CHAPTER 5

Is Seeing Believing? The Art of Visual Rhetoric

What's Inside:

- How to build your "visual" vocabulary
- Visuals and human perception
- Images and icons
- Interaction between visuals and text
- Design tips from designers

There are painters who transform the sun into a yellow spot, but there are others who, thanks to their art and intelligence, transform a yellow spot into the sun.

PABLO PICASSO

Visual design is as important as text in creating persuasive Web sites. Whereas text depends on the credibility, conciseness, clarity and coherence of words as rhetorical tools, Web design relies on creating a consistent and coherent look-and-feel. However, it's important to remember that text and visuals don't exist separately from one another. Rather, they must work together rhetorically in what information designer Robert Horn (1999:27) calls *visual language:*

> Visual language is defined as the tight coupling of words, images, and shapes into a unified communication unit. "Tight coupling" means that you cannot remove the words or the images or the shapes from a piece of visual language without destroying or radically diminishing the meaning a reader can obtain from it.

The rhetoric of online visual language, within the constraints of technology, should represent the site's identity and goals, and work to ensure that the drive-thru reader will stop long enough

Visuals and text work together rhetorically.

to find out what the site has to offer. As Web design specialist Patrick Lynch (2000b) notes: "A strong and consistent enterprise identity can aid in establishing or legitimizing institutions, creating trust and authority. All long-lasting forms of group identity must be ritualized and symbolized, with titles, graphics, customs and other visual and functional evidence of social cohesion and purpose."

The area of visual rhetoric falls within the expertise of the Web designer. However, most graphic designers are facing the same problems as professional writers/editors in adapting print-based skills to a Web environment. As professor of communications design Katherine McCoy (1999:8) says: "Most of the pioneering graphic designers who specialize in new media today have had to acquire this knowledge informally, largely through trial and error, in the context of professional design practice." For designers, this means trying to create pleasing aesthetic experiences within the limitations posed by the computer environment. Visual designers Kevin Mullet and Darrell Sano (1995:11) describe it this way:

> Good design defuses the tension between functional and aesthetic goals precisely because it works within the boundaries defined by the functional requirements of the communications problem. Unlike the fine arts, which exists for their own sake, design must always solve a particular real-world problem. Functional criteria govern the range of possibilities that can be explored; aesthetic possibilities that are not compatible with this minimum standard of usability must be quickly discarded, if they are considered at all.

Figure 5.1 demonstrates the difficulties that graphic designers face in creating effective graphical user interfaces (GUIs) for the Web.

As part of the Web production team, you'll find yourself interacting with a designer(s) on a regular basis. The client and/or designer may want your opinion on design, or you may not like the way a design affects text, or you may have a design idea that you think would be effective. In any case, the more you understand how visuals act rhetorically, the more valuable you'll be to the production team.

It's also useful when thinking about design to consider the quality of graphics on the Web site, such as photographs, clip art, and illustrations. Low-quality artwork has the same adverse effect on credibility as text presentation that has typos, grammatical mistakes, spacing inconsistencies, and spelling errors. High-quality visuals suggest a commitment to excellence that contributes to strong credibility.

Figure 5.1 Web design is in a state of constant experimentation with no right or wrong answers.

You need a "visuals" vocabulary.

We can't cover the vast scope of design and graphics issues regarding the Web in this book. Nor is it our intent to analyze in this chapter the integration of audio, video, and animation as part of a site's multiple media mix. If you want to explore these areas of specialization, you'll find many books, both academic and professional, on these topics. Rather, our intention is to provide you with different frameworks to think about how people perceive and react to visuals, specifically graphical images and how they are arranged and displayed. As a result, you'll have words for talking about design that extend far beyond: "It just doesn't appeal to me"—a statement that won't help either the client or designer on your production team. At the end of the chapter, we also provide you with a table of useful graphical tips culled from our work and readings on Web design.

"A Picture Is Worth a Thousand Words"

In Chapter 2, we noted that seeing is an innate skill that enabled our species to survive. We know how to look at something and grasp what it's about in a glance. Text, on the other hand, is not something we can decipher immediately. We have to read it

first. Information designer Yvonne Hansen (1999:204) explains why "A picture is worth a thousand words":

> The advantage of fusing graphics along with words and phrases is being able to see relationships and structure among the data that are obscured in a text-only situation. Detecting patterns, which are visual phenomena, in a field of text is virtually impossible. In addition, reading and analyzing page upon page of text requires a powerful memory and the ability to absorb, store, categorize, and retrieve information. However, when information is presented in graphic form and concepts are given shape, relationships among the various elements are easier to see. And, as the graphic representation is further enriched with visual information, long-term memory is triggered and even more information and perceptions can be added, enabling viewers and oneself to detect new patterns, processes, and other phenomena.

Communicating through visuals is an economically efficient way to get messages across to users, particularly on the Web where screen real estate is at a minimum. The problem is, however, that although we can all agree about the subject of an image, that is, it's a house, a landscape, an animal, and so on, our individual perceptions about that image may be very different.

What Is an Image?

An image is an icon, index, or symbol.

Online graphic visuals—color, background, icons, illustrations, and photographs—are powerful tools for communicating with users and equal to text in delivering persuasive messages. McCoy says that visuals can act on their own or interact with text, supporting, enhancing, or detracting from it. Visuals can underscore a particular message or provide a counterpoint to it, thereby creating new meaning beyond what is in the text. "Images are visual words," she notes, "and visual communications is a tightrope act between the visual and the verbal."

McCoy points out that all images—from those found in comic strips to those in photography—fall into one of three categories: iconic, indexical, or symbolic.[1]

The Image as Icon

An image is iconic if it bears a similarity or resemblance to what we already know or conceive about an object.[2] For example, a map, painting, and photograph are icons. A familiar icon on the Web, shown in Figure 5.2, is the house on a navigational bar as a link to the site's home page.

Figure 5.2 The image as an icon.

