the paper itself. Semitransparent paper suggests unusual front and back opportunities. Die-cutting makes paper's thickness and opacity visible and usable. Cutting some pages shorter or longer also emphasizes the dimensionality of paper (left). Telling a story panel by panel as a brochure is unfolded, for example, makes good use of paper's three-dimensional qualities.

Though a magazine or book is seen by readers one spread at a time, multiple-page stories are best planned in a single horizontal strip. This ensures design continuity from spread to spread (see also chapter 7). Because you only see one spread on screen at a time, computer makeup does not encourage the technique of "horizontal design." This failing is mitigated a little by the computer's support of design consistency through the use of guides, master pages, and typographic styles. It remains up to the designer, however, to create and use these tools that ensure consistency in repetitive elements.



# Section Four

Type
10 Listening to type
11 Typographic technicalities
12 Display type
13 Text



significantly reduce maintenance program.

Unwanted Facial Hair is a condition that develops in women with the onset of menopause or an increase in body weight. Hair follicles around the lips and chin grow when they receive too much androgen, a naturally-occurring hormone. • Vaniga", a trans-

parent cream, locks androgen from hair follicles, so hair grows more lowly. You won't have to pluck, shave, bleach, as often. • Visit our k your doctor

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HEADLINE

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**DECK** 

11 ( ) ( ) ( ) ( ) ( ) ( ) Hair follicles are

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**CAPTION** 

Bristol-My

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LOGO

Unwan Facial Hair that develop h the onset of t in increase in

**TEXT** 













Typographic elements, like headline and text, are distinct visual voices, equivalent to the different voices one uses to indicate characters in a story that is read aloud.

"Content comes first, yet excellent design can catch people's eyes and impress the contents on their memory." Hideki Nakajima (1961-)

"Typography is simply the voice, for the head is the destination." Rick Valicenti

C Typography creates clear differences in content. Note the clearer contrast between text and caption in the example on the right.

Arbitrary font choice and uncertain positioning make designs complex and sloppy (far left). Simpler letter forms used intelligibly make designs handsome and descriptive.

#### Listening to type

Keep typography simple 105 | Frozen sound 109

ypographic arrangement should achieve for the reader what voice tone conveys for the listener. – El Lissitzky (1893–1941)

What do we mean by "listening to type"? Imagine listening to a book recorded on tape. The reader's voice changes with the story, helping the listener hear various characters and emotions. A story told on paper should do the same thing. The "characters" typographers work with are categories of type: headlines, subheads, captions, text, and so forth. These typographic characters are our players and must be matched for both individual clarity and overall unity.

Typography is, according to the dictionary, "the art or process of printing with type." The root words that make up *typography* are *typo* (type) and *graphy* (drawing), so it literally means drawing with type. My definition is: Applying type in an expressive way to reveal the content clearly and memorably with the least resistance from the reader. The information hierarchy is revealed in an ad (facing page, top) in descending order of importance. Notice the circuitous path the reader has to follow before getting to the text. This may deter casual browsers.

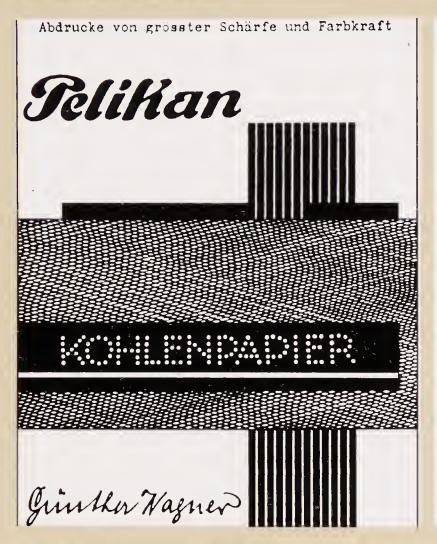
Typography involves far more than working with the abstract black shapes. In practice, typographic decisions are – or should be – nine out of ten times about *the manipulation of the space around the letterforms*. Indeed, poor typography results from misunderstanding the importance of the "not-letterforms" and concentrating only on the letters themselves. "Not-letterforms," or the space surrounding letters, is seen between characters, words, lines, and between blocks and columns of type. It is the contrast of the letter form to its surrounding space that makes type either less or more legible. Legibility is central to typography because type is, after all, meant to be read.

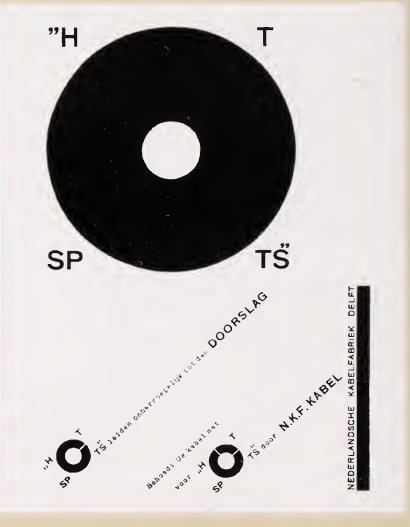
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# HEY, VI DEONI GHTIST ONIGHT











C Typographic rules, like the development of word spacing, have evolved over centuries. These samples, which precede the development of word spacing, date from 196BC (far left) and c500AD. Typographic rules may be manipulated to create startling results, as in this broadside found at an art school (near left).

bon paper uses type styles to illustrate meaning (far left). Piet Zwart's typography (near left) shows complex relationships using simple letterforms. An architect until age thirty-six, Zwart approached typography unrestrained by design convention.

"The quality of...typography is dependent on the relationship between the printed and unprinted parts. It is a sign of professional immaturity to ignore the decisive contribution of the unprinted area." Emil Ruder (1914–1970)

Typographic pyrotechnics (far left) contrast with clear simplicity (center) and a balance between eye-catching novelty and elegant clarity (right).

"The expression in a (typographic) design is what is most important, not the typeface that is used." Wolfgang Weingart (1941~) Consistent spacing makes reading easier because the reader is unaware of inconsistencies in rhythm, which is to reading what static is to the radio. The measure of a good typeface is whether every letter combination is spaced for optical equivalency so no dark spots appear where letters are too close. Even spacing produces even typographic "color," or gray tone.

Typographers use elements and traditions inherited through generations of writing, printing, and reading. Many typographic rules were adopted from handwriting as printable type forms were developed in the 1400s and 1500s. Historically, typography was handled by the printer who cut his own typefaces, designed the page, and reproduced the design on paper. In the twentieth century, typography and printing separated. Around 1950, typographers and typesetters became outside vendors who set type to the specifications of the designer or art director, which evolved into a new responsibility. Computers, forcing a new working methodology, have nearly obliterated the typography specialist since all type decisions are made within a page design program. Designers are widely expected to be masters of an art form that takes many years to learn.

Choosing a typeface that matches the content is important. Words are symbols of emotions and ideas that manipulate the reader. But choosing the right typeface is not as important as using a more neutral typeface well. Dutch designer Piet Zwart (1885–1977) said, "Pretentious [letter forms] oppose the utilitarian task of typography. The more uninteresting a letter is in itself the more useful it is in typography." The danger is that typography will begin and end with choosing the typeface rather than be used to reveal the content. And that is not typography, but fashion.

#### Keep typography simple

The essence of typography is clarity. R. Hunter Middleton said, "Typography is the voice of the printed page. But typography is meaningless until seen by the human eye, translated into sound by the human brain, heard by the human ear, comprehended as thought and stored as memory." Canadian teacher and author

# 

Vernacular

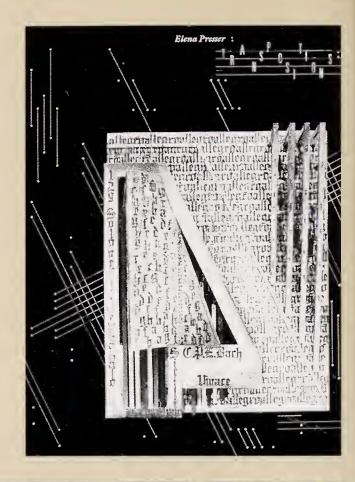
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Dr No

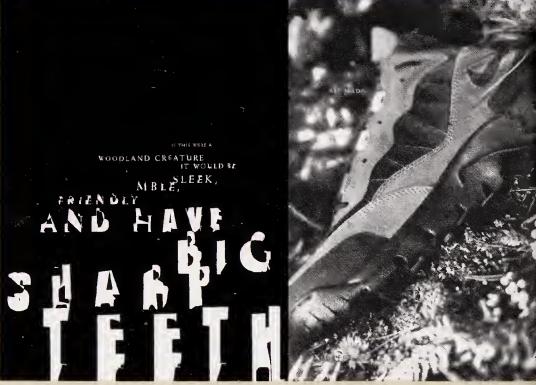
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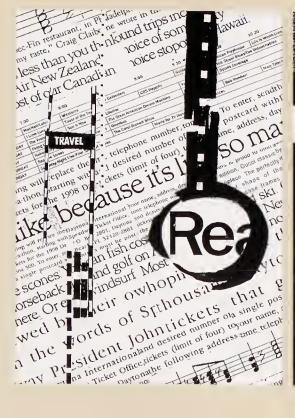
Hizbollah

Postino Italic













the maximum level of its expressive potential," says William Longhauser of his poster, near left. "It is essential that [type] can be read, but I play with it until it expresses the content of the message. It may take longer to recognize the word 'Transpositions,' but the experience of deciphering the meaning is more memorable. In a sense, I am forcing participation."

Abstract word and letter shapes can be manipulated to express meaning as shown in this poster for Herman Miller (far left) and spread ad for Nike.

"I want to use type to enhance the meaning of the words, not contradict, ignore, obscure, or interrupt what's being said. My goal is to inject decisiveness; to show that these words know what they are saying." Susan Casey

C Abstract studies in typographic contrast express voices to introduce the idea of frozen sound.

"You can do a good ad with poor typography, but you can't do a great ad with poor typography." Herb Lubalin (1918–1981)

Carl Dair wrote, "Between the two extremes of unrelieved monotony and typographical pyrotechnics there is an area where the typographic designer can contribute to the pleasure of reading and the understanding of what is being read."

Complexity will not get a message across because, though it may be interesting to look at, the message won't be legible. Simplicity alone will not get a message across because, though it may be easy to read, its importance won't be recognized. Only simplicity combined with expressiveness will make the message both legible and interesting.

Establish a tone, a typographic attitude in the display type, where flirtations with reduced legibility are best tolerated by readers. Type, like the spoken voice, can be powerfully bold or elegantly understated (far left, top). It can shout or gracefully inform. It can be stuffy or informal, universal or parochial, traditional or state of the art, highly complex or primitive. But unless the reader grasps something of value, his conversion from a looker to a reader will not occur. Put interesting information where it can be found. Break the type into palatable chunks and recognize that readers enter stories through captions.

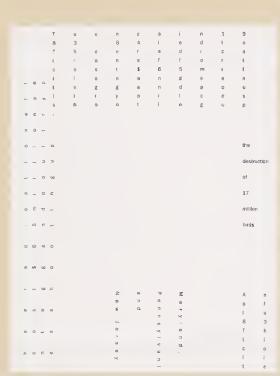
The key to creating expressive typography is to predigest the copy and show off its meaning and its importance to the reader. This can't be separated from the editing process. Read the story, know the subject, ask the client or editor what the thrust *ought* to be, then make that point crystal clear through design choices. Contrast type style, size, weight, position, color, or treatment to show hierarchy and give enough information for the reader to de-cide to become involved with the text, where the story really is.

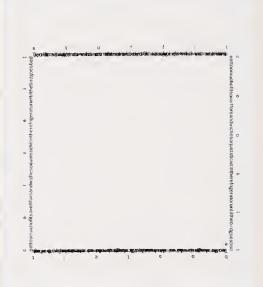
For a design to work effectively, the type must be an integral part of the composition. If the type is altered or removed, the piece should fall apart. It doesn't matter if it's a poster, a cover design, an advertisement, or corporate identity. Type strategy includes crafting a size and weight sequence for the headlines, subheads, captions, and text so each is distinctive and all work as one to make a distinctive and appealing design.











