

FIFTH EDITION

PERCEPTION AND IMAGING

PHOTOGRAPHY AS
A WAY OF SEEING

JOHN SULER AND
RICHARD D. ZAKIA

A **Focal Press** Book

Perception and Imaging



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Perception and Imaging

Photography as a Way of Seeing

Fifth Edition

**John Suler and
Richard D. Zakia**

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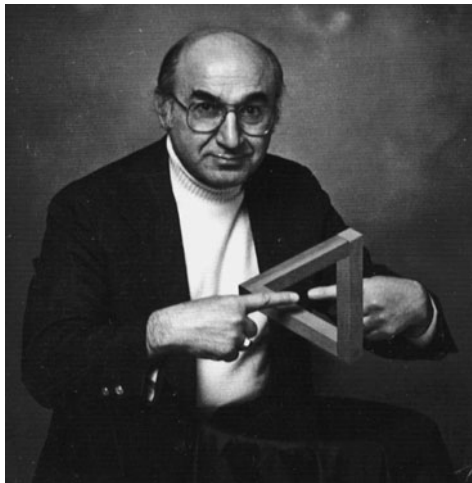
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To Dick Zakia

*Whose vision of a comprehensive language
for photography lives on in this book.*



Dr. Richard D. Zakia, 1925–2012.

Photograph by © Thomas J. Shillea.

I eagerly await new concepts and processes. I believe that the electronic image will be the next major advance. Such systems will have their own inherent and inescapable structural characteristics, and the artist and functional practitioner will again strive to comprehend and control them.

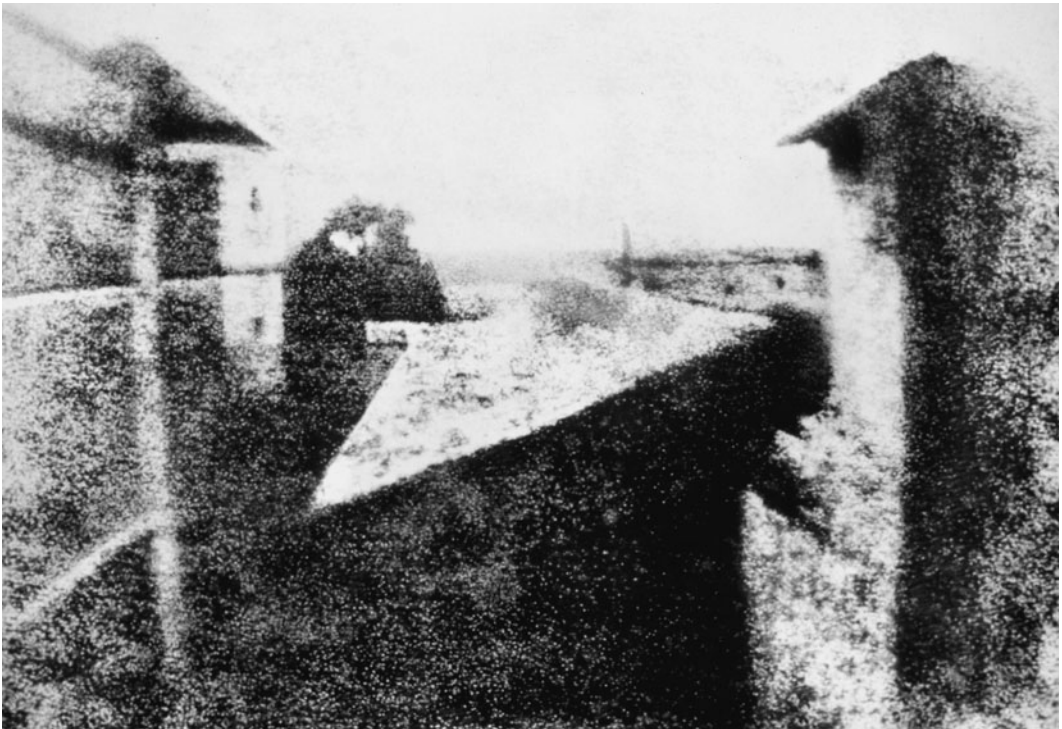
Ansel Adams

Photography has not changed since its origin except in its technical aspects which for me are not a major concern.

Henri Cartier-Bresson

The soul never thinks without an image.

Aristotle



The first permanent image ever photographed, by Joseph Nicephore Niepce.

A view from his window at Le Gras, 1827. Heliograph.

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Preface to the Fifth Edition

During our discussions about photography, I once asked Dick Zakia for his advice about my own work. Because I love experimenting with a variety of subjects and visual effects, I wondered whether I should instead focus my efforts on cultivating a particular style, my own “brand”—which is a popular concept in this age of online photo sharing. In fact, that’s what one very good artist in Flickr suggested after visiting my photo stream.

Dick’s response was different. He said, “Please don’t stop. Keep experimenting. Because everything is connected.”

It was the best piece of advice anyone had ever given me, for it reinforced both the intellectual and emotional joy I felt when playing in the realm of the visual. I also realized Dick’s words conveyed the spirit behind his book *Perception and Imaging*, which had filled me with excitement and admiration when I first discovered it. I loved how it held photography at the center of its explorations, while recognizing that dedicated photographers can look to the visual arts in all its manifestations, as well as to the psychology of perception, in order to enrich their work.

Dick understood that the photographer was a close cousin to other craftsmen of the visual. “Please note that whenever the word photographer is used in the text,” Dick wrote in his preface to the previous edition of the book, “it is used in a collective sense to include the multiplicity of ways image practitioners capture, create, and manipulate visual images.”

After Dick’s death in 2012, I spoke to his daughter Renee who described how her father “taught me how to see when I was a child,” how he loved to continue learning about the complex mystery of perception, how devoted he was to his students, and how he envisioned *Perception and Imaging* as a comprehensive and evolving “language” of the visual.

I was delighted and honored when Focal Press invited me to write this fifth edition of the book. It offered me the opportunity to carry on Dick’s vision. In doing so, I include quotes by Ansel Adams and Henri Cartier-Bresson in the front matter of this book, as did Dick in the previous edition. Those quotes point to an important issue in this digital age of ours. Has technology and cyberspace changed the ways we create, share, and perceive images?

The answer, I believe, is yes . . . and no. In this new edition, especially in the chapters on personality and critiquing photographs, I describe issues I have investigated in my work as a cyberpsychologist and photographer, issues that are unique in the history of photography: the psychology of photo sharing in social media, sensory overload, computerized image detection and creation, image permanency and impermanency, illusion in the digital age, and, of course, the ubiquitous selfie.

Despite the novelty of these topics, the fundamental principles of how we create and perceive images remain the same. “It is the human factor that is important,” Dick said in the preface to the fourth edition—and we humans have not changed all that much, regardless of new technologies.

As a psychologist passionate about the human factor, I have added sections that reflect traditional ideas in psychology, such as body language and facial expressions, the Rorschach and TAT, and psychodynamic personality theory. Looking into the rearview mirror of photography, I also discuss the tradition of self-portraits that long preceded the selfie, as well as what very well might be the one thing that makes photography unique in the world of visuals—the “decisive moment,” an idea proposed by Cartier-Bresson that inspires all photographers. Other new sections include camera angles, aspect ratio and cropping, the psychology of sharpness, and geometric versus organic shapes.

Without a doubt, the digital age has had one major impact on photography: almost everyone is taking, editing, and posting photos. Every day when we turn on our devices to enter cyberspace, hundreds and perhaps even thousands of images scroll before our eyes. Given this proliferation of images, we have to wonder whether people are getting better at creating and discussing them, whether they are discovering the ideas Dick offered in his book—whether they are understanding photography as a way of seeing.

Hopefully so. For those people struggling to get recognition of their photos posted to social media, especially for those who are making a conscious effort to become a true photographer, whatever that might mean, they would do well to take Dick’s advice when he mentioned how an early 1911 photograph by Edward Weston received only an honorable mention in a photography contest. “To his possible disappointment or pleasure,” Dick wrote, “he went on to become one of the greatest photographers of all time.”

So too I hope the readers of this book will love photographic images as Dick and I do, and that they strive to enrich their craft to the best of their abilities and insight, despite their place in photography contests or their popularity statistics in social media. Dick said, “We all start out as amateurs.” Given the complexity of perception and imaging in this beautiful world of ours, even experts can find new ways to see with beginner eyes.

I encourage readers to search online for images mentioned in this book but not shown, and to work with the supplementary materials that are available online. The “Ads from the Past” document reveals Dick’s fascinating insights into the images of advertising, while the “Additional Concepts” file demonstrates the multifaceted aspects of perception and imaging. If you try the chapter exercises provided online, I think you will also see how experimenting and playing with images will always enrich your understanding of them.

John Suler



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My thanks to Dick Zakia for being such an inspiring colleague and for the opportunity to join him in writing this book. I am also grateful to Renee Zakia who helped me understand the path her father's life took that led him to the study of images; to the people at Focal Press who made this fifth edition possible, especially Judith Newlin and Elise Poston; to Anne Law who supported me in my pursuit of photography at Rider University, including my first exhibition; to the Faculty Development Committee at Rider that provided me a grant to complete this project; to my parents who bought me my first camera when I was ten; and to Kira Suler, an excellent designer who understands image creation far better than I do and who contributed extensively to the new illustrations in this book. Lastly, my thanks and love to my wife Debra, with whom I have been creating pictures and memories for many years, as evident in the many boxes of prints stored away in our closets.

John Suler



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Selection

Many an object is not seen, though it falls within our range of visual ray, because it does not come within the range of our intellectual ray, i.e., we are not looking for it. So, in the largest sense, we find only the world we look for.

Henry Thoreau



Figure 1.1 “Noticing Notan” by John Suler.

GANZFELD

Imagine a world in which there are no visual elements. You can see but your visual field is completely homogeneous, with nothing that the mind can select for perception. That situation rarely exists in our everyday life, except if you are in a very dense fog where everything is uniformly bright, an experience reported by airline pilots, truck drivers, and skiers. Such situations approximate the homogeneous visual field called *Ganzfeld*, a “complete field.”

What is it like to experience *Ganzfeld*? You can discover for yourself by covering your eyes with a white plastic spoon or half a ping-pong ball—or, easier but less effective, by closing your eyelids in a brightly lighted area or staring into a uniformly white surface.

Experiments in which subjects were exposed to a homogeneous visual field for a prolonged length of time led to some interesting results. The subjects attempted to fixate on something as a reference point. Failing to do so commonly resulted in their feeling disoriented. Some subjects imagined they saw vague shapes or variations of tone where none existed. Some even experienced hallucinations or a temporary loss of vision.

The results from these experiments in *visual sensory deprivation* indicate the necessity of having something in the environment that the visual system can select as a discernible form in order for the visual system to function properly. If the mind cannot see anything in particular, it starts to generate its own perceptions, from within. Even when the visual field is not completely homogeneous, perception of the observed scene might be inaccurate unless appropriate visual cues are present. For example, an illuminated ball in an otherwise dark room is perceived as different in size and distance by different observers. When air is released from the ball to decrease its size, some observers see it as a constant size but moving away from them.

*The artist tries to
wrest truth from the
void.*

Barnett Newman

*Only feeling is real.
It was no “empty
square” that I had
exhibited but rather
the feeling of
nonobjectivity.*

Kasimir Malevich

FIGURE-GROUND

The black triangle in the white square in Figure 1.2 represents a simple heterogeneous visual field. The image, like most scenes that we encounter in our daily lives, consists of interdependent attributes known as *figure* and *ground*. Figure-ground relationships play a fundamental role in “composition,” which is how the arrangement of visual elements in an image appear to the viewer. Several important observations can be made about how the mind selects perceptions in figure-ground relationships:

1. Even when the figure and ground are in the same physical plane, the figure often appears nearer to the observer.
2. Figure and ground can be seen sequentially but not simultaneously. (With a little effort you can see a white square with a triangular hole.)