The Image as Index

The indexical image is recognizable, not because of any similarity to an object or person, but because we understand the relationship between the image and the concept that it stands for. A weathervane, for example, has no resemblance to any aspect of weather, yet it stands for the concept of wind. A standard Web indexical image is the upward-pointing arrow on a scrollable page. Indexical images are often only understood within a cultural context. As Figure 5.3 demonstrates, some indexical images may require text in order to make them more understandable to a variety of audiences. In this case, the two pens holding hands is not sufficient to explain that the image stands for penpals.

The Image as Symbol

In this case, the image has no visual or conceptual connection to an object or person. We only know the meaning of the image because of convention, that is, it's something that we've learned.

Figure 5.3 The image as an index.

Indexical Signs and Deduction

I think of indexical signs as the Sherlock Holmes class of signs, because deductive reasoning and life experience can help you figure out a great deal of information. For instance, a plume of smoke means fire near its base. A footprint in the sand is the effect of a foot landing there. With a basic amount of cognition, you can tell the direction of the walker, as well as his or her relative size and if he/she were walking or running. It takes more life experience to know that measles' blisters indicate the presence of a disease, and some education to know that it would show up in a blood sample under a microscope. And you'd have to live in a certain geographical location to know that rust on a used car in Los Angeles indicates that it has been in the upper Midwest or Northeast, where they use salt on the roads. There's always a strong cause-and-effect relationship between the indexical sign and its meaning.

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A word, for example, is a symbol because it doesn't resemble what it stands for, nor does it have any relationship to what it signifies. Take the word *rose*. It doesn't look like a rose or bear any relationship to the concept of a rose. A standard Web symbol, shown in Figure 5.4, is the line beneath a word or phrase used to indicate a link.

Images, whether iconic, indexical, or symbolic, help users in the cognitive processing of information. Human-computer interaction researchers Eric Wiebe and Julie Howe (1998:226) say that images: "...can increase the size of the information chunk to be processed: The same [mental] resources used to process a single sentence of a paragraph can be used to process a graphic that

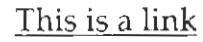

Figure 5.4 The line beneath the word is an image as symbol.

Table 5.1 Seeing Versus Reading

SEEING IMAGES	READING TEXT
Visual	Verbal
Intuitive	Rational
Holistic	Linear
Simultaneous	Sequential
Experimental	Intellectual
Right brain	Left brain

Source: Katherine McCoy, 2001.

summarizes the entire paragraph." However, as Table 5.1 demonstrates, we process images differently than we process text.

It's also important to understand that our minds sometimes *read* images and *see* text. McCoy notes that we tend to *read* visual codes such as icons, indexes, and symbols in much the same way that we read text. And, we also tend to *see* text first as graphical images. This is significant for Web writing/editing when you consider how quickly users run their eye over a Web page trying to decide if they want to stay or leave. They're not reading the text at this point, but viewing the text as an image and getting an holistic impression of it. They *experience* it in a quick glance. Short chunks of text, supported by headers and surrounded by white space, will have a different visual impact than large chunks of text without breaks. How users feel about text from a graphical point of view, particularly in an environment that causes quick eye fatigue, has a strong effect on their willingness to shift from seeing it as a graphic to reading it as a text.

What Do We Really See?

Although the ability to see is innate, each user reacts to graphics differently. Visual communications and advertising researcher Ann Marie Barry explains that what we see as individuals varies significantly because of our individual needs and experiences. At the same time, there are significant and deep similarities in the way we respond to visuals. Barry says that each act of perception involves four elements:

- **Visual stimuli:** First, we receive visual stimuli from our environment, initiating the process of perception.

Each of us "sees" differently.

- **A gut-level reaction:** We become aware of the perceptual process as an immediate emotional response to the visual stimuli, according to basic perceptual laws developed through brain evolution. In essence, self-preservation makes us look for patterns that help us understand how the world works, and these patterns then serve as maps to understand new stimuli and events. For example, certain colors, shapes, and even facial expressions are pan-cultural and universally understood because they're so deeply rooted in our evolutionary psyche. Researchers in this field have shown, for example, that similar patterns in facial expressions reveal the same basic emotions across cultures. And visual experts point to the ability of basic shapes to evoke emotional states, such as a diagonal or triangular shape to create tension and movement, a square to suggest stability, and a circle to create a sense of security and community.
- **Reactions based on our current needs:** What we want or need at the moment also affects how we see. If, for example, we've decided to purchase a new piece of clothing, fashion pictures will take on more conscious significance than usual, but we may also be more susceptible to fashion images if we're anxious about our social position. When we purchase advertised products, we use their advertising images to *re-advertise* to others who we are and which groups we are part of.
- **The ongoing development of mental templates based on our past experiences and memories:** These templates are the result of emotional learning built by past social and cultural experiences, and they're etched more deeply each time we see an image and fit it into its appropriate context. This etching is not conscious on our part. It's an unconscious process that results in the feeling that something we've seen feels right or not, depending on the exactness of its fit into these templates. Different images, therefore, have different cultural, and even generational, impacts.

These templates are extremely powerful in the overall process of perception. For example, the appropriate body shape for women in Western society has been determined, not by any rational principles, but by the continual re-etching of our mental templates through the portrayal of women in

various media. Barry (2001) describes the evolution of this template:

- **1965:** British model Lesley Hornby, known as Twiggy, was ridiculed by the American edition of *Vogue* for her thinness and lack of feminine shape. She was five feet, seven inches tall and weighed 92 pounds.
- **1967:** By now, Twiggy had taken the international fashion world by storm and provided a role model for a new generation of young women who began to starve themselves in ever-increasing numbers.
- **1980:** The term *anorexia nervosa* first made its appearance in the American Psychological Association's *Diagnostic and Statistical Manual* (DSMII), which recognizes psychiatric disorders.
- **1984:** A *Glamour* magazine survey reported that 75 percent of respondents between 18 and 35 years of age believed they were fat, while only 25 percent actually were overweight. Significantly, 45 percent of women who were underweight still believed they were too fat.
- **1987:** The average fashion model reportedly weighed 23 percent less than the average American woman.
- **1996:** A study of 2,379 preadolescent girls by the National Heart, Lung and Blood Institute found that 49 percent of nine- and ten-year-old girls were trying to lose weight.
- **Today:** Eating disorders are more rife than ever before and, in the United States and Great Britain, anorexia has the highest death rate of any mental illness.

