Chapter 2 Design
Design is central to the success of any communication. In fact, most designers - this one included - would go so far as to suggest that design is just as important an element of a publication as writing. Don't get me wrong. If your writing stinks, graphic cartwheels and high design acrobatics won't cover up the smell. Writing works without a net. Nothing can save it, save thoughtful rewrites. However, the point must be made that good design attracts and holds readership, while bad design repels and discourages it. If you don't get them in the tent, they won't see the show.

Like it or not, we read externally first and internally second. Which is to say that we judge publications not only by their covers, but by their overall visual appearance. Design provides an outward structure upon which we further communicate our messages, sell our soap, project our images, inform our publics and otherwise hang our corporate hats. Companies think nothing of spending incredible sums of money for trademarks, company seals, logos and other symbols to suggest their quality, integrity, dependability and consistency or to draw visual attention to themselves. They appreciate outward image when it's rolling down a street painted on the sides of their trucks, being stacked on shelves or signing off a magazine advertisement. Too often, however, the same companies lose sight of design's importance when it comes to their publications.

But make no mistake. Whether the publication is internal - a newsletter, benefits folder or employee recruitment kit - or external - a brochure, annual report or company magazine - its design requires careful planning. Without structure, visual thought and order, your publication will not get the attention it deserves. No matter how well written and carefully edited your message may be, readers will pass over poorly designed print materials. It's as simple as that.

For these reasons, then, it is necessary for us first to understand and be able to use basic design principles. Second, it is important to develop a vocabulary, so that we might communicate clearly with designers, printers and other publication professionals. Third, we should know how the eye moves through a page (so we can direct and redirect visual traffic) as well as understand how to attract and hold readers. Finally, we must comprehend the "parts of sight" as clearly as we know the parts of speech.
Before venturing further, we need to define what we mean by design.

Essentially, design is the act of bringing order to whatever surrounds us. It is planning and organizing physical materials and shaping and reshaping our environment to accommodate specific needs. It is not magic, accomplished with mirrors, black cat bones and sleight of hand. And there's nothing particularly mysterious about it.

There are logical reasons why design probably seems foreign and troublesome to us, though. For one thing, few of us have had much visual education. That looms especially ironic when you consider how much our learning and survival depend upon sight. Think about it: with few exceptions, our verbal literacy is learned, broadened and specialized through vision - i.e., through reading and writing skills. We study letters, words, spelling, vocabulary, grammar, syntax, style, writing and literature. Grammar is apt to be central to our language studies from third grade through our first year of college. Writing begins before we start our formal educations, first by learning to recognize a set of abstract symbols, and then to form them; and writing runs fully through all the years of our educations. Visual studies, however, tend to end somewhere between the second and third grades when crayons are either thrown or taken away.

Another reason why we underestimate the impact of design is the effortless nature of sight itself. Our eyes receive and process line, shape, texture, color, intricate spatial relationships and other complex visual information almost instantly - so long as we keep our eyes open, we don't run red lights, fall down stairs, try to open the wrong end of a beer can or trample people. That sight works so easily is both good and bad. Good in that our visual sense operates automatically, is well greased and complete beyond our wildest dreams. Bad in that we take it for granted and often assume that to have sight is to have visual literacy. Of course this is no more the case than to assume that to be able to speak a language is the same as to also read and write that language.

It should come as no surprise, then, that design seems foreign to us. It enjoys its own vocabulary, grammar, syntax, composition and meaning. Additionally, it possesses a unique literature, history and heritage; one that, in fact, precedes written language. But happily, acquiring this new visual "language" is
considerably less painful than the average root canal procedure.

This chapter cannot provide sixteen years of visual education, an art history review and a full discussion of aesthetic theory at a single sitting. However, with an earnest read and review it can provide

- a crash course in design principles
- a basic visual and design vocabulary
- a primer of sorts for visual literacy, discussing the parts of sight, and showing how to direct vision and steer the viewer through publication designs.

Finally, the design chapters of this text will alert you to the idiosyncrasies and special design concerns of specific collateral print materials and provide design insights and solutions unique to each of those publications.
But Is There A Difference?

The next question, then: Do collateral materials require different design approaches, principles and strategies? Or, more simply stated, do you design differently for collateral materials?

Yes and no. Or, as Winnie the Pooh might suggest, it all depends.

There is a set of design principles that applies to whatever we create, regardless of intent, style, medium or format. In each instance, we plot a visual course that becomes the blueprint for our publication's architecture. And although publication formats vary, just as buildings differ, they possess similar structural principles, just as skyscrapers, shopping malls, museums and homes have some characteristics in common. Publications, like buildings, employ a structural plan that mixes serious pragmatic and aesthetic concerns while providing a sound framework and foundation.

Every publication deserves a good design that takes into account its format, medium and intent. For example, the exaggerated vertical configuration of a brochure presents a set of spatial concerns much different from those of a poster. The brochure's long, relatively small and narrow area is arranged in a series of panels - of equal or unequal size - that can be folded two, three or more times, vertically or horizontally. These properties make the brochure's continuity and sequence especially important.

The medium also brings its own eccentricities and needs to the design. While an annual report may bear a strong resemblance to a magazine - and the best ones seem to - it requires special care to design a report that communicates with its many audiences while conforming to exacting SEC requirements that prescribe everything from logistics to point size. Designing a poster that will be read from across a room by a moving audience - or that may itself be moving - presents a different challenge. Or the poster itself may be moving. With apologies to Marshall McLuhan, the medium is the message. The point is that the medium brings its own unique eccentricities and needs to the design. Where or when possible, the good designer extends constraining boundaries, borrows from other media and steals or recreates from the present or the past.

Intent also figures squarely into the design formula. Let's assume that a company has had a financially disastrous year. While it can easily afford a full-blown, four-color report with portraits of smiling CEOs in three-piece, charcoal gray suits, perceptive company planners might decide that a more austere approach is warranted. For that fiscal year, anyway. Or, perhaps due to
a corporate takeover or a major image overhaul, a company decides to completely reposition itself and court a changed or new audience. To do so, it redesigns everything from newsletter to logotype. Simply put, your purposes affect the look and structure of what you publish.

Your designs should also reflect your audience and their needs. Here’s a quick example. When our students of advertising design and magazine design get caught up in their formal design concerns, they sometimes forget their audiences, without really meaning to overlook them. When this happens they need to be refocused. In one instance, we asked them to design a full-page advertisement for a national candy company that the ad will appear in Boy’s Life, a monthly magazine for the Boy Scouts of America. The advertisement should target six-to-ten-year-old boys. After they’ve completed the assignment and each has provided rationales and presented their work, we bring a Cub Scout into the classroom to react to their work and, more importantly, to explain what each of the ads means to him. It’s a good exercise, and a lesson well learned. Professionals should do more of the same.

Here’s another example. A few years ago, Interlake, Inc. had a problem with their corporate image. Once a highly respected and competitive steel company, they’d foreseen trouble from foreign competitors and had completely reshaped the company through divestiture and by moving into ferroalloys, packaging, material handling and conveyance systems, strategic metals and die-casting. But they continued to be perceived as an iron/steel conglomerate. Kirk Kahrs, then creative director of HGSO in Chicago, was asked to write and design an annual report and launch an advertising campaign to turn the image around.

The solution? An annual report that was a direct copy of Time Magazine. Kahrs and designers made off with the nameplate, masthead, table of contents, typography, photographic and writing styles and Time’s entire stylebook. They filled the annual report with new campaign advertisements for the many new companies that were part of the Interlake aegis - a brilliant way to introduce the campaign to their target audience. This strategy was obviously bifunctional, since it not only mimicked the look of Time but reinforced the entire concept of bringing important company news to the reader. In this instance, the design was more than mere magazine emulation. It was out and out theft - insightful and functional format snatching. It was outrageously different and just as outrageously successful. Kahrs and Interlake received a silver medal from Financial World, which selects the best annual reports internationally each year.
These two examples remind us of what should be obvious at all times. Namely, that all publications should be designed with audience in mind. Too often we forget the audience by neglecting to notice that it has changed dramatically or is in the process of a major change. Or, we're so insulated that we don't measure what we publish by the most important touchstone - our consumers.

Finally, a quick word about intent and medium. Sometimes, intent isn't correctly aligned with medium or format. Closely examining what your intentions are might cause you to reconsider format.
Principles Of Design

Most of us don't pay much attention to a design when everything is correctly ordered. In fact, the average person seldom sees design in anything at all. We read newspapers daily without noticing the skeletal framework that orders the headlines, photography, graphics, text and other style elements of a page. And we raise our wineglasses to toast without realizing that stems are designed to keep our hands from warming the wine. But the best design is like that: it exists, but doesn't call attention to itself. As a friend once remarked, "A good designer doesn't design for design's sake. The best design serves its purpose, period - without calling attention to itself."

Not only do the best designs go unnoticed, but the balance principle present in these examples is also overlooked. But make no mistake, it is there. If it wasn't, we wouldn't be able to set the wineglass down. We would lay aside the newspaper because it made us feel unsteady just to look at - and few of us have Dramamine delivered with the newspaper.

However limited our visual educations, we are generally astute enough to see when something is wrong with a design. And typically, imbalance is the first problem we'll spot.

Balance

Of all the principles of design, balance is probably the most obvious and understandable to us. If you've ever felt a small fishing boat or canoe adjust to your weight shift when you reached for the worms, you have a working knowledge of balance and what it entails.
Balance involves equalizing the weight on one side of a vertical axis with the weight on the opposite side of that axis. Actually, you know that instinctively, because standing or walking involves equalizing your weight distribution. If you're carrying something that's heavier to one side, you have to either adjust that weight arrangement or adjust your position. Otherwise, you'll end up on your back. That same simplicity applies to design.

There are two approaches to balance. The symmetrical approach tends to be more ordered, simple and formal. The asymmetrical approach, also carefully ordered, is complex, yet informal. Either can be balanced - just as you may balance three packages squared up beneath your chin, or offset two lighter bundles in one arm with a heavier box under your other.

Symmetry is easier to work. Formal balance lines up all the elements so that when they're split vertically, each is distributed evenly to either side. What's to the left is equal to what's to the right. Everything - the typographical areas and visuals - is centered. A symmetrical layout, when blurred or abstracted, has a Rorschach look to it. One side mirrors the form or general shape of the other.

Symmetry also brings formality to the design. It solves the tightrope problem of balance in a rigid, structured fashion. Which is to say that the symmetry organizes the design by whacking each part in half, and arranging those halved portions appropriately. Although this provides a kind of basic structure for another design principle - namely, unity - it may limit yet another - proportion - because it halves the format and freezes the spatial dynamic, because the amount of space is equal. Consequently, neither is dominant or subservient and the halved areas deaden the space.

Normally, when we think of balance, bilateral symmetry comes to mind, where the left or top parts of a design equal the right or bottom portions. But symmetry may also be radial. Its uniformity radiates from a central point outward. The symmetrical approach may also be derived from pattern instead of a vertical or horizontal split, employing a specific shape or configuration that repeats itself horizontally or vertically. Regardless of approach, all produce an ordered form of balance.
Symmetry has its advantages. To begin with, it's difficult to mess up when you're only juggling one ball. So long as you keep everything centered and squarely balanced, you can't go wrong or lose the stability of a layout. Furthermore, symmetry may furnish the precision appropriate to a conservative or traditional audience or a particular intent or image. Again, both intention and audience should weigh into your design overture.

On the other hand, asymmetry brings variety, tension, movement, surprise and informality to a page's architecture. It's one thing to hang all the visual elements evenly down the spine of a design. It's another to begin the drama and spectacle of balancing elements independently of one another. It involves the juggling of more than one ball - it's like tossing balls, clubs, sharp-edged objects and flaming beartraps. Obviously, working asymmetrically involves a certain degree of risk and requires a full understanding of optical weight.

Optical weight is a system of visual measure that establishes relative heaviness of an element, depending upon its position, size, shape, value, color and tonality. For example, large things weigh more than smaller ones, optically; odd shapes - due to their unusual configuration - are heavier than regular shapes; darker areas carry more visual mass than light areas; color has more heft than black and white; and darker colors tend to be weightier than lighter ones, while bright colors usually outweigh flat hues.

Asymmetry generates visual tension and excitement through its playful or complex balancing of visual mass. It may suggest motion or a casual feeling to a design by seesawing different shapes, colors, sizes and tonalities. For instance, you can counterbalance something large and gray with a smaller dark area farther from the vertical axis, or vice versa. You'll soon notice that where something is located on that axis strongly affects balance. The closer the visual element is positioned to the axis, the less its visual mass or weight effect.

Since you already understand how real weight is distributed, learning optical weight and applying it to your asymmetrical layouts should come quickly. As in everything, practice makes perfect. You increase your applied understanding of informal (and formal) design by doing it - and by paying close structural attention to whatever you put your eyes on. From now on, you should be thinking about
design when you're not thinking about design. Treat all publications as your supplemental texts. When you open a newspaper, magazine, or direct-mail piece, note its design particulars. Figure out why a page, poster or advertisement was planned and assembled as you see it. How do formality and informality reflect its intent, audience and medium?

Both formal and informal balance have their place in design. The former can be predictable and direct. The latter tends to be more dynamic and active, adding variation and contrast to a design. And although it may seem to possess an offhand quality, it is probably even more carefully planned, plotted and organized than its formal counterpart.
Proportion

Proportion is the spatial relationship that exists between design parts. It is a comparison of related components that examines how one element's area, size, line, weight, shape or location relate to another.

Everything we see is experienced by comparison. When we're asked to describe or identify someone or something, we use proportional visual connections. We measure everything against our inner visual yardsticks: darker, taller, broader, thinner, wider, greener, more beautiful than something else.

Our eyes note proportion involuntarily. Fortunately for us, our vision constantly relays proportional information that's crucial to comprehending our environment. The most basic spatial information we derive from proportion helps us survive. Without proportional savvy, we'd be nervous wrecks trying to make out the size and scale of our surroundings. We wouldn't be able to determine when it was safe to cross the street, or how far away a speeding truck might be.

Proportion also shows us what is important, dominant or subordinate in a layout or visual arrangement. Think about what stops you in your tracks, or how you make special note of what's around you. Our eyes are steered to bigger parts, brighter colors, unusual perspectives and whatever appears larger than life to us. That's why communicators often use disproportion as an attention-getting design tactic. Volkswagen was especially successful with a campaign that focused upon - among other things - disproportion as understatement. More often than not, though, disproportion is accomplished through overstatement.

We know that halved space has a frozen look. It's static and boring, lacking the energy and spatial dynamic that unequal areas bring to a design. This was noted long ago. Over the years, some thinkers have seriously sought theoretical and mathematical solutions to the problem of proportion.

One of these thinkers was Pythagoras, a Greek philosopher who is credited with creating the Golden Mean or Golden Section. Pythagoras suggested that in the proportional segmentation of a line the relationship of the small section of a line to its larger segment would equal the ratio of the large segment to the entire line. This concept was integrated into mathematics and geometry, and was literally used as the cornerstone for much of Greek architecture, as well as for Hellenic sculpture and painting. It is carried on still today throughout the realm of design.
Ground Thirds is lesser known and less scientific, but is a very practical law of proportion. It suggests that to provide a more dynamic ratio to your space, you divide it into one-third: two-third sections. It's remarkable just how often this spatial arrangement turns up in newsletters, advertisements, magazines, posters, other collateral publications and throughout the fine arts.

Visually, a halved format suggests little beyond the idea that the area of one half is exactly the same as its counterpart. It does nothing to suggest scale or spatial relationships. When area is evenly split, it doesn't establish largeness or dominance, smallness or subordinance of any one design component.

Avoiding an equally sectioned arrangement improves a design's proportion and emphasis dramatically. However, halved space may be effectively utilized to create symmetry, to supply a muted sort of straitjacket conformity, or to emphasize the "dead zone" appropriately. If you want to be deliberately monotonous, dividing the space in two will help achieve a static feeling by freezing any movement - and squelching any kind of proportional variety.

This brings us back to the question of formality. Evenly spaced divisions (twos, fours, sixes, etc.) tend to be formal, and lend themselves to a fixed, symmetrical look. Odd divisions - one-third/two-thirds or one-fifth/four-fifths - are more dynamic spatially. Furthermore, they bring variety, energy, excitement and informality to their arrangements. Again, your choice should consciously tailor your design to your audience and your intent.

Design is an open-ended proposition. There is no perfect solution or best way to solve the problem at hand. Hundreds of equally creative and effective solutions to a visual problem exist, and each of them may be developed by employing the same design concepts and concerns. But that is the beauty of design. It's also the reason why a good grasp of design's basic tenets will afford you the understanding, vocabulary, syntax and composition necessary to fix an existing design or to create a new one.

Sequence

Sequence refers to visual direction, or how the eye of the reader flows through a page. Normally, the occidental eye runs left to right, top to bottom.

Certainly, it is how we read the written word. What may have never struck
you as noteworthy, however, is how most publications order their designs. Typically, what we find is this:

- Headlines tend to sit atop copy blocks in most forms of printed material, including advertisements, newspapers, magazines, posters and newsletters. There are exceptions, but we'll note reasoning for those differences later.

- Copy follows heads or headlines, fleshing out their shout or calling attention to the gist of the story, message or pitch.

- Important stories or message parts sit higher than less important ones.

- The left side of a design (depending on whether it's a left- or right-hand page) has priority over its right counterpart. If you don't buy this, examine a typical newspaper or magazine page, and note what news goes where. Or, better yet, look closely at how advertising is positioned on a magazine page. Normally, the far left column on a left-hand page is a prime location for advertising - and, more often than not, the far right of the right-hand page runs a close second.

- Everything has a general flow. Visuals - photography, illustration, artwork, graphics and informational graphics - typically follow the same pattern. With some exceptions, the best stuff sits high and left, the least important low and right.

- Optical weight can yank our visual patterns around. And very often a designer utilizes color, isolation, larger sizes, oddly shaped configurations, exaggerated formats or other such visual strategies to redirect our visual patterns.

Sequence is central to design as both a principle and strategy because it can carefully and correctly route the vision of your audience through the ideas, story, pitch or information on your page.

In any campaign - be it directing an African safari, or directing the marketing and advertising of African safaris - it is imperative that we're familiar with and understand the nature of the beast we're stalking. Make no mistake. We have basic visual patterns, tendencies, strengths, weaknesses and idiosyncrasies. Without a doubt, we are visually bent and have specific preferences, some of which have been noted, however briefly, earlier.

So, not directing your reader is misdirecting your reader.

Some researchers contend that we read pictorial communications differently from written communications. They suggest that our vision enters pictorial
information from the lower left corner, makes an upward diagonal run to the right, cuts left and then sweeps in a Z-like motion downward. Most agree that we are visually predisposed to the lower left area, and that in most instances our vision exits from the lower right corner.

Normally, the visual exit point of almost any layout is its lower right corner. A quick glance through any publication shows that "signatures" or logotypes are positioned in the lower right corner of an advertising layout nine times out of ten. This is the advertiser's final opportunity to reinforce brand image, to "sign off" or otherwise provide a parting shot.