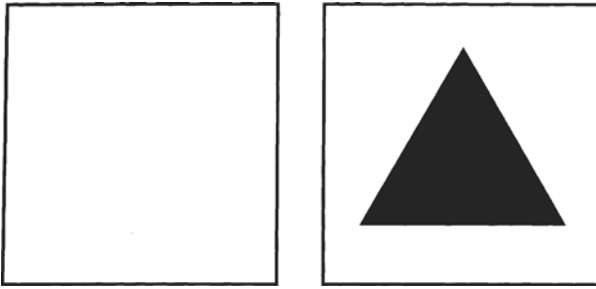


Figure 1.2 Homogeneous and heterogeneous fields.

3. Figure usually occupies an area smaller than does ground.
4. Figure is seen as having contour and form; ground is not, until it becomes figure.

In our world of heterogeneous fields, people select what attracts their attention as figure. Depending on their interests at any particular moment, people walking down a main street will see:

1. a clock telling the time of day if they are hurrying to a meeting;
2. a theater if they are looking for entertainment;
3. a bus or taxi if they are looking for transportation.

Look at any landscape photograph. You see the shape of things, the mountains and trees and buildings, but not the sky.

Kurt Koffka

In a film, video, or multimedia, a good musical accompaniment will not call attention to itself.

Reneé Evan

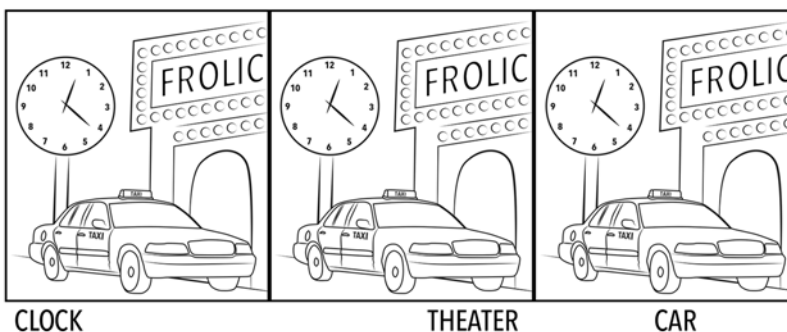


Figure 1.3 Figure-ground is a selective process. What object did you see first?

Whenever we look at a heterogeneous visual field, what we perceive as an object is the figure, which is always seen against some background. The first step in perception is this distinguishing figure from ground. Sometimes it is easy to do, sometimes not. A convincing demonstration of the figure-ground relationship was presented by K. Koffka in 1922 with an equivocal fence design (Figure 1.4).

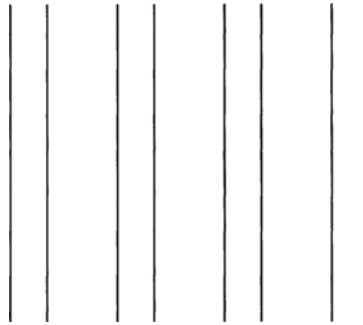


Figure 1.4 Equivocal fence phenomenon. What do you see?

*Give me mud and I
will make the skin of
Venus out of it. If
you will allow me to
surround it as I
please.*

Eugène Delacroix

Your first impression of Figure 1.4 might be that of black lines against a white background. If so, the black lines are figure. If you look a little longer, you might see four narrow white stripes, bars, or fence slats. They are now figure and the remainder of the picture is ground. But why did your mind select the four narrow stripes as figures? The two lines that make up the narrow slat are closer together, so there is a greater tendency for the viewer to group them into a figure. Three important points can be made here:

1. The closer together two elements, the greater the probability that they will be grouped together and seen as figure. We will discuss this *law of proximity* in more detail later.
2. It is impossible to have figure without ground. Perception requires both.
3. It is impossible to see the four narrow slats and the three wide slats simultaneously, because something must serve as ground for a figure to be perceived.

Figure–ground relationships are used in many diagnostic tests. Most of us have taken tests for defective color vision in which we try to group certain color spots to see a number or design. The inability to discriminate groups of color spots as a figure identifies the presence of defective color vision.

Figure–Ground Boundary

Figure 1.5 shows a single contour line that serves as a boundary for the facial profile of an old man (right side) and the torso with head profile of a woman (left side). It is possible to see either the woman or the man, but not both at the same time. Each side can be seen only when the other side becomes ground. Figure needs a ground from which to emerge.



Figure 1.5 Figure–ground boundary. Profile of an old man or a woman?

The contour line shared by both images is called a *common contour* or a *shared contour*. Competition for the contour is called *contour rivalry*. The common border creates a visual tension, a pull in one direction and then the other, that resolves when the decision is made to see it belonging to one side of the contour or the other. This can alternate, producing dynamic opposition as well as ambiguity. The importance of *closure* in resolving contour rivalry will be discussed in Chapter 2.

Graphic Symbols

Artists often cleverly use figure–ground relationships in the design of graphic symbols, especially logos. In Figure 1.6 you might at first see the black arrowheads pointing like a compass in four directions, and later notice the large letter M in the white area. The black areas are closed and therefore easier to perceive as figure than the open white area. As with all figure–ground relationships, you can alternate between seeing the arrows and the M as figure, but you cannot perceive both as figure simultaneously.

The border line between two adjacent shapes having double functions, the act of tracing such a line is a complicated business. On either side of it, simultaneously a recognizability takes shape.

Maurits Escher

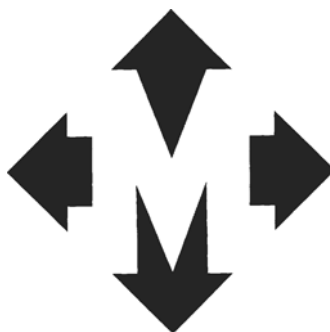


Figure 1.6 Figure–ground: If you decide that the dark areas are figure, you see arrows. If you decide that the light areas contained within the dark area are figure, you see a letter. Courtesy of MAPCO Inc., Tulsa, Oklahoma.

Actual vision constitutes a sampling, as though only certain points of the perceived figure were fixated while others were neglected.

Jean Piaget

Dynamic interaction in the field decides what becomes a unit, what is excluded from it, what is figure, and what falls back as mere ground.

Wolfgang Köhler

The vase gives form to the void, and music gives form to silence.

Georges Braque

Similar Concepts to Figure–Ground

Psychologists refer to figure–ground relationships, but people in other disciplines use different terms for this phenomenon. Artists and photographers refer to it as *positive–negative space*, while communications engineers talk about *signal-to-noise ratio*. Figures 1.7 through 1.11 show examples from the point of view of a psychologist, a designer, a photographer, a photographic engineer, and a television engineer.

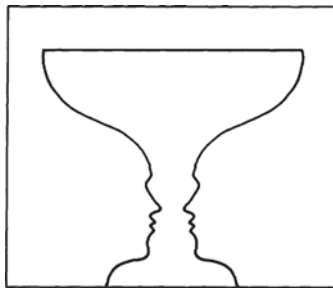


Figure 1.7

Figure–ground in psychology. A goblet or profiles? This figure–ground reversal was first demonstrated by the Danish psychologist Edgar Rubin in 1915.

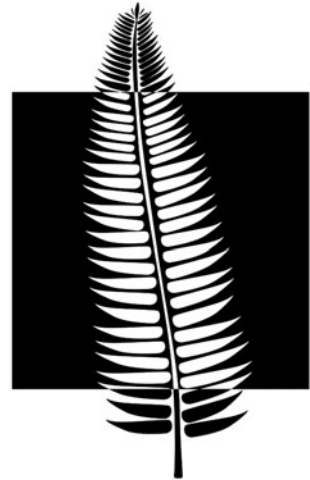


Figure 1.8

Positive–negative space in the field of design. Design by Kira Suler.



Figure 1.9

Positive–negative space in photography. Can you group some of the spots together to see a dog? High-contrast photograph by Roger Remington.



Figure 1.10 Signal-to-noise ratio in television engineering. Can you see something in the noise?

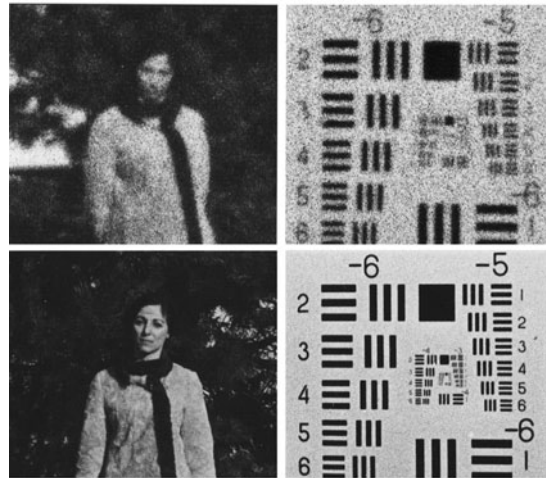


Figure 1.11 Signal-to-noise ratio for a photographic engineer. Resolving power targets show how increasing amounts of graininess lower the signal-to-noise ratio, causing a poor figure-ground relationship. Photographs by Carl Franz.

Increasing the differences between figure and ground (negative and positive space, or signal and noise) increases the vividness of the corresponding perception. For example, in Figure 1.4, we could make it easier to see the narrow stripes as figure by darkening them, thereby increasing the tonal contrast between figure and ground. Would darkening the wider stripes change your perception of figure-ground? Try it.

Graininess and Noise

In uniformly exposed areas of photographs, the microstructure clumping of the silver or dye particles that make up the image is called *graininess* when judged subjectively and *granularity* when measured objectively to assign it a value. In digital photography, pixels can be thought of as grains. Larger size pixels increase speed of exposure but at a loss of resolution and an increase in graininess.

Graininess/granularity can also be referred to as *noise* because it obscures the amount of information (signal) that the image conveys. The background noise interferes with the figure, resulting in a low signal-to-noise ratio. Photographers can increase the ratio by decreasing the graininess—for example, by selecting a fine-grain film, a fine-grain developer, or a larger-format film that does not require as much magnification as a smaller-format. In digital photography, image-editing programs often include a feature for reducing noise.

Consciousness is more interested in one part of its object than in another, and welcomes and rejects, or chooses, all the while it thinks.

William James

We can only recognize what we know.

E. H. Gombrich

Photographers sometimes purposely introduce graininess or other textures into a photograph for a variety of reasons, such as suppressing fine-detail to place more emphasis on areas having larger tonal masses, or to produce a textured artistic effect. By introducing a little random pixel noise in an overexposed digital image, some of the “lost” detail can be recovered.

Resolution

Resolution is the number of dots per inch (dpi) or pixels per inch (ppi) that a camera lens, film, or printing paper is capable of reproducing. The *resolving power* of an entire digital imaging system depends on the combined resolution of the camera lens, the sensor in the camera, and the screen display or print. Image files intended for reproduction in a book or magazine should be at least 300 dpi and usually a TIF format. For screen viewing, 72 dpi is usually adequate.

In photography *resolving power targets* are used to determine how well a photographic system reproduces repetitive lines that decrease in width and space (spatial frequency). The number of black bars that can be distinguished as signal indicates how graininess raises the noise level and makes the visual signal less distinguishable (Figure 1.11).

Figure–Ground Enhancement

An interesting example of figure–ground enhancement was the sonar screen detection of submarines during World War II. The image of a submarine on the screen was dependent on sound waves being reflected from it. Because other objects in the water also reflected sound waves, the noise pattern displayed on the screen obscured the image of the submarine (a low signal-to-noise ratio). To solve the problem, a series of pictures were taken of the screen over time and then superimposed on each other. Because the noise pattern on the sonar screen was random, superimposition averaged out the noise. The image of the submarine was not random and was, therefore, enhanced. The total effect was an increase in the signal-to-noise ratio and an image in which the distinction between figure and ground was significantly improved.