Don't Let Gestalt Get You Down

When you become involved in Web design issues, you may begin to hear about Gestalt theory without getting a clear idea what it's about. Essentially, Gestalt is a general psychological theory, developed in the late 1890s and early 1900s, that described the whole of anything as greater than its parts. This theory evolved in reaction to other psychological movements of the time that attempted to analyze mental experiences in a piecemeal fashion, that is, separate from their context and broader meaning for the individual. As psychologist Peter Grey

The Emotional Basis of Perception

We're all victims of perception. The way our brains respond initially to an image is based on primitive, neurologically based perceptual laws that establish unconscious attitudes and motivate action. Essentially, we acquire visual wisdom about what's "right" and "wrong" from an emotional base, rather than a rational one. This means that to work most effectively, designers must develop an understanding of how people receive information below the surface of awareness, and learn to integrate the whole design into a coherent and psychologically appropriate pattern, rather than to merely "decorate" with particulars. A novice designer might add colors simply because they are personally appealing or because they are trendy, instead of analyzing the underlying psychological impact of those colors in relation to a design or marketing function.

A red context, for example, excites us and makes time seem to slow down; a blue context keeps us calmer and less aware of time passing. Large amounts of white space immediately upscale a product, while clutter will downscale it considerably. I suspect that the great visual artists have always understood how the brain works by sensing their own emotional responses to the subtleties of shape, lighting, color, texture, and space. They seem to know instinctually how to use visual elements to create the impact of a whispered "Listen!" around their commercial products, fine art works, and environmental designs.

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explains (as quoted in Moore and Fitz, 1993:138) the basic premise of Gestalt psychology:

> ...was that the mind must be understood in terms of organized wholes, not elementary parts. A melody is not the sum of its individual notes, a painting is not the sum of the individual dots of paint, an idea is not the sum of elementary concepts that make up the idea. The meaningful units of consciousness are whole, organized constructs—whole melodies, whole scenes, whole ideas—that cannot be understood by analyzing elementary judgments and sensations.

The Gestalt Principles

Gestalt principles explain some visual reactions.

Gestalt psychological theory had a major influence on the study of human perception. When applied to art and design, Gestalt theorists emphasized the overall structure or pattern as the primary way we perceive form. Human-computer interaction researchers William Marks and Cynthia Dulaney (1998:32) explain that: "In processing visual displays, some aspects are perceived as figure, or that which is attended to, and other aspects are considered background, or that which is unattended to. Several principles of organization facilitate processing the components of a visual display into meaningful figures or units." The Gestalt principles are *figure-ground segregation, proximity, similarity, continuity,* and *closure.*

Figure-Ground Segregation

We always perceive visual objects against a background. In other words, without an existing background, we wouldn't be able to perceive an object. Figure 5.5 plays with our perceptions of figure-ground segregation by creating two different visuals. Either we perceive the image to be two faces looking at one another against a white background, or a vase with handles against a black background.

A secondary principle of figure-background segregation is that of *area.* As Figure 5.6 demonstrates, when two figures overlap, we see the smaller as the figure with the larger as the background.

Figure 5.5 The Gestalt principle of figure-ground segregation.

Figure 5.6 The Gestalt principle of area and figure-ground segregation.

Figure 5.7 The Gestalt principle of proximity.

Proximity

We perceive visual objects closest together as a group, even if such objects are not similar in shape or function. Figure 5.7, an emoticon, appears as a smiley face because its individual objects —the colon, dash, and bracket—are together and separated from the rest of the words in the sentence by spaces.

Why we perceive this group of items as a *face* doesn't have anything to do with Gestalt principles. Cartoonist Scott McCloud (1993) has an interesting theory that we, as human beings, are so inclined to make the world over in our own image, that we can't avoid seeing faces in any object whose elements could be interpreted as facial. For example, even an object as seemingly unambiguous as a wall socket has three plug holes configured in such a way that they can be construed as eyes and a mouth.[3]

Similarity

We perceive visual objects that appear alike in terms of form, size, color, and so on as a group of objects that belong together. Objects that don't fit within the grouping will be seen as separate entities. In Figure 5.8, we see two different groups of boxes because of the size difference between them.

Continuity

We perceive visual objects that continue a pattern or direction to be grouped together as part of the same pattern. For example, in Figure 5.9, we see the object as two lines crossing rather than four lines meeting at the center.

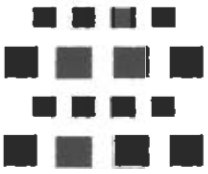

Figure 5.8 The Gestalt principle of similarity.

Figure 5.9 The Gestalt principle of continuity.

Closure

If we see an object that is not a complete shape, we attempt to organize that object into a closed structure. For example, in Figure 5.10, we see the object as a circle rather than two independent brackets.

How You Can Help

As Barry says, "The Gestalt principles are hard-wired into our brains." This means that when a Web design violates these principles, it adversely affects what the site is trying to communicate. Instructional designer Bonnie Skaalid puts it this way: "The Gestalt principles help people focus in a holistic way that can't be divorced from usability." Knowing the Gestalt principles may help you understand why you react to a visual in a negative way. For example, in most projects, a designer will provide several different concepts for the look-and-feel of the graphical user interface (GUI). Figure 5.11 is a replication of one such concept that we encountered during a project.

We found that this design forced us to look left to the monitor screen away from the content, rather than back towards the center where the text was contained. Essentially, the arrow shape was forcing our eyes left because of the Gestalt principle of continuity. According to this principle, we're compelled to visually follow the vector of an object, even beyond the boundaries of that object.

Figure 5.10 The Gestalt principle of closure.

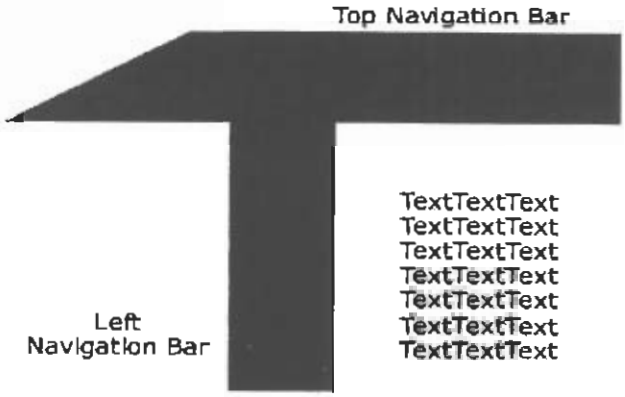

Figure 5.11 A GUI design that misuses the Gestalt principle of continuity.