### Ohruh-vwarr Baskerville Old Face

#### Oh ruh-ywarr Antique Bold Condensed

Ohruh-vwarr Aritus Regular

Ohruh-vwarr Meta Normal

Ohruh-vwarr Basketcase

Oh ruh—vwarr Goudy Text Ohryh-Vwarr Sketchy

Ohruh-vwarr ITC Veljovic Ohruh-vwarr Harting

## Fine dining, it ain t

Fine dining, it ain't

**C** Freshman studies in typographic contrast express "voices" in typography.

"The use of words – their sounds, their meanings, and their letterforms – has been an intriguing aspect of design since the invention of the alphabet. A picture may be worth a thousand words, but as one wit pointed out: It takes words to say that." Allen Hurlburt (1911–1983)

**Experimental studies** express typographic voices using only the contrast of relative position.

# 

Rhythm requires breaking repetition unexpectedly, creating a visual shock and a focal point.

The same text set in different typefaces (far left) changes the message. Each typeface looks as a spoken accent would sound. Breaking for sense (near left) makes display type understandable by grouping words into logical phrases.

"Typography exists to honor content." Robert Bringhurst (1946- )

#### Frozen sound

Jerry Lewis, in a *Vanity Fair* interview about his increasingly controversial Muscular Dystrophy fundraising telethon, said, "I must be doing something right; I've raised one billion, three hundred million dollars. These nineteen people don't want me to do that. They want me to stop now? Fuck them.... Do it in caps. FUCK THEM." Mr Lewis understands the translation of oral sound into typeset form. He understands that *verbal* emphasis becomes *visual* emphasis, most usually by contrast of size. This is the essence of typography: translating the equivalencies of spoken language into printable form.

Treating typography as frozen sound begins with being sensitive to what Gene Federico, a master of advertising design, calls "sound tones." Federico says, "You must choose a typeface with a sound that isn't against the idea and image you are trying to convey, unless, of course, you are introducing an irritating sound, an irritating typeface for a specific reason." English designer Neville Brody says, "Let's say a French person comes up to you and starts talking. The first thing you notice is that he's speaking French – not the words that he's said. Just set a piece of text, first in Baskerville, then in several different faces and observe exactly how the message changes. The choice of typeface is critical to the emotional response of the words" (facing page, bottom).

Also important is developing sensitivity to rhythm. A speaker who drones at a single speed is causing his listeners extra work to dig out the good content. By comparison, a speaker who alters her rhythm of delivery, by pausing before beginning a new idea, for example, makes the content clearer by grouping information into sensible clusters. Such pauses in rhythm are expressed typographically by altering a single element unexpectedly and by breaking the ends of lines of display type at logical places, rather than whenever a line happens to be filled with letterforms (facing page, bottom). If the line is broken arbitrarily or in the wrong place, reading and comprehension is slowed down. If natural line breaks don't work well visually, changing typefaces may be necessary.

# ABSTRACTED READABLE

KitHinrichs: "Typographyisoneofthemostpowerfulemotionaltoolsavailabletodesigners.ltcommunicatesmuchmorethanjustthewritten word. Whenusedeffectively, it can give readers a sense of the mood and pacing of a story, convey whether the content is serious or light, instructive or entertain-

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Lining figures

Old style figures

# 1234567890 1234

#### Terrerose werd shopes are more defined

Lowercase word shapes are more defined



ALL CAPS LOOKS LIKE BRICKS This paragraph shows lining figures inappropriately set amid lowercase Truesdell, designed by F.W. Goudy in 1931. This version was digitized in 1993 from letterpress proofs of 16-point fonts. Truesdell was Goudy's forty-seventh typeface design. LINING FIGURES, LIKE 1931 & 1993, SHOULD BE USED WITH ALL-CAPS AND IN CHARTS. AS

This paragraph shows old style figures properly set amid lowercase Truesdell, designed by F.W. Goudy in 1931. This version was digitized in 1993 from letterpress proofs of 16-point fonts. Truesdell was Goudy's forty-seventh typeface design. Old style figures, like 1931 & 1993, blend in with lowercase type. They stand out in an all-caps setting by look-

C "Not-letterforms," or the spaces surrounding letters, exist between characters and words. It is the contrast of the letterform to its surrounding space that makes type legible.

A poorly spaced font shows dark spots where letter pairs are too close. The ideal is even type grayness, or "color."

"Don't confuse legibility with communication."

David Carson

C Type legibility: Lower-case is easier to scan than all caps because of their distinctive word shapes (far left). Numerals unintentionally stand out in text (near left) because they are set in lining figures, which look like capital letters. Old style figures look like lowercase characters and blend into text. Use lining figures with all caps and old style figures with lowercase text.

"The symbols of our lettering system are too familiar to provoke us into reflections on their basic construction." Armin Hofmann (1920-)

#### **Typographic technicalities**

Legibility and readability 111 Type classifications 117 Punctuation and dashes 119

he practice of typography is one that requires both an intuitive grasp of form and considerable study to achieve mastery. Typography gradually reveals its expressive potential. – Milton Glaser (1929–)

Today's use of type is based on thirty-five centuries of typographic evolution, on countless improvements based on our need to record ideas in writing. Developments in the speed, accuracy, and precision in both the marks we make and the way we reproduce them – in the paper, printing presses, and even the inks – are driven by technological improvements.

Typesetting is not typography. Many designers, because they are not fully informed about the traditions and subtleties of type use, are mere typesetters. Readers are well served when the type is at once expressive and easy to read and transparent in its delivery of content. The history of the written word is the history of the changing needs and opportunities of human society.

#### Legibility and readability

There are some characteristics that make type more legible and readable. Legibility, which is closely related to the design of the letterforms themselves, is the ease with which type can be understood under normal reading conditions. Readability is the quality of attracting and holding a reader's interest. It is the result of how the designer makes type comfortable to read. High readability – making something noticeable and interesting – often produces low legibility, that is, the piece becomes hard to read. Be aware of letting art obscure content.

The following six aspects of typography affect its readability, or ability to attract readers: the inherent legibility of the typeface, type size, letterspacing, word spacing, linespacing, and format.

Type looks a little smaller when dropped out of a dark background.

This section of white type has been enlarged by one point.

Type looks a little smaller when dropped out of a dark background.

This section of white type has been enlarged by one point.

A black background appears to close in on letters and make them look lighter.

Reversed type needs a little extra space around each character.

A black background appears to close in on letters and make them look lighter.

Reversed type needs a little entra space around each character.

his is 8-point Frutiger set with 2 points of dditional linespacing. Because it has a comparatively large x-height, it looks as big as le 10-point Perpetua below. The same two ents are contrasted at 24 points to show deal. This is 8-on-10 Frutiger set across 13 picas

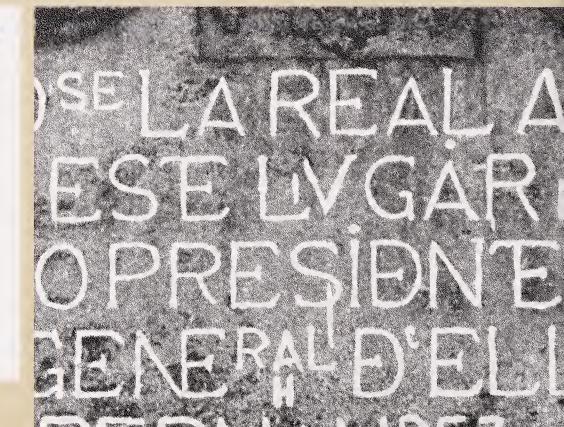
his is 10-point Perpetua set with 2 points additional linespacing. Because it has a emparatively small x-height, it looks as big the 8-point Frutiger above. The same two ents are contrasted at 24 points to show de-

rutigerPerpetua

This column is 13 picas wide and, in order to achieve an average character-per-line count of thirty-nine to fifty-two characters, the necessary type size in this font is 10 point.

This column is 18.5 picas wide and, in order to achieve an average character-per-line of thirty-nine to fifty-two characters, the necessary type size in this font is 15 point.

we yo Av Aw Ay Ta Te
To Tr Tu Tw Ty Ya Yo Wa
We Wo AC AT AV AW
AY FA LT LV LW LY OA
OV OW OY PA TA TO
VA VO WA WO YA YO



Reversing type calls for special handling. White letters look slightly smaller, so boost the point size a bit. Space around letters tends to fill in, so open letterspacing when reversing type.

"Typography which appeals to the eye embodies the same set of principles of design that goes into any work of art." Carl Dair (1912–1967)

Type size: The x-height affects our perception of type's size and legibility. An ideal column width or line length contains about an alphabet and a half (thirty-nine) to two alphabets (fifty-two) of characters per line. Type size must thus increase as line length increases.

C Letterspacing: There are three basic letter shapes: rectangular, round, and angular (far left). Some combinations don't match up for optically even space distribution. Kerning must be used for the particularly difficult pairings shown here. Overlapped kerning occurs in ligatures (near left), as shown in the E (TE), D(DE), and NE (NE) pairings on a Quito stone plaque.

- The inherent legibility of the typeface: If the reader becomes aware of the letterforms, the typeface was a bad choice because it detracts from the smooth transmission of the message within. Legibility is most affected by challenging what we are accustomed to. □ All-caps are harder to read than lowercase (page 110): The white space around lowercase words makes more distinctive shapes than all caps, which look like nearly identical bricks. All caps settings should be kept to no more than two lines deep. The mind perceives three of anything as being many, so three or more lines of all-caps text is repellent. □ Old style figures look like lowercase letters and are used when numerals are set in text type. Lining figures, which look like capital letters, should be used in charts and in allcaps settings (page 110). □ Sans serif text may be harder to read than serif. Serifs aid horizontal eye movement, so add extra line spacing to sans serif settings. □ Italics are harder to read than roman. Most italics are lighter than their roman counterparts and contrast less with the white paper. And readers are not *used* to reading italics. Use italics briefly and for emphasis. ☐ Shaded, outline, and inline faces are difficult to read and should be used only for display purposes. □ Any legible typeface becomes useless in 6-point italics reversed out of 40 percent gray.
- Type size: 10-point type is thought of as the smallest legible type, but some 8-point looks as large as some 10-point type because of relative x-height, the part of the lowercase letterform that exists between the baseline and the median (page 117). Type size should be proportional to line length: the longer the line, the larger the type must be.
- Letterspacing: Letterspacing should be consistent. This is particularly important at display sizes where exact spacing is most visible. Spacing should be in proportion to the letterforms: wide letters need more letterspace than narrower letters; small letters need more letterspace than larger letters; caps need more than lowercase letters. "Tracking" alters letterspacing paragraph by paragraph. "Kerning" alters letterspacing between specific character pairs. "Ligatures" are conjoined letter pairs.

WordspacingdevelopedduringMedievaltimeswhenscribesaddedvaryingamountsofspaceto perfectly filloutlines of handwritten text. Written perfection was thought to mirror God's own perfection. Thescribesalsoinventedcontractions, which allowed longwords to be made to fit into available space. Gutenberg continued the practice of justifying type as much for aesthetic as for practical reasons. His moveable type needed to be "locked" in position before printing, and each line had to be the same length to accept being locked up. Gutenberg cut pieces of wood that could be inserted between words to achieve the smooth (unnoticeable) word spacing with unprecedented precision, but putting the right amount of word space in a block of text or display type still requires a designer with knowledge, vision, and experience. Word spacing

word spacing

Too much word spacing

Setting justified type across a line length that is too narrow causes uneven word spaces which become noticeable to readers. Meticulous attention must

Setting justified type across a line length that is sufficiently wide produces even word spaces. Meticulous attention must be given to hyphenation in all justified settings. Conversely, a flush-left setting always produces even word spacing be-

This is 14/11 Nicolas Jenson set justified across a 14-pica measure. Note that the word spaces are larger than the line spaces and that your eyes preter moving vertically rather than horizontally. Blur your eyes and you will see wiggly "rivers of white." TIP: Never use "Auto" as a line spacing attribute because it avoids making a specific decision about how much space should exist between lines. This must be a choice based on increasing type's legibility.