Photographers and other image-makers try to control figure–ground relationships to influence where viewers will focus their attention. For example, portrait photographers, as well as cosmetologists, accentuate the positive features in the face to make them figure, while minimizing negative features so they can recede to ground. Photographers have a variety of strategies for enhancing figure:

- *camera viewpoint*, to select an angle that reveals the desired information about the main subject, while minimizing competition for attention between the background and the subject;

- *lighting*, to provide detail, form, and texture in the main subject and also tonal separation between the subject and the background;
- *focus and depth of field*, to obtain a sharp image in the areas of interest while allowing other areas to be rendered less sharp (see Figure 1.12);
- *choice of film*, including color, normal contrast black-and-white, high-contrast, infrared, and fine-grain film, to provide the desired information about the main subject;
- *choice of camera filter*, to produce the desired tonal rendering of the subject along with tonal separation between the subject and the background;
- *editing and printing controls*, including overall contrast control as well as selective dodging and burning to emphasize areas of interest while subduing other areas.



Figure 1.12 “Whole Rest” by John Suler. The use of a narrow depth of field to focus attention on the figure, which in this photograph also serves as both a visual and symbolic negative space.

*Vision changes while
it observes.*

James Ensor

*If you do not expect
it, you will not find
the unexpected, for it
is hard to find and
difficult.*

Heraclitus

*Look for what you
don't see.*

Rashid Elisha

*The more one looks,
the more one sees.
And the more one
sees, the better one
knows where to look.*

Teilhard de Chardin

One of the most common mistakes made by inexperienced photographers, cinematographers, and videographers is to ignore the background while concentrating on the main subject, only to discover in the two-dimensional image that the depth in the original scene has collapsed, resulting in a background object such as a pole or tree appearing to be growing from the head of a person in the foreground.

The Bigger Picture of Figure–Ground

The concept of figure–ground is not limited to vision. It applies to all sensory experiences. When talking to a friend at a party, you must discern that person's voice as figure, selecting it out from the background noise in the room. In sound recording and mixing, minimizing background noise enhances signal quality (acoustical figure), although some background noise is often desired to provide an ambient atmosphere.

When you run your fingers over the hood of your car (background), you can feel a scratch in its surface (figure). When you sip a glass of quality wine, you can attend to its variety of tastes and smells, one at a time—such as sweet, fruity, and flowery. Professional wine tasters have a complex vocabulary for identifying these figures from the background flavor—delicate, noble, soft, foxy, mousy, mellow, elegant, robust, simple, and complex. In a room with many different odors, you will undoubtedly smell that which is strongest or most familiar. In so doing, you are distinguishing figure from ground.

Our daily lives are filled with figure–background discriminations. When you purchase something, your preferences determine what you see and decide. If you are looking for style when you buy a camera, that idea determines the cameras that stand out for you from the background display of other cameras. A husband and wife looking over a furnished model home might disagree on its desirability. While one focuses on the quality of construction as figure, the other notices the attractive furnishings. Florists arranging flowers realize that the space between flowers is as important to the overall effect as the flowers themselves.

NOTAN

In his 1919 book on composition, the artist-teacher Arthur Wesley Dow said he found no satisfactory word in English that captured the idea of “light–dark” and harmonic relationships between light and dark. He felt the Italian word *chiaroscuro* in the world of art came close, but was too limited in meaning (it refers to changes in light and dark to delineate subjects for dramatic effect). He preferred the Japanese word *Notan*. Dow was very influential in introducing artists to Oriental styles of painting. Strongly influenced by Dow, the painter-photographer Barbara Morgan



Related masses of dark and light can convey an impression of beauty entirely independent of meaning.

Arthur W. Dow

Figure 1.13 “Skating Rink” by John Suler. Shadows often provide an opportunity for the interplay between light and dark of a Notan photograph. In this example there is a mixture of geometric and organic shapes created by the harmony of shadow and light.

incorporated the concept of Notan into her own work as well as the art courses she taught at the University of California in the early 1900s.

As illustrated in Figure 1.13, the ground of negative space is essential in Notan. Similar to music, it provides the *interval* between the visual elements that we call figure. Both light and dark play important counterbalancing roles in the creation of the image. There are two criteria for the type of Notan that involves simple arrangements of black and white elements, as illustrated in the iconic yin/yang symbol (Figure 1.14):

1. The negative space or ground is sufficiently enclosed so that it has a potential shape.
2. Neither figure nor ground is dominant. They have a visual balance that allows the viewer to experience a reversal where figure can become ground, and ground can become figure.

The works of Dutch graphic artist Maurits C. Escher are stunning examples of Notan. During his 1936 trip to Spain, Escher was inspired by the Moorish mosaics in the



Figure 1.14 The symbol for Taoism, representing the balanced interaction between yin and yang, is perfectly symmetrical, either half serving as figure or ground. The sigmoid line that bisects the circle is a contour common to both yin and yang. It separates and unites, representing the interplay of the two forces around an unchanging center. The symbol represents dualities such as male/female, light/dark, good/evil, earth/heaven, birth/death, pain/pleasure.

Mozart said at one point that he wasn't so much interested in notes as the space between them.

Harley Parker

It often happens that what stares us in the face is the most difficult to perceive.

Teilhard de Chardin

Alhambra palace at Granada and in the mosque La Mezquita at Cordoba, where he made detailed sketches. He noticed that the contour lines were common to both figure and ground, and served a double function. "On either side of it, a figure takes shape simultaneously. But, as the human mind can't be busy with two things at the same moment, there must be a quick and continuous jumping from one side to the other. The desire to overcome this fascinating difficulty is perhaps the very reason for my continuing activity in this field."¹

A silhouette is Notan when the white background area, or negative space, becomes figure due to its interesting shape (Figure 1.15). In 1922, Man Ray made a profile silhouette of his favorite model, Kiki, entitled "Kiki Silhouette." We will return to the topic of negative space later in this chapter.

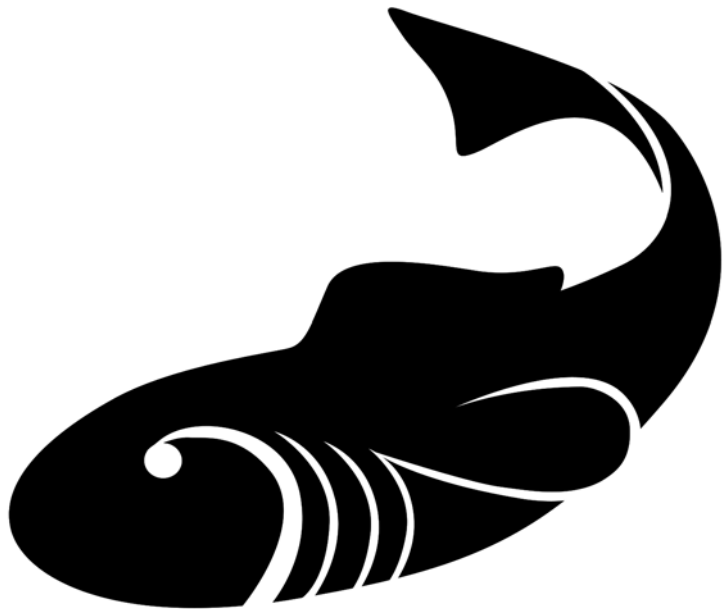


Figure 1.15 Silhouettes illustrate Notan when the shape of the negative space draws attention to itself. Negative space is "activated" when the silhouette approaches or touches the frame of the image. I see a person hovering above the fish. Illustration by Kira Suler.

VISUAL SEARCH

The term *visual search* refers to the viewer deliberately looking for something specific in an image, as opposed to subconscious scanning. The most effective strategy for studying behavior during visual search is to tell the person exactly what to find (Figure 1.16).

Before pressing the shutter to take a picture, photographers perform two basic types of visual search: (1) locating the presence of desirable features; and (2) confirming the absence of undesirable features. When capturing a fleeting expression of a person's face during a portrait, a photographer will first perform a visual search to be sure the lighting and the pose are correct, and that there are no distracting features such as loose hairs and wrinkled clothing. Then, the photographer will continuously monitor the subject's facial movements, waiting for the decisive moment of an interesting expression.



Figure 1.16 Search the star to find the small star embedded within it. Try to isolate it from the interlacing lines that make up the ground in order to see that small star as figure. Shared contours and continuity of lines reduce the signal-to-noise ratio, which makes the task difficult (hint: the embedded star is just slightly lighter in brightness)

CAMOUFLAGE

The word *camouflage* comes from the French word *camoufler*, which means “disguise.” It is not restricted to the visual sense, as evident by products such as perfumes, spices, and “white noise” machines that mask smells, tastes, and sounds. Tactile camouflage appeared in the Bible when Jacob stole his brother's inheritance by deceiving his blind father, who identified his first-born son Esau by touching his hairy arms. Periods in art such as anamorphosis and cubism, which dealt with the reorganization of objects in ways that contradicted everyday experiences, relied on visual camouflage. Picasso recognized the relationship between his cubism and military camouflage when he saw the colors of paint and geometric design used to hide artillery in World War I.

Three basic methods can be used to conceal information. The first is to blend the object with its surrounding by merging figure with ground (Figure 1.17a). In her book *Unexpected Journeys*, Janet Kaplan wrote of how the surrealist Mexican painter Remedios Varo used embedding to insert a sketch of herself and her lover in one of her paintings, “Embroidering Earth's Mantle.”² Many artists, past and present, have used camouflage to add interest, intrigue, and a sense of discovery to their work—one of the most famous being Salvador Dali. Advertisements often hide objects within a picture to entertain and to persuade. Figure 1.17a is an example of how Escher blended figure and ground to puzzle the eye.

The second camouflage method is to conceal information through deceit—for example, by rearranging the figure so that it looks like something else, by dislodging old connections and introducing new configurations, and by changing angles into crossings (Figure 1.17b).

The third method is to hide the object so that it is invisible or partially visible in a way that disguises it (Figure 1.17c). In the early days of photography the “detective camera”—hidden in an object such as a flask, cane, or umbrella—allowed the photographer to sneak pictures

*When inspiration
does not come to
me, I go halfway to
meet it.*

Sigmund Freud

*Harlequin, cubism
and military
camouflage had
joined hands. The
point they had in
common was the
disruption of their
exterior form in a
desire to change their
too easily recognized
identity.*

Roland Penrose

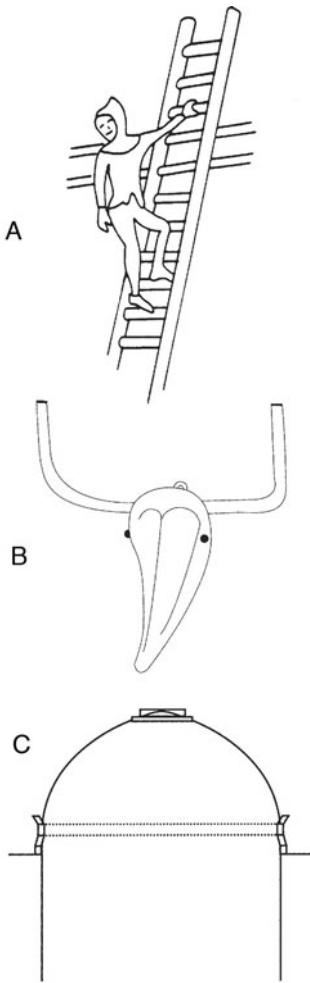


Figure 1.17 Blending, deceiving, and hiding.

unobtrusively. Camera miniaturization, including cameras in cell phones, now allows more subtle ways of surreptitiously taking photographs.