Knowledge of this principle gave us the vocabulary to explain to the client why we felt this GUI concept design wasn't as appropriate as others the designer had provided.

The Psychology of Art

Vision and perception are different.

Rudolf Arnheim, building on the tradition of Gestalt psychology, was one of the most important researchers to promote a psychological approach to perception and aesthetics. Working after World War II, he made a major contribution to understanding art by separating the concept of "seeing" from that of "perceiving." In doing so, he set forth a number of principles that are useful in understanding how we react to Web design and navigation.

Perception as Cognition

We are not passive receivers of a visual scene, but actively work to perceive what is before us. As Arnheim (1969:15) says: "The world emerging from this perceptual exploration is not immediately given. Some of its aspects build up fast, some slowly, all of them are subject to continued confirmation, reappraisal, change, completion, correction, deepening of understanding." For most of our visual experiences, perception as cognition happens unconsciously, or we would spend an inordinate amount of time just thinking about what we are seeing. However, if you've ever sat before the "Home" page of a poorly designed Web site, trying to conceptualize what it is all about, you've

experienced the interaction of perception and cognition in a conscious and likely painful and/or frustrating way.

Richard Johnson-Sheehan, a researcher of language and rhetoric, and Craig Baehr, a technical writer and Web page designer (2001:22) compare the cognitive issues of reading text in print versus on the Web: "...the basic linearity of the text defines how users conceptualize their place in the document. They still see themselves somewhere on a line between the beginning of the text and the end. In contrast, hypertexts urge users to think visually as they orient themselves in the text-space and determine where they might travel in the site." As a new medium, the Web presents users with new cognitive challenges that they must face in order to achieve their information goals.

Vision Is Selective

Arnheim (1969:20) reminds us that our eyesight evolved as a biological necessity for survival and, for this reason, it wouldn't be functional for us to focus on everything in our visual field with equal concentration. Rather, we focus only on select items that are meaningful to us—primarily things that change in our environment. "When something appears or disappears, moves from one place to another, changes its shape or size or color or brightness, the observing person or animal may find his own condition altered: an enemy approaching, an opportunity changing, a demand to be met, a signal to be obeyed." However, if change is repetitious, we lose interest in it—again a biological aid. We've figured it out and are ready to move on to the next interesting visual item.

Motion and change attract the eye.

To take advantage of our selective vision, Johnson-Sheehan and Baehr (2001:24) suggest that: "Any changes on the screen should reflect new information [which] should appear in predictable places on the screen..." In other words, altering navigation design so that changes occur in different places detracts significantly from usability. As well, our selective vision explains why users become bored and irritated by repetitive on-screen movements such as those found in Web site animation, banners, and *screen candy*—often images with one continually moving part and pop-ups that appear and disappear.

Fixation Solves a Problem

Arnheim (1969:23-26) notes that the human species, which is at a "biologically higher level" than other species, has a greater

ability to choose stimuli and react to them. These choices reflect the cognitive behavior of problem-solving because it allows us to determine our visual focus: on what, where, and how long. Although the field of our acute vision is limited to a narrow area, he notes that: "This limitation, far from being a handicap, protects the mind from being swamped with more information than it can, or needs to, handle at any one time. It facilitates the intelligent practice of concentrating on some topic of interest and neglecting what is beside the point of attention."

Users arrive at a Web screen, seeking answers to information problems. Arnheim's (1969:35) description of how a viewer approaches a work of art is applicable to how they approach the look-and-feel of a Web site:

> ...the observer starts from somewhere, tries to orient himself as to the main skeleton of the work, looks for accents, experiments with a tentative framework in order to see whether it fits the total content, and so on. When the exploration is successful, the work is seen to repose comfortably in a congenial structure, which illuminates the work's meaning to the observer.

This concept—that a viewer can have a successful exploration of a work of art—applies to a user's exploration of a Web site. A GUI that we call *intuitive* is one that allows us to immediately grasp the meaning and overall information structure of the site without a struggle of comprehension. The rhetorical goals of Web design must be to facilitate, not hinder, this process. For example, very cluttered design makes it difficult for viewers to concentrate on any one item. On the other hand, design that is too spare means that users may not have enough information to understand what the site is about and, also, may decide that the site doesn't supply enough information. This issue regarding Web design is beginning to be a major part of usability testing and research.

Discernment in Depth

Focus reflects visual choice.

When our eyes fixate on an object, our field of focus is very narrow. If we're looking at something close-up, the background is blurry. If we look at the background, closer items become blurry. As we focus, we make choices about what is relevant to us. However, as Arnheim (1969:27) states: "This strategy of thought may be hampered at its very foundation when the visual range of the situation to be contemplated is incorrectly chosen...Since rea-

soning about an object starts with the way the object is perceived, an inadequate percept may upset the ensuing train of thought." Consider what happens when you arrive at a Web site. Suppose you focus on a visual first. Everything around it will disappear from your vision as you stare at it. What happens if you can't figure out what it means? Or if it sets you on the wrong track of thought? Would you stay? Chances are, you'd act like most drive-thru readers and leave immediately, searching for some other site where the information will have more clarity.

In Chapter 4, we discussed text from the IRS Web page, "Tax Info For You." Figure 5.12 shows the first screen of that Web page. Notice the graphic items at the top: a tabletop jukebox and a blender. How precisely are these objects connected to the United States federal income tax? What do they have to do with taxpayers? What do they have to do with one another? The text in the top banner:: "We'll help you select what you need. And you won't get mixed up in the process," verbally sets up two obscure visual-conceptual relationships: 1) choosing music from a jukebox with selecting the right tax forms, and 2) mixing food in a blender with not getting mixed up while filing taxes. The choice of objects in this figure creates rhetorical confusion in meaning and a resulting lack of clarity between design and text that is, unfortunately, not uncommon on the Web.