As a designer, you are responsible for controlling not only where your audience looks but how it tracks what you've visually ordered. In order to steer that visual traffic, remember that your audience reads the written word left to right and top to bottom and that its usual reading patterns may be redirected or maneuvered through visual shortcuts via principles of optical weight.

Remember the formal and informal considerations that exist concerning sequence. For the most part, we read top to bottom and left to right. That constitutes a normal or more formal readout. We read a layout more informally when optical weight reroutes our usual visual inclinations. Size, color, perspective, imbalance, angle, disproportion, darkness, shape, predictability and both positioning and posturing may redirect our vision, turning it away from its predisposed routing.

How the eye travels through the page is crucial to ordering any message. If you, as designer, writer or communicator, make bad ordering decisions about your design sequence, you'll short-circuit the information. No matter how thoroughly researched, cleverly or clearly written, dramatically illustrated and properly positioned that information is, a bad design sequence will make it only a holler in the dark.

Lost. A pitiful waste of your time.

Imagine a film without a director. A shootist without a target. A flight without a destination. Or an expedition without a compass. You'd be surprised at how often both sequence and audience direction is taken for granted - and astonished at the horrible rate of communication derailment that occurs because of bad visual sequencing.

Figure 2.12
Emphasis

Every design needs a focus. One element should dominate to create a fixation point on the page, advertisement, poster or cover. Confusion sets in when readers are confronted with a layout lacking emphasis, or contrast, a term some publications professionals prefer. However named, it makes the same point. Something needs to stand out.

Without a focal point, our eyes go into a holding pattern. But not for long. Because, for the most part, we possess very limited visual patience. If our vision encounters any barrier - illegible type, too much copy, visual disorganization, ambiguity, an overly gray page or a design lacking visual opposition or clear direction - we'll overlook it. Without a clear, inviting place to land, vision quickly moves on. Like it or not, our eyes make snap judgments and tend to be visually unforgiving. And, as all designers understand, if you make the audience hesitate, you're likely to lose the majority of it.

The point is this: have a point. And make it visually apparent.

The contrast or emphasis of your design acts as a bull's-eye of sorts. It provides a quick and obvious target to the audience, grabbing its attention, relating important information and establishing the heart of the design. But good visual emphasis also redirects vision through the design's inner composition. For example, good designers will use lines of force - the direction a subject might be looking in a photograph or illustration - or diagonal lines to point your sight in a new direction, steering you through the design to establish connections between important points or elements of the layout itself.

Emphasis should be plotted specifically to attract your target audience. Using something large for the sake of largeness doesn't get it. It's not enough, say, to simply use a large, bad photograph to dominate a page or to arbitrarily provide the design emphasis. If it's a boring or inappropriate photograph, it might get a passing glance. (Or a laugh and a moustache.)

Emphasis may also indicate significance to the reader, literally to show where your priorities lie. A bad or boring photograph sends mixed signals. Size suggests importance, but inappropriate content short-circuits that logic, leaving the audience confused and possibly resentful.
Which is to say that emphasis is more than spatial fodder. It's important that you ask serious questions and make thoughtful decisions about the content, suitability and meaning of what you stress. While emphasis fixes vision and provides a simple and efficient logic to a design, it also suggests something about your sense of priority, import and judgment. And don't allow too much emphasis or contrast to dilute or diffuse the principle's effect. A newsletter or newspaper layout should have one dominant visual area, not two, three or ten.

There are a number of ways to obtain emphasis. Optical weight furnishes immediate and typical strategies, size, darkness, color, location and contrast tend to dominate a visual field. But there are other tactics.

- **Isolation** may convey emphasis by contrast, scale, space or detachment. It might employ optical weight, and often uses ground neutrally. (Ground refers to the background or subordinate areas in a design, as opposed to the figure, the dominant or featured shapes.) So, for example, an illustration might employ a stripped-out background, or a photograph might use a black background and foreground. This insulates the visual content from its format, making it stand out from the rest of the layout.

- **Imbalance**, although it borrows from a different design principle, steers visual attention to the tension and lopsidedness of its arrangement. It may provide a kind of visual imposition: a seemingly haphazard visual arrangement in an otherwise balanced and precisely ordered space. That in and of itself is enough to derail the eye from its usual course.

- **Ragged edges, unusual shapes** or **uneven borders** rail against conformity and the uniformity of a page's design. Although our eyes like order, something out of the ordinary, however simple and minimal, may attract attention.

- **Incongruity**, the art of transposition, pulls something out of its normal visual context and juxtaposes it against inappropriate or unsuitable surroundings. Visual incongruity gives us a feeling that "something's wrong with this picture." That a major visual piece of the design puzzle looks out of place is what brings strength and direction to this device.

- **Disproportion** is similar to incongruity, but like imbalance, it also has allegiances to a design principle other than emphasis. It calls attention to itself by disorienting our sense of scale or violating symmetry. Caricature
and political cartoons often employ disproportion to emphasize specific physical characteristics of the subjects rendered.

- **Selective focus** is a compositional device unique to any medium using a lens. Wide aperture settings blur the foreground and background, leaving only what was focused on clear to our vision. It leaves our vision little choice but to lock on the sharp detail of the focused picture area.

  Just as photographers emphasize composition in a portrait by neutralizing backgrounds or using selective focus, designers must produce a focus in the layout that emphasizes or contrasts one of the design's elements.

  Customarily, in newspapers, magazines, posters, print advertising and other publications, the visual dominates. That shouldn't surprise us. Vision was our ancestors' first language, and we still carry their pictorial predisposition and attraction to visual simplicity.
Unity

Like our forebears, we also possess a penchant to see a composition's parts assembled. Gestalt investigations and applied theories have proven that we perceive the people and things around us as wholes before we begin dissecting them into parts. For example, when we look across the table at someone, we don't initially see ears, hair, eyes and other features of the person sitting there; we see and recognize a person. We continually process whatever we see into simple, harmonious wholes. That explains, in large part, why we seek visual order: to make sense of our environment.

Unity refers to the cohesion and overall coherence of a layout's parts, especially as each element relates to the rest. Headlines, copy areas, artwork and perhaps a variety of graphics should fuse, be in harmony, or at the very least be compatible with one another. Most of us sense unity fairly well, regardless of whether we've had formal training in design or visual studies. We bring an intuitive sense to what we see and can usually tell if a design is unified or not.

However, too often these instincts stop short of understanding why unity works. Which is sort of like saying that we realize a vehicle is dysfunctional when smoke pours out from beneath the hood and dash, and the automobile comes to a halt. But we haven't the foggiest notion of why it's on fire - or how to fix it.

Designs can be unified in a multitude of ways. Typically, we resort to the grid and rectangular shaping. Proportion has a lot to do with this. It is no accident that most newspapers, magazines and other publications are rectangular and share similar proportional and design characteristics. That's because proportion serves both aesthetic and functional purposes.

Piet Mondrian, a Dutch painter and the father of the De Stijl movement, studied and worked the rectangular format relentlessly. What is especially interesting was his fascination with the essential relationships between growth, represented as verticality, and stability, or horizontalness. He was intensely occupied with bare-bones design, especially with unity as it relates to proportion and balance. His "perpendicular" paintings fractured rectangles into more rectangles and squares, using evenly stroked horizontal and vertical lines. His proportional studies gave birth to a new sense of modular design that influenced painting, sculpture, architecture and communications. Indeed, the skeletal framework that supports most of the content of today's newspapers (and many magazines and newsletters) is Mondrian-inspired.
But there is more than one way to unify the design cat. Type is a logical, direct and necessary route to unity. Remember, our eyes and brain swim over a composition and order the splash of its parts into a whole, unified design. That compositing linkage, or Gestalt, is impaired by visual distraction, sometimes caused by small things we overlook. One such oversight, overloading the page or layout with too many typefaces, is a common and deadly distraction.

**Parallel structure** is another unifying design tactic. Using symmetry and formal balance, it shapes or sculpts half of a design and mirrors that configuration in the other half. Basically, this is an intra-design scheme, where one side of the design is aligned or matched to the other side. This method of unification has a neck and neck look to it. It is analogous and proportional, and helps our eyes immediately pick up on the corresponding parts to balance and tie them together.

This concurrent arrangement or look can be achieved by aligning columns, shape, typography or other elements. It may occur within a single page layout or in two-page designs, especially in double-truck newspaper advertising and, with magazines, in two-page opening designs and in two-page advertising. Recently, for example, Arrow shirts not only used parallel structure as a two-page unification strategy, but as design continuity for an entire advertising campaign - an award-winning one.

**Grouping** is probably the most common of all the different unifying techniques. Its wont is to show the relatedness of a design's parts by grouping them. This may be accomplished by lassoing a layout's elements with the help of a border. Fencing off one element within a layout clearly segregates it from the others and can effectively separate a story or advertisement from the rest of a page. Rules, lines, screens and tint blocks may be put to use similarly.

**Color** offers a spectrum of unifying options. A color layout on a gray page may provide a designer the perfect unifying solution. And a color page riding amid a sea of black and white pages might merge its elements clearly, while distancing itself from the rest of the publication. Color might also more subtly relate parts by employing a dominant hue from the artwork throughout its design. For example, if a full-color illustration is loaded with purple, maroon and reds, a designer might use a burgundy for all the dropped initial letters, rules, lines and other typographical marks within a two-page magazine design.

Simple color screens or color blocks can unify articles and pages, too. Establishing a connection or interrelatedness between parts, regardless of the unifying element, is what is crucial.
White space can also establish unity. (It often is concurrently employed for emphasis, but affects all the design principles.) Basically a grouping strategy, it accomplishes what borders, lines and blocks succeed in achieving, without roping off or delineating space. Because trapping space is a mortal sin in design, remember to keep white space to the edges. Bear in mind, also, that white space can divide or unify. It is another Winnie the Pooh proposition: what you achieve by using it depends upon how it is used. Just as the concepts of comparison and contrast are connected but opposite, so, too, are the principles of unity and contrast.

Unity, then, pays close attention to proportion. The size, weight and proportional arrangement of one part should relate fittingly to the other parts of a design. Unity also links to balance. A larger, lighter component might be off-balanced by a heavier, though smaller, darker one. And sequence steers vision through a page working independently from the other principles, while also employing optical weight for its own reasons. While contrast - although linked closely to sequence - is its own concept and works toward its end.

Unity links each of these concepts, and using compositional mortar, it bricks them into place. When any one of the principles is altered or moved from within its designed arrangement, it affects the others. Just as a brick pulled from a wall would affect the wall's overall structure.

In many ways, unity provides a common ground for all the design principles, utilizing their concerns while weaving their interrelatedness together.
Elemental Form

Structure can also harness a layout tightly in place through the use of elemental form. Essentially, elemental form orders a page's arrangement using a handful of basic letter shapes.

Despite our familiarity with the alphabet's parts, we seldom recognize its compositional scaffolding. In many ways, it's a forest from the trees conundrum. But letters use line as the basic language of design blueprints. Letters also bring an inherent sort of beauty and formal regularity to any composition. The strength of using a letter-shape organizational approach is this: the audience seldom recognizes the presence or shape of any letter, but does feel its underlying order.

Elemental form is used in publications design, photography and all of the fine arts. It can structure the visual elements within your page, or it may be used to compose each element separately. For example, you can use elemental form to plan a magazine page layout while you also shape your photographic compositions or other layout components with it. The insightful designer who envisions elemental form throughout a publication often applies it to the arrangement of individual design parts.

Generally, we need more than design principles alone to shape and vary our pages. That is precisely what elemental form brings to design. Understanding how elemental form can add shape and organization to a publication will strengthen what you produce. But understanding its application also requires that you understand linear thought. A student of design must be able to break shape, volume, composition and other design elements into simple lines. A good way to acquaint yourself with the linear thinking of elemental form is to use a marker to black out artwork and graphics on newspaper and magazine pages. The skeletal remains reveal a layout's foundation and the form behind it. This is a good exercise for any beginning designer, because it cuts to the bone of the design and sharpens the eye.

Five letter shapes are normally used; other letter structures you might find are usually variations or combinations of these five. They are L-shape, T-shape, O-shape, /-shape and S-shape or C-shape.
Vertical and horizontal lines dominate our environment. Buildings, streets, electrical poles, furniture, signs and most everything else around us run vertically or perpendicular to level ground. Likewise, vertical and horizontal lines dominate the outer and inner structure of publications. These arrangements bring order, stability and efficiency to layouts.

Probably the most widely used of the letter forms is the L-shape. It may be used to wrap visual, graphic or copy areas. Often, framing occurs with this letter form, because it encloses the element (or elements) within the design. In doing so, it adds emphasis, calling attention to the dominant design component. L-shape framing provides structure to a composition while delimiting the space around it.

For example, a newsletter may feature a strong photograph on its cover and provide L-shape elemental form by running copy down the left (or right) side of the visual and along the bottom. In establishing these boundaries, you order and divide the space while injecting a hierarchy of visual priorities. Simply by dropping this form into the visual field you've established a framework by firmly supporting the bottom and one side of your design.

This common and effective form may be inverted, flipped, rotated or combined. Because we read left to right and top to bottom, however, it is most commonly found running down the left side and across the base of a layout.
T-Shape

Like the first form, the T-shape is often used to wrap or frame other design elements. A wonted function in this case is to use strong vertical and horizontal lines as edges to mark a boundary between one area and another. With an exaggerated visual, this shape might split a page vertically, or, thrown on its side, break it widthwise. And like the L-shape, it may be inverted, flipped, rotated or combined with itself or other letter forms.

The most common position - an inverted T-shape - is used for everything from classic portraiture to mug shots, from newspaper pages to magazine spreads. The secret lies in thinking lineally. A head shot of any kind reveals an inverted T-shape. In publications and most two-dimensional art, the inverted form is preferred by our eyes because the extensive base anchors the arrangement, providing more stability to designs.

Our eyes have a tendency to connect line endings or dots, just as you did with your connect-the-dots book when you were a child. A line may be real or implied. And, with the T-shape, our eyes often join the three line endings to form a triangle, making triangular composition common to this shape.

Typically, too, when T-shape and triangular composition are positioned in rectangular formats, they tend to hatch out other triangles. Our eyes are enlivened and engaged by this. Vision feasts on repetitious shapes. And triangles intersecting rectangles propagate more triangles, setting up an optical banquet. This further orders the composition and shakes out a visual echo through the diagonal lines and repetitions that are created.

Triangular composition brings strength and excitement to a design. In the case of bridges, buildings and other construction, deltoid girder systems are unsurpassed in their efficiency and rigidity. And the diagonal lines and visual thrust implanted within this three-cornered composition create an exciting spatial dynamic. (More on this on the /-shape.)
More than anything else, the O-shape brings a special symmetry and dignity to a design. Its basic form contributes a unique kind of order, grace, strength and uniformity wherever it appears.

The circle possesses a singular geometry. It is composed of an unending line whose central point is equidistant from any of its outside points, or edge. It is unlike any other shape in its smoothed regularity. And it is central to movement, literally and figuratively. The circle is the geometric passport to technology and the single shape upon which we judge civilization's development.

Just for a moment, think about what this shape represents visually, and how it's been used or is used in our lives. Circular forms have long been used to show continuity, regularity and unity. Coins are still used in financial transactions and suggest value. The circular form of wedding rings symbolizes unity and a special coupling. Halos bring sanctity to whomever is beneath their glowing circle. Bracelets, wreathes, rings, garlands, crowns and necklaces bring their own history, significance and meaning to our lives. Even the semicircle provides a marvelous realization of strength. Arches, too, are a watermark of civilization and early technology.

The circle's special power and unifying architecture allows it to literally encircle design parts or hold elements together by its configuration alone. In addition, the circular form is a common framing device. Its equidistant borders carry unequaled formal symmetry to their designs. Rounded form attracts our vision. We look inside and through it, as we do the windows, portholes and other circular openings from which we view the world. Finally, it is a targeting device. Our eyes go to the circle, the same as the archer's or marksman's do.

Understanding these things, we can use the O-shape as a powerful visual tool in constructing designs that not only look and work well in publications, but are equally pragmatic and useful to message and audience alike.
All pages have thickness, however slight. And many publications, specialty pieces in particular, don textured papers that literally bring depth and shadow to the paper. But the gauge of a page is important not only as a paper selection (which will be discussed later in the printing chapter) but as fabric.

Seldom do we think of our clothing as merely covering. Its fabric and style are tremendously important to us. How will it wear, feel, look, and how will others perceive it? As readers we do more than read; we scan, search, skim and study. We also note and examine texture. When we browse a publication, our eyes get a visual feel of a page from its typography and general look. We also understand this textural familiarity firsthand. Our fingers turn the pages and feel surface to connect visual with tactual. It might be rigid, smooth, frail or rough. Just as we read beyond the word, we read beyond tactual information.

Simply stated, texture affects message. It implies a great deal beyond its physical character. For example, the look and feel of newsprint carries a much different message than does an antique linen. However inside out, this analogy to clothing is fitting and appropriate to the point made. Namely, that publication space means more than a page's length and width.

Although we tend to design and use pages one at a time, they do not, in fact, exist separately. A single page does not exist in a vacuum. It is affected by adjacent pages. More protracted, every page is part of a sequence. The cover, table of contents, articles and successive pages of newsletters, magazines, annual reports and other publications string together as a whole.

But publications have depth in still another way and should not be thought of only as vertical designs. Instead, think of articles as a series of pages that flow into your publication. They have a special kind of mass and thickness, and they should be planned start-to-finish as a unit. Previsualize horizontally, adjust and
fit them to their allotted depth. If you can imagine your pages spread out horizontally from start to finish, you get a more realistic sense of a publication's depth and flow and will likely avoid a great deal of the fragmentation that often occurs from myopic design.
Time

Time - one of our most valuable resources - figures into the readout in several ways as well. It takes time to read and make sense of the words and graphics that compose our messages. Streamlining that temporal effort is mutually beneficial.

Normally, your readers run a crash course through a publication. They may steer their way through it in any number of ways. They might go directly to the table of contents to select the pieces most interesting to them, quickly flip through the pages or begin their read in the middle or from the back. Often, too, readers hop back and forth, perhaps referring to a statistical chart to better understand some numbers or to examine a photograph to flesh out a name. You can't orchestrate these idiosyncrasies, but you can eliminate bottlenecks and reduce reader frustration.

In any case, time is a very real publication dimension. Sadly, however, its importance is overlooked. In today's brisk, distracting and preoccupied world, providing a quick, lucid and logical read is central to any effective communication. Why waste the audience's time and energy by erecting unnecessary barriers that encumber a thorough read?

What follows is an incomplete but basic list of tactics that can help you conserve your readers' time and effort.

- Place the table of contents as close to the cover as possible. Try not to position it beyond the first three inside pages. Have you ever caught yourself rummaging through a publication looking for the contents page? It's infuriating. Burying such an important page may cause the reader to lay your publication to rest.

- Put departments, columns or regular features in the same place each issue. Columns and regular features develop strong followings. Varying their location forces an unnecessary search.

- Once you've established a design look, stand by it. Changing designs, however minimal, confuses the reader. Never buy into any design commitment without a thorough examination of your audience, current
design, redesign and reasons for changing.