The blending of figure and ground can also be accomplished by lowering the contrast between them. For an example, take a look at Figure 4.6 in Chapter 4. That photograph shows how reduced contrast creates a mysterious merging of figure and ground, as if the subject mystically arises from the space around it.

- A *Blending* is the manipulation of visual elements so that figure and ground merge. In this detail from “Belvedere” by Escher, two of the rungs on the ladder merge with the railings behind the ladder.
- B *Deceiving* is the rearranging of visual elements so they that acquire a different form. In “Sketch of a Bull’s Head” by Picasso, the original is a bronze cast of a bicycle in the Galerie Louise Leiris, Paris. Paul Rand wrote about this piece, “to do much with little—to find a bull’s head in a bicycle seat and handlebars—is another aspect of Picasso’s wizardry, his humor, his childlike spontaneity, his skill as a punster, amid his ability to improvise and invent with limited, often surprising means.”³
- C *Hiding* is covering up an object with another. In a discussion of Expressionism, Rudolf Arnheim points out that a parabolic curve is more gentle than a circular one.⁴ He shows how Michelangelo’s design in St. Peter’s transforms two circular contours into a parabola by using a lantern to hide the intersecting points of the circles at the apex.

Makeup artists are masters in the art of camouflage. Before taking a portrait of a person, cosmetics are often used to hide blemishes on the skin, to dull its shiny surfaces, and to add color to the face. Lipstick and eye makeup are used to deceive—the shape and size of the lips and eyes are altered to enhance the beauty of the face. Soft lighting reduces contrast so that small irregularities blend into the skin. Other examples of camouflage are the use of color filters and soft-focus lenses when taking a photograph, as well as the use of texture screens and papers when printing. In copy work, particularly in the restoration of old photographs, filters work wonders in optically eliminating unwanted spots, streaks, and stains, while hand or digital retouching eliminates any remaining imperfections.

NEGATIVE SPACE

Dick Zakia and I have found negative space to be one of the most fascinating aspects of images. For me, it reflects my interest in Eastern philosophy that emphasizes the dynamic relationship between objects and emptiness, form and formlessness. In these philosophies negative space acquires a mystically powerful role in how the mind selects its perceptions of reality and how creativity operates. Japanese Zen Buddhism considers *ma*—which can be roughly translated as “empty,” “gap,” or “space”—to be the critical compositional element of all art forms. The Taoist philosopher Lao Tzu stressed how emptiness gives purpose to things, as he illustrates in this passage from the *Tao Te Ching*:

Thirty spokes share the wheel’s hub; It is the center hole that makes it useful; Shape clay into a pot; It is the space within that makes it useful; Build walls for a room; It is the space within that makes it useful.

We might define negative space as any area of the photograph that the mind perceives as the space around, between, or behind the subject—the background—no matter what might be in that space. It is a place for the eye to rest while viewing the photo, a respite from the subject, similar to the silent intervals in music. We might even argue that the subject or positive space is that part of the image that arouses the greatest emotional reaction, while the background or negative space serves to support or elaborate that reaction.

The fascinating thing about negative and positive space, figure and ground, subject and background—whatever terms we might use—is that they depend on each other. The Taoists state that they create each other. Space is defined when you place an object into it, while the object is defined by the space around it.

Noticing Negative Space

Because negative space is the area upon which the eye does not immediately focus, it’s easy to overlook it when creating and analyzing a photo. You have to train your eye to see it. You have to focus on the space around the subject rather than the subject itself.

As an exercise in sensitizing themselves to negative space, artists concentrate on painting or drawing the shape of the space around a subject rather than the subject itself. Imagine how you might do that for the photo of the leaves in Figure 1.18. For those of us who aren’t particularly good at drawing or painting, try to think like a stencil—how the material of the stencil makes up the negative space that in turn gives us the shape of the whole that is the positive space, the subject.

Cubism broke up the object into fragmented patterns of changing appearance; eventually it deprived the object of its identity entirely.

Wylie Sypher

The hardest thing to see is what is in front of your eyes.

Johann W. Goethe

Emptiness which is conceptually liable to be mistaken for sheer nothingness is in fact the reservoir of infinitive possibilities.

D.T. Suzuki

It’s better to look at the sky than live there. Such an empty space; so vague. Just a country where the thunder goes and things disappear.

Truman Capote,
Breakfast at Tiffany’s



Figure 1.18 Imagine drawing the negative space in this photo, rather than drawing the leaves.

Negative space has its most effective impact when it forms an interesting or meaningful shape. In visual design, they say the space is “activated” or “on,” as opposed to uninteresting space that is “off.” In some photos, activated negative space can compete as figure, as in Figure 1.19. And yet, you may not consciously notice it, or at least not right away.

To study negative space, turn a photo sideways or upside down to look at it. By doing so, you bypass the part of your brain that wants to categorize and label things. Instead, you give your eye a chance to just notice the



Figure 1.19 The “trapped” negative space inside the table competes as figure, even though it is blurry and faded.

shapes of the subject and space, and how they interact with each other. You'll see that negative space can appear anywhere in an image: usually along the edges if the subject is near the center, but sometimes in the middle, as in a photo taken through a tunnel or in the picture of the rattan table in Figure 1.19. The space is called "trapped" when the positive space encloses it.

Sensitizing yourself to the relationship between negative space and the subject will help you notice when they interact with each other in clumsy or unsightly ways. For example, consider a photo of a woman alongside a country road. The woman is the subject and the background road with surrounding fields and trees become the space. At first the mind thinks of them as separate—figure and background—but then on closer inspection you notice a tree extending out of the woman's head. Rather than being part of the negative space, the tree now becomes an anomalous component of the positive space: an unsightly appendage to the woman's head.

The Role of the Frame

The frame plays an important role in shaping negative space, whether that frame consists of the edges of a print, digital image, or camera viewfinder. The frame bounds the negative space on the outside, while the positive space (the figure or subject) bounds it on the inside. It's easy to overlook this function of the frame because the mind tends to perceive it as something extraneous to the image, as a kind of container or handle for the image rather than part of it. We probably develop this perceptual blind spot as adults, because children tend to notice the effect of the frame on composition more quickly. Adults often have to train themselves to see it.

Consider this example. You're pointing your camera up toward the top of several tall buildings that surround you (Figure 1.20). As you rotate the viewfinder, the shape of the sky as negative space changes, sometimes dramatically, as it becomes bounded between the edges of the frame and the sides of the buildings. What happens to that shape when different corners of the buildings touch the frame, thereby enclosing different sections of the negative space—or when you align certain edges of the building with the frame? How do the sizes and shapes of the sky compare to those of the buildings?

Negative space is not constant. It is always being molded by the edges of the frame. It keeps changing in size and shape as you move the viewfinder to find different ways to bound that space. The proportional balance of negative and positive space shifts, sometimes in a more aesthetically pleasing way, sometimes not. If the subject fills most of the frame, the negative space is smaller than if the subject fills only a portion of the frame. The ratio of negative to positive space can make or break the composition.

It's a good idea to train yourself to see negative space as you look through the viewfinder, but you can also modify its size and shape by

Figure 1.20

By rotating the camera, you can experiment with the shape of the negative space of the sky that forms between buildings and the image frame.



cropping the image during editing. Sometimes it's quite amazing to see how an ordinary image suddenly pops when cropping alters the negative space in an interesting way or creates an intriguing balance of negative and positive space. Unlike the camera viewfinder, which forces specific dimensions to the photo, cropping has the advantage of letting you choose different widths and heights of the frame, which gives you more freedom in adjusting the size and position of the negative space relative to the subject.

Strategies for Using Negative Space

The term *working space* refers to negative space that serves a particular function in an image. Thanks to the creative talents of artists, photographers, and graphic designers, there are many useful strategies for working with negative space.

Distribution of Space

Centering a subject tends to neutralize space by pushing it to the perimeter of the image and making it evenly symmetrical. Space on all sides creates a static, calm, formal feeling. It may not be very interesting to the eye. Placing a subject off-center can activate the space to make it come alive. Unevenly distributed space tends to do a better job of connecting the elements of an image because they seem grouped into clusters. Evenly distributed space tends to make elements float independently of each other.

Shape of the Space

Is the shape of the space interesting? How might you make it complement, echo, or contrast with the shape of the subject? Space with a very unusual shape might upstage the subject. Or it might establish a figure–ground reversal in which the space and the subject alternate as the focus of attention, resulting in interesting movement and tension between figure and ground, or even the feeling that the eye is being tricked. When the elements of an image imply closure, they may activate the shape of negative space—for example, a curved line of chairs that suggest a circle. In Figure 1.19 the table is the subject and yet the trapped space of the blurry background is so geometric and precisely framed by the table that it competes for attention as the figure.

*We become aware of
the void as we fill it.*

Antonio Porchia

*The Tao is the
emptiness of a vessel,
and in our
employment of it we
must be on guard
against all fullness.*

Lao Tzu

Amount of Space

Some people like to create equal amounts of negative and positive space in a composition to produce a harmonious balance. Having too much or too little of one or the other might ruin a photograph by making the composition seem awkward, overwhelming, or unstable. Too much space can make the subject look insignificant, insubstantial, or lost. Too little space makes the subject appear cramped inside a crowded image; there's no sense of "absorbability."

A perfect balance is not necessary or even desirable. Playing with the proportions of negative to positive space can yield interesting results. A generous amount of space makes the subject stand out. As the subject gets bigger, it begins to activate and balance the space, eventually reaching a point where the figure dominates the ground, especially when the space is evenly distributed and uninteresting in shape. When the subject is small and the shape of the space is interesting, the ground dominates the figure. In some compositions, you might deliberately tilt the balance of negative and positive space in order to create a feeling of the subject being awkward, unstable, insignificant, confined, or lost, as in the photo of the man on the volcano cliff (Figure 1.21).

Space Providing Direction

Space can generate a sense of direction and movement that complements or contrasts with the direction and movement of the subject. Space on the bottom creates a vertical "up" feeling. Space on the top emphasizes "down." Space on the left pushes elements to the right while space on the right pushes elements to the left. Space can draw the eye into an image or lead the eye out.

Figure 1.21

“Haleakala” by John Suler. The large amount of negative space makes the man seem small and insignificant, which is exactly how it feels to visit Haleakala.



Distracting Space

Try to avoid using space as a ploy that draws too much attention to itself, without purpose. Sometimes the viewer might be too conscious of it. It can be distracting and therefore detracts from rather than adds to the message of the image.

Emotional Reactions to Space

Different presentations of space conjure up different emotional reactions. Space, especially lots of it, suggests solitude, absence, cleanliness, purity, heaven, sky, abundance, openness, barrenness, vastness, silence, calmness, rarity, quality, luxury, style, wealth, generosity, simplicity, wastefulness, arrogance, or elitism. Think about space as a basic human need for emotional health, as evident in the psychological concept of *personal space*—how people have a zone around their bodies that they consider private. We all need space.

VIEWPOINT AND CAMERA ANGLES

The area selected for an image is determined by the viewpoint taken by the photographer. Different viewpoints result in different visual, spatial, and psychological effects. This topic falls under the category of camera angles, which can be subjective or objective—a distinction highlighted by Joseph Mascelli in his classic book *The Five C's of Cinematography*.

A subjective camera angle immerses us into the scene and subject, as if we are part of the experience. An objective camera angle encourages us to remain more distant and neutral, like an observer of the situation. The subjective camera angle tends to elicit a particular emotional reaction from the viewer, while the objective angle tends to be more impartial.

Your perspective on a scene can be level, high, low, in front, behind, to the side, tilted, expansive, narrow, close-up, and all degrees between. I'll refer to figures in this and other chapters that illustrate these perspectives.