Shapes Are Concepts

Arnheim (1969:27) says that we define the shape of an object based on the concept of the shape that we hold in our mind, as opposed to the actual object itself. "The full moon is indeed round, to the best of our viewing powers. But most of the things we see as round do not embody roundness literally; they are mere approximations." In other words, as we view objects, we

Figure 5.12 What happens when the choice of objects doesn't rhetorically enhance text. ?

March 30, 2001 (www.irs/gov/ind_info/index.html)

fit them to mental templates that make it easy for us to identify and classify them. Johnson-Sheehan and Baehr (2001:26) describe good visual rhetorical strategies with regard to shapes on the Web:

> On the screen, visual elements should be simple, consistently used, and familiar. Strange or unfamiliar shapes will slow the users' reading process down considerably, because the users will either 1) need to reform these abnormal shapes into pre-established conceptual categories, or 2) create a new conceptual category into which they can place the unfamiliar shape. To help the user be more efficient, simple and consistent shapes should dominate the design. Strange shapes should be used only when the designer *wants* the users to slow down.

Consistency in shapes and other design features is often a problem on both the Internet and Intranet sites of large organizations where there is no centralized Web team, and different departments publish independently of one another. The result can often be chaotic and disorienting for users.

Perception Takes Time

As we noted earlier, people "read" graphical images. Arnheim says that, although we can see by instinct, perception is a learned skill, developed through time and based on our cultural, educational, and personal experiences. Arnheim (1969:31) notes that: "What is rational for one group, will be irrational for another, i.e., it cannot be grasped, understood, compared or remembered." Graphic design expert and architect Roger Whitehouse (1999:107) provides an example of a cultural difference that demonstrates this principle:

Perception is cultural.

> In Western culture the environment abounds in straight, and frequently parallel lines: the facades of buildings, streets and sidewalks, railroad tracks—our world is constructed of beams, blanks, and panels whose very essence is to be parallel. Moreover, an environment of parallel lines is one rich in natural perspective—the lines of the curb, street, or highway converge toward a point on the horizon.
>
> People in other cultures, such as the Zulu of Africa, see far fewer straight lines. Linear perspective is rarely experienced and so is typically not a developed attribute of their perception. Instead, they inhabit a landscape of plains, hills, and meandering rivers inhabited by trees and animals. Their immediate environment is of circular huts, pots, and baskets. Instead of the linear perspective

> with which we are familiar, they inhabit a free-form world of organic shapes. As a result, their perceptual experiences tells them, size is the clue to distance; perspective is of little consequence.
>
> When given distortion-illusion tests, the Zulu react only slightly to the effects of perspective. By contrast, in industrially developed cultures, the effects of perspective very strongly affect our perception.

Such cultural differences have important implications for clients who want their Web sites to reach a global audience. (See Chapter 9, "Keep CALM: Content and Logical Management" for an in-depth discussion of Web development and international audiences.)

How You Can Help

It's important to realize that, if you're having difficulties with the look-and-feel of a site, the problem isn't necessarily you. It's very likely that other users may encounter the same problems. Here are some suggestions for working with your production team to enhance the site's visual rhetorics based on Arnheim's principles:

- Work with the designers to ensure that major design elements remain consistent throughout the site.
- If the site isn't intuitive for you, ask the production team to consider the design from Arnheim's principle that fixation solves problems, that is, the user will study the look-and-feel with a goal in mind. This may help focus the team on user needs and get an arm's length distance from the novelty, imaginative, or creative elements of the Web page design to which team members may have become attached.
- Discuss usability issues with regard to visuals such as banners and repetitive animation. See if the team can develop alternative design strategies.
- Try to make the subject of illustrations, photographs, mouse roll-overs, and other visual highlights such as color changes and distinguishing lines part of team discussions. Ask questions such as:
  - Are these elements as appropriate as they could be?
  - Do these elements enhance the text or detract from it?
  - How long will it take users to download these elements?

- Will these elements work in the two most commonly used browsers, Internet Explorer and Netscape?
- Will users understand what they mean at a quick glance or will they have to spend time figuring them out? What will happen if they're not immediately comprehensible?
- Have we taken into consideration accessibility and cultural issues? (For more information on these topics, see Chapter 9, "Keep CALM: Content and Logical Management.")
- Are there other choices we could make that would be more effective?

Visual Semio-What?

Current researchers of culture, noting the increasing use of visuals in all forms of media—from more photographs in newspapers to multimedia on the Web, believe that viewers need to be more critically aware of how and why images are produced, and the ways they affect us, emotionally and cognitively. Barry (1997:6), pointing to the use of digitized images which can be easily manipulated, says : "Today, so ubiquitous is the impact of the visual on our lives, so dire are the consequences of actually believing what we see, that even visual 'literacy'—with its sense of simply understanding what we see and being able to converse in a similar language—is not enough."

An image's meaning reflects its cultural context.

How, then, can viewers be more visually literate? In Chapter 2, we discussed a field of research, known as social semiotics, that explores how people make meaning out of the language, actions, and objects in their lives. In the past, social semioticians focused their analyses on language in documents and conversation. During the 1990s, the increasing use of multiple media in print and on the Web led a number of researchers to study visual semiotics in order to develop a theoretical framework that would explain how images interact with print to make meaning in social and cultural contexts. Discourse analysts Gunther Kress and Theo van Leeuwen (1996) provide one such framework that describes how people react to visuals in Western cultures.

The Image Act

The next time you look at an illustration, photograph, or painting, examine the participants in it and ask: Where are the partic-

ipants in an image looking? At each other, into the distance, directly at the viewer? And how do these different portrayals affect me? According to Kress and van Leeuwen (1996:122-125), there are two types of image acts.

- **Demand:** When the participant in an image looks directly at the viewer, that is, "a visual form of direct address."
- **Offer:** When the participant looks elsewhere, either outside the picture or at another participant in the image.