• Properly align visually supportive elements on the same page as its text citation - or an adjacent facing page - so your reader doesn't have to search for them. For instance, place a photo or pie chart on the same page as its initial reference. Of course this isn’t always possible, but when you design horizontally (by spreading out all of an article's pages in front of you) rather than vertically (by planning one page at a time as you go) you can avoid the fragmentation that occurs due to shabby alignment.

• Eliminate or minimize jumps. As much as possible, keep articles, departments and sections intact, start to finish. Readers hate being referred elsewhere to finish a story. Putting jumped articles in a particular place on a page helps, as does putting all the jumped items on the same page.

• Show unity throughout a spread. If there's any doubt in your mind whether a piece is unified or that two pages connect, be assured that your readers will be confused.

• Establish a stylebook and stick to it. Fixed typographic guidelines bring order and unity to a publication. Copy, headlines, subheads, captions, crossheads, pull-outs and other type styles need to be consistent. Varying them can lead to chaos.

  Readers carry recall of what they've already read and seen to subsequent pages - and issues, for that matter. So, along with a present, your audience brings an immediate past and a future to the publication. But, with that memory, they bring expectations.

  Figure 2.34

  We are all creatures of habit. Keeping that in mind, take note that your audience seeks creature comforts. Making sure they stay comfortable means keeping the design simple, consistent, clear and uncluttered. It's likely, too, it will mean keeping your audience as well.
White Space

White space - that area not taken up by visual or typographical elements - is an integral part of any design. Too often, though, it is incorporated into a layout by accident. It is not uncommon for a non-designer to fit the headlines across the layout, figure and place the copy and visuals into the page and attempt to symmetrize whatever space remains. Worse yet, that same person is likely to jam something else into that open area.

That's not passive use of white space. It's downright antagonistic.

Using white space creatively means considering its presence in a design before and while fitting the other elements into place. Think of your design elements in terms of page color; headlines are black, copy gray and white space white. Each is integral to the design; although they are distinct from one another, they have a lot in common. All three should work to make the design efficient, attractive and functional. Thinking of white space as surplus area, or residual space that needs a last minute reshuffling, is misusing a major design element.

White space can be utilized to provide a resting place for the reader's eyes. Indeed, inserting additional space between an article's major divisions (or providing extra space between paragraphs in an ad's copy blocks) opens the layout and breaks up the gray quality of copy-heavy pages.

White space contributes to the open look of a publication. Cramming doesn't get more on to the page. It gets more readers off the page. When an audience is confronted with elements that have been jammed together, a kind of visual claustrophobia sets in and we beat a hasty retreat. Openness contributes immensely to a good read. Next time you're paging through any publication, note how white space draws your vision.

Providing a contrast to the gray or color that abounds within all publications is a good tactic. White space works closely with the design principles of contrast and emphasis because of its propensity to isolate. To make an island of any element in a sea of white space is to give it notability.

White space is also an unobtrusive organizer. Most publications use white space to connect pages, separate items and show what belongs together. By its junctions and demarcations it shows what goes with what and what
doesn't quickly, gracefully and economically.

Changing horses midstream is no easy maneuver, but white space can help you drop a horizontal module into a vertically designed page. It can echo shape and contrast linear direction by providing an extra margin of white around the horizontal layout to make it stand out against the overall up-and-down feel of the page.

By increasing the white space within a design, you can suggest a feel of affluence, high image, quality and luxury. Generous use of white space as a separate element does this by itself, but there are lots of variations. Some quality products that play to prosperous audiences may increase the leading (or spacing between lines) in their copy. The same may be done with margins. (Next time you're browsing in an art gallery, notice how mats work as inner framing. Or, for that matter, pick up a magazine that is narrowly targeted at the affluent to learn a real lesson in using white space to this end.)

In many ways, we associate extensive space in advertising with wealth, and cramped designs with a lack of it. Applying that notion to design is natural. It's hard to imagine a millionaire scrutinizing the classifieds or busy appliance or grocery sales pages. Compare those jammed formats to a Nieman-Marcus, Bonwit Teller or Marshall Field's magazine advertisement.

White space unifies pages and inner elements, and where used appropriately, it can be the most cost-effective visual element. With white space, there are no extra charges for graphic marks, photography, overprinting or color. It is efficient, clean, clear and cheap.

Order the white space geometrically. Typically, it is best to work in neat, rectangular shapes, because that configuration echoes the shape of the layout itself. Other shapes work, but aren't as universally applicable. Readers mustn't think the empty area was an oversight, or that a halftone was lost somewhere on the way to the printer. When you've clearly indicated the space, it's likely that it won't be misread. Remember that it also affects balance, unity and proportion.

Keep the area open to the edge, which is to say, don't trap white space within the design's layout. Trapped white space attracts attention, but to no end. It is a dysfunctional use of space.

A disproportionate amount of white space surrounding an illustration or stripped out photograph is likely to give the visual a floating look. Normally, it's a good idea to stabilize the artwork somehow. Connecting it to a horizontal base, giving it a shadow or filling in a background helps anchor the visual and eliminates that hovering look.

Unity is still another principle that often works with white space. And it does
so without the use of tint blocks, borders or rules. Indeed, it is probably the most common tactic used to unify magazine advertising - the borderless border.

Remember that margins, too, are created from white space. But it is outer white space, because it marks a boundary between the inner design area and three-dimensional space. It unpretentiously edges all publications by framing the content. (Content is also known as "type page" or "live matter.") It’s important to keep inside margins wide enough not to interfere with binding, folding or reading. Top margins ought to be a minimum of a quarter inch, but may be as deep as you like. Being stingy with the top margin may jam more copy into a page but isn’t necessarily design-smart. A glutted page discourages readership. The same holds true for outside and bottom margins, although lower ones are generally deeper.

The progressive margin formula proposes that the inside or gutter margins are smallest, the top one slightly larger, the outside margin larger yet and the bottom one largest of all. Progressive margins are more attractive and proportionally pleasing than standard versions. This approach works for all publications. Note, also, that there is no one way to execute margins and that designers take great liberty with white space where margins are concerned.

Generous margins will give a design better proportion. Generally, the more open the page, the more inviting it is. Liberal use of white space suggests high quality - that your product, service or message is special or unique. Think of the outside margin as a picture frame that showcases the message.

As margins collapse inward, reading becomes more laborious. Trim the margins off any publication to the copy's edge and try to read the page. You'll discover that reading becomes awkward and troublesome. Margins help us track correctly from line to line as we read. Severely restricting them atrophies readout. This teaches a final and invaluable lesson about actively employing space within the design - one that speaks as much to function and readability as it does to design and aesthetics.

White space is one color available to you from your designer's palette. However minimal and basic it might seem, its application requires a skilled hand and an insightful eye. Think of white space as an element to shape the rest of the design, rather than being shaped by it. Use it actively. Not actively using it is a mistake. Misusing it might be disastrous.
Grids And Modular Layout

Simply defined, a **grid** is the subdivision of a space into horizontal and vertical modules. Actually, layout sheets are grids of sorts. In a true grid, however, each module echoes the rectangular layout's format, deftly ordering the design in other, smaller rectangles. It is a design strategy prevalent among contemporary newspapers, magazines, advertising and corporate publications. This modular approach to design is Mondrian-inspired. Essentially, his work was a form of geometric abstraction based on the grid, perhaps inspired by the rectangular divisions of the farms and canals on the flat lowlands of Holland. Mondrian's grid brings a stripped-down architectural framework to publications. It provides a precise geometry that is capable of neatly packing larger design space while it packages the rectangular design parts within. It brings order, simplicity and variety to a layout.

**Counterchange** is a tactic that alternates units and their alignments within the grid. Like Mondrian's paintings and most newspaper pages, counterchange involves all the design principles, but especially those of balance and proportion. For instance, a photograph is squarely balanced by a caption and two columns of copy below; it makes an individually grided unit that interacts with other articles, visuals and combination copy and graphic packages plotted within the overall grid. Or a large gray area is counterweighted optically by a smaller, dark or color area. Obviously, optical weight plays a significant part in working gridded layouts.

A grid possesses an infinite variety of possibilities, but maintains Spartan simplicity by arranging only rectangular components inside the master rectangle. In some ways, it reduces design to blueprinting a series of different sized boxes within a given space. Some criticize the grid because it constrains the designer or forces boxed rigidity. Nonetheless, the grid is important for a number of reasons.

- It provides an efficient tool for shaping design space. Because it offers incredible variety, the grid is one of the most functional design devices.
Column widths may be altered. Both vertical and horizontal components (or a combination thereof) are easily accommodated. And there is no end to how the modules within the grid may be shaped and sized.

- A grid can quickly organize the whole of a page or individual page parts. A logical readout is established by ordering content through the grid's economical use of space. The audience is comfortable with modular design and moves through it adroitly because optical weight plots a clear course or sequence for them.

- The overall look of modular design is clean. It's pleasing to the eye because of the intrinsic order it brings to any page. Its geometry instills simplicity, and the straight lines used to create that geometric continuity help border, frame and highlight the text and visuals.

- Orderly subdivision makes designing easier. Sometimes, the obvious escapes us. But for a moment, think of the grid as a sort of publications silverware tray. Modular designs define your space and subdivide it cleanly into cloned parts, as it were. In doing so, it provides a quick patchwork pattern of repetitions, clarity, harmony and asymmetry. Opening a drawer of disorganized spoons, knives, forks and other utensils is discouraging; the silverware tray makes ordering and using the silverware easy. What the case does for tableware, the grid does for design. The reader is able to see immediately what is important and what isn't and doesn't have to read everything to make a fair judgment.

- The grid provides a flexible format. Copy can be quickly edited or fitted into modules; photographs and graphics can be stretched or cropped to fit holes left for them. Grid areas might even be transposed to handle edits. An entire layout can be carefully predetermined but easily adjusted to fit a late-breaking article, last-minute addition or deletion.

- Grids are especially functional for blocking lengthy copy areas. Blocking, using white space as a border to separate or unite elements, is quite common in modular design. It allows the gridded arrangement to be even more finely tuned.

  Used correctly, grids can offer a quick fix for a design. A layout disaster can be sculpted into an orderly collection of information in short order. Modules also enhance the look of a page while offering limitless variety in a layout's structure.

  All of the other design principles addressed in this chapter work easily within the grid for a number of reasons. First, the outer edge of the grid tends to unify a layout. Secondly, because the rectangular fracturing of space forces the
designer to deal with proportions and balance, they are worked out early in a kind of design by process. Third, by ordering the space and making size determinations you are, in effect, showing emphasis and contrast within the design. Finally, for the same reasons outlined in the third point, you give a visual sequence to the information. For example, the largest module on a page is likely to grab the audience's initial look, a somewhat smaller photo area may be the second strongest visual point and so on. Bringing order, aesthetics and function to a layout is what design is about. Grids help do just that.
Chapter 3 Typography
Part A: Basics

With thousands of faces to choose from, selecting typefaces for a newsletter, annual report, print advertisement or direct-mail piece is a monumental task. Now that desktop publishing has suddenly imposed printer’s responsibilities on those who know little of printing and type, the average person working in communications must acquire a rudimentary understanding of type, its terminology and its organization. Finally, even writers, public relations directors, editors and copywriters find themselves sitting in front of computers and linked up to art directors, makeup departments, designers and printers. All of them need to understand typography and how to "spec" type.
Type Anatomy

In order to understand type and distinguish between typefaces, it is necessary to know something about a letter's anatomy. Figures 3.1 to 3.4 provide a quick but thorough dissection of letter structure. The following list of terms supplement the diagrams and will help you flesh out the concepts and definitions.

Ascender

The stroke of any lowercase letter that extends above the x-height or mean line, for example, b, d, f, h, k, l, t.

Axis

An imaginary line that bisects the rounded portion of a letter. The axis in some lowercase letters (typically, o) can help determine if a roman typeface is old-style. Modern and transitional roman typefaces have a vertical axis, while old-style types slope slightly to the left.

Baseline

An imaginary line upon which the letters rest.

Bracket

That curved or diagonal area between the serif and the stem of a letter. Some like the strength, extra support or pinched styling that brackets bring to serifs. Brackets are generally found on old-style and transitional roman typefaces.

Counter

The hollow or open area found inside the closed or nearly closed stroke of a letter, as in the B, b, D, d, P, p.

Descender

The vertical or curved stroke of a letter that extends below the baseline, as in g, j, p, q, y.
Face

Many printers and designers use this term interchangeably with typeface or the name of the type being used. It may also refer to the printing surface of type.

Hairline

The thin stroke of a letter, most emphatic in modern roman typefaces.

Italic

A slightly lighter weighted roman that is both pitched right and cursive. Aldus Manutius, a Venetian typographer and writer, designed italic; originally, its purpose was to conserve space. (To a printer anything underscored means put in italic.)

Kerning

Adjusting the spacing between letters in a word to compensate for unequal letterspacing. Some typographers and designers prefer to reshape or compress words by tightening up the spacing between letters, especially in headlines. Sometimes they will kern to touch, that is, tighten the letterspacing until the letters actually touch.

Figure 3.2

Ligature

Two or more letters combined by a common stroke, most common are lower case f combinations, for example, ff, fi. Actually, today’s w was originally a ligature. At one time the letter u was formed as a present day v, the ligature of two together formed a double-u - or w. Ligatures vary from typeface to typeface.

Figure 3.3

Logotype

Two or more unjoined letters on the same type body, such as Ta, Te, To, Va, Vo. To compensate for unequal spacing between the letters, a typographer/designer adjusts the spacing appropriately and places the two letters on the same type body. Don't confuse this with business or corporate logotypes. (See kerning.)

Figure 3.4
Mean line

An imaginary line that runs parallel to the baseline atop the x-height of lowercase letters. Mean line is sometimes referred to as waist line.

Serif

The beginning or finishing stroke drawn at a right angle or diagonally across the arm or stem of a letter. The many serif variations include beaked serif, hooked serif, wedge serif, etc.

Slab serif

A square-cornered serif, often used interchangeably with square serif or Egyptian, referring to that race or group of type.

Stem

Any full-length diagonal or vertical stroke of a letter.

Walking serif

Those serifs on the base of a letter, or any serif on the baseline; so named because they look like feet.

X-height

The height of those lowercase letters that fit between the mean line (or waist line) and baseline; those lowercase letters without ascenders or descenders - a, c, e, m, n, o, r, s, u, v, w, x, z.

Understanding these terms and being able to dissect letters into individual parts will facilitate your understanding of typography and help you distinguish typefaces. In addition, it will improve your communication with printers and designers.
Categorizing Type

Scholars of typography and designers often differ on how type should be organized and categorized. What is important, regardless of how you sort and divide races of type, is that you have some understanding of how typefaces are grouped, how they relate and how they are different from one another. A race or group of type is a broad typographical categorization comprised of many different families that share common characteristics. Family refers to a specific typeface and all of its variations. Font is often misused in some typesetting and computer programs; often it is used interchangeably, but incorrectly with typeface. Font is the complete assortment of letters, numerals, punctuation marks and other characters of a specific family at a given point size. That may be very important if you need accented letters, special characters or graphic marks. On the other hand, a type series is the range of sizes available for a given type.

Type can be divided into six different races or groups: black letter, roman, square serif, sans serif, script and cursive, and miscellaneous or novelty type.
Black Letter or Text

Black letter takes its name from its heavy-handed style. Originally, it was boldly penned by cloistered monks and scholars; cloistered because they were hiding our written connections to antiquity, history and all of the arts and sciences from hordes of barbarian invaders. Black letter type is also referred to as Gothic, synonymous with rude or barbaric. The name is derived from the Goths, the Germanic tribe who overran the Roman Empire’s northern borders. It is also often designated text, an especially appropriate term for a type that was copied directly from monastic inscription.

Because black letter borrows directly from medieval calligraphy, it is loaded with dark, oblique strokes and illegible ligatures that appear foreign to our eyes. There really are few uses for this type race, and what few applications that persist are largely pretentious. It's found atop the newspaper front page as a flag or nameplate, on diplomas, wedding invitations and graduation announcements and some heavy metal album covers. If you must use black letter type, don't use it all uppercase. It's difficult enough to read in upper and lowercase, all capitals makes it impossible.
Roman

Of all the races, the romans are most familiar. Their two most obvious characteristics are that they have serifs and the thick and thin letter strokes. Many feel that serifs better shape words and link letters. But one thing is certain: they are the overwhelming choice of most editors and designers as a copy face and are used for text in most magazines, newspapers, books and corporate publications. But romans are equally popular as a display type. Many use the term serif interchangeably with roman. ("Roman" also may refer to an upright letter posture.)

There are a number of ways to organize roman type.
Old-Style Romans

Type designers of southern Europe disdained the cryptic look and heavy angles of black letter, and stripped away most of the ponderous affectations. They eliminated the dark, somber letter quality by thinning the strokes, straightening letter stems and smoothing out the hard angles. As they uncluttered the black letter type, they opened up and widened its letters, using pointed, bracketed serifs and flattening the bottoms of the walking serifs. They also returned to the classic roman style. What they did keep that the original romans lacked were the arabic numerals and lowercase letters, at least in their stripped-down version.

In contrast to black letter type, old-style roman letters have high readability, as well as strength and elegance. They bring good typographic color and texture to a page. The thick and thin strokes are not especially pronounced in the old-style romans. Old-style serifs tend to be hooked by brackets that brace or fasten serifs to the stem of the main strokes of the letter. Their bracket-like appearance makes them look as though they’ve been pinched. Another characteristic is that often the axis of the rounded letters tends to slope to the left. This quality is only one of a number of structural nuances that make them especially endearing.

This roman comes in formal and informal variations. The informal ones tend to carry more imperfections. Formal old-styles are more rigid (the uppercase T is one giveaway) and tend to have more contrast between the thick and thin strokes. Caslon is an informal and Garamond a formal version of old-style type.

Old-style romans, particularly the informal versions, have a warmth and special charm about them that stems from a number of imperfections - the slanted axis being one - that were integrated into their designs. Remember, the originals weren't cast or cut from metal. They were first brushed on and then carved into stone. So, both the character of the tools and their makers were transferred to the type when the designers cut the letters.

Not all of the old-style romans were created in fourteenth and fifteenth
centuries. Caslon, for example, was designed by William Caslon in the eighteenth century; Goudy, by Frederic Goudy, in 1915, and others - like Stone Informal, designed by Sumner Stone at Adobe for computer typesetting - very recently.
Transitional Romans

Because transitionals are the trickiest romans to identify, they are often omitted as a separate subdivision of typefaces. As the name implies, these romans represent a type in flux. They tend to share characteristics from the two dominant roman subcategories: bridging old-style and modern.

In general, these faces show a more pronounced contrast between the thick and thin strokes of letter construction. In many instances, the hairline stroke of some old-style typefaces is really a misnomer; and although a top crossing stroke (as in the uppercase T) shows less weight than the vertical stroke, it might be light years from being a hairline.

Some majestic transitional faces make a marvelous marriage of the personal feel of old-style faces and the streamlined, very functional quality of the modern romans.