This is 14/15 Nicolas Jenson set justified across a 14-pica measure. Note that the word spaces are now smaller than the line spaces and that your eyes prefer moving horizontal. ly rather than vertically. Much of typography is making such subtle changes in the specifications and fine tuning the relationship of letters to the space surrounding them. This is

graph indents should be set in proportion to the type size being used.

Larger type needs a deeper indent. Smaller type can function with a less obvious signal of, say, about a pica.

Adding space between paragraphs can be overdone. In this example, a full line space is too much added space (above). It fights the flow of ideas in a column.

Half a line space is usually a good distance to separate ideas and still maintain unity, as shown above.

It is redundant to both skip space between paragraphs and indent the first line, as such redundancy reveals the designer to have failed to think about the purpose of paragraphing.

A hanging indent pushes the first line out to the left and ensures that conscious, purposeful white space is built into the page.

Another signal is to indent whole paragraphs in an alternating rhythm. This works especially well with justified copy, where the right edge's smoothness contrasts with the left edge's fluctuations.

> The point is to make each successive idea appear at once discrete, yet belonging with what precedes and follows in a cohe

sive, unselfconscious way.

Drop paragraphs begin each new paragraph immediately below the previous period. This can be achieved using tabs.

THE DARKNESS OF a bold lead-in is an excellent cue that a new idea is beginning. It may have space above the paragraph added, but it doesn't need it.

nitial caps should echo the distinctive display type used for a story. They may either stick up into emptiness - a "raised initial" or hang down into the text, as shown here. This is called a "drop cap" and is

Word spacing: Invisibility is the optimal amount of spacing between words. It should just separate one word from another. More than that breaks up the horizontal flow of reading.

# Enraged cow injures farmer with machete Enraged cow injures farmer with machete Enraged cow injures farmer with machete

Line spacing: It cannot be smaller than word spacing, or the eye travels downward rather than across lines of type.

resistent, with the Oppetit of which, early to observations. Most given that what you is not by dealth systems and dark had therefore, in leading which components that it is a major to extensive and the control of the observation of the obse

Format: Traditional paragraphing signals are indention and skipping space between paragraphs. Less conventional paragraphing signals include the hanging indent, the whole-paragraph indent, drop paragraphs, bold lead-ins, and initial caps.

- Word spacing: Cathedral construction was judged by quality and consistency of the mortar as much as by the stonework itself. Similarly, typographers' work is judged by the spaces between letters and words. Word spacing should be invisible, just enough to separate word thoughts cleanly while maintaining the integrity of the line, and not so much that the reader perceives the presence of spaces and individual words. Justified type gets its even right edge by forcing space throughout the line. Short lines of justified type have the least consistent word spacing because they have the fewest word spaces available. The flush left/ragged right paragraph style has consistent word spacing and provides an equivalent visual rhythm, regardless of line length. 

  Hyphenation in justified text allows more consistent word spacing, but hyphenation should never be used in display type, where breaking for sense is more important than breaking to fill a line (near left).
- than forty to fifty characters per line. Longer measures must have added linespacing so the reader has an effortless return path to the left edge of the column for the next line. Two narrower columns are often better than one wide column. (Notice how claustrophobic this decreasing linespacing makes you feel? Experiment to find the optimal linespacing for comfortable reading. Every typeface and column width combination has its own needs.) Linespacing must be greater than word spacing, or the eye flows down the column rather than horizontally across a line.
- Format: Readers recognize a few key visual signals. *Paragraphing* announces the beginning of a new idea. Any signal will work, though the most common are indention and skipping space between paragraphs. □ *Punctuation* signals the pauses and stops that occur in copy. □ *White space* signals relative belongingness between elements. Elements that are close together appear to belong together. □ *Position on the page* signals importance. The top of the page usually holds the best stuff because the top is where our eyes go naturally. □ Type set in a funny shape draws attention to itself rather than to its content, which is counterproductive (this page, bottom).

HISTORY OF SERIF TYPE

#### Trajan Column c1200 **ERATSPIRIT** Uncial c600 hohabda th Carolingian Miniscules c800 Et udillommu Germanic Blackletter c1250 Apud coonosc Venetian scribes c1450

VENETIAN OLDSTYLE, 1400s

Acegmorty Acegmorty

Centaur

Nicolas Jenson SG

GERALDE OLDSTYLE, 1500s and 1600s

Acegmorty Acegmort Trump Mediæval

TRANSITIONAL, 1700s

Acegmorty Ehrhardt Acegmorty Baskerville

DIDONE (MODERN), Late 1700s

Acegmorty Bodoni Acegmorty Ellington

SLAB SERIF, 1800s

Acegmor Clarendon Acegmol Eglentine

HISTORY OF SANS SERIF TYPE SANS SERIF, 1817

## Acegmorty Akzidenz Grotesk Acegmorty Franklin Gothic

GEOMETRIC SANS SERIF, 1920s

Acegmort' Avenir Acegmorty

**HUMANIST SANS SERIF, 1940s** 

## Acegmort Frutiger Acegmorty

Rotis Sans

3 DECORATIVE and DISPLAY

#### ACEGMOR' Ben Shahn

4 GLYPHIC

## ACEGMC Trajan

MONOSPACED



6 SCRIPT and HANDLETTERED

Aquiline

SYMBOLS and ORNAMENTS

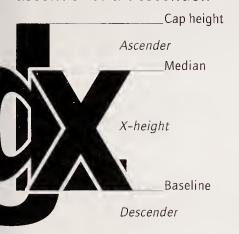


Hands & Fingers

**8** BLACKLETTER

Alte Schwabacher

Relative type size is shown in these samples, all set at 24 point. The apparent size of type is determined by its x-height, the height of a lowercase letter without either an ascender or a descender:





Moyses nascituriattes attestatur. Credic Quare multarun ipso benedicédas

Pompeiian brushstrokes and Nicolas Jenson's 1470 Eusebius typeface, shown actual size.

Possibly the world's first sans serif letters are on a fifth-century BC Greek headstone.



#### Type classifications

Type has been evolving for about 3,500 years. It has passed through periods of slow changes and great growth. There are many ways to classify styles of type. I prefer a relatively simple system of eight classifications. Of these, serif and sans serif are the most important because they are the most used. The fun tends to be in the display styles. My digital font collection, housed in eleven binders, has four filled with display fonts, three showing picture fonts, two with serif fonts, and one each showing sans serif and script fonts.

Serif: Has cross-lines at the ends of strokes, which date from stone carving during the Roman period. Serif types are subcategorized into five divisions: *Venetian Oldstyle*, based on designs from the Italian scribes in the late 1400s; *Geralde Oldstyle*, based on designs from 1500s and 1600s with greater contrast between thicks and thins; *Transitional*, which have characteristics of both Geralde Oldstyle and Modern, from the 1700s; *Didone*, or *Modern*, from the late 1700s, which have the greatest contrast between thicks and thins and unbracketed serifs; and *Slab Serif*, from the 1800s, which have thick serifs to darken the letters and increase visibility.

**2** Sans serif: Type "without serifs" introduced in 1817, embraced by the design avant garde in early 1900s. Sans serif types are sub-categorized into three divisions: *Grotesque* and *Neo-Grotesque*, based on earliest designs from the 1800s, so called because early type without serifs was considered ugly; *Geometric*, developed in the Bauhaus and featuring circular bowls and consistent character weight; and *Humanist*, which looks organic and somewhat hand-drawn with greater stroke contrast.

**3** Decorative and display: A vast category that includes types that don't fit into other categories (and even some that do). By definition, these typefaces would be illegible at text sizes.

4 Glyphic: Based on letters carved in stone. Usually all-caps.

**6** Monospaced: Typewriter types in which each letter occupies exactly the same space.

Ampersand, 1556 Ampersand, 1532 Ampersand, 1549 Ampersand, 1470 Robert Estienne, Paris Gabriel Giolito, Ferrara Nicolas Jenson, Venice Antonio Blado, Rome imill would GIAIK, ira & tor I. & altri ir, & Vast rido et) irt nti auur ni non se l'uonensis l'fuoa uolte

Comma, 1495 Aldus Manutius, Venice M. MILLIAM

Question mark, 1501 Aldus Manutius, Venice

Exclamation, 1791 Giam. Bodoni, Parma JIILLI 9

Quotations, 1826 Edward Walker, England accui

cron.pi.rc/ata?quic precor!

" the you ni. osi. ome deducit cam bona of their r

n, autarky." n, autarky."

# AUTARKY AUTARKY

cype is die gide ıt holds a publiontent together. is the constant pread to spread d issue to issue, aut are the wital

cype is une grue at holds a publiontent together. is the constant pread to spread nd issue to issue, out are the wital

Ho lasciato il bambino solo un momento in cucina – e l'ho ritrovato infarinato — da capo a piedi. Mi ri

The ampersand is an evolution of et, Latin for "and." Drawn in many variations, it is one of the oldest abbreviations. The question mark is a "Q-o" abbreviation of quaestio, Latin for "what." The exclamation point is a Latin "I-o," equivalent to "wow!"

"A typeface is an alphabet in a straightjacket." Alan Fletcher (1931-)

- Reduce the size of punctuation and the space after commas and periods in display type for optical evenness. The best way to ensure spacing accuracy is to create display type in Illustrator or FreeHand and convert to paths. Position characters and spaces individually.
- C Hanging punctuation by placing it in the margin creates an optically even edge to text columns.
- "Perfect typography is certainly the most elusive of all arts. Out of stiff, unconnected little parts a whole must be shaped which is alive and convincing as a whole."

  Jan Tschichold, Clay in a Potter's Hand
- C Hyphens and dashes come in three widths. Each has its own role, but it is up to the designer to choose which character will be used. A vertical hyphen has been proposed as a way to solve the need to hang a horizontal hyphen.

- **6** Script and hand-lettered: Closest approximation of hand lettering. Range from formal to casual.
- **Symbol and ornaments:** Simple illustrations and representational and nonrepresentational symbols.
- **8** Blackletter: Also called Gothic and Old English. Northern European scripts at the time of Gutenberg's movable type, c1450.

#### Punctuation and dashes

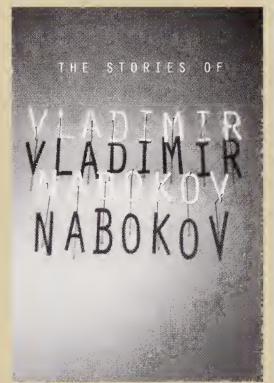
Punctuation developed as a way for scribes to indicate reading speed for religious services. There were no standards for the use of punctuation until the invention of printing. In general, dots indicated word separations and were replaced by spaces by about 600AD. The dot, when aligned at cap height, was then used to indicate a stop, like a modern *period*, and when aligned at the baseline, to indicate a pause, like a modern *comma*. Aldus Manutius, one of the first printers in Italy, introduced the *semicolon*, *question mark*, and the slanted, condensed humanist letterforms which came to be known as *italics*.

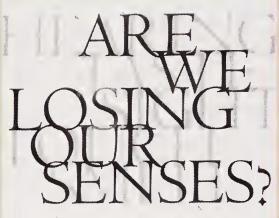
"Quote marks were introduced in Paris in 1557 as a pair of sideways Vs." English printers eventually replaced those with inverted commas ("66") at the opening and apostrophes ("99"), which had been invented in the 1600s, at the end of a quote.

French spacing is the insertion of two word spaces after a period to highlight a new sentence. French spacing was used in monospaced typewritten copy through the twentieth century. It is not necessary in digital typesetting.

Hung punctuation, the placement of punctuation marks in the margin beyond the flush edge of a column, was first used by Gutenberg in 1450. Software has only now surpassed Gutenberg to make hanging punctuation an automatic process.