*Look at situations
from all angles and
you will become more
open.*

Dalai Lama

Vertical Orientations

For a *level camera angle*, we're photographing scenes at eye level. It's our usual way of perceiving the world. Psychologically, we're seeing things and people eye-to-eye. We feel equal status and power with the situation, like a peer. When we kneel down to photograph things that are usually below us, the resulting photo appears as if we're getting down to that level for a first-hand experience of it. Compare Figure 9.22 and Figure 9.26 (Chapter 9) to see how different a level angle feels compared to a slightly higher one when photographing people.

The high camera angle can make the scene or subject appear to be in a smaller or diminished position relative to your more elevated, dominant perspective. You are literally and figuratively "looking down" on the situation. Taken from a high viewpoint—as from the upper floors of a building—a photo can create feelings of freedom, transcendence, omniscience, and being above it all as you possess the "big picture." Adopting a more objective rather than immersive point of view, you are the unseen observer, uninvolved, distant. Examples are the photographs of two women on the beach (Figure 7.27) and families in a parking lot taken from a hotel window (Figure 9.24).

The bird's-eye-view shows a scene from directly overhead at a very high position, as from an airplane. You see a large, expansive area, where everything looks small, flattened, and squat, even things that your conscious mind knows are massive and tall, such as mountains, trees, and buildings. For those afraid of heights, it might feel unnatural, disorienting, and anxiety-provoking. For others, the feeling is transcendent, a god-like perspective. As shown in Figure 1.22, the scene below starts to become unrecognizable, turning into abstract lines, textures, colors, and patterns.

*Nothing is beautiful
from every point of
view.*

Horace

Low camera angles create the feeling that the subject is big, high, powerful, dominant, imposing, authoritative, menacing, or set free and in flight, as in the photograph of the girl suspended from monkey bars at the beginning of this chapter. By contrast, the viewer might feel low, weak, insecure, submissive, helpless, or overwhelmed in relation to the scene. You are in the position of the child or standing in the land of the giants. You "look up" to the scene, perhaps with respect, wonder, or awe, as in

images of mountains, trees, huge machinery, and skyscrapers (Figure 1.20). In a garden or room, a very low camera angle helps the viewer appreciate the scene from the perspective of a small creature. Ordinary aspects of the environment not noticed or appreciated from a standing position, especially the underside of things, now become important (Figure 1.23).



Figure 1.22 At very high perspectives, scenes begin to turn into abstract patterns. Photograph by John Suler.



Figure 1.23 Low camera angles lend prominence to small things. Photograph by John Suler.

Low camera angles tend to isolate the subject from the surroundings, with the sky or ceiling providing a clear backdrop, as in the photograph of the leaves in Figures 1.18 and 1.23. That can be a convenient camera angle for eliminating an otherwise distracting or irrelevant environment. The minimalist background might take the subject out of context or accentuate its importance and distinctiveness.

Horizontal Orientations

In the horizontal plane of space around the subject, you might be in front, behind, to the side, or somewhere in between, as illustrated in Felix Nadar's classic 1865 photographs (Figure 11.33). This assumes that the subject or scene has a front and back, which would be the case with people, animals, buildings, rooms, cars, or other objects that seem to be in motion. In other situations, like landscapes, the concepts of front and back might not apply.

There is absolutely no point of view from which real and ideal can be finally separated and labelled.

T.S. Eliot

The front angle takes you into a straight-on, matter-of-fact, no-nonsense, non-deceptive, perhaps confrontational viewpoint. This orientation is more likely than any other camera angle to give the impression that even a non-sentient subject is aware of you. If you photograph a car or a flower head on, it's hard to resist the feeling that it's not aware of your presence.

The point-of-view angle provides a viewpoint in close proximity to a subject, seeing the situation from their perspective, as if identifying with them, whether that subject is human or not. In cinematography, it can be the classic “over the shoulder” shot—or even “over the head” as shown in the illustration of the baby looking at a spoon at the end of Chapter 3. How humans might look from the perspective of a glass bottle is suggested in Figure 7.21.

The side angle offers a position to the flank of the subject or scene. Here one feels more like the objective, unnoticed, and even invisible observer of the situation, a bystander—as in the photo of the street performer (Figure 4.17) or Cartier-Bresson's famous photo of the puddle-jumper (Figure 4.20). This perspective can feel a bit voyeuristic, as if we have some advantage over the subject, especially when they do not seem aware of our presence and when further away. By contrast, being closer creates the impression that you're with the subject, or that your presence could easily be sensed, as in the woman looking out the window that appears at the beginning of Chapter 3.

The rear angle, photographing from behind, will most likely create the impression that subjects are not aware of our presence, unless they are looking over their shoulder at us, as if catching us in our discrete viewpoint (Figure 11.38). The image might suggest that we are being left behind, following their lead, tagging along, protecting their back, voyeuristically watching, or looking over their shoulder, waiting to experience the scene that they see. This perspective is objective when we are physically distant from the subject; but if we appear close, as in the over-the-shoulder photo, we might emotionally identify with the subject.

Tilted Orientations

We experience the world as lines and shapes organized in relationship to the ground or some horizontally level surface. Even if you tilt your head to one side, the scene around you still tends to registers in your mind as level. But if you tilt a camera to one side or another while taking a photograph, the resulting image portrays a scene that appears unnaturally slanted up or down. In cinematography, such effects have been called “Dutch” angles because they originated in German (“Deutsch”) cinema during the 1930s and 1940s. The technique quickly spread throughout the world of cinematography as well as photography, becoming particularly popular during the 1960s as an avant-garde rebuffing of conventional horizontal

orientations, as well as a celebration of the topsy-turvy atmosphere of the counterculture movement.

The tilted angle creates diagonal lines, leading to a composition with energy and movement (Figure 11.3). Even subjects that are clearly stationary appear to be rising or falling, or somehow resisting the pull of gravity. Tilting the image up on the right side results in the scene appearing to rise upwards to the right. When tilted down on right, everything seems to be falling to that side.

Because we don't normally perceive the horizontal plane of our environment as slanted even when we pitch our heads sideways, a tilted camera angle tends to create sensations of imbalance, disorientation, transition, danger, unsettledness, instability, tension, nervousness, alienation, confusion, drunkenness, madness, or violence. For this reason it's a subjective camera angle.

The Dutch angle has been used and overused so much that some experienced photographers will groan when they see it. If you use a tilted angle just for the sake of doing it, the resulting photo could very well look contrived, as in a slanted bride and groom walking down a skewed aisle. Give some serious thought to how the diagonal effect serves the composition and the intended effect of the image. Also consider the degree of slant. As we will discuss in Chapter 11 on personality, people differ in their preferences for tilt, including the degree of tilt (Figures 11.7 and 11.8).

*Cock your hat—
angles are attitudes.*

Frank Sinatra

Field of View

Sometimes called the *angle of view* or the *angle of coverage*, the field of view is the area of the scene that has been selected for observation—either narrow, wide, or in between. The angle of view can determine how much one feels subjectively immersed into the scene.

The *long or wide-angle view* provides a big picture of the scene before us. It tends to be a more objective experience. With important exceptions such as standing inside a grand landscape, we feel further away from the situation, not as intimately involved, like an unseen observer or part of an audience. Some examples are a distant view of a person standing on a volcano ridge (Figure 1.21), people exploring a tide pool (Figure 9.6), and a couple standing on a street corner (Figure 4.23).

Cinematographers usually categorize wide view angles into three types: the *extreme long shot*, such as a distant view of a mountain range or city skyline; the *long shot*, such as a street scene or the outside of a house, places we have not yet fully entered; and the *staging shot* borrowed from theater performances—for example, a scene where subjects are visible in different areas of a room, on the left and right, above and below, in the foreground and background. It serves as a collage of subjects unified by their presence in the same location (the Gestalt principle of “proximity” that we will discuss in the next chapter).



Figure 1.24

“Desert Storm” by Sam Stapleton. A close-up of a curtain turns into abstract patterns, or a desert storm.

Tragedy is a close-up; comedy, a long shot.

Buster Keaton

The medium-view angle is when you move closer toward the scene, while still remaining in a somewhat distant or objective viewpoint. In cinematography and photography, it’s the perspective well suited for photographing the “group shot,” as in the photos of the stone formations and farmers in Chapter 2 (Figures 2.17 and 2.18). You see what the subjects are doing and they might be aware of the photographer, but you’re not part of the group.

The narrow-view angle—or *close-up*—is almost always a subjective viewpoint. You’re getting up close and personal, noticing all the subtle details, colors, and textures. You’re identifying with the subject, be it a person, plant, animal, or object. In the cinematography of human subjects, it’s called the “reaction shot” because the close-up helps the viewer intimately experience the state of mind of the person in reaction to the situation at hand. In photography, it’s the close-up portrait, as in Figure 11.1.

The close-up can bring to life inanimate objects by allowing us to intimately experience them, as in a “living” puddle and fiery water splashing against rocks (Figures 8.3 and 8.4). Extreme close-ups enter the territory of macro-photography, where we can merge with the subject, perhaps even losing recognition of what it is, as in abstract images. The original identity of the subject is no longer the objective of the photograph, but rather its intricate features or the new identity it assumes, as in the photograph “Desert Storm” (Figure 1.24).

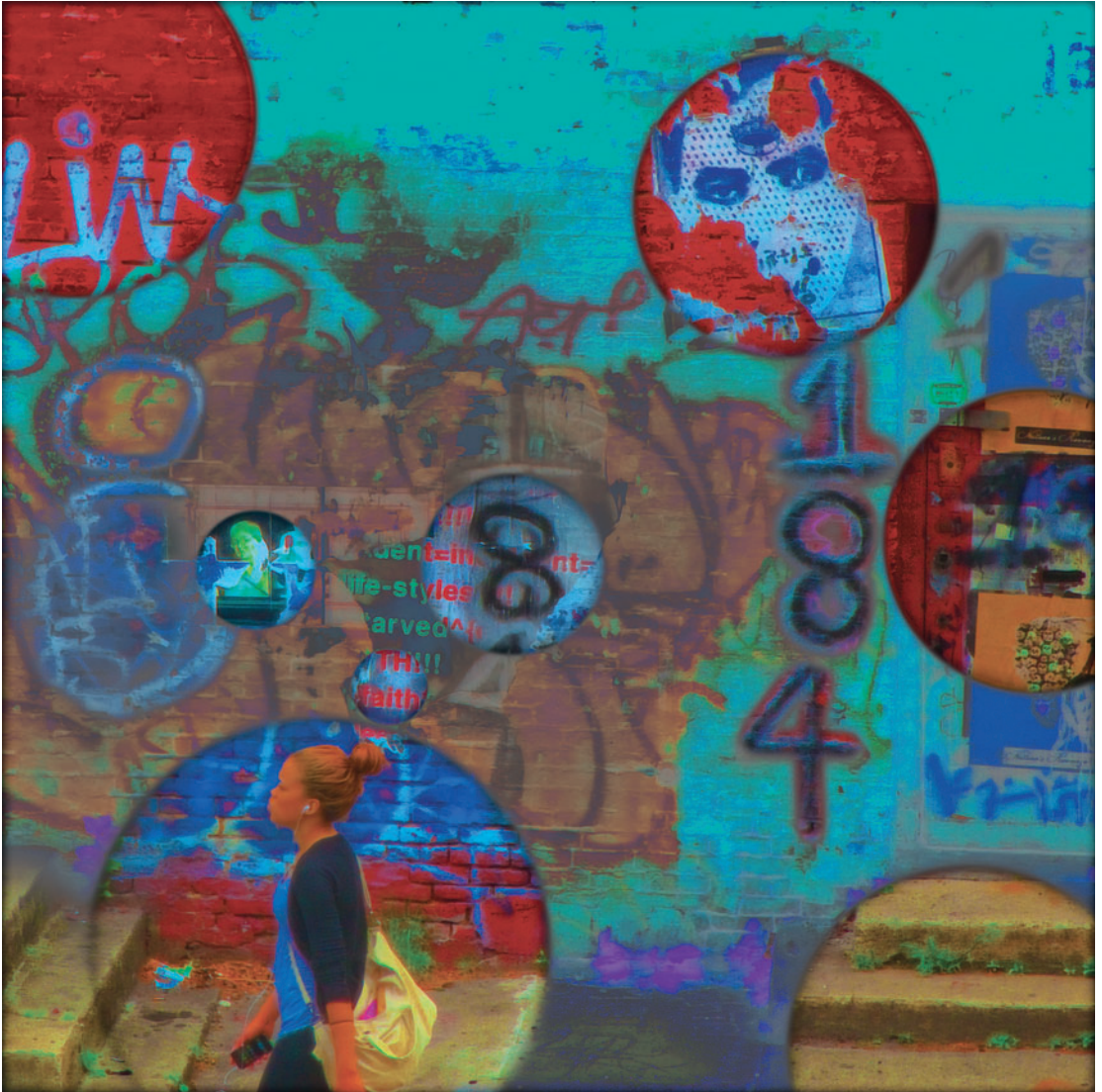


Figure 1.25 “Brooklyn Graffiti” by John Suler. Digital editing of a street scene plays games with figure and ground, distance, and close-ups.