One such type is Baskerville. It is a face that says quality, grace and function. Its overall color and slim, very elegant serifs make it very inviting. At the same time, the remarkable weight shifts between its thick and thinner strokes make it highly readable. Many quality books are put to page with Baskerville. Indeed, it stands up well to most any publishing job. California, a recently created face, is another beautiful type, which, like most transitional faces, works as effectively for copy as it does display.
Modern Romans

Of all the serifs, **modern romans** show the most contrast between their thick and thin strokes. This is a mixed blessing. At smaller point sizes, the hairline stroke in the letters virtually disappears or, if printed on an absorbent paper such as newsprint, it becomes tattered and uneven at its edges. Letter counters may fill or clot, too - that is, small counters like those of the lowercase a and e in a will fill in with ink when bolded or printed small. In addition to exaggerated stroke contrasts, modern romans have serifs that run perpendicular to the vertical stem(s) of the letter. Modern serifs also have minimal bracing and are neither bracketed nor wedged. The axes of rounded letters are vertical, while straight-lined letter strokes tend to give the letters a stiffer or more rigid appearance.

Modern romans have a uniform look to them. Not a single serif, stroke or stem appears out of place. Because their geometric quality suggests crisp, exact uniformity, they lack the warmth and humanistic touch of the old-style faces. The majority of modern roman faces function better for display purposes, and in bolded or more stylized versions, some make outstanding poster faces. They are attention-getting due to their contemporary or European flair.

The first modern roman was punch-cut in 1775 in France by Firmin Didot. (Didot was also the first type designer to offer *maigre* and *gras* fonts, or the equivalent of today's condensed and expanded types.) Bodoni, created by Giambattista Bodoni, is one of the most popular of the modern roman faces. With its hairline thin strokes and beefy thick strokes, it makes a very dramatic and stylish statement on a page. Bodoni is still a favorite among newspaper designers as a display typeface.

A final note: beware the readability and legibility of the modern Roman. Most make outstanding display faces, but they are a very risky text type.
Some experts contend that **square serifs** should be grouped with the romans because their serifs are a common feature. Others argue that their uniform stroke makes them little more than an embellished sans serif; still other scholars feel they should be grouped with decorative types because they are predominantly used as a display face. Most, however, classify square serifs as a separate race.

Square serifs, which preceded sans serifs and played a hand in the latter's design, were very popular in the nineteenth century; the lettering we see on old Wanted posters and on newspapers, posters and trains from that period stereotype this group.

Square serifs are sometimes called **slab serifs** because of the rectangular shape of their finishing strokes. They are also referred to as **Egyptians**; first, because the letters have a boxy quality reminiscent of Egyptian architecture and a stiffness akin to hieroglyphics; secondly, square serifs were created in the midst of the tremendous British interest in ancient Egyptian culture.

Whatever you call them, square serif faces feature letterforms constructed with equally weighted uniform strokes. (There are some exceptions - Clarendon, for example.) This uniformity gives the type an even texture, affording very little contrast between letters. Minor tapering may occur at the juncture of the stem and bowls, and at different branchings of the stroke, and, of course, the slab or rectangular-shaped serifs.

Because of their squared off serifs, heavy letter stroke and tendency for counters to fill when bolded or run in small point sizes, square serifs don't work well as a body type. Their architecture makes for a clunky read, and they receive low readability scores. However, because their architecture increases their legibility, they are easily seen. This makes them a good display type, especially when used with most romans. They don't mix well with sans serifs.
Sans Serif

As implied by the nomenclature (sans, French for without, serifs), this race does not wear serifs. Of all the races, these are the most geometric; there aren't any serifs to break off the inherent geometry of the letterform. By not having the edges that serifs produce, sans serif letters are more round, as in the uppercase B, C, G, O, Q; more rectangular, as in uppercase, H, N; and more triangular, uppercase V, A. They have a clean look, and they are considered very legible. This also brings austerity to the sans serifs, and a much cooler feeling.

Although most people think of sans serifs as a very contemporary race and associate it with its enormous success in the 1920s and the Bauhaus school, it was an innovation of the nineteenth century. In fact, it was none other than William Caslon, creator of Caslon, a classic old-style roman face, who designed it. Even then it was heralded as a typographic bridge to the future.

Some contend that of all the type designed during the nineteenth century, it is the sans serifs that best reflects that time. Spawned in England during the Industrial Revolution, they seem to have taken on the cold, machined feel of that era. The uniform width of the letter strokes also points to the sameness we so often associate with mass production and makes sans serif the most legible of all the races. (There are a handful of sans serifs that do have thick and thin strokes, Optima, for example, but they are the rare exceptions.)

The jury is still out on whether sans serifs are more readable than romans. Some supporters argue that the eye is a creature of habit, and that because we learn to read with serifs we are predisposed to them. A quick look at newspapers, magazines, books and corporate publications reveals that most editors, designers and publishers side with the serif for body copy.

It should be noted that sans serifs do give a page a flat look. Large areas of body copy set in sans serif lack the typographic texture and color that romans provide and often look gray and monotonous. But this, like other typographic issues, can be a matter of taste. In Europe, for example, grotesques (another name for sans serifs) are the norm for body copy, whereas in the United States, sans serifs are primarily used as a display type.

Today, some sans serifs are very "hot" faces. For example, Futura - often run in a bolded version with tight letterspacing - is enjoying a tremendous revival. It is also considered very stylish to use weighty versions of sans serifs as headlines. They are also used extensively in outdoor posters and billboards.
because of their high legibility.

Incidentally, many designers like to squeeze the letters in sans serif headlines closer together to give words better shaping. Remember, serifs better join letters and shape words. To compensate for this, designers and typographers tightly kern sans serifs, especially when used as a display type in uppercase.

Figure 3.17
Everyday, colloquial writing strongly affected the development of letterform. Lowercase letters, for example, were in large part evolved through freehand efficiency. This led to the development of script and cursive types. Both of these faces resemble handwriting. What distinguishes them from one another is that script faces have connected letters, while cursive letters are generally printed separately.

Cursive and script styles were among the more popular faces from the late 1940s through the 1950s. Today, however, they are seldom used, and neither have much use in publication production. They have little application today because editors, designers, advertisers, publishers and their clientele realize their shortcomings. They have terrible readability - in fact, reading is often slowed to reading single words at a time. Because of this, they have no use as body copy and limited application as a display type. If you must use them as for display purposes, don’t set them all uppercase. Neither script nor cursive were designed to be used to that end.

Although they are sometimes used to simulate a more personal or individual touch within a communication (say, in an endorsement letter in a magazine ad, or in a direct-mail letter), they do just the opposite and are perceived as being contrived, impersonal and fake. Unlike real handwriting, letter strokes and junctures of script types tend to be predictable and uniform in their construction.

There are uses for script and cursive faces, most often with specialty items. Although informality is linked to handwriting, just the opposite is the case with type. Scripts may be appropriately used in wedding invitations, graduation and coming-out announcements, reception cards and the like. Once in a blue moon, a designer finds some other fitting use for them - as dropped-initial letters, for example. But you are best advised to avoid them completely. If you do have a valid reason to use script in a design (perhaps as a handwritten note in print advertising, or as a P.S. in a direct mail letter), hire a calligrapher. Your message will prove much more credible, human and effective.

Cursive letters are not joined. These, too, have a very limited application, though some versions tend to be more readable than script type. It should be noted that a small number of type families have cursive variations. The majority, however, are really misnomers because they are not true cursive. In fact, more often they prove to be a variation of the family’s letterform in a slightly more
affected italic. Remember that while italics are a form of cursive lettering, they are not included in this group. (See the section on style in this chapter for more on italic type.)
Miscellaneous Or Novelty

This category is to typography what the cloaca is to an amphibian: just about the worst of everything seems to end up here.

It is not a true race of type. Most of the faces in this group are orphans, derelicts or outcasts that don't fit anyplace else. They have no real typographical parents and so are the illegitimate offspring of other types. Some faces are made up to sell themselves or as something else. Still others are tasteless. (Imagine, if you will, carving one of the circus faces or a balloon type on your mother's tombstone.) Within this group are collected some of the most outrageous eyesores you could ever envision.

However, there are enough respectable faces here to make this group worth consideration. Some fat faces make respectable poster types when used appropriately. And a handful of ornamental faces spawned from square serifs function extremely well on the sides of locomotives and their tender cars or as logotypes for old-fashioned ice cream parlors. Still other faces perform correctly for the job at hand, regardless of aesthetics or decorum. These faces, in particular, must be used functionally. The majority of novelty faces seldom find daylight beyond a handful of applications, but when used appropriately they may be suitable for retail selling and other tasks. The most important thing is to fit the style and face to your need or your clients' needs.

Miscellaneous is an especially appropriate adjective because this catch-all grouping contains a myriad of miscellaneous types. Its typographic mishmash of typography includes shadow types, embroidered type and both outline and inline type, as well as stencil faces, variants to true faces with ornamental aberrations, cameo faces reversed atop toned backgrounds or patterns and ornamental affectations to suggest practically anything. The common denominators of this group are display, adornment and specialty. With very few exceptions, that is the purpose of miscellaneous and novelty typefaces.
Understanding Further Categorization

The previous section listed and characterized type races or groups. There is a further fracturing of type classification. **Family** refers to a specific typeface and all of its variations. Within each race of type there exist families - that is, all typefaces that share common characteristics. For example, Avant Garde, Futura, Franklin, Helvetica and News Gothic are all sans serif faces. While each is different, they have these characteristics in common: evenly stroked letters, no serifs and a more contemporary look. You, as a student of typography and publication design, could make similar analogies for each type group.

The next inner categorization calls attention to **style**, which varies from family to family. More realistically, it is dependent upon what type foundries or companies make available in each family of type they cut and market. Largely, their choice is based on demand.

Style may offer **condensed**, **expanded**, **extended** and **normal** variations. Style is not a difficult concept, if you understand two things. First of all, style is a fickle business. What is popular and successful today may be doomed tomorrow. We tend to indulge on whatever is new, stylish and socially correct, until we tire of it. Then, we binge on the next "hot" typeface until it, too, becomes abused and a stylistic overdose. Styles generally include weight, posture and italicized versions of the above. Second, styles are dependent upon demand; if there is a high demand for an italicized version of a weight, it is incorporated into that style.

A **series**, the next level, consists of all those sizes that are available to each typeface style. (See **Figure 3.6**) For example, a Garamond family, in its bold italic style, may have these sizes available to it: 6, 7, 8, 9, 10, 11, 12, 14, 18, 24, 30, 36, 48, 60 and 72 point. Those point sizes in that style of Garamond type, a roman face, constitute its series.

**Font**, the last type categorization, refers to the complete assortment of letters, numerals, punctuation marks and other characters of a family at a specific point size, such as Helvetica Bold. Many computer manufacturers, desktop publishing and word processing software companies and professionals use "font" interchangeably with typeface or family. Font is derived from the French **fonte**, which meant to pour a single casting of type, that is, all letters, numerals and punctuation marks at a single size. (See **Figure 3.5**.)
A font's characters are especially important to jobs that might require unusual symbols like accents or other letter marks, mathematical symbols, or graphic marks. Not only do these vary from size to size, they vary from style to style, and family to family.

Figure 3.23

Nothing is a given typographically. Always double-check font when your character needs deviate from normal character selection.
Type Measurement

Printing has two basic units of measurement: the **point** and the **pica**. A point is a printer's unit of measurement. There are 72 points to the inch, six picas to the inch and 12 points to the pica. Type size and leading are measured in points. Column width is generally measured in picas, but the depth of a column is usually measured in inches.

To understand this is to have a hand on the printer's measure. A typical typesetting series comes in these point sizes: 6, 7, 8, 9, 10, 11, 12, 14, 18, 24, 30, 36, 48, 60 and 72 point. In some instances, type is measured slightly smaller - to the agate (5 1/2 point) - or larger (96 point is the next standardized measure beyond 72 point), but it may run even larger. **Body copy** is normally set in 8, 9, 10, 11 or 12 point type. In rare instances it may be set smaller; very seldom is it larger than 14 point. **Display type** is 14 points or larger. Measurement is also used in establishing line spacing dimensions, or **leading**. Other terms common to type measurement include em, en, thin space and unit.

An **em**, generally used to establish indentation, paragraph indentation or other alignment arrangements, is the square of the point size. It's so called because an uppercase *M* was originally as wide as it was tall - hence, the square of its point size - for example, a 12 point letter's em would be 12 points x 12 points. It is often used as standard paragraph indentation.

An **en** is exactly one-half the size of an em. Its derivation is similar to the em; it originated from the width-to-height ratio of the uppercase *N*, because that letter's width was half its height. A 12 point letter's en-width would be six point, or one-half the em-distance. A **thin space** is approximately one-fourth that of an em, while a **unit** is about one-eighteenth of an em.
Readability And Legibility

These two terms are not interchangeable, but unfortunately, many people treat them as though they were. **Readability** refers to the readout of the type or how easily the words read. **Legibility**, on the other hand, relates to visibility, or how seeable the letters are.

Scholars of type have different theories about readability and legibility and why it is that some faces read better than others. Most feel that since our eyes are creatures of habit, we are more comfortable with familiar typefaces and so read them more quickly and efficiently. There are two staunch camps: one preaches that the readability of serifs is superior to that of sans serifs, the other that sans serifs are better.

Roman faces do join, align and shape words better than sans serifs. Walking serifs hint at a baseline of sorts, and align letters and words to one another. If you look closely at the serifs of any roman face, you'll notice that their horizontal reach suggests a juncture between the letters within a word. This is especially true in the beginning and ending strokes of most lowercase and uppercase letters. Serifs also further define the shape of each letter.

In addition, the thick and thin strokes bring more texture and variety to a full page of copy, while the uniform letter strokes of sans serifs tend to be monotonous when used in large areas. (A handful of sans serifs specifically designed to be more readable have thick and thin strokes. Optima is a fine example. (See Figure 3.23.) Finally, there are a lot more roman than sans serif faces to choose from.

But there is a lot to be said for sans serifs. Generally perceived as modern and stylish, they are more legible and easier to see. Style notwithstanding, they are an excellent selection for posters and outdoor media. When your audience is moving, or when the medium itself is moving, legibility is critical. Sans serifs' even letter strokes make them quickly visible. Similarly, they are a popular choice as a display type for the same reasons - good legibility and style.

Remember, the primary function of type is to be read. It is important to mate type properly with your audience, client, medium, and image. For example,
Futura or Helvetica might be perfect for both the display and copy of a technical piece. On the other hand, for a newsletter, annual report or advertisement for a very conservative organization, you're liable to want a formal old-style roman.
Mixing Faces

The easiest and most logical solution is to use one typeface and provide variety by altering its weight, posture and style. For example, you might select a 10-point medium Goudy leaded at 12 with a 26 pica line measure set ragged right. Your captions might follow the same specs but in an italic; your headlines may be set in 24, 30, 36 or 48 point Goudy bold. Remaining with a single family eliminates any possibility that you will lose unity and continuity within a publication. On the other hand, you may want to mix faces. You might run text in roman while running headlines or sidebars in an appropriate sans serif for contrast. Some designers will even integrate heads and subheads. Whatever you decide, make sure the two faces work together and use them consistently throughout the piece. Be aware that you risk exploding typographic unity by improperly mixing faces.

Integrating and mixing typefaces is largely intuitive. Be certain to see the combinations as they would appear together before you make a decision. It's one thing to compare a roman alphabet to a sans serif alphabet in a type catalog. It is another to actually see sample headlines, subheads and copy blocks using that combination. Never choose a face without seeing some examples of sizes, weights, line lengths and other specifics similar to those in your publication 's design.

And don't forget: less is more. The fewer faces you use, the better.
Type Specification

Computer technology has made "specing" type no longer just the editor's or designer's responsibility. People in public relations, business communications and advertising now struggle with typographical decisions, either as the designer of a project, or as the one responsible for approving it. Journalists have taken on the same responsibilities.

Computer software programs force you to choose typefaces, point size, leading, style, weight, posture, line length and line arrangements. Not making decisions about these important nuances is making decisions. And backing into a decision is likely to be catastrophic; it's not easy to wiggle out of typographical parameters once they've been established. By learning the typical type specification basics that follow and understanding the reasoning behind them, you will be able to communicate clearly with production people or specify type by yourself. Included in each specification area, you will find additional remarks.
Type Size

You already understand printer's measure. Type sizes are measured in points, and there are 12 points to a pica and 72 points to an inch. To measure the type's size, you measure from ascender to descender, not the height of the uppercase letter.

**Body copy** is normally set between 6 and 14 point, and most often between 8 and 12 point. (Most newspapers set type between 8 and 10 point, for example.) When you must select a smaller point size, choose a typeface with a large x-height. In fact, it's a good idea to select a typeface with a large x-height for all body copy.

To use the right point size for the job at hand, *think of your audience first*. Understand their predisposition to typography and its nuances. Generally, large x-heights and larger point sizes work better for younger and older audiences. Children who are new to our marvelous system of abstract symbols need larger letters because they are still learning letter sounds in combinations and how to read words; older people appreciate them because as we age our vision deteriorates. Larger point sizes and crisp typefaces help readability for both these audiences.

Moderately larger point sizes may also facilitate a quick read in advertisements, charts, graphs and various information graphics or anything that expects an at-a-glance communication.

Any type 14 points or larger is usually considered **display type**. These bigger sizes are more likely to attract attention, one of the more obvious strategies of headlines. Normally, too, headlines are bolded. Be careful, though. Sometimes you don't want headlines to shout, or you discover that using big type alone is enough to call attention to a title or headline. If you decide to use boldface or any of its heavier variations, be sure to check the counters. A number of typefaces have counters that clot or fill up too much at some point sizes.

Larger point sizes are often needed for reverse blocks. Black backgrounds tend to swallow up white lettering; indeed, some paper stocks, like newsprint, will allow blotting and bleeding to occur. This causes serifs and hairline strokes to become lost or smeared. Using a larger size (or a sans serif face) will make reversed copy more legible.
Leading

The amount of space you allot between lines of type is called **leading**. It derives its name from handset type nomenclature, when printers would literally insert strips of metal (usually lead) between the lines of type. Incidentally, the term is pronounced LED-ing, as in zeppelin.

Proper leading is very important to readability. Most typographers and designers adjust leading from typeface to typeface. These fine-tuned adjustments are usually based upon the size of each face’s x-height. Faces with larger x-heights tend to have short ascenders and descenders, so the space between the mean line and the ascender line and the space between the baseline and descender line are narrow. To brighten the look of a page and make the copy more readable, add more leading. The opposite is true of letters with small x-heights, because there is more space above and below the x-height part of the letters.

Insufficient leading creates a claustrophobic effect. Lines appear to be jammed together, darkening the texture of the page and making it uninviting to the reader. On the other hand, too much leading forces the eye to jump from one line to the next and tires the reader.

A good rule of thumb to figure leading for body copy is to simply add two points to the point size. If you were marking up 10-point type with 12-point leading for a printer, you would write it like this: 10/12. (Point size always precedes the leading figure.) If you’re selected a face with a short x-height, adding one point might suffice: 9/10. **Solid leading** refers to leading that is set the same as the point size of the type: 11/11. **Minus leading** is using line spacing that is less than the point size used: 10/9.