A hyphen is a short horizontal bar used to indicate breaks in words at the ends of lines. An en-dash is slightly longer and used as a separator in elective situations, as between multiple compound words, and between numbers. An em-dash is the longest – I believe too long – and is used for sudden breaks in dialogue.



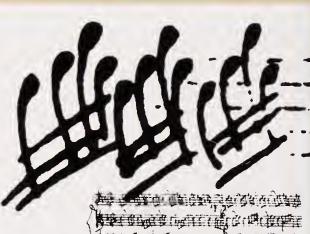


UNGING OF THE VOICES OF CHILDREN PLAYING. AN EARLY EDUCATOR OF LIVEAURCH LEARLY IS NOT THE BASTERY OF SUCH BIGHER

Paleren Behroode

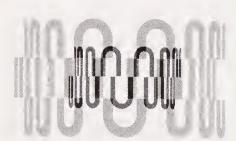
Altri Ruch





The same of the sa THE WAR CHANGES HE WILL THE the law i amin the party in The modern on the property THE PROPERTY OF THE PROPERTY O ALTERNATION REPORTED TO

Limestone & State One burns, one smolders



Paban Maplumo TO ACCOUNTS OF OPENING THE PROPERTY OF THE CONTROL OF THE CONTROL



Limestone & Slate

Oneburns, one smolders

In a meast correct above the state of parts of the control of the

C Display type stops browsers as it describes the content. It leads directly to secondary type.

"I believe there is one perfect use for every face ever drawn, no matter how hideous. I have taken it upon myself to use every one of them at least once before I lose the energy to care or become too senile to keep score." Fred Woodward

**Display type is not necessarily large:** it's intention is to be seen first (Tchaikovsky). Its visibility is dependent on the surrounding type, so the focal point can be the element with the greatest contrast with its surroundings (Antonio Vivaldi). Huge letterforms cropped by the edges of the page are, of course, a powerful attractant .



C Three headline styles exhibit 1 Contrast of alignment and position: the headline is visible primarily by separating it from the text; 2 Contrasting typestyles: the headline is visible primarily by setting it in a different typeface; and 3 Type and image integration: the headline is visible primarily by blending the type and image into one impression.

#### **Display type**

Primary type 121 | Typographic abstraction 123 | Secondary type 125 | Setting display type 127

he correctly set word is the starting-point of all typography. The letters themselves we have to accept – they are shaped by the type designer. – Jan Tschichold (1902–1974)

There are two kinds of type: display and text. Text is where the story is. Display is there to describe content and lure the reader through a sequence of typographic impressions so he can make an informed decision about committing to the first paragraph of text. At that point, the story is on its own and the designer's job of revealing content is largely done.

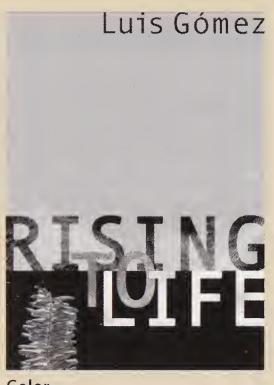
There are various opportunities for the designer to describe content and lure browsers. Primary type is usually a headline. Secondary type, intended to be read after the headline and before the text, includes subheads and decks, captions, department headings, breakouts, and pull quotes.

Readers are accustomed to looking at big type first, but "display" is not necessarily large type. Nor is "text" necessarily small type. The real definitions are *intentional*: "display" is the type intended to stop the browser and to be read first; "text" is the destination to which the reader finds himself drawn.

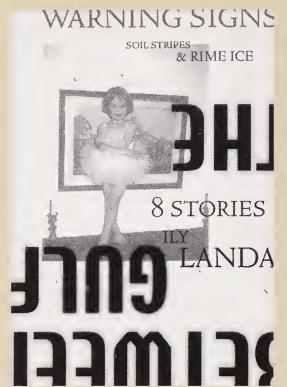
#### **Primary type**

Headlines and the structure of a page create the personality of printed material. Primary type is used to draw attention to itself, to stop the browser and to lead to a specific piece of secondary type. The secondary type's purpose, in turn, is to lead to the text. The text is always the final destination.

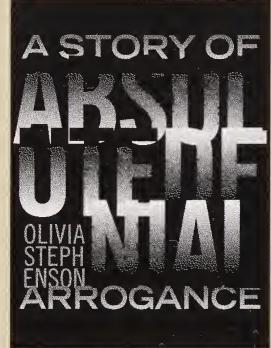
Headline treatments fall into three categories: alignment and position, contrasting type styles, and the integration of type and imagery. Regardless of design treatment, a great headline is provocatively written and makes an immediate point.



Color DARK: LIGHT



Character shape SERIF: SANS SERIF



Character width
EXPANDED: CONDENSED

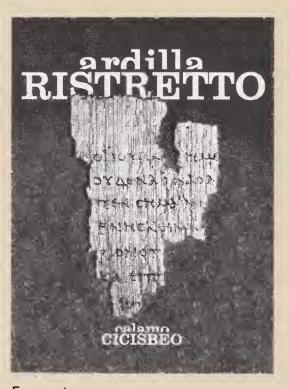


Density

TIGHT: LOOSE

POSITIVE: NEGATIVE

SOLID: 441 444 444



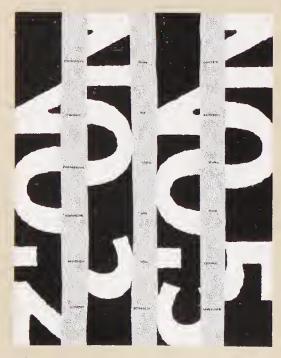
Format CAPS: lowercase



#### Position

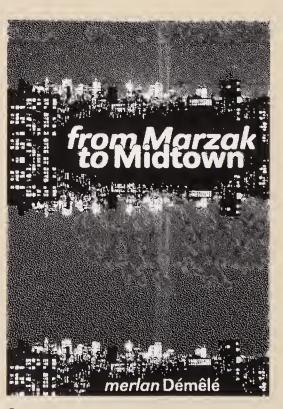
>WKH-UK- : HORIZONTAL

BOLLOW: 90T



Size

SMALL: LARGE



Stress

VERTICAL : OBLIQUE



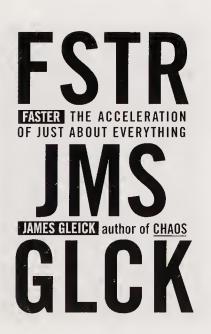
Weight
HEAVY: LIGHT

Typographic abstraction can be accomplished in infinite ways. Abstraction exploits the nine type contrasts described here. It is nearly impossible to express only a single contrast by itself, so pairing them consciously will lead to multiple solutions.



"Sometimes you have to compromise legibility to achieve impact." Herb Lubalin (1918–1981)





#### Typographic abstraction

There are places where playfulness with legibility is inappropriate. Text, for example, is simply too small to absorb abstraction without substantially losing legibility. But display type is tailor-made for unusual treatments that flirt with illegibility. Display type is meant to attract attention and it is usually big, so letterforms can be read even if they are "damaged." There are an infinite number of ways to harm letter and word forms and they are all combinations of the nine typographic contrasts. Type abstraction simply pushes a normal contrast to an extreme. For example, making type "big" isn't enough. *Making type so big that the edges are indistinct* works because it forces an interaction of figure/ground. Here (immediately left) is an example that repeats parts of a single letter *c*.

Some typefaces are inherently abstract and hard to read. With these, ordinary typesetting is all that's needed to create an attention-getting abstracted message.

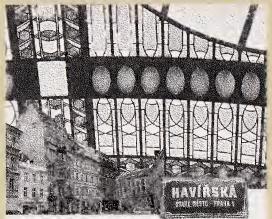
spaceformty SPANISTOMEN Spaceformby hpaleformty Spaceformty Spaceformty Spaceformty SPANEFGOMTY

A typeface's character may be corroborative (Nuclear), opposing (Nuclear), or neutral (Nuclear) to the meaning of its message. Use typography that is laden with character sparingly, only in the primary and secondary type where its attentiongetting strength is at least as important as its legibility.

Typographic expression and playfulness is best done with relatively plain typefaces. Simple letterforms are editable while keeping their essential shapes legible. For this reason, sans serif faces are more useful than serif, and roman is more useful than italic.

# FRANKLIN CHAIR OCEAN SPACE GOTHIC CRUMP SCREW STITCH CONDENSED GRID SLASH TREE

Tops of letters are easier to read than bottoms. Lowercase are easier to read than caps because word shapes are varied. Sometimes abstracting a word by leaving letters out entirely is the best way to get an idea across (near left).



# Deaf college opens doors to hearing

Local school dropouts

cut in half

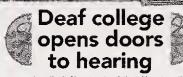


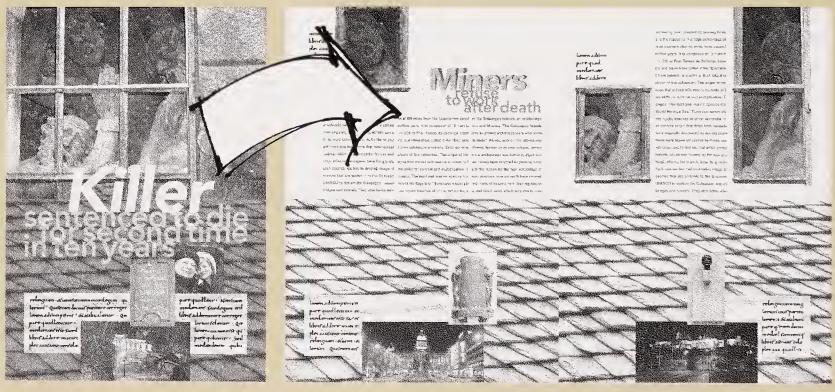
# Deaf college opens doors to hearing

school etiare dropouts cut ware of half

Local













"Mala Strana couple slain" Police suspect homicide

ary type that explain headlines. A deck is a subhead immediately beneath the headline. A floating subhead is placed away from the headline. A breaker head is placed in the text column and, while breaking copy into short chunks, hints at the worthwhile goodies within.

**C** Breakouts and pull quotes are brief extracts from the text that are handled like verbal illustrations. Provocatively edited, their purpose is to make browsers stop and consider reading the story. Breakouts and pull quotes can visually connect pages of a long story by interpreting the type treatment of the opener's headline.

Captions explain photos. Because they are read before the text, they must be thought of as display type and written short. Captions can unify a story by reinterpreting the headline. A caption can even be treated like a subhead or breakout.

Avenir Black
Avenir Medium
Avenir Oblique
Loire Sombre
Loire Pale
Loire Pale Italique

#### Secondary type

If the headline is the lure, the subhead is the readers' payoff. Here is the opportunity to hook the reader by explaining the headline. The headline leads to one or more secondary messages, first a subhead or deck, but possibly a caption, breakout, or pull quote. The messages in the headline and subhead should be two parts of a complete thought, provocatively showing why the story is important to the reader. Readers should, after a total of three or four information "hits," have been given enough information about the story to make an informed decision about whether or not to get into the text. Actually becoming committed to the text can happen only after they have begun reading it.

Secondary type should be smaller – or less visible – than the headline, but more prominent than text. A balance must be struck between contrasts and unity among the three levels of type. Variations of one typeface in the primary and secondary type contrast well against a highly legible text face.

Selecting the right typeface is a significant decision, but *how* you use a typeface is at least as important as *what* typeface is used. Imagine if your work were given an award for design excellence: would the typeface designer get the credit or would you be recognized for having used type well?

A friend redesigned a magazine in the days of hot metal type, when a font was truly a single typeface in one size and weight. The foreign client had purchased only two fonts: 11-point Franklin Gothic Regular and Bold. The magazine could only use those two fonts, yet they had to do all that a magazine's typography must do. The redesign, using position and emptiness to make display type visible, succeeded because of – rather than in spite of – the extremely limited typographic contrast.

Use no more than two typeface families in a design, and do not use more than two weights of each face (near left). Add italic versions of the regular weight and you have six typographic "voices," which should be enough to convey any message. This is equivalent to hearing six people reading aloud.