KEY WORDS

blending	front, side, and rear	Notan	signal-to-noise ratio
camouflage	camera angles	point-of-view camera	staging shot
close-up	Ganzfeld	angle	visual search
common contour	graininess/granularity	positive–negative	long or wide-angle
contour rivalry	hiding	space	views
deceiving	interval	resolution/resolving	
Dutch angle	low, level, high	power	
field of view	camera angles	selection	
figure–ground	long shot	shared contour	

NOTES

- 1 M. C. Escher, *Escher on Escher*, New York: Abrams, 1989, p. 32.
- 2 Janet Kaplan, *Unexpected Journeys*, New York: Abbeville Press, 1988, p. 21.
- 3 Paul Rand, *Design, Form, and Chaos*, New York: Yale University Press, 1993, p. 198.
- 4 Rudolf Arnheim, *Art and Visual Perception*, Berkeley, CA: University of California Press, 1974, p. 451.

2 Gestalt Grouping

Abstract formal elements are put together like numbers and letters to make concrete beings or abstract things; in the end a formal cosmos is achieved so much like the creation that a mere breath suffices to transform religion into art.

Paul Klee



Figure 2.1 “Apocalypse II” by Jerry Uelsmann.

*Every person
experiencing as he
does his own
solitariness and
aleness longs for
union with another.
He yearns to
participate in a
relationship greater
than himself.*

Rollo May



Figure 2.2

Synergy—the behavior of whole systems is not predictable from its parts.

FIELD THEORY AND THE GESTALT LAWS

The *Gestalt* school of psychology, which was originated in the early 1900s by Max Wertheimer, provides simple and convincing evidence about how we organize visual elements to perceive them as wholes. What you experience when you look at a picture is quite different from what you would experience if you looked at each item in the picture separately. We are all familiar with the Gestalt principle that *the whole is different from the sum of its parts* (not necessarily “greater than”). This basic principle along with the other Gestalt laws of perception plays a critical role in “composition,” which is how the arrangement of visual elements in an image appear to the viewer.

Wertheimer was influenced by the theories in physics at the beginning of the nineteenth century. Scientists such as Faraday, Helmholtz, and Hertz were studying electricity, magnetism, and gravity. They hypothesized that a type of electrical, magnetic, and gravitational “field” exists where elements within it are held together by some type of force. Those elements influence one another; they either attract or repel. Their strength is a function of such things as size, position, and nearness.

Wertheimer believed that physical fields have their counterpart in visual fields. Similar to physics, the main principle of Gestalt psychology is that we perceive an object according to the total context in which it exists. Elements within a visual field are either attracted to each other (grouped) or repelled (not grouped). Taking into consideration figure/ground relationships, the Gestalt laws of perception indicate how we group elements to see them as “good figure.” Of the principles they proposed, we will focus on four in this chapter:

1. proximity;
2. similarity;
3. continuity;
4. closure.

Because the whole is different from the sum of its parts, changes in it influence the parts and vice versa. In Figure 2.3 a person can choose to see the individual letters separately or as a group that forms an image of a camera. Seeing the camera is seeing the totality of the individual visual elements. This single figure formed by grouping elements is a “gestalt”—a field whose forces are organized in a self-contained, balanced whole.

Figure 2.4 is an early example of how an artist grouped a variety of powerful symbols to create a gestalt that serves as a visual metaphor for the suffering caused by the exploits of Napoleon.

Photographers attempting to capture a picture can succeed or fail based not only on their technical or artistic competence, but also on their understanding the visual field. If they know how viewers organize visual

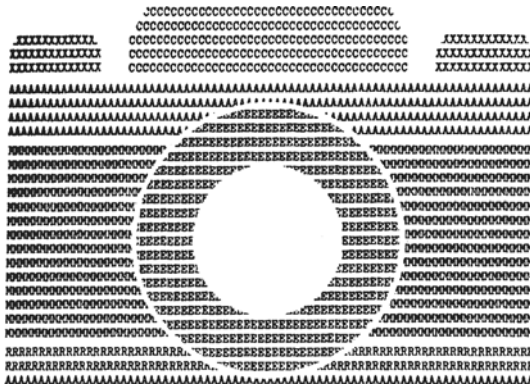


Figure 2.3

An example of Gestalt—the camera as a whole is different from the sum of the individual visual elements.



Figure 2.4

“Triumph des Jahres 1813” by Johann M. Voltz. The hat represents the Prussian eagle digging its claws into Napoleon. The visual elements of the face are some of the countless dead caused by Napoleon’s lust for fame and power. John Hay Library, Brown University.

elements when looking at a picture, the elements can be arranged to favor or disfavor certain groupings. As we will discuss in Chapter 9, people often do not consciously realize how the Gestalt laws affect their perception; the effects are “subliminal.”

Gestalt theory is helpful in ways other than for creating and interpreting images. Its interpersonal applications are evident in how it was used by the psychologist Kurt Lewin to study group dynamics and by Fritz Perls to establish Gestalt therapy. In everyday life, we all work, study, play, and worship within a particular environment or field where relationships can

*It is curious that I
always want to group
things: a series of
sonnets, a series of
photographs:
whatever
rationalizations
appear they originate
in urges that are
rarely satisfied with
single images.*

Minor White

*Things should be
made simple, not
simpler.*

Albert Einstein

*The coherent way of
investigating any field
is to examine its
possible relatedness to
other things.*

Frederick Sommer

attract or repel. We tend to associate with people who have similar interests and values, and are influenced by those closest (with most proximity) to us. With our relationships and everyday tasks, we seek to continue them to completion (closure) before moving on to something else. Unfinished tasks (nonclosure) can cause tension and frustration. We try to keep a healthy outlook by knowing when to “go with the flow,” which Gestalt psychology would call *Pragnanz*. The fundamental concept on which all the Gestalt laws are based—*simplicity*—can be the key to a good life.

PROXIMITY

The closer two or more elements are to each other, the greater the probability that they will be seen as a group or pattern. Look at the black dots in Figure 2.5.

We perceive each overall configuration of dots A, B, and C as a square. Because the dots in A are equally distant from each other, that square appears uniform. For B, the dots are closer together horizontally than vertically and are therefore seen as groups of horizontal rows or movements. It is difficult to see them otherwise. The dots in C are seen as vertical columns or movements because they are closer together in the vertical direction. By moving the dots closer together in B and C, the effect can be enhanced. If you repositioned the dots so they are touching, you would see lines.

Figure 2.5 demonstrates that by simply changing the proximity of similar visual elements, a viewer will group them in different ways. As an exercise, try rearranging the space between the dots so that a person sees groupings in a slanted direction.

If the dots were in a three-dimensional array, we could move them into closer proximity in the third dimension to create grouping in terms of depth. This is important when photographs are taken of people without considering the background. Because a photograph is a two-dimensional representation, objects in a three-dimensional space might be seen as a

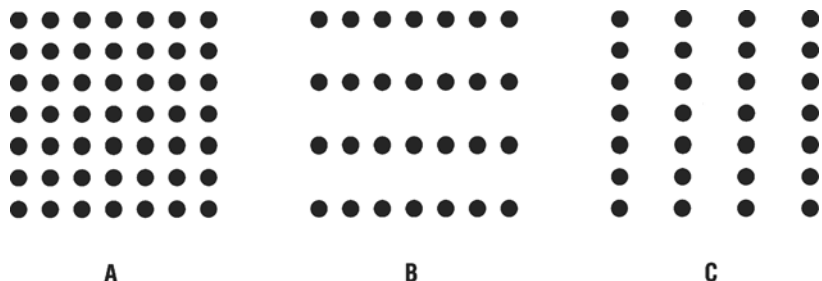


Figure 2.5 Organization of visual elements according to proximity.

**Figure 2.6**

Visual proximity facilitates grouping even if the elements are not physically near each other.

group when they are in visual proximity, even if they are not physically close to each other. This effect increases as the focal length of the lens and the camera distance increase. Figure 2.6 illustrates how objects in visual proximity tend to be perceived as a group, even when they are not in physical proximity.

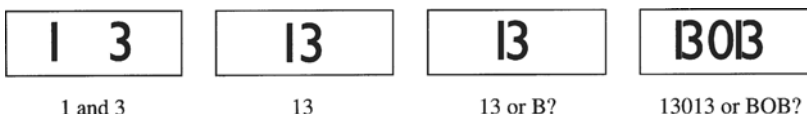
Spacing between letters or numbers plays an important role in how we perceive them. For example:

FAT	HER
HAT	RED
PEN	TAX

Proximity is the simplest condition of organization. We hear words in verbal coherency, primarily because of the temporal proximity of their sound elements.

György Kepes

Did you read the letters as six separate words or as three? Now consider the horizontal space between the visual elements “1” and “3” shown in Figure 2.7. Although the visual elements are the same (1 and 3), their changing proximity results in different perceptions, and perhaps even uncertainty and ambiguity.

**Figure 2.7** Spacing matters.

While browsing in a bookstore, Dick Zakia once noticed a book with the title *Super-vision* on its cover. He was delighted to have found a new work dealing with extraordinary visual phenomena. Unfortunately, his browsing the book led to disappointment because it was about supervising workers in business. Dick wondered whether the publisher realized how people might perceive the divided title.

**Figure 2.8**

The camera is an instrument that teaches people how to see without a camera.

Dorothea Lange

Proximity, Area, and Contrast

The smaller an area or space, the greater the probability it will be seen as figure rather than ground. Every area is bounded by an edge or line. The greater the proximity of these edges or lines, the greater the probability the area within the lines will be seen as figure. This was demonstrated in Chapter 1, in the equivocal fence diagram (Figure 1.4).

Figure 2.9 shows how the proximity of lines determines the size of the enclosed area, as well as how proximity facilitates the selective segregation of the smaller visual segments from the larger so that the smaller segments are seen as figure. Notice also that it is much easier to see the smaller segments as figure in the middle illustration than in the other two.



Figure 2.9 The closer the radial lines, the smaller the enclosed area and therefore the greater the probability it will be seen as figure. It is easier to see the smaller segments as figure against the larger segments as ground.

Figure 2.9 shows how black on white provides a high level of visual contrast. The result is an increased signal-to-noise ratio, a strong figure-ground relationship. What is seen as figure depends on that contrast as well as on area. Contrast and area work together in determining what is seen as figure. Examples of the effective use of area and contrast in the design of graphics is shown in Figure 2.10.