Figure 5.13 is an example of a visual *demand*. It's a photograph on a prototype Web site we developed for SEVEC Youth Exchanges Canada to help teachers and others organize homestay exchanges for young people. Note how the participants in the photograph are looking directly at the user. When this occurs, Kress and van Leeuwen (1996:122) say that the producer of the image "uses the image to *do* something to the viewer...the participant's gaze...demands something from the viewer, demands that the viewer enter into some kind of imaginary relation with him or her."

Also, notice the happy smiles on the faces of the participants in Figure 5.13. Put yourself in the place of a teacher or other organizer. How would those smiles make you feel about this organization? As one that would help you create happy, successful experiences for your students? The use of smiles and other expressions as well as gestures in an image are visual rhetorical

Figure 5.13 The image act as a demand.

strategies. Kress and van Leeuwen (1996:122-123) describe it this way:

> [Participants] may smile, in which case the viewer is asked to enter into a relation of social affinity with them; they may stare at the viewer with cold disdain, in which case the viewer is asked to relate to them, perhaps, as an inferior relates to a superior; they may seductively pout at the viewer, in which case the viewer is asked to desire them. The same applies to gestures. A hand can point at the viewer in a visual "Hey, you there, I mean you", or invite the viewer to come closer, or hold the viewer at bay with a defensive gesture, as if to say: stay away from me. In each case the image wants something from the viewers—wants them to do something (come closer, stay at a distance) or to form a pseudo-social bond of a particular kind with the represented participant.

Visual *offers*, on the other hand, provide users with objects to contemplate in an impersonal manner. Figure 5.14, a page from the Web site of the U.S. National Parks Service (NPS), is about United States history. Note how every object in the photographic collage is like a specimen in a museum display case, including the human face whose eyes are looking somewhere else. The designer created this collage to reinforce NPS's public image as the collector and protector of the American past. He or she didn't

Figure 5.14 The image act as an offer.
June 13, 2001 (www.recreation.gov)

want any particular item to be more important than another. Had the face demonstrated a demand, it would have dominated the image, pushing the other items into the background.

Social Distance

Every one of us has a sense of personal space around our bodies that is, generally, culturally determined. If someone, usually not an intimate, steps too close, we feel uncomfortable because that person has, as we say, "invaded our personal space." In visual media, personal space is determined by how the producer uses close-ups, medium shots, and long shots of participants. (This camera terminology is applicable to techniques in drawing and painting.) The field of study that analyzes how spatial distances between individuals affect their behavior, culturally and cognitively, is called *proxemics*, a term coined by Edward Hall (1966). According to the theory of proxemics, we can "feel" personal space in images.

Social distance is about intimacy.

- **Intimate distance:** We can see the head and face only.
- **Close personal distance:** We can see the head and shoulders.
- **Far personal distance:** We can see participants from the waist up.
- **Close social distance:** We can see the whole figure.
- **Far social distance:** We see the whole figure with space around it.
- **Public distance:** We see torsos of several people.

Kress and van Leeuwen (1996:133) use proxemics to describe how we react to participants in images with respect to how close or far away they seem to us. "The relation between the human participants represented in images and the viewer is once again an imaginary relation. People are portrayed as *though* they are friends, or as *though* they are strangers."

Look at the three people in Figure 5.15, a page from a U.S. government site about nutrition. You can see everyone, roughly, from the torso up. There is space around the figures and, if this group of people wasn't designed to seem like a family, the image could almost be described as a small crowd shot.

All three participants are at a public distance. Also, notice that not one of the participants is making a visual demand. In fact, the closest figure, the boy, is looking down so you can't even see his face. This Web site is about good nutrition for all Americans,

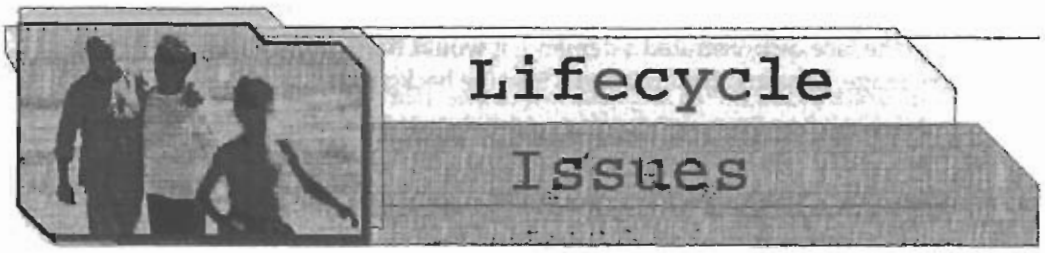

Figure 5.15 The figures are at a public, arm's length distance from the viewer. June 13, 2001 (www.nutrition.gov)

and the producer of the image wants you to view this group of people as representative. If you got too close to, or too involved with, the image's participants, you might begin to see them as individuals who don't represent you at all. Although we consider this photograph to be a poor choice because, in fact, it portrays only a white, middle-class group, its "public distance" does support the rhetorical strategy of the site.

Perspective and Angles

Perspective represents the image-maker's point of view with regard to the overall image. Kress and van Leeuwen (1996:135-139) note that, prior to the Renaissance, art works were generally part of locations such as frescoes or mosaics in a church. Such images did not have a single, centralized viewpoint, but were tied to their environment. It wasn't until an artwork became:

> ...an autonomous object, detached from its surroundings, movable, produced for an impersonal market [that]...a frame began to separate the represented world from the physical space in which the image was viewed: at this time perspective was developed, pictures began to be framed precisely to create this division, to mark off the image from its environment, and turn it into a kind of "window on the world".

Figure 5.16 is an example of the image of a house drawn *without* perspective. Figure 5.17 is an image of a house drawn *with* per-

Figure 5.16 An image without perspective.

Figure 5.17 An image with perspective.

spective. In the latter, the producer uses three-dimensional depth to accentuate certain features of the house and make it, overall, a much more engaging picture.

Perspective enables image-makers to make rhetorical choices about what to highlight within an image and what to play down. By doing so, they impose upon us their view of the world. Figure 5.18 is the main page of the U.S. Supreme Court's Web site. The photograph of the Supreme Court building is taken from an ant's-eye perspective. It allows the photographer

Perspective reflects point of view.