Generally speaking, minus leading is a practice to avoid, but today it is considered to be a very fashionable way to treat advertising headlines and custom heads, especially those with all uppercase letters. Bolded sans serifs that have been tightly kerned and minus leaded bring a sculpted look to a headline. Indeed, these heads have a monolith-like look to them. They suggest strength and power, but they won’t win readability awards. In short doses, however, they can be very effective.
Minus leading is more self-defeating in heads using upper and lowercase letters, though, especially when applied to leggy romans. Here the minus leading causes intersections between the descenders on one line and the ascenders on the line below. Despite poor readability and visual noise, some art directors continue minus leading with downstyle romans. **Downstyle** capitalizes only lead words and proper nouns.

As the length of your line increases, readability decreases. Longer lines make it more difficult for our eyes to track accurately from one line to the next. When reading single-spaced correspondence, you may find yourself reading a line, losing your place, reading the same line over and descending to the next line again. Correct for long line length by increasing the leading. Adding four or five points to the point size usually eliminates the problem.

If you are using any substantial amount of bolded copy, increase its leading as well. Weightier type makes for a darker page and a more difficult read. To air it out some and lighten the page’s texture, add three or four points to the letter size to figure your leading.

Occasionally, designers of corporate publications or advertising like to apply lots of leading over relatively small amounts of copy. This provides a lighter texture to a page, and implies luxury, wealth and good taste. It also suggests that the advertiser can afford to waste space in this manner - but used sensitively that exorbitant amount of leading is anything but wasteful.
Line Length

Because we scan groups of words at a time when we read, it's important to establish line breaks that complement our reading rhythm. Longer lines, especially in any quantity, tire the eye. That's because when we read, our eyes are used to working in an even rhythm, whatever the reading speed. Line lengths can work with or against that rhythm. It is as simple as that.

Long lines stop us midstride, so to speak. They break that rhythm at the end of a line, especially when we stop to hunt out where to pick up that line on the left. The opposite is true of very short lines. They force our eyes to do visual wind sprints that are equally exhausting and very frustrating, because we're continually starting and stopping, and often lose our train of thought.

A number of different formulae can help you arrive at an optimum line length. One formula recommends doubling the point size of your type to determine the number of picas in your line. Using this approach, an 11-point type would suggest a 22-pica line. You can also calculate the measure of your typeface lowercase, a to z, then add exactly half of that measure to arrive at your line measure. Let's say the lowercase a to z measure is 18 picas. Half of that - 9 picas - added to the original length gives you a line length of 27 picas. This same formula states that the minimum line length is the a to z measure itself - 18 picas in this instance - and, the maximum width would be twice that a to z measure, or 36 picas. David Ogilvy in his fine text, Ogilvy on Advertising, suggests that the standard magazine format should employ three columns, each 35-45 characters across. A quick comparison shows that all of these formulae work out to approximately the same length.
There are a number of ways to arrange your copy. The two most logical ways are to set your copy ragged right - that is, flush (or "neat") to the left, save paragraph indentation, and ragged on the right side - or justified, with even line endings so that, excepting paragraph indentation and endings, the left side of the copy is parallel to the right. Less common but sometimes more appropriate are centered lines and copy set flush right. Each has advantages and inherent problems.

**Ragged right** - also known as ***unjustified, flush left or neat left*** copy - is characterized by an even left side and uneven line endings on the right. It is inherently more informal than justified copy. It has other advantages. Letterspacing and word spacing is always consistent and evenly textured because there isn't a specific breaking point for a line. Because letterspacing and word spacing are even, you never end up with gaps of white or rivers of white streaking the type's texture, regardless of how narrow the column measure might be. And it's easy for the reader to track from one line to the next, since the left side of the column is even and the unaligned right side complements a normal tracking rhythm.

Because ragged right text has a haphazard look, it has more of a laid back feel. Most designers and readers react to the loosely structured right side informally. Dr. Mario Garcia, designer and professor of graphic design at Syracuse University and the University of South Florida, suggests that you can tell how seriously a newspaper takes itself by noting if it sets its copy justified or unjustified.

**Ragged left** copy, also known as ***neat right or flush right*** copy, is seldom used as a line arrangement because we have a difficult time reading it. Until recently, ragged left copy was almost never found in publication work. The only place you'd find it was in advertising copy blocks, usually to contour the type along the left side of the visual. Today, however, it is somewhat stylish to run some captions, credits, surprinted cover lines and contoured columns ragged left.

Although readability suffers some, it is all right to use reasonably scant amounts of flush right copy. In fact, the accepted current style for some publications is to run captions to the right or left side of the photographs, setting...
copy ragged left on the left side of the image and ragged right on the right. If you do arrange lines in this fashion, use a little extra leading to help the reader better track from one line to the next. If you have an extensive amount of copy, don't set it flush right. It won't get read - not by much of your audience, anyway.

**Centered** copy has the same disadvantages as its ragged left counterpart - it is difficult for readers to track. However, centered copy in short amounts is accepted practice. The great majority of it is found in advertising, on covers and on rare occasion in captions. It is more readable in very short doses such as headlines or subheads. It is less tolerable in copy blocks, and disastrous in anything exceeding a handful of paragraphs.

**Justified** copy is more formal. Its even right and left sides (discounting paragraph beginnings and endings) are much more rigid. They appear stiff to the eye of the reader and the typesetter. Indeed, they often prove to be a designing and typesetting nightmare where narrow column measures are employed. There are problems inherent in justified line arrangements. Regardless of how sophisticated a spacing and hyphenation program you have built into your typesetting, you're bound to end up with some gapping, uneven letterspacing and inconsistent wordspacing. Narrow columns only make this worse. Horrible gapping, torrential rivers of white, and picket fence letterspacing take away not only the good looks of a design, but, just as importantly, good readability. Any newspaper, large or small, contains examples of each of the problems cited above. Therein lie the shortcomings of justification.

Still, justified copy is considered the proper arrangement for most of our print media. The great majority of books, newspapers, magazines, journals, annual reports, print advertising and other forms of publications set justified copy. Why, you ask, despite the inherent problems and high risks, do editors, designers, publishers and readers seem to favor justified copy? Or, to rephrase the question, is justification justified?

Most everything we see in print has roots to the past. Line arrangements are no exception. The monks and scribes who saved most of our cultural and historical connections to antiquity worked from fairly well-fixed margins. How they put words to page strongly affected early printing technology. What other models did printers have? Also, straight margins to either side helped printers order and align their type, an approach that has continued from Gutenberg's time to today.

*To ensure is greater than to dare; to live out hasty fortune; to be daunted by no difficulty; to keep heart when all have lost it; to go through integrity spotless; to forego even ambition when the end is gained—who can say this is not greatness? Bravery never goes out of fashion.  —William Thackeray*
Justification epitomizes order by tightly aligning columns on both the right and left sides. And, as Mario Garcia points out, justification mirrors how seriously we take ourselves. Most editors, publishers and writers take themselves quite seriously. So, too, do the presidents of corporations, public relations directors and everyone else who communicate through publications.

Finally, we are most comfortable with what we know best, and centuries of use have accustomed us to justified columns. As the old saying goes, "if it works, don't fix it." But because many designers bristle at conforming to the norm, flush left or ragged right copy is slowly becoming more and more accepted in formal and informal situations alike.
Uppercase Vs. Lowercase

When put to the test, we read upper-and lower case type much more efficiently and effectively than we do all uppercase. That's because capital letters tell us one of two things. Either we are looking at a proper noun, or we've reached the end of one sentence and the beginning of the next. Both stop or slow our reading.

Lowercase letters also better shape words. Ascenders and descenders give letters a functional architecture that connects them structurally to their uppercase counterparts, and lets our eyes glide easily over these subtle shifts in letterform. Because it's easier to recognize word shapes, we read quickly.

All uppercase copy blocks space evenly. Variations above the meanline and below the baseline are nonexistent. No distinguishing shape or delicate patterning in their construction makes for a groping sort of read. And, because our eyes aren't used to seeing more than a handful of words written in this fashion, it is difficult to scan any quantity of uppercase copy. In addition, all uppercase letters take up a lot more space. There is much to learn from this.

First of all, never set copy all uppercase. If you must set headlines in uppercase, keep them short, and use short words. Bolded uppercase letters may add power to a headline, but overstatement from bigness, boldness and combinations thereof alienate a reader. You needn't yell to get attention. It is best to use a downstyle approach - capitalize proper nouns and sentence beginnings only. Run everything else lowercase.

Let the words do their job and the typography do its job. Asking both to do the same thing usually results in one getting in the way of the other. Readers pick up on that redundancy quickly.
Weight

Weight refers to the amount of ink or blackness a specific typeface carries. This varies from face to face. For example, one face's regular weight might be considerably heavier than another's. Most faces carry light, medium (or regular) and bold weight variations. However, more variations exist, depending upon available weight within a given face. The more popular a face is, the more weights that face will carry. A quick look at any type catalog will indicate which faces get the most use.

Studies and current practice suggest that regular weight is the most readable. (Sometimes regular weight is referred to as normal or medium weight.) Bolded copy, especially in any quantity, overweights a page. Be sure to closely examine the counters in any bolded weight of a face. Some have a propensity to close up.

A good rule of thumb is to use normal weight for copy. Display type might warrant heavier weights, but be careful not to over-ink. Don't mark copy up and then react to it, after the fact. If there is any question in your mind about how something will look, scrutinize it. Moderation is always best. Light faces, unless employed at very large sizes, tend to be under-inked and fragile. You can't see them. Bold versions of a face tend to say the same thing - only louder. Don't be redundant, know what you are up to.

Examining an alphabet and set of numerals in a type catalog tells you very little about a typeface. Know the weights, sizes, leading, faces, line measures and arrangements firsthand. Run sample galleys of them so you know how they'll look in print.
Posture

Basically, there are three postures, not all of which will always be available to you: roman, oblique and backslanted.

The straight up and down posture is generally referred to as roman. This is where confusion often sets in. In this instance, roman refers specifically to posture, not to serifs or an entire race of type. This posture is also called upright, a very specific and appropriate term.

In the oblique posture the letters are constructed or stroked as normal but pitched slightly to the right. Usually, however, oblique refers specifically to sans serifs. The oblique style is also commonly referred to as forward. Forward positioning should not be confused with italics, which are actually an entirely separate development in typography.

Obliques are often used in headlines or display type, or as a head variation in decks, crossheads, subheads and the like. They might also be used for emphasis in sidebars or special features. Their directional design gives them a sense of urgency or may suggest movement. Unlike italics, their weight and stroke is uniform, and they tend to read well. For that reason their popularity has increased dramatically in recent years.

Very seldom do we even see the third variation in posture, called backslanted or raked due to its letters' backward, to-the-left lean. Because the letter construction is much different from what we're used to seeing, and because its pitch goes against our natural reading flow, it is seldom offered as a letter posture.

Functionally, the normal, upright (or roman) posture is most readable. It is also used ninety-five percent of the time. Obliques can be very effective in smaller amounts to suggest emphasis. Most designers will tell you they've never used backslanted posturing.
**Type Style**

Although there may be some disagreement about what all constitutes type styles or where they fit into typographical organization, most scholars of typography would include condensed, expanded, extended, normal and italics as specific type styles.

**Condensed** type is characterized by slightly smaller, narrower letters. Not a good style to use for body copy, it is best worked in scant amounts. Many designers avoid condensed type because of its reduced readability. **Expanded** type uses wider-than-normal letters. It too is seldom used as a copy face because it takes up a great deal more space. However, it is commonly accepted as a display tactic, especially when a designer is looking to remain within a given family of type. In **extended** type, the letters have been stretched out vertically. Its application is limited, but when a design calls for a type to exaggerate slimness, it might prove a logical choice. Most computer drawing programs can stretch type in this fashion. **Normal** style is the upright, medium weight of type we are most used to seeing. It has high readability and serves many different functions.

**Italic** is sometimes considered a style, sometimes a separate race, sometimes a type entity in and of itself. It is much more than type that is slanted to the right. True italic has a lighter weight, thick and thin strokes, a cursive affectation, serifs and a narrower width than upright letters.

Italic was originally created by Aldus Manutius, publisher, scholar, designer and businessman of fifteenth century Venice. What Manutius did was to integrate the cursive pitch, shaping and some of its ligatures from colloquial writing into a new face that blended both the roman and some of the cursive affectations from everyday writing. And so he conceived a familiar type style that would prove very readable to the educated, and a type that took up substantially less room, which made a great deal of sense to publishers planning to print most of Latin classic literature.

Today, most designers will tell you that italic isn't as readable as normal styled type because it is light, cursive, small and narrow. For the most part, they are correct. It's best to use italics sparingly, only where style dictates. For example, use italics with foreign words, book and magazine titles and the like. Because italic is graceful and fluid, it is tempting to integrate it into one's design. These days, it is also stylish to use italic in captions, credits and other short copy.
blocks. Use them wherever you should be using them, stylistically. But if you intend to incorporate italic into your publication's stylebook, do so understanding its shortcomings. Consider going to a version that is slightly heavier in weight or use a larger point size. However, whatever you do, don't use italic type in reverse blocks, unless the point size is 18 or larger.
As the name implies, \textit{wordspacing} is the amount of space between words. Wordspacing is figured or measured in full and half units and may be set anywhere from very loose (1 + unit) to very tight (minus 1 unit). (Remember, a unit is one-eighth of an em. Wordspacing may be used for a single line or for an entire galley of type. The reasons for its use vary, but the most common one is obvious: to squash a slightly longer story into a smaller space, or to stretch a slightly shorter story into a larger space. Wordspacing is a design tool in itself and may also be used to better isolate words. (To get a better idea of how wordspacing affects the look of your type, see Figure 3.32.)
Letterspacing

Like wordspacing, **letterspacing** uses the unit system to fine-tune spacing distances - the amount of space provided between the letters of a word. This book is set in normal letterspacing, approximately minus one-half unit. Although letterspacing varies from typeface to typeface, this is the most common spacing, at least for *copy*.

Generally speaking, display copy, especially advertising heads, is set much tighter than *copy*. And these days it is considered very stylish to squeeze letters together with minus letterspacing. In the case of downstyle display type, heavy-handed minus letterspacing may make single words ligatures, that is, join or intersect the letter strokes. Especially tight letterspacing, however crowded, knits words and makes heads more distinctive-looking. But it may do so at the cost of readability. This is a risky tactic. Any time readability suffers, you are likely to lose readers. If you frustrate them too many times, you may lose them for good. With larger publications a single percent or even fractions of a percentage may translate to thousands of possible customers or members of your audience.
Typeface

The look of your typeface communicates before the reader makes sense of your publication's content. Without realizing it, the reader makes associations, judgments and connections to the type you've chosen for headlines, body and other particulars in your publication. Type affects your formality, credibility and feel. It colors the mood of your communication. What's more, type generally makes up a disproportionate share of your message.

Before you even consider opening up a type catalog, assess your medium, your client, that client's image and your real target, the audience at large. Should you be communicating formally or informally? Are you publishing an annual report or a flyer? A newsletter to university biology researchers or a bowling team? Do you want the look of the publication to be more traditional or contemporary? Are they concerned with matters dealing with high finance or selecting an impulse item at the check-out line? However exaggerated, these questions are just as relevant to you in establishing type considerations as they were for considering your initial design.

Roman faces tend to be more traditional and direct, more trusted. They are also very readable. On the other hand, sans serifs are fashionable and more contemporary; they are also more legible. Juggling one or two of each within a publication design is a common solution for many designers.

This comes full circle to a point made earlier in the chapter. The purpose of type is to be read. It is not to dazzle, be clever, stylish or to win awards. Mind you, your typography ought to be both fashionable and communicative. But watch out when style overshadows function and content. Always think audience and your communication purposes first.

Before you select a typeface, study the type categorization section of this chapter, and all of the details on type specification. Each "type specing" area affords a full array of possibilities that should be tied to the audience, client, client image and strategy for the task at hand. There are no easy answers. But the successful ones come by careful and inventive means.
White Space And Margins

Too often white space is either overlooked, or seen as a gaping misjudgment, a blank oversight to be filled. The fact is that white space provides the reader that important visual relief that makes any length of copy more inviting. It also establishes unity, organization, division or emphasis.

Most of all, however, it is an essential ingredient to efficient reading. White space is closely linked to improved readability in wordspacing, appropriate letterspacing, leading, line length and margins.

Margins dramatically affect how well type reads, and determine whether we even read what is placed in front of us. Whenever we overload a page or design with type or other elements, we defeat its purpose. Which is to be read. The next time you page through a magazine, notice where you hesitate or stop. Most likely, it is to some open place where your vision is neither crowded by wall-to-wall typography, nor repelled by narrow column or page margins. Art directors and designers don't "open up" the first page of an article or feature to waste space or spend more money. They know that the sudden island of white will invite your eyes, tired after swimming through a sea of gray. Even artwork and photography use generous amounts of white or neutralized space within their borders and are heavily bordered by more white space.

What's more, margins help us track more accurately and easily from line to line. If you don't believe that, try this: Select a familiar magazine or newspaper and choose an interesting article or column. Tear out the page of the piece. Then, with a scissors, trim the top, bottom and both sides of the copy to the type. Which is to say, cut away the margins - all of them. Now read it.

It is highly likely that you will encounter a good number of tracking and realigning problems, and that you'll give up reading within a few minutes. Side margins help us track. The point is that white space has a specific function. It is not just aesthetic generosity, or compensation for a story that came in too short.

For more information on white space see Chapter 2.
Reverses

Typographically, reverses place white letters against a background page color; usually, this means putting white copy against black, although specific colors and screens thereof may also be used. (See Figure 3.28.)

Research strongly suggests that reverse lettering is considerably less readable than black type on white. The classic example cited by most designers and teachers of design comes from David Ogilvy, who recommended that an ad for the Save the Children Federation be switched from reverse to black type and photography on white. They heeded his advice, and raised twice as much money as did the original reversed magazine advertisement.

While reverses may add drama and power to a design, they do so at the expense of readability. Reversed copy generally presents a tougher read, especially when copy is lengthy. In scant amounts, say, for headlines or in short reverse blocks, they work fine.

If you must use reverses, choose a legible type. Sans serifs stand out better than most romans. When romans are reversed, their serifs and thin strokes become difficult to discern. They are often swallowed up when cheaper printing methods or materials are used, because the fine lines and precision of the serifs become muddied in reverses. If you must choose a Roman for your reverse block, select an old-style version, one with minimal contrast between its letter strokes And try to avoid using an italic, unless you're running a large point size. Its tapered, cursive quality is flimsier and will blot, clot and fill in dark backgrounds.

A good rule of thumb is to increase your point size no less than two points wherever you've marked reverse copy. (If two points cannot be added, go to the next larger point size.) Reading smaller point sizes in a reverse field is particularly difficult. Imagine reading a novel in 6-point legalese. Reading even moderate amounts of normally sized copy in a reverse field has the same effect. If you must use a reverse for any copy block, keep the copy short and sweet.

The same principles of optical weight you learned in the second chapter of
this book apply here. Black or dark areas weigh more than white or lighter toned or colored areas. This is as important to typographic decisions as it is to design decisions.
Surprinting

To some, surprinting means printing black type atop a gray or colored area. It also refers to any typography placed atop artwork, photography or any form of illustration.

A common practice used by some designers for feature pages and magazine (and other publication) covers, surprinting is a typographical tactic used to hawk one's wares, benefits, nameplate, feature articles or most current model. It is to publications what a shout is to everyday conversations.