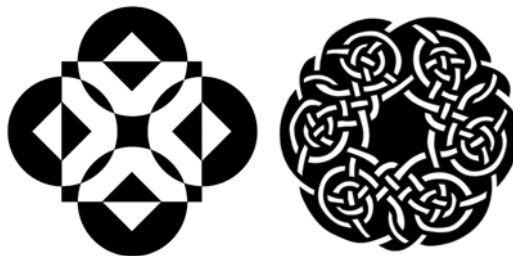
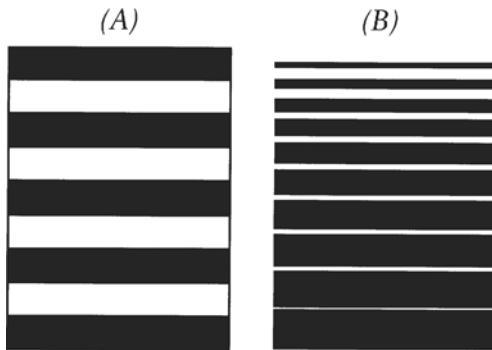


Figure 2.10 Areas determined by proximity and contrast play an important role in graphic design. Design by Kira Suler.

**Figure 2.11**

What is seen as figure is determined by area and contrast.

In Figure 2.11A, the areas of the black bars and white bars are the same. It is equally probable that either will be seen as figure. In Figure 2.11B, reading from top to bottom, figure evolves from a black line to a white line as area changes. Note that at one point both the black and white bars are of equal area, resulting in a perceptual situation similar to that found in Figure 2.11A.

Another example of the visual relationship between area and contrast is the halftone graphic arts screen shown in Figure 2.12. Reading from left to right, the figure changes from black dots to white dots.

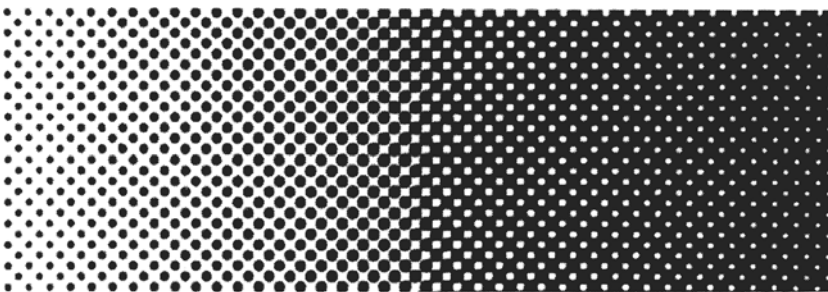


Figure 2.12 A halftone screen in which small dot areas, whether black or white, are seen as figure.

If you apply the Gestalt law of proximity to the arrangements of things you photograph and design, you can encourage people to see the relationships you want them to see. Often they will not be consciously aware of how you arrange the elements because spatial proximity is a natural way for us to group elements. When things are experienced as grouped, we see the whole and not the individual elements that make up the whole. Many other factors will also influence what a person sees as figure, such as shape, texture, color, closed areas versus open areas, pattern, expectancy, and so on.

Side-by-Side Images

When elements are presented side by side or in the same time frame, we tend to compare them, to see some kind of relationship or association. This has often been used effectively in advertising, teaching, and in photography, particularly in the creation of *diptychs*, images that are side by side, one above the other, or even one on top of the other (see Figure 2.13). In the past, *triptychs* were paintings or relief carvings on three panels, typically hinged together side by side and used as an altarpiece. Now the term also applies to three photographs placed next to each other as a triad that make a statement through suggested similarities and/or differences among the three images (see Figure 2.33).

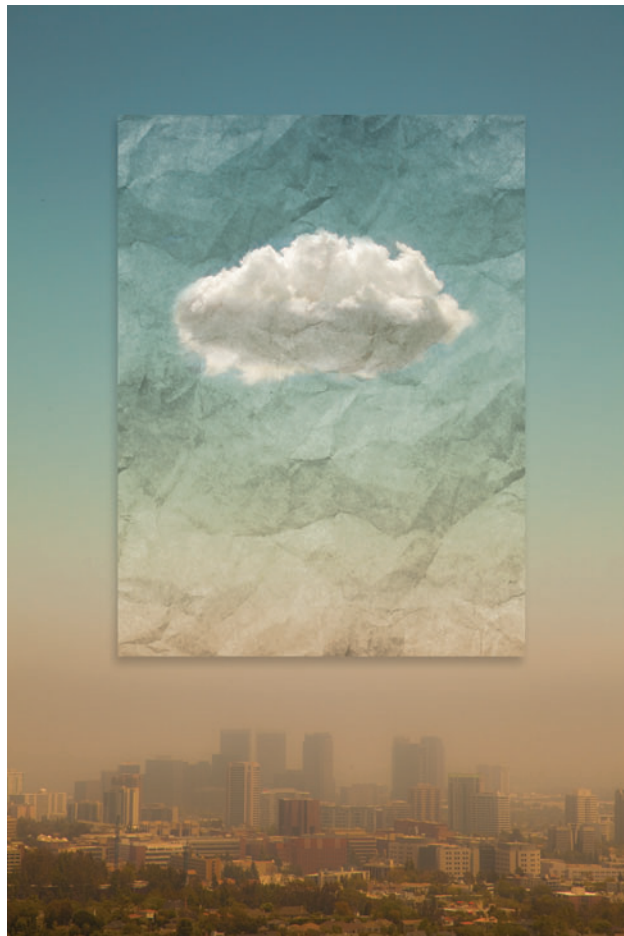


Figure 2.13 “Climate Control” by John Suler. Unlike traditional diptychs in which two images are side by side, this one places one on top of the other. The image of a cloud on crumpled paper provides a counterpoint to the photo of smog hanging above Los Angeles.

The eye can make the most critical judgments about whether two visual stimuli are the same or different if they are presented in proximity to each other. Visual instruments such as densitometers and colorimeters operate on this principle. When you are trying to make a better photographic print or digital image, you usually compare it side by side with a previous print or image.

One of the most difficult tasks for a photofinisher is to print your color negative so that the print matches a print you received earlier. When you compare the new print with the previous one, you will invariably find differences. One of the first things students learn in color printing is that it is easier for someone to accept a color print when it is not compared with another print of the same photo.

Temporal Proximity

Proximity applies to the temporal arrangement of events. Things that occur close together in time will tend to be grouped together. Tell someone that you want them to identify a word as you spell it out loud. The person will think it an easy task. Indeed it is, unless you pause between certain letters. If the word “CHO PHO USE” is spelled aloud in groups of three letters, it will be difficult to identify it unless the listener repeats the letters so that the pauses between them are equal.

Music provides another example of how proximity is important in perception. The sound of middle C on a piano represents a frequency of 262 cycles per second. If the frequency is increased, the sound vibrations occur closer together in time and the acoustical experience is an increase in pitch.

Editing of motion pictures, television programs, and a sequence of pictures requires careful placement of images so their projection in time will favor grouping. One of the major reasons for editing is to facilitate the perceptual grouping of elements in time and space. Pictures presented in a sequence rely on memory, so the longer the time delay, the more probable the loss or distortion of information in memory.

Proximity and Learning

Many students have difficulty understanding how some common terms in photography are related to each other—for example, stops, factors, neutral density (ND) filter, and exponents. Photographers usually talk about changing camera exposure by stops, realizing that a one-stop change means an increase or decrease by a factor of two.

How is this related to exponents in base 2 and to ND filters in 0.30-density increments? Making a table in which exponents, factors, stops, and ND filters are in proximity helps one see and remember the relationships.

If metaphor is a verbal strategy to evoke images, then as a photographer I'm interested in combining images to alter associations by extending the image itself. . . . It is this act of transformation, interactivity between images, that I find the most challenging.

Nathan Lyons

The proximity of optical units is the simplest condition for a crystallization of unified visual wholes.

György Kepes

In Hopi, there is no word which is equivalent to “time” in English. Because both time and space are inextricably bound up in each other, elimination of the time dimension alters the spatial one as well.

Edward Hall

Table 2.1 Relationships

Factors	Exponents (Base 2)	Stops	Neutral Density Filter
1	2 ⁰	0	0.00
2	2 ¹	1	0.30
4	2 ²	2	0.60
8	2 ³	3	0.90
16	2 ⁴	4	1.20

An 8-bit digital image can display 256 tones, i.e., 28.

Whatever favors organization and comparison will also favor learning, retention, and recall. Thus the law of proximity is equivalent to what educators call “association by contiguity.”

An average outdoor scene has a brightness ratio of 128:1 (seven stops, seven zones, 27).

SIMILARITY

Visual elements that are similar (in shape, size, color, movement, and so on) tend to be seen as related. When we see things that are related we naturally group them together as patterns. This is readily observable in Figure 2.14.

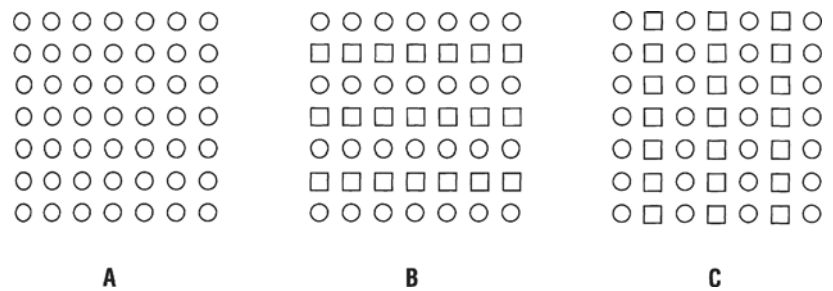


Figure 2.14 Organization of visual elements according to the law of similarity (shape).

The overall configuration for A, B, and C remains square, but B is seen as having horizontal rows of alternating circles and squares, while C is seen as having vertical columns of alternating circles and squares. Because all the visual elements in Figure 2.14A are similar and have the same proximity, no patterns are seen within the array. Note that the proximity of the visual elements in B and C remains constant, so that the grouping of these elements in alternating vertical and horizontal directions is primarily based on the similarity of circles or squares. This suggests that similarity can be a stronger force than proximity in perceptual grouping. Additional examples are presented in Figure 2.15.

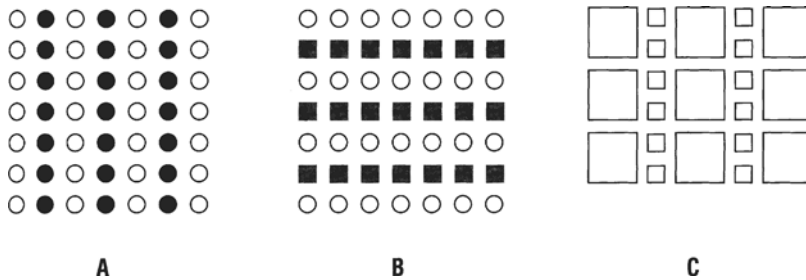


Figure 2.15 Additional examples of how visually similar elements are grouped.

Look back to Figure 2.9. Note how natural it is to group the four small (or large) pie-shaped segments together and how extremely difficult it is to group dissimilar segments, such as a small segment and two large segments. Many different patterns could be created from the figure by various groupings of small and large pie-shaped segments, but it is extremely difficult to do so just by looking at it.

Similarity is a prerequisite for noticing difference.

Rudolf Arnheim

Similarity of Shape

Visual elements that have similar shapes, such as those shown in the skeleton of a leaf, tend to be grouped together (Figure 2.16). Due to the similarity and proximity of the curved lines, they are easily seen together to form a pattern. Such repetition of similar lines serves as a visual “beat”—a visual counterpart of the rhythm that is associated with motion and sound.