Seventy percent Eighty percent

Ninety percent One hundred percent One hundred ten percent

e hundred twenty percente hundred thirty percent

Seventy percent Eighty percent

Ninety percent
One hundred percent
e hundred ten percent

ndred twenty percent ndred thirty percent

# Torsku Torsku Torsku

TRACKING "NORMAL" NO KERNING TRACKING "TIGHT"

WITH KERNING

# SMALL CAPS ARE FOUND

TRUE SMALL CAPS ARE FOUND IN SPECIAL "SC" FONTS



FALSE SMALL CAPS ARE REDUCED IN SIZE AND LOOK TOO LIGHT

# SMALL CAPS ARE FOUND

True Small Caps Are Found In Special "SC" Fonts

# SMALL CAPS ARE REDUCE

False Small Caps Are Reduced In Size And Look Too Light

Man minus ear waives
hearing Man minus
ear waives
ear waives
hearing

Man minus ear waives hearing

Steals Steals clock, clock, faces time

STEALS CLOCK, FACES TIME

STEALS CLOCK, FACES TIME or expanding type creates visual static at a certain point, which varies with each typeface. Shown here are a serif and a sans serif, both of which become visibly distorted at below 90 percent and above 110 percent of normal width.

**C** Kerning is the optical spacing of letterform pairs, which is more important than global tracking at display sizes.

C Small caps match the weight of full-size caps. False small caps, which are merely reduced in size, look too light because they are proportionally smaller.

"Quotation"
23'9"

Real quote marks look like "66" and "99." The inch (") and foot (') marks are incorrectly used as ambidextrous quote marks.

**W** My top ten typefaces:

Spagefomtied Franklin Gothic Spagefomti Monotype Grotesque Spagefomtie Meta

Spagefomtiec News Gothic

Spagefomtiec Spagefomt Clarendon

Spagefontie Spagefontier

Spagefontier

Menhart Manuscript

Spagefomtiec Spagefomtiec Spagefomtiec Setting display type

Display type shows off misspaced characters more than text simply because of its larger size, where character-to-character relationships are particularly visible. Letters are strung together into words. The space between individual letters goes unnoticed when the type is smaller than about 18 points. The optimum letterspacing is "invisible," that is, it is *un*-selfconscious. The reader should not be aware that letterspacing exists when it is done well.

Words are grouped into lines of type. Word spacing is the glue that holds lines of type together. The secret to good word spacing is also invisibility. The reader should not be aware of the type that is being read but should be concentrating on its meaning. Display word spacing is often too large because it is set with built-in text algorithms. In general, display type's global word spacing can be reduced to 50 to 80 percent of normal.

Headlines are made of clusters of phrases and should be "broken for sense" into these clusters, regardless of the shape this forces on the headline (facing page, fourth row). To find the natural breaks, read a headline out loud. Try not to break a headline to follow a design; rather, break a headline so that it *makes the most sense to the reader*. Hyphenating type communicates that shape is more important than meaning. Display type should never be hyphenated, unless its meaning is to illustrate "disconnection."

The effectiveness of display typography is principally dependent on the management of the white space between and around the letterforms, not only on the letterforms themselves. Because display type is brief (to snag the reader's attention), letterspacing, word spacing, and line breaks become more important.

Increase contrast and visibility of headlines by making them darker on the page. Reduce white space in and around characters in letterspacing and linespacing (facing page, bottom). All-cap headlines in particular should have linespacing removed because there are no descenders to "fill in" the space between lines. In upper- and lowercase settings, don't let ascenders and descenders touch, or they'll create an unintentional stigma on the page.

Intost uni aute are those introzze ; a pae pairia; in 550 into 5 a me, quai ld-made', for these, like ne esso a gli dola stati on so sciando l'atto di cotai made from rag. But mero ; ne distettosamente rissuma ila com' entri, e di cui urable as the hand-ma sso, quanto al signore, che l'ha t' inganni l'ampiezz cately crossed. Paper il esso a stati Ec doue glialtri duca mio a lui: Perco o the sculptor, one of to superiore del merire, si com mpedir lo suo fatale a cro discipatrice; et poscia che a matolei coeì colà dove e

Orth

at Bu

tier

ball

bird

sare

pick

ed be

Management of the content of th

Here we are now		at the middle	
	of the fourth large part	of the	is talk.
More and more		I have the feeling	that we are getting
nowhere.	Slowly		as the talk goes on
	we are getting	nowhere	and that is a pleasure
	It is not irritating	to be where one is	. It
only irritating	to think one would like	to be somewhere else.	Here we are now
	a little but after the	middle	of the
fourth large part		of thus talk	
	More and more	we have the feeling	
	that I am getting	nowhere	
	Slowly	1	as the talk goes on
		m)	
	slowly		we have the feeling
'	we are getting	nowhere.	That is a pleasure
	which will continue		If we are irritated
	it is not a pleasure		Nothing is not
pleasure	of one is irritated		but suddenly
	it is a pleasure		and then more and mo
	it is not irritating		(and then more and mo
	and slowly	).	Originally
	we were nowhere	<b>.</b>	and now, again
	we are having	the pleasure	
of being	alowly	nowhere	If anybody
is alcepy	1	let him go to eleep	
		TO	
Here we are now		at t	he beginning of t
ninth unit	of the fourth large part	of th	nis talk.
More and more	• •	I have the feeling	that we are getting
nowhere.	Slowly		as the talk goes on
	we are getting	nowbere	and that is a pleasure
	It is not irritating	to be where one is	. lt
only irritating	to think one would like	to be somewhere else.	Here we are now
	a little bit after the	beginning of th	ne minth unit of th
fourth large part		of this talk	
mgc pare		we have the feeling	

#### COLLIN A.P.S.E.

FOR A BROCHURE FOR THE ACADEMY OF FINE ARTS A N CONSIGN IN BRATISLAVA. SLOVAKIA. IT IS A SINGLE USE TYPEFACE: I HAVE NOT USED IT SINCE THEN. AND PROBABLY I WILL NEVER USE IT AGAIN. AS THE NAME OF THE FONT MAY SAY, COLLAPSE IS HIGHLY AFFECTED BY A NEW WAY OF CESIGNING—COMPUTER GRAPHIC, AND BY THE COMPUTER GRAPHIC, AND BY THE COMPUTER A SATISFACTORY REASON FOR ME TO DESIGN A NEW FONT. BECAUSE OF A CHARACTER OF THE TASK (STUDENTS' EXHIBITION THE TYPEFACE WAS AIMED TO BE "RONTRADITION OF THIS TYPEFACE WAS THE LACK OF MONEY: WE COULD NOT AFFORD TO BUY AFONT. AND TO MAKE ONE UP AS A SCHOOL PROJECT DOES NOT COST

IN ORDER TO GIVE THE FACE A RANDOM LOOK, EVER LETTER HAS TWO DIFFERENT VERSIONS, SO THE FONT EXISTS

LBRER EASE

dediffe. Alteru eim quum per afpera scanderet lo ac ita expiraffe. Alterum quum eques per littora lapsum una cum equo fuisse aquis demersum. Protoro consumprum: alii quu templu Inabis inciniste tradiderut. Nemo profecto hac casu nisi a suisse tradiderut. Nemo professi nisi a suisse casu n

traw, for a little warm weather and a mouthfu of fresh grafs. In a short time, according to his wish, the warm weather, and the fresh graft came on; but brought with them so much toi and businels, that he was soon as weary of the pring as before of the winter; and he now be same impatient for the approach of summer

#### タイラーの魅力が 素でいます。 大分に発揮された 秋冬コレクション







C Textus to text (far left): Eric Gill, Buckinghamshire, 1931; Aldus Manutius, Venice, 1505; and St. John Hornby, London, 1902. Weight, stress, and density determine type's texture, as illustrated by this student exercise (near left).

Type's space is imaginatively used in Silence, a collaboration by composer John Cage and typographer Raymond Grimaila (far left). Variable character spacing affects the text's right edge in this study by Peter Bil'ak (near left).

"The greatest literary masterpiece is no more than an alphabet in disorder." Jean Cocteau (1889–1963)

nearly nonexistent in Nicolas Jenson's 1470 Eusebius. They had widened by 1761 in John Baskerville's Aesop's Fables. These samples (far left) are upsidedown to show the spacing. Japanese uses line spacing to indicate horizontal or vertical reading. Note the additional typographic texture this provides (near left).

C Paragraph widths have been sized to align in this example (far left). Text columns (near left) nearly abut, but their baselines are staggered to indicate line ends.

#### **Text**

Space and text type 129 | Text abstraction 131 | Effortless text 133 | Setting perfect text 135

o matter how fine are the types we select, our work's appearance depends on good composition: the combination of type into words, the arrangement of words in lines, and the assemblage of lines to make pages. – D.B. Updike (1860–1941)

The term *text* comes from *textus*, Latin for the texture of woven fabric. There are two interpretations of this etymology, one that is conceptual and one that is visual: that text blends ideas and words into a single message as threads are woven into cloth; and that text areas have a visual texture that suggests fabric. Just as cloth's texture varies with the weight and material of the threads being used, type's texture depends on the letterforms' weight, angle of stress, and density.

#### Space and text type

- Between characters: Remember, space between a pair of characters is *kerned*. Space between all characters in a paragraph is *tracked*. Optimal text character spacing must be more open than display type's to compesate for its small point size.
- Between words: Word spacing is seen in proportion to letterspacing. If type has tight letterspacing, word spacing should be tight. Optimal word spacing is inconspicuous and barely separates word-thoughts without breaking the line into chunks.
- Between lines: Optimal line spacing must be greater than word spacing, so the eye travels horizontally; the space should be sufficient so descenders and ascenders don't overlap, but not so great that it breaks up the integrity of the column.
- Between paragraphs: A paragraph contains a single idea. Each idea must be perceived both as an entity and as part of a string of ideas. Separate paragraphs with an indent, a hanging indent, or



C Text as hair and dress: 1962 Vogue ad by Malcolm Mansfield; a 1959 shoe ad by Reba Sochis. The more pronounced the shape, the more attention is put on the treatment and the less on the content.



Type as towel: Herb Lubalin's 1958 ad for Holiday magazine that lists clothing advertisers.

C Text as racetrack, rain, and emotion: Bradbury Thompson's Westvaco Inspirations paper promotions spanned the years from 1939–1962. Run your eyes across these pages is from 1949 (it describes fourcolor printing) and Rain Rain Rain is from 1959. A contemporary car ad shows similar treatment of text as rain. Otto Storch and William Cadge's 1960 spread for McCall's magazine concludes the sequence.

"Just when we're old enough to read bulky tomes in 6-point type, our eyes are only fit for the humongous letters, surrounded by lots of white space, found in children's books." Luis F. Verissimo (1936-) with additional space between paragraphs. ¶ Paragraphing may also be achieved through use of a dingbat, allowing continuous text. The first paragraph of text should never be indented: it spoils the clean left corner and it is a duplicate signal because the typographic contrast between deck and text has already indicated the beginning of a new idea.

■ **Between text columns**: Optimal column spacing must be greater than a word space so that readers won't accidently jump the gutter while reading, but not so great that the columns look unrelated. A pica space between columns and between text and image in a runaround is optimal to separate but not dissociate.

#### **Text abstraction**

While it is good to abstract display type, text type should be treated so its legibility is paramount. Energy has been spent designing the imagery and display type to lure the browser into the text, where the greatest story value can be found. After successfully getting the reader into the text, yours has been a wasted effort if the reader bails out because the text has too many characters per line, or is poorly spaced, or too small, or too light, or a busy background makes reading impossible.

This isn't to say you can't reveal meaning in the way text is handled. When text abstraction is to the point, readers *may* respond. "A free-shaped area, wherever it occurs, must be a spontaneous and natural typographic expression of the copy; the copy should almost insist, of its own accord, that it be set this way," wrote Carl Dair in *Design with Type*. Similarly, Bradbury Thompson believes, "A sense of freedom to forget the columns and grids of typographic traditions lets the designer work in an atmosphere in which to playfully mix words and images."