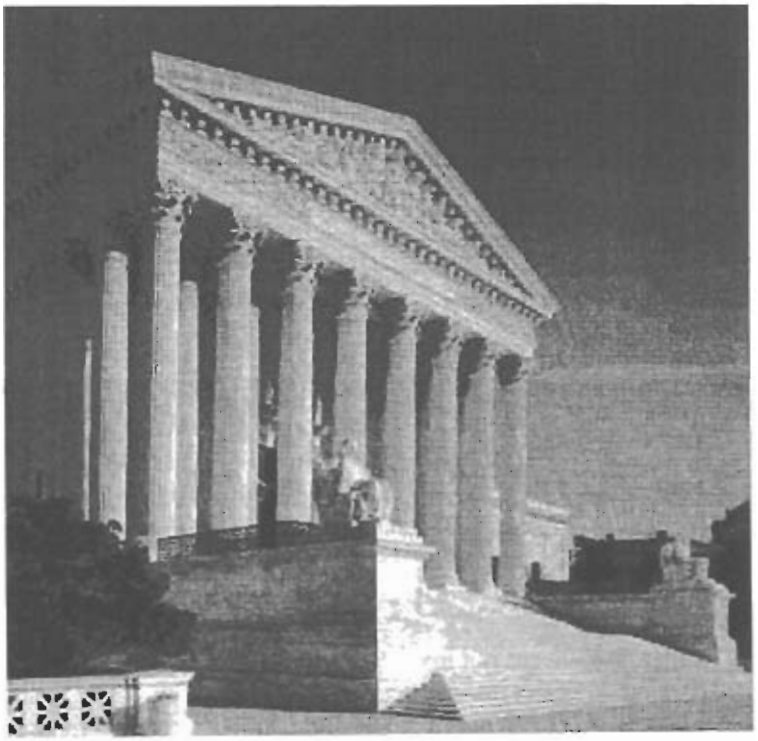

Figure 5.18 Glorifying the U.S. Supreme Court through perspective.
June 2, 2001 (www.supremecourtus.gov)

to glorify the Court by emphasizing the grandeur of its architecture and its classical elegance. Note, for example, how the perspective elongates the columns and makes the portico more imposing. As well, the photograph places the building at a high vertical angle from the viewer so that we must look up at it—a statement about the pre-eminent power of the Court. (For more information on the depiction of power in images, see *Vertical Angles and Power* later in this chapter.)

It's important to remember that the producer of this Web page had other photographic choices. For example, we could have seen the Court from a bird's-eye viewpoint, putting it within the context of its surroundings and giving us the higher angle. Or we could have had a photograph of the building taken on its steps so that we would be looking toward the interior—more of a medium angle that would imply some equality between citizens and the judicial system.

Horizontal Angles and Involvement

The horizontal angle is one in which the image-maker manipulates the frontal view of an object so that we see it directly facing us or at an oblique angle to us. Kress and van Leeuwen (1996:143) say that these different horizontal angles affect the viewer's relationship to the participants in an image. "The horizontal angle encodes whether or not the image-producer (and hence, willy-nilly, the viewer) is 'involved' with the represented participants or not."

- **The frontal view creates involvement.** "The frontal angle says, as it were: 'what you see here is part of our world, something we are involved with.'" In other words, the person in the image becomes one of us. In Figure 5.13, the participants in the SEVEC group are in frontal view. When you add that angle to the demand presented by the image act and their happy smiles, you receive a strong invitation to become part of the experience of that group.
- **The oblique view creates detachment.** "The oblique angle says: 'what you see here is not a part of our world; it is their world, something we are not involved with.'" In other words, the person in the image becomes another or in a group of others. Figure 5.19 shows the use of oblique horizontal angles to separate us, the viewers, from the intimacy of the couple in the image.

Figure 5.19 Oblique horizontal angles exclude the viewer.

It's important to consider, when analyzing the horizontal angle, how it can interact in interesting ways with the image act and social distance which we discussed above. For example, Kress and van Leeuwen (1996:144) take particular note of the double message that can be sent when an oblique horizontal angle is mixed with either a demand or an offer.

> The body of a represented participant may be angled away from the plane of the viewer, which his or her head and/or gaze may be turned towards it—or vice versa. The result is a double message: "although I am not part of your world, I nevertheless make contact with you, from my own, different work"; or "although this person is part of our world, someone like you and me, we nevertheless offer his or her image to you as an object for dispassionate reflection."

Vertical Angles and Power

Two types of vertical angles are important in analyzing visuals because they reflect the image-maker's messages about power among people in an image and between the viewer and the people in the image:

- **Vertical angle among participants within an image:** One or more participants look up to, directly at, or down at, one or more other participants.
- **Vertical angle between the participant(s) in the image and the viewer:** The image is designed so that we look up to, directly at, or down at one or more participants.

Figure 5.20 Vertical angles and power relationships in an image.

In either case, the angles have the same meanings:

- A high angle represents greater power. In Figure 5.20, the individual standing over the others and looking down at them is clearly the powerful figure in the setting.
- A medium angle represents equality. The seated individuals in Figure 5.20 are all at the same vertical angle to one another, suggesting a team of employees all holding similar positions within the organization.
- A low angle represents less power. The seated individuals in Figure 5.20 must look up at the standing figure, implying that they are positioned lower in the organization's hierarchy.

How You Can Help

When presented with images, some members of your production team are likely to make visual judgments almost instantaneously. Remember—we're all visual experts. However, they may not be able to articulate the reasons behind their likes and dislikes. Visual semiotics can help you describe your insights about images. Some important questions you can ask the team are:

- What messages do we want to send users through the visual impact made by this image?
- Does this image send those messages effectively? What criteria can we use to judge when an image is effective or not?

- Are there aspects of the image that might detract from its message such as the image act, social distance, perspective and angles?
- How does the image affect our thoughts and feelings? Will it affect users the same way?
- Are there other choices of images or a different organization of elements within the image that would make it more effective rhetorically?

Design Tips from Designers

Designers and users may not have an identical view of a Web site, because browsers and individual monitors can alter the appearance of Web pages. Therefore, designers must work within an environment where their choices are affected by circumstances outside their control. Despite this problem, the design community seems to be in agreement about some practical methods to enhance Web usability, particularly regarding text (see Table 5.2).