Photography and illustration are different than typography and each has its own job. Most editors would have heart attacks if other words (or images) were superimposed on top of their editorial material. On the other hand, no one seems to blink an eye when titles, decks, teases and blurbs are paved across a publication's photography or illustration.

Most designers won't pit one against the other. (Closely examine the best posters you find. In most cases, the typography does not interfere with the visual content of the poster.) There are many good alternatives to surprinting, but if you have to surprint, do so against blank or neutral areas of an image. Make sure, too, that there is sufficient contrast so that your dark type isn't absorbed by dark tones or colors.

Overprinting and surprinting are two entirely different things. Overprinting involves the integration of colors (or screened variations of colors) to give the feel of a third color. Printing blue with yellow would produce green; red with yellow would create orange, for example. By varying each color's screen percentage, you give the illusion that you are using more than two colors. When you use overprinting naturally - say, overprinting a photograph of a sunset in red and yellow - you end up with not just red, yellow and white, but various shades of orange, so that the reproduction of the sunset more closely resembles how it might appear using full color.

On the other hand, dropouts are either lettering or halftone areas that have been opaqued out. They are the opposite of surprinting.
Breaking Up The Gray: Working Strategies

Typographically, nothing is less inviting than a gray page, that is, a page without photos, illustrations or any graphic devices whatsoever. Visuals are the best way to open up a page, but sometimes you must find other graphic alternatives. Some of the better ways to offset the gray follow.

**Initial and dropped-initial letters** are a time-honored convention. They began as elaborate illustrations in illuminated manuscripts in the middle ages. While they usually refer to the first letters in the copy of an article or advertisement, often they are employed throughout a communication to show transitional or chronological breaks. Usually considerably larger than the copy point size, they may also be bolded or styled differently. Very often, too, they are letters from a completely different race. In this text, for example, the copy is roman and the dropped initials are sans serif.

Designers know that initial letters improve readability by breaking up the gray of a page, and invite readership by providing a clear entry point. They also dress out a page. Think of initial letters as a niche that funnels the eye into your copy, because that is exactly what initials do.

There are a number of different approaches to the initial letter. The standard initial letter (or **raised initial letter**) is simply a larger first letter in a word at the beginning of the top paragraph of a text or text section. (See **Figure 3.36**.) It is usually weighted or styled differently from the copy's face or from a different family or race altogether.

The **dropped-initial letter** is literally dropped into the body of the first paragraph. But it has a couple variations: the straitjacketed, contoured and stacked dropped-initial letter.

The **straitjacketed dropped-initial letter** runs an invisible line around the total unit space of the dropped-initial letter. Typically, straitjacketed dropped initials have a strong vertical drop along the full length of the letter parallel with the outside (or right) edge of the unit space, and an even horizontal space from that outside edge to the left margin. So, lines of copy make an even, perpendicular field to the right of the dropped-initial letter and also run beneath its unit space.

In the case of the **contoured dropped-initial letter**, copy runs parallel to the...
diagonal or curved right side of the letter. The copy edge echoes or visually reinforces the outside line of the letter. By contrast, a **stacked-initial letter** is placed atop the copy block. In some instances copy-sized type may run beneath the width of the lower stroke of the letter, or between the two lowermost strokes of that letter.

Today, both initial letters and dropped-initial letters are in vogue. But not too long ago, a client refused to allow the use of dropped-initial letters in an annual report because he felt that they were reminiscent of fairy tales. He was not about to have his new image positioning misconstrued as something out of Grimm’s.

This drives home a number of points about typography and design. The first is that most stylistic typographic conventions come and go. Thankfully, much of what is really hot and timely today will be thought trite and "old hat" tomorrow. And some of what is widely accepted now has, in fact, been resurrected from the past. Secondly, we must remember that clients and editors have their own sense of style. They may need to be updated or reacquainted with a style's cyclical tendency, but not condescended to. Finally, if you can provide sound reasoning and explanations for your work and ideas, you will receive a lot less argument and a great deal more understanding. In other words, have rationales beyond "intuition" for your decisions. Solid reasons for how you use typography make for remarkable defenses of how you've envisioned or "speced" a job.

Turn the situation around. Think how you might react in their respective positions to anything unfamiliar or unsettling. Especially when that publication bears your sign-off, established relationship with a client, or your company name and money.

- **Widows** are short lines at the end of a paragraph. Some designers disdain any kind of widow, especially the one-word variety. But widows can open up the gray of a page by lightening the darker texture with the white space left in their wake. And anything that brightens a page improves readership. Orphans - widows that appear at the top of a column - should be avoided.

- **Pull quotes** are strong quotations pulled from a story or article or succinct summaries of a paragraph or section of the text. When no other graphics or visuals are available, these make a logical strategy. Because they are set in a larger point size and perhaps even a different style, they provide graphic contrast to the gray type. If it is functional - that is, interesting, provoking, startling or enticing - the pull quote itself should attract readership. Pull quotes also help flesh out headlines, subheads or teases.

- **Crossheads** are one of the most functional of strategies. Normally, a crosshead is a terse phrase or statement that summarizes a point or section
of information. A full page of copy might employ anywhere from a couple to perhaps a half-dozen of them. Typically, extra leading or white space is provided above and below each crosshead, and generally they are bolded. On occasion you'll find them sized up a couple of points.

Crossheads provide a thorough shake-up of the gray. Additionally, they impart the gist or sense of an ad, article or story, so even if readers don't delve into the text, they come away with some understanding of its message. What's more, well-written crossheads can entice readers to stop and read an article. Also effective in advertising and direct mail, they are a tool that communicators should take advantage of more often.

- **Subheads** don't have quite the strength or enticement of crossheads, but they do work hard. As the name implies, they run after or beneath a headline. Their function is to clarify a title or headline and, in many instances, to tease the audience into reading the story. Normally, they are set in some version of the headline's typography but are often from another race of type altogether. On occasion they may be **decked**, that is, run as a series of short subheads. Decked subheads are not as popular today as they once were, but styles are always in flux.

- **Bullets** are generally employed here for design and organizational purposes, but they also bring a page more typographic color. Bullets or their typographic equivalents are effective when you have a number of unrelated points or ideas to make. They allow you to tick off those points cleanly and quickly. At a glance you can see where they begin and end. They also help organize the main points or features by breaking them out separately.

- **Screens** or **screen tints** are a common design strategy. Screens are halftone dot patterns, which are figured in percentages of black (or another color) from 10 percent to 100 percent. For example, a 20 percent screen is an unmodulated halftone dot pattern that shows 20 percent of whatever color you're printing - and 80 percent white (or whatever color the paper stock happens to be). Be careful if you're surprinting or running copy atop them. Too dark a screen could swallow or dim the type. Try not to run type over anything more than 20 percent; reading muddies up quickly with screens any heavier.
The opposite is the case when using **dropouts**. Typographically, dropouts are type dropped out to white on any halftone less than 100 percent. **Reverses** are dropouts run across a solid background. Readability should guide you in selecting the proper contrast when using surprinting or dropouts. (See Figure 3.58.)

- **Rules** are lines that are used for graphic or decorative purposes. They may separate or join design elements. In the past they were available as strips of metal (letterpress). Today you're more likely to use them as rolls of adhesive tape or electronically via the computer. They're available in a great variety of styles (double lines of equal width or unequal width, triple lines, etc.) and widths. Normally, rule width is calibrated in points. Use them sparingly. Too many can turn a design into a super grid.
Part B: Computers

Probably the single most revolutionary breakthrough in computer technology, for publications people at least, has been the ability to set type. The advent of desktop publishing has been a blessing for some and curse for others. It all depends on who you are.

For years, art directors and layout artists struggled with "conventional" means for mocking up type. One tedious and time-consuming method was to sketch in type blocks and hand-letter display type. Another method, press-down lettering, required the purchase of sheets of transfer lettering which was painstakingly placed on the mechanical, carefully spaced, and rubbed down and burnished.

With a little practice, almost anyone can set their own type for publication. While you can imagine the relief among designers and artists when computer-set type became available to everyone, computer-set type has not exactly pleased the typesetting industry.

Millions of dollars a year are spent setting copy in type. In fact, quite a large percentage of any print production budget goes into typesetting. Computer typesetting has cut down on cost and time. Before, you had to type your copy, spec it for copy fitting, mark it, take it to the typesetter, wait until it was typeset, proof the type, have the typesetter make any necessary corrections, and then paste it up. Now, typesetting, corrections and additions, and pasteup can all be done by one person at the same time. And costs can often be cut by a third or more.

Smart typesetters and printers have been quick to keep themselves in the production chain by offering valuable services such as Linotronic output or some other computer-assisted production function. Many printers and typesetters now accept computer disks or direct feeds from your computer.

Desktop publishing has probably been of the most benefit to the smaller or single-person office. What once took a number of intermediaries to accomplish can now be done by one person. Of course, you have to know something about writing, design and editing to have your publications look professional. Before, sending your copy out to a typesetter meant that a professional would be setting your type - someone with expertise and knowledge in type and typesetting. If you are going to take on this job yourself, you'd best become something of an expert in your own right. Fortunately, the basics of type apply to computer-set type as well as traditionally set type.
Digital Fonts

Digital fonts are computer-designed and -generated typefaces, and although type generated on the computer should be identical to type set the conventional way, it's not. First of all, computer-set type is standardized. That is, the eccentricities and flourishes of hand-designed typefaces are often sacrificed when the type is digitized. What this means to the true type afficionado is that many of the built-in irregularities that give typefaces their distinctive charm are missing.

For example, some of the older typefaces had different length descenders for different letter or word combinations or leading. For example, a y on a line above a word with an ascender such as a d might need to have a version with a shortened ascender, while set above an o it might need a longer descender. This slight irregularity from letter to letter within the same face is what adds charm to traditional type.
Bit-Mapped And Outline Fonts

Your computer's printer also affects your finished product. Let's assume that for most publications, daisy-wheel and dot-matrix printers are ruled out. If you are outputting directly to a printer for final copy, you'll want to use a laser printer. And, you will most likely use one of two technologies - a printer based on Apple's LaserWriter or one based on Hewlett-Packard's LaserJet. Both will give you quick, clean copy, but each handles type differently.

The LaserJet-type printer stores type in its memory as bit maps (dot patterns) that restrict the printer to specific sizes. If the printer has information on 12-point Helvetica then it will only print 12-point Helvetica. It won't print 24-point Helvetica. If you want other sizes or other fonts, you have to provide them either through cartridges or software that is downloadable (can be loaded from your computer into your printer). The only problem with downloadable fonts - and it affects both types of printers - is that the more information you download to your printer, the less memory it has. A standard laser printer with 1 megabyte or less of RAM (Random Access Memory, which is what your printer or computer uses while you're working) will quickly run out of memory.

LaserWriter-type printers use an outline method of storing type shapes. That allows you to scale your type to any size, rotate it, distort it, print it backwards, or anything else you want. This is important to desktop publishers who need to have the flexibility to work with type in all its forms. But, recent advances in hardware and software have allowed the LaserJet-type printers to approximate the capabilities of the LaserWriter-type printers.
Another problem peculiar to desktop publishing is WYSIWYG (pronounced wizzy-wig), or "what you see is what you get." Many computers and computer monitors promise WYSIWYG, but when it comes to type, few deliver. The problem is that most monitors build images out of tiny squares called pixels. Computer type fonts appear on the screen as composites of these pixels regardless of whether you are using a LaserJet-type printer or a LaserWriter-type printer. The result is that you can't often tell from your screen what your type is going to look like - or how it's going to fit - until you print it out. This is mostly, though not exclusively, true of display type. The larger the point size, the more distorted it will tend to be on your screen.

One method of cutting down on distortion at larger point sizes is to load screen font versions of your typefaces in the largest available sizes or use a program such as Adobe *Type Manager*. 
Screen And Printer Fonts

Type fonts for the Macintosh computer, for instance, come in both printer and screen versions. You have to have both to operate efficiently. Basically, the printer font version is loaded into (or is already resident in) your printer and becomes available when you use it. Depending on your system, fonts can be loaded in a number of ways. Placing them into the system file allows some programs to load them as needed (which frees up printer memory after each font is used). Manually downloading them as you need them ties up quite a bit of printer memory, which then can only be cleared by reinitializing the printer. Placing them in separate files for downloading later, storing them on a separate hard disk, or using printer cartridges are other options.

The screen font version has to be loaded into your computer system or program so that you can get a representation of that font on your screen. To save memory space, most people load a minimum of point sizes - usually 10, 12, and 14 points in each font. As long as some point size is loaded, you can scale up or down to any point size you need. However, unless you've loaded a screen font in the exact (or near exact) point size you ultimately scale to, your screen type is going to look extremely ragged unless you use a program such as Adobe Type Manager.
Using Computer Type

Once you have decided on how your publication is to look (see individual chapters on specific publications and Chapter 4 for layout techniques), you can decide on the typefaces, styles and sizes you want to use. The precautions and guidelines that apply to traditional type also apply to selecting computer type. Some faces and styles go with certain types of messages, and others don't.

The computer typographer can choose from among hundreds of faces available through dozens of software manufacturers in a range of prices. One word of warning. It is usually best to stick to the traditional faces manufactured (or digitized) under auspices of the original designers or their agents. For instance, of the hundreds of faces available from International Typeface Corporation (ITC), dozens of these have been packaged by Adobe Systems. As you become more familiar with type and aware of the vast array of faces available for the computer, you will undoubtedly be tempted to purchase some of the many cloned faces. These are basically altered copies of already existing faces. Since most typefaces are copyrighted, all you have to do is alter one letter slightly in order to market a clone.

The difference between an original typeface and its clone isn't readily apparent to everyone; however, such things as line thickness, legibility at smaller point sizes, and clarity of individual characters can be important to your final product. We're not saying to avoid everything but brand-name type, but at least consider the best for your publications. After all, a lot of design skill went into the original typeface. Use that to your advantage.
Copyfitting used to require patience, a ruler, patience, a calculator (or knowledge of math), patience, knowledge of type-fitting formulas and measurements, patience and more patience. With a computer, all you need is a little know-how. Under the traditional (read "old-fashioned") method, you decided on column width and type size and the typesetter gave it back to you set that way. Unless you had a lot of money to waste, your copy might as well have been carved in stone. If you suddenly decided you needed 18-pica-wide columns instead of 24-pica-wide columns, you paid to typeset the whole thing over again.

Now, all you do is pick a point size and column width and, voila! - it's done. And, if you don't like it, you can do it again. It only takes seconds. Naturally, some planning is necessary up front. It might be fun to sit in front of your computer for hours playing with column width and point size, but you're probably on a deadline. Once you have a basic design in mind and have set up the grid (see Chapter 4 for details on grids), copyfitting becomes a breeze.

For most, but not all, page-layout programs, copy is imported directly from a word processing program and then positioned on your page. That's why it's important to choose a compatible word processing program and to follow a few, basic guidelines when writing your document.

- Use a program from the same system type. That is, don't write your story on a PC system and try to transfer it to a Macintosh system. It's usually too much trouble. If you're using PageMaker for the Macintosh, write your copy on a Macintosh-based word processing program such as Macwrite or Microsoft Word for the Macintosh.

- Keep formatting within your word processed document to a minimum. It is usually easier simply to write in word processing and format in your page-layout program. Some minimal formatting can be done, but most of it will be lost when you import it into your page-layout program.

- Don't justify your copy in your word processing program. It will seldom match your final column width and will probably only confuse you when you go to place it on the page. Usually, there is no need to hyphenate either. Remember, your final formatting will be done in your page-layout program.
• Don't worry about faces, styles, sizes, and so on. You can assign them in your page-layout program. If you do use a specific style (bold subheads for instance) you might lose it anyway when you import the copy or set a new global style from your page-layout program's style sheet (see below).

• Set headlines and subheads for articles and other copy right in with your word processed document. Even if their style is lost during the transfer process, they will serve as designators as you begin to format. You can always re-bold as you go along. Another option, is to set display type such as headlines for feature stories, separately in your page-layout program. It is then more easily manipulated since it is a separate element.

Once you've imported the copy, you can place it, fit it, and change face, style, leading, spacing and size till your heart's content. Figure 3.63 illustrates just some of the adjustments you can make on your own, and as many times as you want.
A Word About Style Sheets

If your page-layout program has them, use them. In a nutshell, style sheets are electronic menus in which you designate how you want your copy to appear in its various incarnations. It remembers each description and on command will change designated text to the selected style. For example, *PageMaker* includes a style sheet on which you can pre-set typeface, size, style, leading, tab sets, indents, alignment and a number of other designations for any of several categories such as *body text*, *headlines*, *captions* and *subheads*. You can also add categories, such as *pull quotes*, to suit your particular publication's needs.

To use a style sheet, you simply select the portion of text you want to set a certain style, and then choose that style from the *style menu*. In an instant, the original text conforms to your pre-set style.
Display Type

Display type is handled pretty much the same way as body copy. You can manipulate each of these elements to suit your needs. There are some special considerations you should be aware of, however.

- Don't always assume that the typeface you use for body copy will be just fine at 24 or 36 points. Some faces are better suited to headlines than others. The key to the proper display type is clarity. If it's clear, then check out the aesthetics.

- Be aware that the larger the point size, the more obvious the leading will be if set at auto. For example, a stacked, 36-point headline with auto leading is going to look very "loose" to the trained eye. The trick is to reduce the leading until the stack tightens up somewhat. Be careful not to let descenders bump the tops of ascenders in the lines below.

  TIP: Altering the leading on display type on a Macintosh or compatible screen will often result in letters that seem to have been chopped off at the top. This is simply a screen aberration. If it bothers you, just switch to a different page view ("fit in window" to "full page view" for instance) and back. The image will clear up. You can also try moving the headline and then replacing it.

- Don't justify headlines. In longer headlines, this will create unsightly spaces between words. To center them, use the alignment command for centering rather than manually placing a flush-left headline in the center of a column. Aligning each headline will ensure consistency.

- Designate in advance exactly where you want your headline to appear. In PageMaker for example, if you want to extend it beyond your column width, simply place the text tool at the starting point and, by depressing the mouse button, drag a dotted square to the farthest right-hand point you want your headline to extend to. When you type, your headline will ignore column indicators and continue to the designated point. Or, you can drag one of the handles (the small points at the ends of the copy lines) out to the needed width.

  It's best to set up style sheets for each of your categories of display type. It will save you time and frustration, especially if you are working on a multi-page
document or setting up a template to be used from issue to issue. Suppose you're working on a 16-page tabloid full of headlines, subheads, pull quotes and captions. From page to page, you can't seem to remember if that second-level subhead was 14-point italic or 12-point italic bold. You have to keep "flipping" back to previous pages to check it out. If you set up a style sheet with each of these designations, you don't have to keep checking. For instance, you might have a headline style set for 36-point Helvetica bold, a first-level subhead of 18-point Times italic, a second-level subhead of 18-point Times italic underlined, and pull quotes of 14-point Helvetica bold italic. In addition, each of these elements will contain information on leading and alignment. Setting these up in advance will save you a lot of heartburn.
Kerning

Kerning, of particular concern when dealing with display type, refers to the amount of space between letters (or sometimes words). Layout problems usually account for a certain amount of automatic kerning between pairs of letters in any given typeface. For example, in some faces, o and e will fit differently when paired than t and e. But, discrepancies in letterspacing at larger sizes are more apparent.