Abstracting text to make a point is a worthy aim, but caution is key: abstraction is dangerous because text's small size makes illegibility a constant worry. And besides, using abstraction in text to catch an already caught reader is a waste of energy.

Acegmorty spabefgomty wundrick vox dahlz whim quest ace mordich al safen gomby spago centaur Regular 12pt Acegmorty spabefgomty wun drick vox dahlz whim quest ace mordich al safe

gomty spagofa Futura No.2 12pt

Acegmorty spabefgomty wun drick vox dahlz whim quest ace mordich al safen gomby Menhart Manuscript Regular 10pt Acegmorty spabefgomty wun drick vox dahlz whim quest ace mordich al safe gomty spa Bell Gothic Roman 10.5pt

Acegmorty spabefgomty wun drick vox dahlz whim quest ace mordich al safen gomby spago famenice Ellington Regular 9pt Acegmorty spabefgomty wun drick vox dahlz whim quest ace mordich al safe gomby spagofa Interstate Light 9pt

Serif type can be set with no additional linespacing because its serifs force open letterspacing and emphasize horizontality. This is 10/10 Nicolas Jenson SG set across a 9-pica column. There are and average of about 30 characters per line. Serif type can be set with no addi-

Sans serif type lacks the serifs that aid reading. This paragraph is set as if it were serif type: no additional linespacing and no letterspacing adjustment. This is 10/10 News Gothic Regular set across a 9-pica column, with an average of 32 characters per line. Sans serif type lacks the

This is an improved sans serif paragraph, set with 2 points of additional linespacing and 10 percent increased letterspacing. It is 10/12 News Gothic set across a 9-pica column, with an average of 28.5 characters per line. This is

This paragraph is set 10/12 with too many characters per line for optimal legibility. Well-set text has 50 to 60 characters per line, including spaces and punctuation. This paragraph has about 80 characters per line, or 25 characters more than it should, making this text tiring to read for more than two or, at most, three lines. To maximize legibility, there must be more linespacing, enough to make a white bar for each return.

# There are two ways to get 50-60 characters per line. One is to enlarge the type and keep the measure. The other is to

keep the type size and the line spacing, but shorten the measure to the correct length of fifty to sixty characters per line. This paragraph is set 10/12 with an average of 58 characters per line for optimal legibility. This para-

A flush-left setting puts all excess space at the right end of each line. Word spaces are all exactly the same width and make reading easier. There are two kinds of ragged edge,

A justified setting divides excess space between word spaces and characters. This looks bad when there is too much space and too few spaces. A justified setting divides

Properly set justified text requires a minimum of five word spaces per line to absorb leftover space. This makes the variations among word spaces less conspicuous. Properly set justified text requires a minimum of five word spaces per line to absorb leftover space. This makes the variations among word spaces

C Text type should be sized according to its x-height, the height of the lowercase letter from baseline to median. The x-height, not the overall point size, is the dimension that makes type appear "small" or "big."

Serif versus sans serif: Serif can be easier to read at text sizes because serifs create open letterspacing and strong horizontality. Serif faces also have more contrast between thick and thin strokes. Compensate by adding line- and letter-spacing to sans serif settings.

Line length should be 50-60 characters per line for maximum legibility. Lines with more than 60 characters require additional linespacing so readers can easily trace back to the left edge of the column. A typeface with a large xheight requires more linespacing than a face with a small x-height, which has "built-in" horizontal space.

Left: A justified setting distributes extra space on each line, but there must be at least five word spaces to disguise the variations. Flush left is easier to set well. The only decisions are whether to allow hyphenation (always), and where to set the hyphenation zone (half a pica is best).

#### Effortless text

Text type must be effortless to read, that is, it must be without visual static. This is achieved by choosing a good type face, making it big enough to read, giving it invisible letter, word, and linespacing, and giving it maximum contrast with its background. This paragraph has all the attributes that should not be given to text: it is bold italic, which can only be read invery short passages; it is small, 9-point type, which cannot be followed for more than forty characters per line; the letter and word spacing has been tightened to 60 percent of normal; the linespacing has been set solid, meaning the necessary horizontal white bars between lines of type have been reduced to uselessness; and the contrast between type and its background has been compromised by an illustration. Why would I make this text so hard for you to read? Maybe I am unaware of the difficulty I am causing. Maybe I think it would entertain you to have a whale in the background. Or maybe I think it would be novel to try these "stylings" because I am bored setting type so it is "ordinary" and legible.

Some text types are inherently more legible and should be chosen over other faces. A legible face should then be sized for clarity. Text ranges from 9 to 12 points, but faces with large x-heights can be set from 9 to 11 points, while faces with small x-heights should be set from 10 to 12 points for visual equivalency.

Consistent spacing is crucial to making text attractive and easy to read. Poor type comes from letting the computer's default settings determine spacing attributes. Text should always be defined as a "style," so every attribute will be considered in its definition. The goal for well-set text is a smooth, even color.

Justifying text is a process that results in a smooth right edge, as in this paragraph of text. The extra space at the end of each line is equally divided among the word spaces on that line. When there aren't enough words per line, this creates exaggerated word spaces. When a few such lines with poor spacing are stacked, they form a "river" of white, an ugly vertical line (see page 114).

Flush-left text has consistent word and character spacing because all leftover space is in a chunk at the end of the line. The resulting right column edge is said to be "ragged." A "rough rag" is produced by turning off hyphenation. A "tight rag," in which the lines are more even, is made by setting the hyphenation zone to a half-pica or less.

Text type often has its own latent shape and structure. For example, a recipe is entirely different copy from an interview. Setting a recipe as if it were dialogue would not express its step-by-step nature. Recognizing the nature of the copy at hand leads to the right decisions that will produce authentic typography.

Don't indent the first paragraph of text. It spoils the clean left edge of the column and it is a redundancy.

Underlining for emphasis is a typewriter left-over. Use italics.

As display type, initial caps deserve careful adjustment. The first line of text should relate to the initial.

When switching to italics also select the word space preceding the first letter to be italicized.

Default spacing attributes have produced word spacing that is much too open.

True small caps are designed to match the weight of lower-case letters. This is important in initialized names like AAA, IBM, and NBC. Small caps are found in expert and "S.C." fonts.

Ligatures replace overlapped character pairs like fi and fl. Additional ligatures, like the ffi used in this example, are found in expert sets.

A story-ending bug should be added to a text font so its size is always in proportion to the text.

#### Setting perfect text

our use of type is based on centuries of typographic evolution, hundreds of improvements based on efficiency and economy in our need to record and distribute ideas. Perfect typography is a <u>logical</u> art. It is based on harmony in all its parts. The right decisions are those that get the message to the reader with the least visual static.

s Ms. C. L. Janáková said in 1915, "The spaces after periods in names should be half the width" of a normal word space. Never leave two spaces after a period. "Alot" is *always* two words, "a lot."

It sometimes seems there are fifty tiny typographic steps to setting perfect text.

A cluster of hyphens is a "ladder," which severely compromises the right edge of a column.

Italics must be selected from the font menu. Keyboard shortcuts may produce an obliqued roman.

Hang punctuation in the margin for a clean right column edge.

Hyphens break words and compound words. Use the en-dash to separate phrases.

Maximize contrast between text and background.

#### Setting perfect text

our use of type is based on centuries of typographic evolution, hundreds of improvements based on efficiency and economy in our need to record and distribute ideas.

Perfect typography is a *logical* art. It is based on harmony in all its parts. The right decisions are those that get the message to the reader with the least visual static.

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It sometimes seems there are fifty tiny typographic steps to setting perfect text.

When word spaces become too big, manually open letter-spacing. Select the line and force space in until one step before the line breaks.

Old style figures look like lower-case numbers and blend in with lowercase text. Use lining figures, which look like capital numbers, in all-caps settings and charts.

Measurement quotes and are wrong. Real quotes look like "66" and "99." Se Courado comeday com

Segredo someday som silver lining soul bossa tri Town and country blue thirty days in the hole tor touseaint l'oxerture tylin

Segredo someday som silver lining soul bossa

Town and country blue thirty days in the hole toussaint Poverture to

Indent turnovers on bulleted lists to make beginnings clear. Set a style with a 1p0 left indent; -1p0 first line; and a tab at 1p0.

4.52 Desafinado I
18.43 Coração Vag.
908.11 Chega de Sa
15.29 Lá Vem a Bai
4.54., Voce Var Vel
4.52 Desafinado I
18.43 Coração Vag.
908.11 Chega de Sa
15.29 Lá Vem a Bai
6.54 Corcovado Ja

Align decimals in charts to make figures comparable. Use the ↓ arrow on the tab ruler.

I, lying myself... should are that this is very natural what the natu

An ellipsis is a threedot character that indicates a pause or an extracted segment. It is *not* the same as three periods.

"In the end, writing that is read must be intended to be read.... There is an implicit obligation for the designer to mediate between text and reader."
William Drenttel

#### Setting perfect text

Informed use of type compensates for the "incorrect" application of typographic conventions. Shown here are the most important adjustments for day-to-day use.

To ignore or neglect these adjustments is to allow your type to be mere data entry. Attending to these details distinguishes work as being valuable and worthy of the reader's time and as having been done by an informed designer, which makes you look good.

The computer standardizes and repeats very well. Use its strength by creating paragraph styles. This forces you to choose, which leads to *conscious* spacing attributes. It also makes document-wide changes easy: a change in the style definition changes all type tagged with that definition. Text type in discreet blocks, each with its own *ad hoc* style, leads to inconsistencies.

Hyphenate all text yourself, whether set in justified or flush-left lines. Built-in hyphenation dictionaries invariably fail: keep a paperback 50,000 word speller at hand and use it.

Indentions, in points to match the linespacing (type's point size plus leading), should be part of the paragraph's style definition.

A widow is a short phrase, word, or part of a word that is a paragraph's last line. An orphan is a widow at the top of a column. Widows are generally okay, but orphans will get you a reprimand from the Type Police. Absorb a widow by manually forcing tighter spacing on the next-to-last line by selecting it and pressing Option-Delete (Mac) or Shift-Control-minus (PC).

Fractions like ¼, ½, and ¾ can be found in expert fonts. Any fraction can be made from three pieces: the numerator (top number) is set in superscript (in *Define Styles*, set *Super/subscript size* at 60 percent, and *Superscript position* at 28 percent) and the denominator (bottom number) is set in subscript (in *Define Styles*, set *Subscript position* at 0 percent).

Perfect text is one element of a successful page. But the success of a page is only as good as the power with which it communicates and the effortlessness with which it does it.

#### **Glossary**

**Aldine** Typography that appears to have come from Venitian printer Aldus Manutius, c1500.

**Alignment** Having elements' edge placement agree. Optical alignment is always more important than measurable alignment.

Aperture See Counter.

**Apex** The area of a letterform where two lines meet as in A, M, V, W.

**Archival paper** Paper that is alkaline and won't deteriorate over time. Cannot contain any groundwood or unbleached wood fiber.

**Ascender** The part of lowercase letters that extend above the median in b, d, f, h, k, l, t. See *Descender*.

**Backslant** Type posture that slants to the left. Compare to *Italic*, which slants to the right. Uncommon and difficult to read in any but extremely short segments.

**Bar** The horizontal stroke of a letterform like F, H, T, Z. **Baseline** Invisible line on which letterforms sit.

**Basic size** A sheet size for each of the standard paper grades that determines its basis weight. The basic size of book paper is 25 "x 38". The basic size of cover stock is 20 "x 26".

**Basis weight** The weight in pounds of a ream (500 sheets) of paper cut to its basic size.

**Beardline** Invisible line that indicates the bottom of descenders.

**Binding** Attaching sheets of paper together for ease of use and protection. There are four methods of binding: edition binding, 16-page signatures stitched together; mechanical binding, plastic rings or combs inserted in drilled holes; perfect binding, whereby glue is spread on the pages' edges and a cover is applied; saddle-stitched binding, stapled through the fold; and side-stitched binding, stapled through the front.