Visit this book's Web site to view different design choices.

Table 5.2 Design Tips

AREAS OF DESIGN	GENERAL TIPS FOR IMPROVED USABILITY
Fonts	■ Use san serif typefaces such as Arial or Helvetica. ■ Use 12- to 14-point type for continuous text. ■ Avoid putting text in all caps. ■ Avoid overuse of bold and italicized text. ■ Limit the number of different typefaces and sizes.
Words, Lines, and Spacing	■ Don't hyphenate words. ■ Type for extended reading should be flush left, ragged right. ■ Non-bulleted lines of text should be no shorter than 40 characters and no longer than 60. ■ Provide extra space between lines of type. ■ Put spaces between paragraphs. ■ Spacing between words and sentences should be consistent. ■ Use center spacing cautiously.

continues

Table 5.2 Design Tips (Continued)

AREAS OF DESIGN	GENERAL TIPS FOR IMPROVED USABILITY
Color in General	■ Use color for emphasis. ■ Overuse of color detracts from usability. ■ Colors should be used consistently to create relationships among objects. ■ Colors are affected by brightness and surrounding colors. ■ Keep contrast high by not putting text, backgrounds, and graphics in the same lightness.
Color and Eye Effects	■ Saturated colors—those that are bright and unmixed with any other color—cause eye fatigue. ■ The eye can't see blue as well as other colors, so it works best as a background, rather than a text color. This is a problem that increases with aging. ■ Consider how people with color-blindness problems will view the site.
Background	■ Create a clean look-and-feel by avoiding distracting backgrounds such as those with patterns. ■ Ensure that watermarks are not too strong. ■ White backgrounds provide the best contrast and aren't affected by browsers or monitors. ■ Light blue is a good color for backgrounds. ■ Make sure the background color doesn't interfere with link color.
Images	■ Make sure images are large enough to be seen and understood, but still are balanced within the context of the screen. ■ Create iconic images that are simple and distinct, and based on real-world objects so that users can draw on background knowledge to understand them. ■ Use a common style for all iconic images. ■ Don't mix visual metaphors. (A good example is that of the two unrelated icons in the "Tax Info For You" graphic in Figure 5.12.) ■ Add text labels to images to enhance understanding if necessary. Text can be inserted into the graphic or displayed through a mouse roll-over.

To Sum It Up

As a professional writer/editor, you have a high level of verbal skills and a heightened sensibility to words. These characteristics are essential to success in your field. However, you may not have had to consider visuals in your work before. In general, the more you wish, or are compelled, to get involved in Web site production, the more you'll have to hone your visual skills, your sensitivity to how such images interact with your text, and your ability to convey your reactions effectively to others. You'll also need to remember that your interpretations of visuals and those of the client and other team members are highly personal, affected by age, gender, education, and life experiences. In the projects we've worked on, we've found that this variety of individual preferences combined with innovative designers and a smoothly working team can result in highly satisfying results—text that is enhanced by graphics and more accessible and pleasing to users.

Resources for This Chapter

Books

The Icon Book: Visual Symbols for Computer Systems and Documentation by William Horton. A look at the wide variety of icons and how they are used by designers and perceived by users. (John Wiley & Sons: 1994)

The Essential Guide to User Interface Design: An Introduction to GUI Design Principles and Techniques by Wilbert O. Galitz. A good resource for GUI design and visual impacts. (John Wiley & Sons: 1997)

Visual Intelligence: Perception, Image, and Manipulation in Visual Communication by Ann Marie Seward Barry. Provides a discussion of the neurological and emotional bases of perception. (State University of New York Press: 1997)

Designing Visual Interfaces: Communication Oriented Techniques by Kevin Mullet and Darrell Sano. Describes the fundamental techniques for good graphic design within the context of communications. (Sun Microsystems Inc.: 1995)

Visual Intelligence: How We Create What We See by Donald D. Hoffman. A cognitive scientist's approach to how we perceive line, color, depth, and motion. (W.W. Norton & Co.: 1998)

Reading Images: The Grammar of Visual Design by Gunther Kress and Theo van Leeuwen. A seminal work for people interested in the theory of in visual semiotics. (Routledge: 1996)

Web Sites

Web Design for Instruction (www.usask.ca/education/coursework/skaalid/index.htm). Provides an excellent and easy-to-read overview of design theory, including the Gestalt principles.

Multimedia Design Bibliography (www.arts.uwaterloo.ca/~ipederse/index.html). Provides a thorough list of readings in visual theory and design with short descriptions of each entry.

Visual Intelligence: How We Create What We See (aris.ss.uci.edu/cogsci/personnel/hoffman/vi6.html). A selection of animations to demonstrate how we see visual motion.

Color Matters (www.colormatters.com). Explores color from the perspectives of psychology, philosophy, and art. Includes a section on "Color & Computers."

Colors for the Color Blind (www.toledo-bend.com/colorblind). Although designed to help users with color deficiencies, this site provides useful information, including color charts, for those interested in making the Web more accessible.

International Visual Literacy Association (www.ivla.org). For artists, educators, and researchers interested in different modes of visual communications.

Visual Literacy Bibliography (www.ivla.org/news/rdocs/vlbib/index.htm). A comprehensive list of resources for people who wish to delve deeper into theory.

Visual Information, Intelligence & Interaction Research Group (www.eng.auburn.edu/csse/research/research_groups/vi3rg/vi3rg.html). Provides readers with an idea of the type of academic work being done in this area of research.

Endnotes

1. McCoy's discussion of images is based on the work of American Charles S. Peirce (1839-1914) who is recognized today as an intellectual of extraordinary breadth with interests in areas such as mathematics, logic, and linguistics. He is considered a co-founder of the field of semiotics.

2. A very famous example of the image as an icon is René Magritte's painting of a pipe with *This is not a pipe* written below it.

3. In *Understanding Comics: The Invisible Art,* author Scott McCloud explains how cartoons and comic strips make meaning and examines a variety of different types of cartooning from American action/adventure comic strips to those that appear in different cultures. What makes this book a good read is that it is entirely written as a comic strip itself.