This was a problem with earlier versions of most page-layout programs. Headlines often looked awkwardly spaced. For instance, an upper case T might aesthetically fit closer to a lowercase o in a headline than the automatic-kerned setting allowed. The newer versions have compensated for this by adding manual kerning, which lets you tighten that space to your specifications.
In most page-layout programs, initial caps can present some problems. In *Ventura Publisher* dropped caps are created and aligned automatically with a few key strokes. In other programs, such as *PageMaker*, using them is more difficult. You can either designate the actual first letter of your body copy by bolding it and raising the point size (which requires manually adjusting the leading between the line in which the cap appears and the line below it), or creating the cap as a separate piece of copy and placing it in the body copy (which requires moving the body copy to compensate for the space).
Chapter 6 Layout
Part A: Basics

Buildings have architects - so, too, do publications. Buildings have a structural form that is held together by a foundation, footings, beams, trusses and girders, all of which are carefully planned, calculated and integrated into the design by the architect. At its functional best, that form is a marvelous blend of pragmaticism and aesthetics. Its plan or blueprint is explicitly documented and shared with carpenters, masons, electricians, plumbers and others who make the architect's plan a reality.

Designers are the architects of publications. They are responsible for the publication's permanent master plan, which is carefully tailored to the budget, audience, image and editorial needs of the publisher. Please note that design is not a cosmetic makeover, but a skeletal inner architecture upon which all else is supported. Along with structure, designers bring a tasteful aesthetic to the publication, by utilizing composition and the basic principles of design, choosing appropriate and hard-working typography, and developing a suitable format. Think of design as the form of the publication, the permanent visual arrangement that dictates the shaping of the contents. It establishes identity, continuity, regularity and visual flow.

On the other hand, a layout is more specific. It is a particular problem-solving process that takes one part of the content - a story, for example - and molds it to fit a given space within a publication's design. It fleshes out the form of a magazine, newsletter or brochure, by living up to design specifics of format, typography and visual elements. It also employs the very same design principles as the overall design.
Basic Design Principles - A Common Ground

To reacquaint yourself with approaches to composition and design, review the material in Chapter 2. A succinct review of the principles of design that influence the look of a publication and its layouts follows.

- **Balance** is a matter of equalizing the weight on one side of a vertical axis with that on the opposite side of the axis. We understand balance in a very personal way because we use it to equalize our own weight distribution when we walk, run, ride a bicycle or move around in a small boat. And we are likely to notice a design that is flawed by improper balance immediately, whether or not we’ve received any graphic arts or design education.

  There are two approaches to balance. Formal balance employs symmetry to establish its order. Normally when we think of symmetry we paint a mental image of **bilateral symmetry**. When a space is divided equally in two this symmetry produces reciprocal halves; that is, one side is a mirror image of its opposite half. It is the easiest of the two approaches to arrange in a layout because creating this type of balance is simply a matter of centering and stacking everything - visual, headline, subheads, copy and other elements. Although they impose a rigid order and precision to a page, symmetrical layouts tend to be stiff and much more formal than asymmetrical ones. If your publication, audience or company is conservative, then this traditional use of balance might be a fitting solution.

  **Asymmetry** is a more complicated matter because it involves a certain degree of risk and a full understanding of optical weight. Its weight distribution isn’t centered; instead, one side offsets the other much like a seesaw. And like a seesaw, the closer the visual element is located to the axis, the less its visual mass or weight. Asymmetry brings an inherent visual tension and energy to a layout. Like a quick sleight of hand, informal balance stirs our curiosity and forces us to figure it out optically. If motion, excitement, energy or a casual look happen to be what you’re looking to impart through a layout, asymmetry may be the answer - or certainly part of it.

- **Proportion** is the dynamic of spatial relationships - how one part or element of your layout compares in size to the rest of its parts - or how one element relates to the whole. Proportion helps us understand and measure distance, size and the relevance of what we see. Something is larger, smaller, closer,
wider, darker, thinner, more narrow or heavier than something else.

In addition, proportion directs the sequence of our vision and affects our interpretation of spatial priority. Size implies a visual hierarchy to us: typically, larger sizes suggest importance, dominance, attention or priority over their smaller counterparts. The largest part of any design normally commands our attention, especially larger visual portions - they're irresistible and vision tracks to them involuntarily. Generally, avoid working with halved layouts. Half-visual and half-word arrangements are liable to confuse us because they suggest no particular priority and present a static spatial dynamic - visually, anyway. Additionally, fractured space seems more formal and exacting in even portions and more informal and exciting in uneven ones.

- Visually, sequence refers to the order of the readout, or what we see first, second, third, and so on within a layout. Normally the Western eye reads from left to right and top to bottom. However, optical weight may redirect our sight, altering customary sequential patterns. So, big areas dominate small ones; color has more attraction for us than black and white; bright colors outweigh flat hues and so forth.

Some generalizations regarding sequential organization follow:

- Headlines are normally positioned atop copy blocks, regardless of medium.
- The more important something is, the higher up its placement in a layout.
- Typically, the left side of a layout carries more priority than its right counterpart. In most publication pages, the most important elements usually sit higher up and, more often than not, on the left.
- Optical weight can rearrange our visual patterns; some of the more common tactics are isolation, color, larger sizes and exaggerated formats.
- Normally our eyes exit a design in the lower right quad.

Sequence is an essential design principle in layout because you are responsible for effectively routing the vision of your audience through a page. Not properly directing them is misdirecting readership. Remember, you're responsible for controlling not only where readers look but how they track what you've visually ordered. Poor sequencing is likely to make us overlook important elements, short-circuiting communication.
• **Emphasis** suggests that a single element should be isolated, contrasted or featured within a layout. When nothing is contrasted or emphasized (tonally, proportionately or otherwise), our vision is forced to guess which part of a layout is important. Proper emphasis provides a clear entry point for the audience and grabs their attention while relating important information and making succinct connections to other elements on the page. The trick is not allowing the audience to hesitate; if you do, you'll likely lose them.

Don't forget that an isolated element or a large visual indicates significance to the reader and shows where a layout's priorities lie. It's important that you ask realistic questions and make thoughtful decisions about the content, suitability and meaning of what you feature. Be sure that what you emphasize warrants emphasis. Blind or dead-ended visuals also will abort a communication. Making an inappropriate visual larger for emphasis only makes the mistaken judgment more apparent to the reader.

A layout that contains too much emphasis is as much a problem as one that has none. It creates visual anarchy, with visuals and other elements fighting one another. Simple is better. Every layout should emphasize or contrast one element or idea.

• **Unity** refers to the cohesion and overall coherence of a layout's parts, especially as each portion relates to the rest. Normally layouts consist of headlines, artwork, copy blocks and perhaps another element or two - for example, a graphic, logotype, chart, graph or the like. All of these must fuse or fit comfortably together.

Regardless of whether we've had formal design training, we sense when something is out of place or doesn't quite assimilate. For example, borders are considered appropriate unifiers, but the frilly affectation of an embroidered border on a contemporary advertisement shatters whatever other unity might be present.

Typography is also critical to unity. One strategy you might employ to maintain typographical unity is to avoid overusing faces, a common temptation for someone new to design or desktop publishing. Another is to work with a single face and employ different weights, sizes and postures within a design - or, for that matter, within a publication.

Other ways to unify a layout include color, parallel structure, appropriate use of white space, contrast and the other design principles we've already discussed in **Chapter 2**.
There are three different layout stages: thumbnail sketches, roughs and finished layouts. Certainly, variations within each stage run the gamut from very rough to painstakingly finished, so what constitutes a rough to one designer, might be closer to a finished piece to another. The important thing to remember is that every layout should evolve, from thumbnail to camera-ready layouts.

Novices are often likely to slam together a rough version of a layout without ever giving thought to creating a series of thumbnails, miniature replicas of what the life-size layout will look like. Thumbnails need not be detailed, because their function is to provide a preliminary overview of a layout's structural possibilities. They should be carefully considered graphic experiments or possible solutions to the problem at hand. Extensive swipe files provide a great variety of artwork to consider when developing thumbnails.

To get a real feel from your strongest thumbnails, make them proportionate to the finished size. (A scaling wheel can help you with explicit scaled down sizes.) Be sure to work in the approximate tonal values and color that you intend to use in the finished version, and render these quick-study sketches on the same color paper you'll be using in your publication. Keep the size, shapes and location of layout elements fairly proportional to the finished design. Finally, use traditional means or a computer to figure out the approximate area of your copy. (See the back section of this chapter for particulars on copyfitting.)

Remember, the function of a thumbnail is to provide a rough idea of your layout possibilities. Don't make two of them and presume you're finished. The more you produce, the more likely you are to arrive at a solution that's as functional as it is attractive.

When you're satisfied that you've sketched enough thumbnail sketches, select the strongest two or three for additional development. At this point, you want a closer look at the layout.
Rough layouts are always rendered at reproduction size, except when working with outdoor or poster design. Many layout artists use tracing or layout paper for roughs because it allows them to trace visuals or lettering quickly.

Begin the rough by lining in the dimensions of your layout. Then transfer a refined version of each element proportionally to the full-size sketch. It’s important that you capture the look and feel of the type you’ve chosen, so be sure to letter in the headlines carefully. Chisel point pencils produce a broad stroke and a fairly hard edge, so you can put down lettering quickly and cleanly.

If you intend to run a 48-point headline, letter it in at that size, using the weight, posture and positioning you intend to use for publication. Type specimens are available in type books or various texts. One easy way to approximate line size is to measure the letters to be used one word at a time, then figure positioning from those estimates. Or use a typeset or laser printed headline, because it leaves positioning less to chance and because it’s easy to have heads printed out. If copy for the project is complete, have it set as it would be for the finished layout, in the correct typeface and point size, weights, leading, column width and other typographical particulars. That way you can line in the copy exactly. Remember, the closer the rough is to the finished version the better. Apply color and other particulars to flesh it out.

If you don’t like the full-size rough as much as you did its miniature counterpart, return to your thumbnails or sketch a variation or two from the rough. Returning to the smaller layout permits you to rearrange elements and work a kink or problem out of the layout quickly.

Finished layouts further refine the idea. Don’t even think about them if you haven’t resolved every single question or problem raised by the rough. Finished layouts take a good deal of time and effort, so you need to be confident of what you’ve come up with.
Some designers or production people use the term **comprehensive** or **comp** interchangeably with finished layout. Comprehensives should always simulate the quality of the finished piece. Like the other stages, there is a wide range of finish or detail to this stage, too. How detailed they should be depends largely on the client or your needs. The less a client knows about this process, the more finished your comprehensive should be. Very often headlines, copy and other typographic elements are typeset and laid out with the artwork and photographed or photocopied. In this instance, the comprehensive isn't the original work.

Very often the comps are mounted and matted for presentation. Sometimes a presentation will include slides of the comprehensive, its evolution and specific parts so clients have a larger than life view of the work and understand its development. Pinning up an 8” x 10” finished layout and discussing it fifteen feet away doesn't do it justice. Using a poster-sized layout in this situation isn't the best way to present it, either. If you can afford it, make color copies of the comprehensive for everyone attending the presentation. Slides can be effective in crowded situations, but be sure to have first-generation mechanicals, photographs or the original itself at the presentation.
Grids reinforce the rectangular format common to most publications by ordering layout elements in smaller rectangles. In fact, layout sheets are grid maps which offer you a wide variety of rectangular options, vertical and horizontal. They stratify your layout space with a multitude of column and module sizes, offering two, three, four or more columns per page on the same layout sheet.

Layout sheets come in as many different sizes as there are formats. Many sheets that are custom-designed for publications come complete with registration marks, outer margin lines and usually are hashed or lined in inches and picas and points. These sheets come printed in a light turquoise, which is nonreproducible because the film used to shoot layouts is insensitive to that color. Layout artists and designers often mark up their layouts with nonrepro blue pencils and markers because, although obvious to the naked eye, these scribblings aren't picked up by the camera. Don't write on a final layout unless you're using these special pencils. Some designers and printers don't like finished layouts to be marked up or written on at all. In those instances, use self-adhesive notes for the layout.

Grids are also available to you electronically. All of today's desktop programs use video grids for both layout and design purposes; their use will be explored in the second half of this chapter.

Although a Spartan model of simplicity, the grid offers you an infinite possibility of choices. Modular layout orders space clearly and cleanly. It also establishes a hierarchical treatment of the layout elements, or individual stories and their respective parts. Modular arrangement neatly wraps headlines, body copy and artwork together. In many instances, borders demarcate space and hold a module in place; on other occasions borderless screens clearly distinguish the module. Usually, the various modules themselves highlight one another through their self-containment. Because mod-layouts are preplanned and adjustable, they are easier to execute. What's more, they may be modified without destroying the entire layout - something paste-up and production people greatly appreciate. That quality allows the layout artist a flexible but precise way of handling layout particulars.
A few years back, it was fashionable to use horizontal modules to break up the vertical grid. Today, the dominant vertical approach is again in vogue, but there is something to be said in favor of horizontal layouts. For one thing, they look a lot less imposing. Besides offering a modular format some variety, they are reader-friendly, that is, their approach to a layout is easier to read. Also, although they take up more room, horizontal layouts tend to look more ordered and make better use of two pages in running layouts.
Photo Arrangement In The Layout

How you arrange photographs is also determined by the principles we've already outlined. Consider the following additional points.

- In any grouping of photographs, one should dominate. Try to place it somewhere in the middle of others, so that it radiates or connects clearly to the others. Individually, each photograph should have only one dominant element as well.

![Figure 6.15](Image)

- People in your photographs should look into the page - not off it. We follow tend to follow vision almost as closely in design as we do in real life. When you notice someone looking intently upward (or whatever direction), your curiosity steers your vision the same direction. The same is true for photographs. Understanding that, don't direct your reader off the page.

- Use directional devices to your advantage. Run those photographs that look, point or move to the right on the left side of the grouping (and vice versa). These internal leads will direct the eyes of the reader to the middle, featured image.

- Bigger images attract more attention than small ones. It should go without saying that if you have a truly important or remarkable photograph, you should run it large. If you must run photographs at postage stamp sizes, why use them at all? At such miniature sizes no one will be able to see them. Time and again, newsletters jam a group shot of a dozen people or so into an area half the size of a playing card. The captions for these images sometimes take up more space than photographs themselves. If space forces you to run photographs at postage-stamp sizes, you're probably better off to leave them out.

- When you're running an action image, don't cut it short. If the object or person in an image is moving to the right, leave space in the photograph's right side. Action images need a margin of space to grow or move into. When you cut them short, you stifle the illusion of movement within the frame.

- Bleeds suggest that something cannot be contained on a page. Bled images
need not be totally bled. Often an image can be successfully bled on one, two or three sides. All other things being equal, a partially bled image commands more impact or power in a grouping of pictures. In fact, if your sizes are restricted, you can make an image dominate a group by bleeding it to one or more sides.

- We’re used to seeing photography straitjacketed into the same format as its negative. But since we seldom use the entirety of a negative image in the print, why should we remain shackled to the format? Exaggerated formats can compliment the verticality or horizontal quality of the space you’re using.

  Accommodate line more fully by cropping narrowly where appropriate. Better yet, plan your original layout with the exaggerated format in mind. Accenting the use of line in a layout makes it appear slimmer and more stylish, and offers the reader a refreshing change. This is especially true when exaggerated formats are bled.

- Remember, one good photograph is worth 10,000 lousy ones. Edit your photographs ruthlessly; if you have doubts about the value of an image, trust your instincts and purge it.
Final Observations

Here are a few final layout generalizations to keep in mind. Please note, though, that they are not hard and fast rules.

• Ground thirds is an important proportional device; it is not by accident that most magazines, newsletters and annual reports use this principle. This approach lends a more dynamic ratio to your space, and it provides logical divisions: one-column copy to a two-column visual and vice versa. You can also use ground thirds vertically. A visual makes up the upper two-thirds of a layout and the head and copy the lower third.

Figure 6.17

• Don't scatter related photographs or illustrations on a page. They'll have more impact if you group them, and it's likely that they'll strengthen the page's unity.

• Elemental form may serve as a strong framing device in a layout, particularly the L- and T-shapes and variations thereof. Work this concept in headline arrangements, photography and overall page design. It can work as effectively with modular design as it can working alone.

Figure 6.19

• It's a good idea to frame black-and-white photographs with borders. Most photographs have white areas on the edges, making it difficult to see where the photograph ends and the white space begins. Framing the photograph with a hairline or one point line is unobstrusive and will help unify the image.

• Use white space as a visual element. Too often, it is used in a layout by accident - as leftover space. Remember that white space may be incorporated into any of the design principles. What's more, it invites readership by providing a resting place for the eyes, while organizing, demarcating and otherwise further structuring the layout.

Figure 6.18
Part B: Computers

One of the key changes desktop publishing has brought about is the speed with which any publication can be laid out. That's because in computer layout, all your tools are in your computer and your drafting or layout table and pasteup board are on your computer screen.

This section will discuss computer layout techniques for thumbnails, roughs, comprehensives and mechanicals. The techniques are based primarily on Apple Macintosh hardware and Aldus PageMaker page composition program, but may be roughly transferrable to other systems and software. However, our point is not to detail the use of one system over another, but to demonstrate the versatility of the computer in publication layout.
The Advantage of Computer Layout

There are a number of basic advantages to computer page layout that you need to be aware of before you plunge into designing and formatting publications on your computer.
Placing Text and Graphics

The primary advantage of computer page layout is the ability to place text and graphics right on the page from word processing or illustration programs. Although other page-layout programs require you to create a frame in which you then place text or graphics, *PageMaker* allows you to place these items directly on the page, anywhere you want them. Once there, they can be manipulated in a number of ways. You can also place text one column at a time or in *PageMaker’s* textflow mode which allows it to flow uninterrupted from page to page until it is completely placed. Text can be confined to any size column or stretched across columns by a simple movement of the mouse. Once on the page, text can be made longer or wider by manipulating the handles that are part of each *PageMaker* element.

Wrapping text around a shape is as easy as making points on a line. The idea is to give just enough of a border to be comfortable while keeping tight to the shape. As with anything else, the effort put into the detailing is what makes the difference in how the final product looks.

Graphics, such as those imported from Aldus *FreeHand*, are placed in roughly the same way. By moving the mouse pointer to the position on the page where you want the graphic to appear and holding down the mouse button while dragging diagonally, you may designate the size you want the graphic to be when it is placed. This will then constrain the placed element to that area (in the case of text) or size (in the case of a graphic).
Once placed, the graphic may be sized, cropped, or otherwise adjusted depending on the software used to produce it. Graphics placed from PICT or EPS formats can be sized proportionally in *PageMaker* by simply holding down the *shift* key while dragging a corner handle. Paint-type graphics can also be sized without loss or compression of shading patterns if you hold down both the *command* and *shift* keys as you drag. If you don't hold down the *shift* key or *command* and *shift* keys while executing these maneuvers, the images will distort. Many programs also now include a text-wrap function that allows you to literally wrap text around a placed graphic.
Using Lines and Boxes

Today, even word processing programs now allow you to create boxes and lines, but not all that long ago this was one of the primary selling points of a page-layout program.
Boxes

Although it is possible to import or place boxes and other such simple patterns from other programs, it is easier to create them in the page-layout program. Boxes do have to be moved each time you make an adjustment to type or format, but it's easier to move them in a computer program than on a pasted-up piece of paper.