**Bitmap** A character image represented as a pattern of dots on a screen. See *Outline*.

**Blackletter** Heavy, angular types based on medieval script writing. The five categories of blackletter are Bastarda, Fraktur, Quadrata, Rotunda, and Textura.

**Bleed** Imagery or letterforms that run off the trimmed edge of a page. See *Full bleed*.

**Blind folio** A page that has no visible page number printed on it. In magazines, often found on feature openers with full bleed imagery.

**Body copy** The primary text of a story. Usually identified by a medium weight and a body size of 8 to 12 points.

Body size See Point size.

**Bold** A typeface style that is heavier and wider than the roman style of the same typeface.

**Brightness** The reflectivity of paper. Lower brightness absorbs more light, making reading more difficult. Higher brightness means a whiter sheet of paper, costs more, and lends a sense of quality.

**Cap height** The height of capital letters, measured from baseline to top of the letterforms.

**Centered** Alignment in which the midpoints of each element are positioned on a central axis. The left and right edges of such a column are mirror images.

**Chancery** A handwritten typestyle with long, graceful ascenders and descenders.

**Character** Any letter, numeral, punctuation mark, figure, etc.

**Character set** The letters, figures, punctuation marks, and symbols that can be displayed on a monitor or output by a printer.

**Coated paper** Paper with a layer of matte, dull, or gloss coating applied. Coated paper keeps ink from absorbing into the paper, making images crisp and bright.

**Cold type** Printing which is not produced by the hotmetal process. Involves the use of founders' type, phototypesetting, or electronic (digital) setting. See *hot metal*.

**Colophon** Information placed at the end of a book that describes its production.

**Color, typographic** The lightness or darkness of gray that a type area creates. Typographic color is affected by the type's size, posture, weight, linespacing, and tracking.

**Column rule** A thin line between columns of type. **Condensed** A narrow version of a typeface.

**Contrast** The degree of difference between light and dark areas in an image. Extreme lights and darks are high contrast. A full range of grays is low contrast.

**Contrast, typographic** The amount of variation between thick and thin strokes of a letter.

**Counter** The space, either completely or only partially closed, in letterforms like a, e, o, u, and A, B, C, S.

**Crop marks** Thin lines added to the perimeter of a design to show where to trim the finished print job.

**Cursive** Typefaces with fluid strokes that look like handwriting.

**Deinking** Removing ink and other additives from paper in the recycling process.

**Descender** The part of lowercase letters that extend below the baseline in g, j, p, q, y. See *Ascender*.

**Dingbat** Illustrative characters in a typeface.

**Display type** Letterforms whose purpose is to be read first. Usually identified by a large body size and bold weight.

**dpi** Abbreviation for dots per inch, a measure of resolution.

**Drop cap** A large initial set into the top left corner of body copy. A drop cap's baseline must align with a text baseline. See *Stickup initial*.

**Drop folio** A page number placed at the bottom of a page when most page numbers are positioned at the tops of pages, as in the first page of a chapter of a novel.

**Dummy** An unprinted mock-up of a book, magazine, or brochure.

**Duotone** A two-color halftone, usually black and a second ink color. The result is an image with more richness and depth than a one-color halftone.

**Ear** Small stroke attached to the q and r.

**Ellipsis** A single character of three dots indicating an ommission. The spacing of an ellipsis (...) is generally distinct from three periods in a row (...).

**Em dash** The longest dash in a typeface. An em dash is the same width as the type size being used: 10-point type, which is measured vertically, has a 10-point-wide em dash. The em dash separates thoughts within a sentence and should not have spaces added on either side: xxxx—xxxx. I frequently bend this rule, replacing the em dash with an en dash surrounded by two spaces: xxxx – xxxx; the em dash is simply too wide in many typefaces and draws attention to itself.

**En dash** The second-longest dash in a typeface. An en dash is half the width of the type size being used: 10-point type, measured vertically, has a 5-point wide en-dash. The en dash separates numbers and should not have spaces added on either side: 555–666. Also used in place of a hyphen for multiple-compound words.

**Extended** A wider version of a typeface. Also called *expanded*.

**Ethel** A French ligature of the *o* and *e* letters, found in Greek words.

**Family** A group of typefaces derived from the same typeface design. Usually includes roman, italic, and bold versions. May include small caps, old style figures, expanded, condensed, and inline versions.

**Finish** The surface characteristics of paper.

**Flush** A typographic term meaning *aligned* or *even*. Type can be set flush left, even on the left and ragged on the right; flush right, even on the right and ragged on the left; or flush left and right, more properly called *justified*.

Folio A page number and running head.

**Font** A set of characters that share common characteristics. Also called *Typeface*.

**Foot margin** The space at the bottom of a page. See *Margin* and *Head margin*.

**Foundry** The place where type is manufactured. A foundry was originally a place for metalwork; modern typefoundries are digital.

**Four-color process** A printing process that uses magenta (red), cyan (blue), yellow, and black inks to simulate the continuous tones and variety of colors in a color image.

**Full bleed** Imagery or letterforms that run off all four edges of a page. See *Bleed*.

**Gatefold** A page that is folded inward to make an extended spread. The most famous gatefold is the *Playboy* centerfold.

**Grain** The direction that most fibers lie in a sheet of paper. This is important in folding and tearing.

**Grotesque** Another name for sans serif type. So called because it was considered ugly when it was introduced in the mid-1800s.

**Gutter** The space between columns of type and between facing pages of a book or magazine.

**Hairline** The thinnest line which an output device can make. Usually ½ point.

**Halftone** A printed image in which continuous tone is reproduced as dots of varying sizes.

**Hanging indent** A paragraphing style in which the first line pokes out to the left. Sometimes called an *outdent* or *flush and hung*.

**Hanging initial** An initial letter placed in the margin next to body copy.

**Hanging punctuation** Allowing lines that begin or end with punctuation to extend a bit beyond the column width for optical alignment. A certain indicator of typographic sensitivity and craftsmanship.

**Head margin** The space at the top of a page. See *Margin* and *Foot margin*.

**Hinting** Mathematical formulas applied to outline fonts to improve the quality of their screen display and printing on low-resolution printers.

**Hot metal** Typesetting and the printing process that involves casting type from molten lead.

**Humanist** Letterforms that look a bit like handwriting, or at least don't look too mechanical or geometric. Identifiable by having a humanist axis, or angled emphasis related to handwriting.

**Imposition** Arranging pages so that when they are printed and trimmed, they will appear in correct order.

**Incunabula** "Cradle", used to describe the first fifty years of printing with moveable type.

**Ink holdout** Resistance to the penetration of ink. Coated paper has high ink holdout, making images look sharp.

**Italic** Types that slant to the right. Must have letters that are distinctly different from roman version of the typeface, like **a** and **a**, or it is probably an *oblique* version.

**Justification** Aligning both the left and right sides of a column of type.

**Kern** Removing space between specific letter pairs in order to achieve optically consistent letterspacing. See *Tracking*.

**Leaders** A line of dots that lead the eye across a wide space. Often found on contents listings.

**Leading** Space between lines of type that appears between the descenders of one line and the ascenders of the next. Digital leading is added *above* a given line of type. The name comes from hot metal days when actual strips of lead were inserted between lines of poured type.

**Lead-in** The first few words of a paragraph set to attract attention.

**Legibility** The ability to distinguish between letterforms. See *Readability*.

**Letterspacing** A term used to describe general spacing between letterforms. See *Kern* and *Tracking*.

**Ligature** Conjoined pairs or trios of characters into one, as in fi and ffl, for optical consistency.

**Light or lightface** A lighter variation of the density of a typeface.

**Line spacing** See *Leading*.

**Lining figures** Numerals that are equivalent to the cap height of the typeface. To be used in charts and in all-caps settings. Also called *ranging figures*. See *Old style figures*.

**Margin** The space at the inside and outside of a page. Also called *side margin*. See *Foot margin* and *Head margin*.

**Match color** A custom-blended ink that matches a specified color exactly. There are several systems, including Pantone Matching System and Toyo.

**Median** The invisible line that defines the top of lowercase letters that have no ascender. Also called *mean line* and *waist line*.

**Minus leading** Removing space between lines of type to give it a more unified and darker look. Should always be used with all caps display type and with great care on U/Ic display type to keep ascenders and descenders from overlapping. See *Leading*.

**Moiré** A pattern created by rescreening a halftone. or by printing two halftones on top of each other but out of register. Pronounced *mwah-RAY*.

**Monospace** Typefaces in which each character occupies the same horizontal space. A leftover from typewriter technology. See *Variable space*.

**NFNT** Abbreviation for Macintosh font numbering system which assigns numbers to screen fonts.

**Oblique** An angled version of a roman typeface in which the same characters have been slanted to the right, not redrawn. See *Italic*.

**Octothorp** The number or pound sign (#). So named because it indicates eight farms surrounding a town square.

**Old style figures** Numerals that vary in height so they blend into a paragraph of text. Sometimes mistakenly called "lowercase figures." See *Lining figures*.

**Opacity** A measure of how opaque a sheet of paper is. Low opacity allows printing on the back side to show through. Opacity may be achieved through increasing sheet thickness or by adding chemical opacifiers.

**Optical alignment** Adjusting elements or letterforms so they appear aligned, which is more important than actually being aligned.

**Orphan** A word or word fragment at the top of a column. A sign of ultimate carelessness. See *Widow*.

**Outline** The mathematical representation of a character that can be scaled to any size and resolution.

**Papyrus** An aquatic plant found in northern Africa. Used as early writing substrate, it was peeled and placed in layers. The naturally-occuring glues in the fibers bonded into sturdy sheets.

**Parchment** A writing substrate made from treated animal skins.

**Phototypesetting** Setting type by means of light being exposed through a film negative of characters onto light-sensitive paper. Introduced in the 1960s and replaced by digital typesetting in the 1980s.

**Pica** One-sixth of an inch, or 12 points. Because it is divisible by points, and thus accommodates type measurement, it is necessary to use the pica for all planning design space. See *Point*.

**Point** One-seventy-second of an inch, or one-twelfth of a pica. The basic unit of vertical measurement of type. See *Pica*.

**Point size** The size of a typeface measured from just above the top of the ascenders to just beneath the bottom of the descenders. Also called *body size* and *type size*.

**Posture** The angle of stress of a typeface. There are three postures: roman, italic or oblique, and backslant.

**Readability** The quality of reading, determined by letterspacing, linespacing, paper-and-ink contrast, among other factors. See *Legibility*.

**Recto** The right-hand page of a spread. Always odd-numbered. See *Verso*.

**Resolution** The number of dots per inch (dpi) displayed on a screen or by a printer, which determines how smooth the curves and angles of characters appear. Higher resolution yields smoother characters.

**Reversed out** White or light color dropped out of a dark background.

**Roman** An upright, medium-weight typeface style.

**Rough rag** Type set without hyphenation, causing a pronounced variation in line length. See *Tight rag*.

Rule A line.

**Runaround** Type set around an image or element. The ideal distance is 1 pica, or enough space to separate, but not enough to dissociate the type and image from each other.

**Sans serif** Type without cross strokes at the ends of their limbs. Usually have consistent stroke weight.

**Serif** Type whose limbs end in cross strokes. Usually have variation in main character stroke weight.

**Slab serif** Type with especially thick serifs. All Egyptian typefaces are slab serifs.

**Small caps** Capital letters that are about the size of lowercase letters of the same typeface. Unlike using capital letters set a few points smaller, true small caps must be drawn to appear the same weight as their full-size capitals.

**Solid** Type set without additional linespacing.

**Stickup initial** A large initial set at the top left corner of body copy. A stickup initial's baseline must align with the first text baseline. Also called *elevated cap*. See *Drop cap*.

**Style** Variations of a typeface, including roman, italic, bold, condensed, and extended.

**Subhead** Secondary type that explains the headline and leads to the text.

**Texture** The overall impression of an area of type. Determined by typeface, size, linespacing, color, and column structure.