Drop shadows are easy to create and can be effective if they are not overused. In PageMaker, drop shadows are produced by adding a darker shaded box slightly diagonally and to the rear of your original box. Be sure your top box is not transparent, and delete the line around the shadow. Experiment with different shades and don't assume that black is the best for a drop shadow.

Tint blocks, boxes that are filled or shaded, should also be used with care. Very small type or type with thin serifs won't print well over a tint block, especially on a laser printer. Use a light shade (no more than 20 or 30 percent) and a type size of at least 12 point. If your final product will run on a Linotronic, be aware that fills or shades will appear darker than on a laser-printed copy. A 40 percent fill that looks fine on a LaserWriter will be too dark for a copy block on a Linotronic.
Lines

Like type size, line thickness is usually given in points. This is convenient since line width is much narrower than you would want to measure in inches. The standard seems to be 1 point; however, experiment with line thickness and use what seems most appropriate to your purpose. For example, some programs designate "hairline" as well as .05- and 1-point line thicknesses at the narrower end of the range. Hairlines are excellent for the lines used in coupons or fill-in-the-blanks forms. You'd be surprised how thick a 1-point line looks in these forms. On the other hand, a 2-, 4-, or 6-point line is quite a bit thicker-\textit{looking} than a 1-point line. Use the thicker settings sparingly.
Grids, Master Pages and Templates

Once you're familiar with your page-makeup program, you can experiment with actual publications. You can be producing simple publications in no time once you've mastered three devices that can be used to add consistency to your publications page by page and issue by issue: **grids**, **master pages** and **templates**. The creative use of these devices can save you time and frustration and further streamline a process already greatly speeded up by the computer.
Grids

Grids are guides around which you build your publication. Their importance to layout can't be overstressed. Grids are not, as some graphic artists will tell you, confining. They do not stifle creativity or limit your imagination. They do aid you in balancing your publication page by page or from spread to spread.

A grid is composed of a series of non-printing horizontal and vertical lines. They can appear directly on the page you are working on or remain invisible until you call them up. They are variably adjustable and can be moved about to suit your needs.

For longer or regularly produced publications such as a weekly newsletter or monthly house magazine, grids are indispensable. Even for smaller publications such as brochures, grids keep your margins consistent and your layout balanced.
Master Pages

Master pages are created (on PageMaker) at the beginning of your layout process and consist of any elements you want to repeat from page to page - not just grids, but also page headers, numbers, rules and other graphic elements. Every page is then overlaid by the master page elements unless otherwise overridden.

Master pages also hold the basic grid on which each page is built, including columns, margins and other space dividers. Some programs, such as Letraset's ReadySetGo, set up grids as a series of vertical and horizontal rectangles instead of columns.
Templates

Templates are probably the most useful tool for the editor who publishes a large periodical publication on a recurring basis. Templates allow you to save all of the grid elements, master pages and style elements that will be reused each time, saving you hours of frustration. Templates were originally developed as tutorials for page-layout programs and later as specialty offerings packaged as guidelines for certain types of publications such as memos, newsletters, brochures, etc. Aldus packaged several early sets for newsletters and business publications and now includes a number of these with their PageMaker program.
Pre-packaged templates

For the less-experienced publication editor, pre-packaged templates can be a great help if they are designed for the program you are using or have access to. The key to making the most of a template is to decide in advance whether you are going to use it as-is or only as a base from which to experiment. Not every template is flexible enough for experimentation, but if you are aware of the limitations of the templates you are using and comfortable enough with your own skills, you can work both within and outside the established format as you wish.

A template includes the basic grid for the publication, and a number of place holders and spacers. Place holders are usually samples of display or body type executed in the face, style and size pre-set for that template. They appear exactly or approximately in the location on the page in which you would use them if you made absolutely no format changes. Again, the flexibility of your prepackaged templates depends a lot on your abilities and willingness to experiment.
Creating your own templates

Once you have the experience, creating your own custom templates is simple enough. The more you know about your page-makeup program, the easier it will be. Although your program will dictate the exact way in which you build your template, the following process - based on PageMaker - can be transposed to other software programs.

1. Establish page size, orientation and margins in your page setup function. For example, if you are developing a template for a tabloid-sized newsletter, indicate tabloid, margins, number of pages and beginning page number. Most templates are composed of two or three pages - a cover page and sample inside pages. If you have certain sections or departments with special heads or boxes, you can include these as well; however, try to keep your template to as few pages as possible and add special features when you begin to construct your actual issue. Normally you'll want to set up your front page separately from the inside pages with masthead and other recurring elements already in place.

2. Set the measurement system you wish to use. Most prepackaged templates and most professional layout artists use points and picas. You may use whatever you are most comfortable with; however, since you will undoubtedly be working with printers and typesetters, you might as well get used to their measurement system.

3. On your master pages, establish column number and width as well as any recurring elements that you want to appear on succeeding pages. For example, if you establish a three-column format, it will repeat on every page thereafter unless suppressed on a page-by-page basis. In addition, most programs, including PageMaker, also allow you to indicate page number placement, which then automatically numbers your pages. Other elements, such as boxes or rules, can be included here as well. You may either lock these elements, including margins and column guides, or leave them and adjust them on a page-by-page basis. Remember, what you put on your master pages will appear on every page after that, but it can be either suppressed, altered, or changed at any time.

4. Create your style sheet. Establish all of the parameters for each of the type styles that you want to remain consistent from issue to issue. For instance, you might set your body text style at 10-point Times, justified with auto leading; your headline style at 24-point Avant Garde bold, centered with 25-point leading; your pull quotes at 14-point Avant Garde bold italic, centered with auto leading; and your captions 10-point Times italic, flush left
with auto leading. You may also set such parameters as tabs, indents (both for paragraphs and whole subsections), hyphenation, and so on. The beauty of a style sheet has already been explained, but when combined with a template, it becomes an indispensable tool for the publication's editor or designer.

5. Create **place holders**. Place holders combine the advantages of a style sheet with a visual representation of where elements are usually placed in a given publication. For example, to create a headline place holder, simply type in the word "Headline" in the size and style that you wish your finished headline to be. To insert your finished headline, just place your text cursor, highlight the place holder word, and type in your headline. It will appear in the size and style of the place-holder. Place holders can be used in place of or in conjunction with a style sheet. Some people prefer just to use a style sheet because of the flexibility. Place holders tend to pre-establish a design in your mind and are better for those who *need* a design pre-established.

6. Certain graphic elements such as imported art or special boxes can sometimes be placed on the *desk top* beyond the edges of the pages, cut and placed in the *clipboard* file (held only so long as your computer is on) or placed in a *scrapbook* for later use. Admittedly, elements saved this way take up more disk space; but if you use them a lot, yet don't want to lock them into any particular place on your layout, try "putting them to the side."

7. Once you have constructed your template, be sure to save it as a template. If you save it as a regular publication, any subsequent changes you make to it while laying out an issue will remain. If saved as a template, it will open only an untitled copy each time. Changes made to that copy can then be saved as a separate issue of your publication.

   Remember, templates aren't cut in stone - they're only etched on your computer's memory. But templates exist to bring continuity and consistency to a publication. One of the pitfalls of computer layout is the ease with which changes can be made. *Resist the urge to change your publications just because it's easy.* Make changes infrequently. Make sure each change has a legitimate rationale, and then make sure you can live with the change once you've made it.
Creating Thumbnails On The Computer

Figure 6.27

Thumbnails are usually accomplished by hand. Since they are very rough and very small, most artists and designers can quickly sketch five or six in just minutes. A computer can't match a good sketch artist's ability, but it can greatly aid the not-so-adept or beginning designer, and the finished product is much easier to judge for design potential than a hand-sketched thumbnail. A number of computer-assisted shortcuts can add consistency to the process and open up some clogged creative arteries.
Size

The first step is to create the master page you will reduce for your thumbnails. You will need to create it in the exact size you want your thumbnail to appear. A number of software programs create thumbnails; *PageMaker* can produce good thumbnails complete with reduced copy (normally greeking) that can be set in any way normal copy can be set. Whatever the size, be sure to work in dimensions you feel comfortable with. You can work full size if you wish, but a smaller dimension lets you place many more thumbnails on a single page and make comparisons on the screen instead of printing them out as you go.
**Scaling**

Depending on the size and page orientation of your finished publication (landscape [horizontal or wide] or portrait [vertical or tall]), you will need to scale down proportionally to the thumbnail size. To make sure your reduced page is scaled properly, you can use a couple of different methods, depending on the computer hardware and software you are using.

First, decide on the size of the final publication. Suppose, for instance, that you will be producing a standard two-fold brochure. Your finished product will be 8.5” x 11” laid out horizontally. When you open your file for the first time, simply select **letter** from the page setup menu and **wide** for the orientation.

![Figure 6.28](image)

After your file opens, access the master page or pages and set up your templates there. That way, each succeeding page will have your template guidelines already on it. Choose the diagonal tool from your screen tool box and draw a diagonal line (a hairline will do) from the top right corner to the bottom left corner of your page. Now, choose the tool for making boxes and draw another box so that the upper right and lower left corners both touch the diagonal line. No matter what size you make your box, the box will be some incremental reduction of your original folder size if these two corners intersect the diagonal line. The easiest size to work in is roughly 5.75” x 4.5” placed one on top of the other on a vertically oriented page.

![Figure 6.29](image)

Now you have a reduced version of the folder in which to place your elements. You can copy just the box portion of your folder at any time and paste it for another thumbnail. In fact, you might want to do that right away and arrange the full page of thumbnail templates in rows before you begin to add the various elements of your folder. At this juncture, resetting the original page setup to a long orientation will allow you to stack two half-page layouts on top of each other. That way, you can lay out both the outside and inside panels on one page.

One final note. You will probably want to leave your template unshaded (not white) so as to cut down on having to move items to the front and to the back constantly. Of course, if you want to experiment with different backgrounds, you can add shading as you go along.
Visuals

Visuals for thumbnails are a matter of taste. Some designers don't care to mess with detail on a thumbnail, but a computer lets you use a reducible visual again and again with no extra trouble. For instance, the thumbnails on the following pages use illustrations created on Aldus FreeHand and exported to PageMaker in Encapsulated PostScript. They can now be placed, sized, cropped and stretched to suit the designer's needs.

If you don't have pre-made visuals on the computer, you can easily substitute geometric patterns or lines to approximate the shape of the intended visuals.
Even in small sizes, thumbnails can look quite polished if they use legible, reduced lettering. For example, if you are working with the sizes shown on these pages, your headline can vary from 14 points to 24 points and still replicate fairly accurately what the finished product will look like. Remember, all a thumbnail has to be is close. Exactness comes later.
In a traditional thumbnail sketch (and even in rough full-size layouts) body copy is typically greeked - that is, indicated by ruled lines or lines of squiggles made to look like columns of copy. Greeking also refers to copy that is nonsense or unintelligible. With PageMaker, you can represent greeked copy with actual lettering. If you have the actual copy written - great. If not, use the greeking that comes with PageMaker. Aldus refers to it as Lorem ipsum after the first two words of the greeked copy. For years, the only way to get this type of greeked body copy was to buy it as rub-down lettering in the size and font that represented what your real copy would look like or cut it out of magazines and glue it in place. Now, with a computer, you can make your own, or, if you use PageMaker, use Lorem ipsum.

You can place your greeked copy directly onto the thumbnail and size it as small as you need. You can also approximate columns (justified or unjustified, flush right or left, or centered). In fact, you can replicate any style or experiment with any alignment you would use in the finished product - only in thumbnail size! This is the reason for carefully placing column guides on your thumbnails. Greeked copy won't fit properly without them.
Creating Roughs On The Computer

The next stage is the rough. Many designers simply skip the thumbnail stage and go right to the rough, which gives them a feel for the full-size folder and lets them work in broad strokes without having to render details. Some designers create as many roughs as they normally would thumbnails. The only difference is size. If you like to look at a number of sketches simultaneously, thumbnails offer the most flexibility; however, you can lay out as many roughs side by side as you have room for.

The rough is simply a full-sized version of the thumbnail with copy indicated (usually by horizontal lines or squiggles) and artwork roughed in. Like the thumbnail, it is only used to give the designer several creative approaches to the layout. Time is usually the limiting factor here. A rough can be accomplished much faster than a comprehensive.

The computer can be enormously helpful in letting you can place all the elements of the brochure just as you would for the final product. While most roughs only indicate copy, a computer-generated rough can use either the actual copy or greeked copy instead of lines and squiggles; and, if the visual has been duplicated or created originally on a computer, it can be used as well. If not, rely on shapes and patterns just as you did in the thumbnails.
Creating Comprehensives On The Computer

The next stage in the evolution from thumbnail to finished publication is the comprehensive or comp, the stage you will ultimately show to the client for approval. With computer-generated artwork, headlines and body copy, you can come very close to a finished product with none of the costs normally associated with a complete comprehensive.

The comps on these pages were designed and laid out completely on a computer. Artwork was accomplished on Aldus FreeHand and layout was done using PageMaker. The technique involves creating the artwork (line work and shading) in FreeHand; exporting the finished artwork in Encapsulated PostScript for placement in PageMaker; placing the artwork and sizing it in PageMaker (it can be reduced, enlarged, or cropped to suit your needs, but it pays to work in FreeHand in some increment of your final product); and adding the copy elements in PageMaker, which manipulates text more flexibly than FreeHand. As you can see, the final product is very polished.

Creating display type in other programs, such as Adobe Illustrator and FreeHand, does have its advantages. The latest version of FreeHand provides for automatic kerning of all the letters in a single word or text block by simply grabbing a handle and stretching the block. In addition, headlines exported to page-layout programs such as PageMaker can be stretched, sized, or distorted - something you can't do with display type created in PageMaker itself.
Most clients expect color comps, and the newer software programs (\textit{FreeHand} and \textit{PageMaker} especially) take advantage of this. Color separations as well as spot color can be programmed into your layout, and separations can be printed off and combined for a finished product through the normal printing process. But, you don't need to go this far for comps, if (and this is a big if) you have access to a color laser printer.

Color laser printers can actually produce full-color comps based on your instructions in your illustration or page-layout program. The problem is that color laser technology is very expensive. The only other quick and dirty option is to try out one of the new color copying systems using your laser-printed color separations much the same way a printer would. If you limit yourself to large areas of color and don't get too fancy, the outcome can be adequate. Registration may be a problem, for there is no way to register accurately on a color copier of any type.

Even without a color laser printer, you can still execute professional color comps by simply using oil-based design markers to color your laser-printed comps. The oil-based markers won't smear the toner used in most laser printers. Or, if you don't like the smell of markers, try soft, colored pencils. The beauty of this method is that, because \textit{FreeHand} illustrations are already shaded, all you have to do is apply a base color to the illustration.
Preparing The Mechanical

The final stage of layout is the mechanical, the finished layout that goes to the printer. Again, the computer has revolutionized this process. If you are diligent, exact, and working with a limited range of graphics, you can literally present your printer with a mechanical in one piece - *with no pasted-up parts*! We have, in fact, sent whole publications directly to our printer's Linotronic 300 typesetter via our computer network and had the camera-ready mechanical handed back to us for inspection within a few hours. You can even go directly to negative film from a Linotronic, saving the cost of shooting negatives from a positive mechanical - but only if you are completely satisfied with your layout.

Assuming you are working in black and white, there are several ways to construct your mechanical.

1. You can have it run *entirely* off a Linotronic, either from your computer disks or through a network or phone line hookup. This implies that all of the elements on your mechanical are computer generated - word-processed text and display type; borders, boxes and rules produced in your page-makeup program; photos scanned, cropped and sized in either a photo manipulation program - such as *Photostyler* - or right in your layout program; illustrations created in a paint, draw, or illustration program and imported or placed in your layout program; and any color separations already accounted for by your software.

2. You can run the basic mechanical (text, display type, rules and boxes) on a Linotronic and have photos and art shot separately and stripped into the negative before the printing plate is made. If you don't have a scanner or access to electronic clip art, this is probably the closest you'll get to having the whole thing done in one step. Even at this level, the savings in typesetting and pasteup alone are worth it.

3. You can run your mechanical on a laser printer at either of the above two levels. This assumes you either don't have access to a Linotronic, or you don't feel that the extra quality is needed for your particular publication. Some very nice newsletters and brochures can be offset printed directly from laser-printed mechanicals. The difference to the trained eye (or anyone with a magnifying glass) is the type. It bleeds badly at larger point sizes and can even look fuzzy at smaller sizes. But if you're on a shoestring budget, this is a great compromise.
Adding Color

Many page-layout programs support spot color, and many more are developing color capabilities. Both page-layout programs like PageMaker and illustration programs like FreeHand have the ability to add color and make separations for printing. In fact, at this writing, FreeHand contains a complete Pantone library of colors as well as the ability to mix your own, and the newest version of PageMaker will have full-color capabilities including the Pantone library.

The only drawback is the exactness of the color separations - they are too exact. If you opt not to have your colors overprint (a wise choice unless you're intentionally trying for a special look) both FreeHand and PageMaker knock out the shape of the colored object on the object beneath it. Ideally, this allows one color to print in a white space designed exactly for it. In reality, printers usually provide for a tiny overlap between the knockout and the color printed over it. Without this overlap or shadow, and if registration isn't absolutely exact, you'll most likely end up with tiny slivers of white space where the top object didn't quite fit into the knockout below it.

If all you're doing is adding some spot color, both programs, and many others, will do just fine. Just remember, working with color has always been a difficult proposition. Working with it on a computer can be rewarding and exciting, but it is also confusing and occasionally frustrating.

One final word of warning. If you are thinking of investing in color capabilities for your computer be aware of the WYSIWYG problem (what you see is what you get). Color monitors are the greatest thing since sliced bread, but they're hardly accurate. Don't expect the color you see on the screen to replicate on your new $8,000 color printer or look the same in your finished job. One problem is that color monitors use light-mixed colors that just don't look the same as colors mixed with real ink. What can you do?

- First, set up your monitor with a color card. They are usually provided with the monitor. Some software programs, such as Aldus FreeHand, provide a color card based on the Pantone system. Get as close as you can to these color cards and check the adjustment every so often to make sure it hasn't wandered.
• Once you have set up color in a publication, check it against what your printer is using. Don't expect a color comp run on a color printer to match anything the printer has. Be ready to get a close match, or re-spec your color based on printer samples. If you use Pantone or another coded system, you can easily check out what you thought was Reflex Blue on your screen by taking a quick look at your printer's Pantone book.

• Finally, be prepared for disappointment if you rely too heavily on your color screen for the final word. Use your monitor and software programs to their fullest, but be sensible and talk over your choices with your printer and look at samples.

Remember, the closer you can get to a finished mechanical on a computer, the more cost effective your production process is going to become. With the possible exception of scanned photos, the rest of the process saves money. Once scanned photos reach the quality of photographic halftones and the printing process quickens, prices will drop. Then you won't see any more traditionally done photos in publications.