**Tight rag** Type set with a small hyphenation zone, causing minimal variation in line length. See *Rough rag*.

**Tracking** Adjusting space in a line or paragraph. See *Kern*.

**Turnovers** Type that continues on a subsequent line.

**Typeface** A set of characters of a certain design and bearing its own name, like Ephesus Ancient, Franklin Gothic, or Preissig.

**Type family** All styles and variations of a single type-face. May include italic, bold, small caps, etc.

**Typographer** Historically, one who sets type. In modern usage, one who practices the craft and art of designing letterforms and designing with letterforms.

**Typography** The art and craft of designing with type.

Type size See Point size.

**U/Ic** Type setting using upper and lowercase letters.

**Uncoated paper** Paper without a surface coating.

**Variable space** Type in which each character is assigned its own width as determined by the characters' inherent widths. See *Monospace*.

**Verso** The left hand page of a spread. Always evennumbered. See *Recto*.

**Watermark** A mark in fine papers, embedded in the papermaking process with a dandy roll.

**Weight** The darkness of a typeface.

**Widow** A word or word fragment at the end of a paragraph. Words are okay, but word fragments are careless. See *Orphan*.

**Word space** Space between words. Sensitive to letter-spacing: if one is open, both must be open. "Correct" word spacing is invisible: just enough to separate words but not enough to break a line of type into chunks. The lowercase *i* can be used as a guide for approximate spacing.

**X-height** The distance from the baseline to the median in lowercase letters. So named because it is the height of a lowercase *x*, which has neither an ascender nor a descender.

# **Bibliography**

I have selected the most important books on design and typography in the last fifty years. Some I have only seen; many I own and love.

The important thing about a bibliography is to have a road sign that points to further knowledge on a subject. Discovering books that help you understand and see a vast subject like design and visual communication in a new way is worth the effort.

You may note that the majority of these books are released by the same few publishers. Visiting these publishers' Web sites will lead you to many other worthwhile texts.

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Designer's checklist	
Questions that should be answered with a "yes"  are in bold. Questions that should be answered with a "no" are in regular weight.	
Space	Unity
Do all areas of white space look like they were planned and thoughtfully used?	• Are all elements cooperating to make a single impression?
■ Is the ground as interesting as the figures on it?	Are contrasts clear enough to look purposeful
Is space between elements strictly controlled and consistent?	Is there a dominant element that will transfix the casual browser?
■ Is space used to signal quality and value?	• Are elements sized in proportion to their im
Is there a payoff for having this emptiness?	portance?
Does empty space define an object's relative size?	Has design unity been enhanced by limiting type and color pallettes?
• Are related topics close and unrelated ones sep- arated?	Does color emphasize what is worthy of em phasis?
Can the background be brought into the fore- ground?	Is color used to explain content rather than decorate the page?
<ul><li>Can overfullness (<i>lack</i> of emptiness) be used to</li></ul>	■ Is the stopping power of huge images used?
describe this content?	■ Is there a cheerful variety or is the total effec
■ Is empty space activated for contrast and vis-	gray and pallid?
ibility rather than merely left over?	Have similar elements been grouped?
Has space been removed from headlines to make them darker and more visible?	Are relationships between elements immediately apparent?
Is empty space used to make an opening page or spread look nonthreatening and inviting?	Do the shapes of elements add contrast and visual interest?
Are areas of white space balanced with occupied space?	Do art elements accurately and distinctively convey the message and tone of the story?
Can emptiness be used representationally or symbolically?	Is there consistency from page to page and spread to spread?
Has the especially visible emptiness around the perimeter of the page been used?	Are design decisions being made to enhance the importance and clarity of the content, but at the
Is space used to emphasize either horizontality or verticality?	expense of the publication's personality?  Are you straying unneccesarily from you
☐ Have consistent, systematic spaces between elements been compromised to fill a short column?	publication's style manual – just this once – fo dubious immediate editorial success?
☐ Can space be better managed in and around ty-	☐ Are contrasts so numerous that unity is harmed
pographic elements?	☐ Does the design call attention to itself rathe
☐ Does any element appear to be floating separately on the page?	than reveal the content?  Have holes been filled with cluttering garbage
☐ Does the page look crowded?	☐ Do elements interrupt reading or cause confusion
☐ Could the empty areas be called "wasted space"?	☐ Does the shape of any element look contrived
☐ Is emptiness just in the background?	or forced?

 $\ \square$  Do elements try to outshout each other?

 $\square$  Is there any way to simplify this design?

Are mere boxes and rules – rather than differences expressed through position, size, and weight – used to organize space?

Page Architecture		Туре	
•	Is there a simple and coherent design system?	Does the type look like "frozen sound"?	
•	Does presentation make the information more intelligible and valuable?	<ul><li>Is the type as large and legible as possible?</li><li>Does typography unify pages without boring</li></ul>	
•	Has all clutter and affect been eliminated?	sameness?	
•	Has the rigid use of a grid limited creativity and expressiveness?	<ul> <li>Are there exactly three levels of typography?</li> <li>Are big stories broken into bite-size chunks?</li> </ul>	
•	Is there characteristic page makeup in patterning and texture?	Can the copy be edited shorter or listed?	
•	Is the design responsive to substance or is it just surface gloss?	<ul> <li>Is the logo distinctive, not just set type?</li> <li>Is the logo echoed in the department headings?</li> </ul>	
	Do facing pages appear as spreads?	Is there a distinctive type treatment that is used throughout each feature story?	
Ŀ	Do stories appear as continuous horizontal entities that happen to be broken into spreads?	Has the reader been lured into a story by the headline-deck-caption-text progression?	
•	Are the premium upper-left corner and top section of the page used to maximum effect?	Are sidebars used as backdoors into the story?	
•	Are readers guided naturally and smoothly through the page or story?	Has all display type (headlines, decks, cap tions, breaker heads, breakouts, and pull quotes) been broken for sense?	
•	Does your overall design acknowledge the presence of and competition from the Web?	Does information in headlines - rather than cute punning - intrigue the reader?	
•	Are readers guided through information?	If the headline has to be a topic title, is the	
•	Are identity signals (logos, sinkage, department layouts) used consistently to reveal the maga-	reason to read in the deck?	
	zine's structure?	■ Do headlines contain active, positive verbs?	
•	Is information ranked so uncaring readers can skim?	Are headlines repeated verbatim on the con tents page and cover?	
Can the potential reader learn the gist expression	Can the potential reader learn the gist of the	Are all-caps restricted to very short headlines?	
	story just from the display material?	Do decks and captions focus on the significant	
•	Are starting points easily found?	cance of the story?	
•	Does the layout accurately communicate the relative importance of the stories on the page?	Do captions reveal the editorial significance of visually dull photos?	
•	Are stories shown so readers can gauge time, effort, and commitment?	Are captions written as display type hooks, to increase curiosity and lead readers to the text?	
•	Does the cover arouse curiosity and lure the passive?	<ul><li>Do font changes signal changes in meaning?</li><li>Is the reader aware of the act of reading?</li></ul>	
•	Is there a characteristic cover format that allows flexibility while maintaining uniformity?	☐ Have typographic decisions made the type pret tier but harder to read?	
	Does any element lead to an unintended dead end?	☐ Do headlines and subheads compete for atten	
	Does the design look evenly gray with elements too similar in size and treatment?	tion rather than lead from one idea to the next?  Is the line width for text (about 40-60 characters per line) appropriate for the type size?	

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## Colophon

ne spalmog ware vanustaar capitaliü droat?
Aubricacionibulge sufficiencer distinctus,
Idinuccione arcificosa imprenedi ac caracterizandiablge calamivila exaracione sic estigiams. Et ad eulebiam aci industrie est osummanus, der Johem sustantibue magücinü-Et demi "Schoster de Geruszteim,
Inno dni Odillesio-car-svij-savigsia Allüpevis,



A colophon is a brief description of a book's typography and production. The first colophon was printed in 1457 – just a few years after Gutenberg first printed with moveable type – by Johann Fust and Peter Schoeffer. Fust & Schoeffer were printers in Mainz, Germany. This colophon was in their Latin *Psalter*.

The Elements of Graphic Design was designed and typeset by Alexander W. White. It was printed by Transcontinental Printing in Canada.

The text face is ITC Quay, designed by David Quay at The Foundry, London, and issued by URW.

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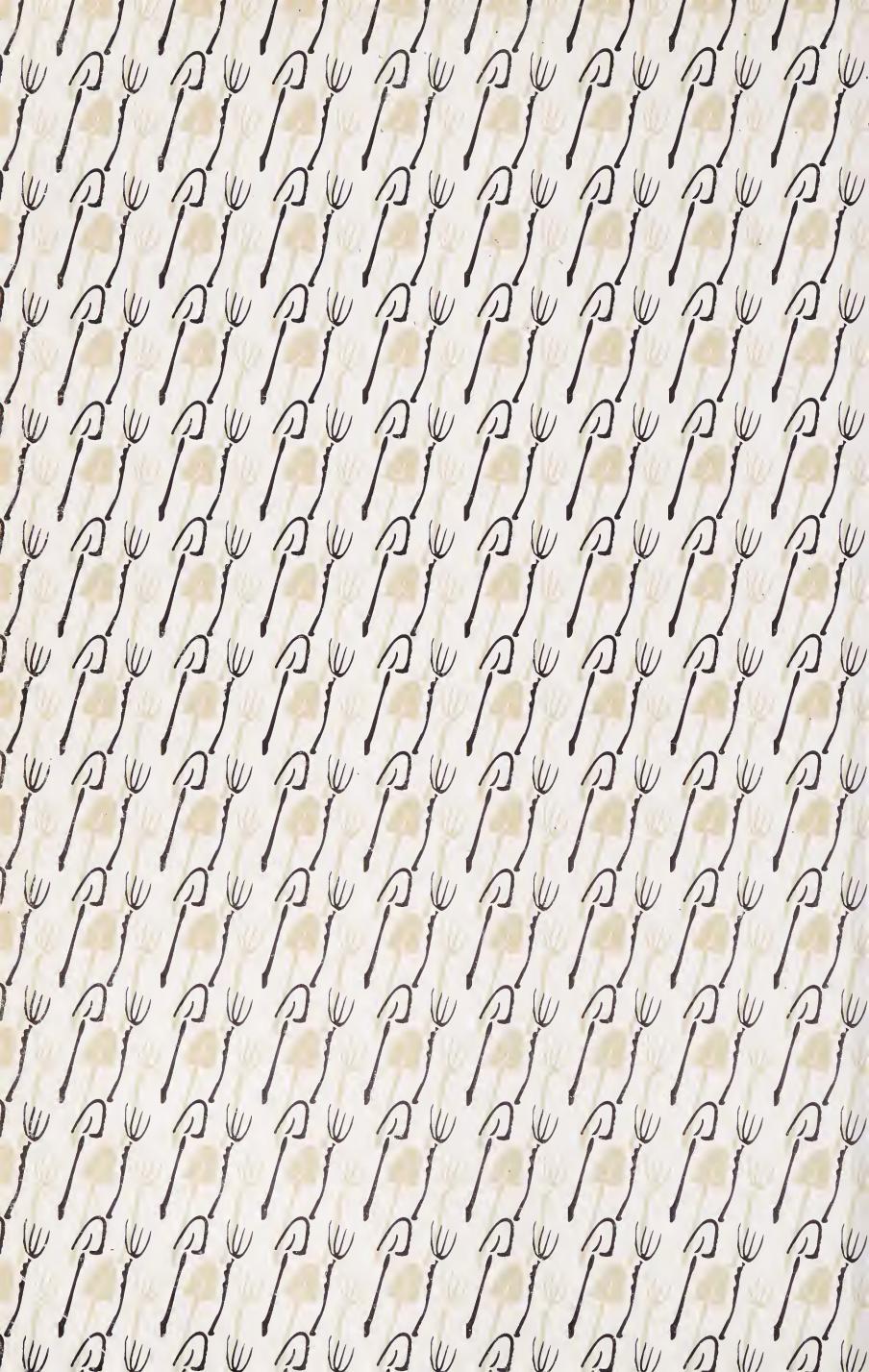
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