Figure 2.17 shows how a particular camera angle and lens record a picture in which three objects are grouped to make an interesting composition. All three objects are similar in form but different in size, which gives perspective and depth to the image. The interval between the first and second objects makes the composition more interesting than if the objects were evenly spaced.

One can find many images in which three persons standing side by side are grouped in a similar manner. One example is Figure 2.18, showing three German farmers dressed alike, with all three in a similar pose and looking directly into the camera. The farmer on the left, however, has his hat and cane tilted, with a cigarette dangling from his mouth—while the man in the middle has his left hand raised, which makes it stand out as a figure-ground element. The counterpoint between these similarities and differences is what makes the picture an intriguing, decisive-moment photograph.

Figure 2.19 is Henri Cartier-Bresson’s 1944 photograph of two prominent scientists who are husband and wife. Their facial expressions, hand and body gestures, and clothes are similar. It is a tender depiction of how a loving husband and wife grow more alike as their marriage matures.¹



Figure 2.16

Units which resemble each other in shape, size, direction, color, brightness, or location will be seen together.

Rudolf Arnheim



Figure 2.17 “Eroded Sandstones, Monument Park, Colorado” by William H. Jackson. George Eastman House.



Figure 2.18 “Jungbauern Westerwald” (“Young Farmers”), 1914, by August Sander. George Eastman House.



Figure 2.19 “Irene and Frederic Joliot-Curie,” around 1944, by Henri Cartier-Bresson. Magnum Photos.

Similarity and Repetition

The familiar painting “American Gothic” by Grant Wood provides some interesting observations on similarity (Figure 2.20). Of particular importance is the trident shape of the three-pronged pitchfork that surfaces in several other places in the image:

- the design of the man’s white shirt and overalls;
- the upper part of the woman’s apron;
- the three parallel roof lines on the extreme left and right;
- the three parallel fingers of the man’s hand;
- the configuration formed by their chin lines and the facial features above the chin.

If the pitchfork is interpreted as symbolic of Satan, then the expressions on their faces take on new meanings. One can understand why this classic portrait of rural Americans precipitated an uproar among Midwesterners when it was first exhibited at the Art Institute of Chicago in 1930.

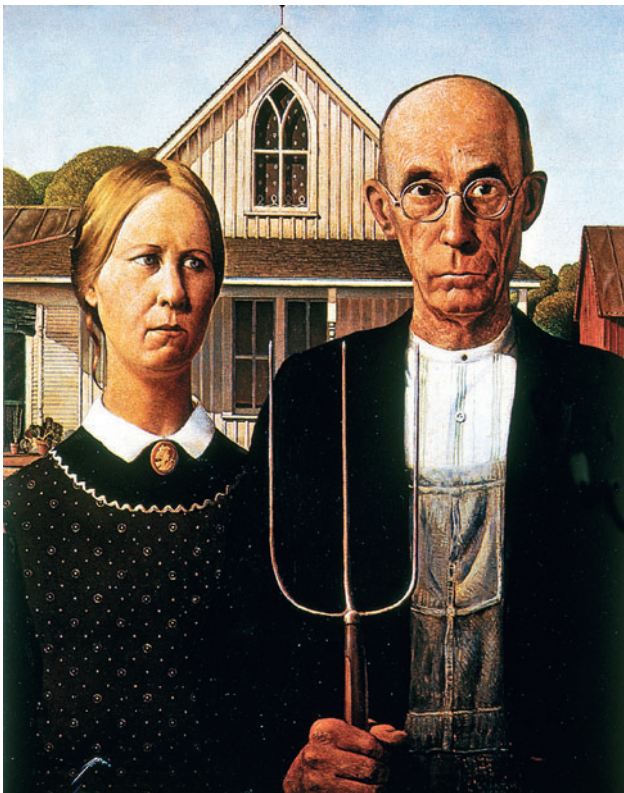


Figure 2.20 “American Gothic” by Grant Wood. The Art Institute of Chicago.

How many times do you think a person should see a movie to catch everything in it? . . . Three times, at least, to pick out all the details and the intentions behind them.

Alfred Hitchcock

Merely copying the object is not art. What counts is to express the emotion called forth in you, the feeling awakened

. . .

Henri Matisse



Figure 2.21 Similarity of size, position, and shape, with dissimilarity of hands. Courtesy Parker Pen Company.

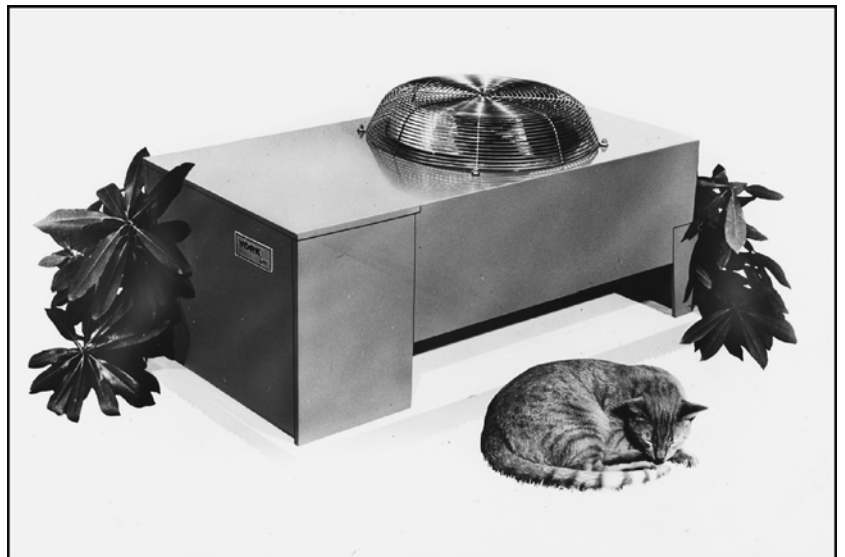


Figure 2.22 Similarity in shape suggests that the air conditioner is as quiet as a sleeping cat. Courtesy York Division Borg-Warner Corporation.

In Figure 2.21 the position of the hands, fingers, and pens are similar, as are the size and shape of the pens and the angles at which they are held. The photographer has also been careful to place the pens close together and to show the same side of all three. Even the shadows from the pen points are similar. However, the hands are all different.

Similarity and Proximity

Photographers sometimes use similarity and grouping as symbolic associations. In the advertisement of Figure 2.22, a sleeping cat curls up alongside an air conditioner containing a fan similar in shape to the cat. That resemblance of shapes facilitates grouping, which in turn enhances an association between the familiar quietness of the sleeping cat and the implied quietness of the air conditioner.

In his book *East 100th Street*, Bruce Davidson has a photograph of a child partially naked, with straggly hair and head tilted, standing limp on a fire escape against a steel bar railing that takes the form of a cross (Figure 2.23).² By using design elements similar to paintings of the crucifixion of Jesus, the photograph encourages a grouping of these two separate events—the image and what one remembers. The photograph then acquires a deep



Figure 2.23
“Untitled” by Bruce Davidson. One of a series of photographs for his book *East 100th Street* taken by Bruce Davidson in the Harlem area in New York City in 1966. Bruce Davidson.

Metaphor joins dissimilar experiences by finding the image or the symbol that united them at some deeper emotional level of meaning.

Jerome Bruner



Figure 2.24
Reflection as a way to understand symmetry.

Some elements are seen together because they are close to each other; others are bound together because they are similar in size, direction, shape.

György Kepes

feeling and symbolic meaning. If one sees the child as representing innocence, then the question might be, “Who is responsible for the child’s ‘crucifixion’?” A nonreligious interpretation might be that the child, representing innocence and humanity, is imprisoned by the bars of the fire escape.

In Dick Zakia’s conversation with Bruce Davidson on September 5, 1996, Bruce indicated that the photograph should be seen in the context of the others in the book (figure and ground). It is a statement about the space in which the people of East 100th Street lived, their rooms, vacant lots, alleyways, as well as the relation of shadows and shapes. The face is in deep shadow with little to no detail—the half light and half dark of her environment. The photographs were made in the 1960s, a time of exploring outer space. The photograph is about understanding inner space.

Symmetry and Asymmetry

Symmetry can be considered a special type of similarity. Elements that are symmetrical provide the visual balance of a “good gestalt.” The more symmetrical an area, the greater the tendency to group it and see it as figure. Symmetry also affects our perception of depth. Generally speaking, the more symmetrical a design, the more it is perceived as two-dimensional.

There are various types of symmetry. If you split an apple down the center, you have two very similar halves. This is an example of bilateral symmetry. It occurs frequently in nature—humans being a familiar example with symmetrical features such as the face, arms, hands, and legs. Other types of symmetry can be understood in terms of the design elements of letters and symbols. If you place a mirror on one side of and at a right angle to the letter A, the reflection is unchanged. The reflection of the letter D remains unchanged only if the mirror is placed above or below the letter (Figure 2.24).

In both cases, reflection is used to describe this type of symmetry. Letters such as N, H, and X can be rotated 180 degrees (upside down) and appear the same. This is called *twofold symmetry*. A symbol such as a plus sign (+) possesses *fourfold symmetry*, appearing identical in four different rotations. A circle remains the same regardless of rotation or reflection and therefore represents *complete symmetry*.

Figure 2.25 depicts a simple situation that illustrates the importance of symmetry to grouping and *asymmetry* to non-grouping. One readily groups the symmetrical shapes to see the vertical areas 1, 3, and 5 as figure. However, it is extremely difficult to see vertical areas 2 and 4 as figure because their vertical boundaries are not symmetrical. The more symmetrical an area, the more readily it is seen as figure.

Much of what we encounter in life is in some way symmetrical, although identifying the left versus right side of human-made objects is usually easier than identifying left versus right sides in nature. When making montages of nature scenes, care must be taken that the sun angles and shadows are alike (symmetrical) in the component images if the combined picture is to appear balanced and realistic.

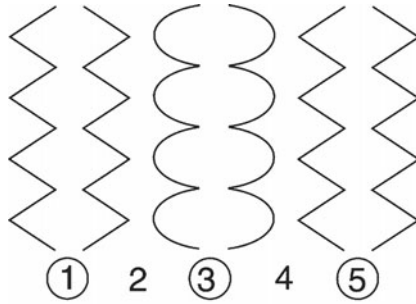


Figure 2.25 Symmetry facilitates grouping.

Visual elements do not require symmetry to be similar in shape, form, color, texture, and so on. However, when they are both similar and symmetrical, they provide a visual rhythm—a balanced, repetitive grouping. This is a type of *redundancy*.

Symmetry and Redundancy

What we see depends on the number of different ways in which visual elements are grouped. The more redundant the visual elements, the fewer the alternatives, the easier the grouping. Symmetrical things are so easy to see as figure because they possess redundancy. Information on one side of the symmetrical figure is readily predictable from information on the opposite side. Symmetry is a powerful factor that provides for a “good” gestalt.

Mandalas are an excellent example of symmetry. Usually round or oval, they might assume other shapes such as a diamond, square, or triangle. The well-balanced, repetitive elements that make up the mandala can be created from anything one desires, even a cloudy sky, as seen in the radial symmetry of Jane Hopkins’ mandala (Figure 2.26).

Circular mandalas are a unique type of symmetrical image because they can be intricately complex while relying on symmetrical redundancy to consolidate all that information into a unified whole. As tools in meditation and healing, they can symbolize the cosmos as well as the human psyche. Mandalas are universal signs found in many different cultures and religions: rose-colored cathedral windows, Native American medicine wheels, Navajo and Tibetan sand paintings that signify the impermanence of life (see Figure 11.28). Hildegard von Bingen, an early Christian nun, created mandalas as an expression of her religious beliefs. Redundancy helps guarantee that the symbols within an elaborate mandala will be identified.

Symmetry in Graphic Symbols

Symmetry plays an important role in the graphic identifications (logos) used by many corporations. Note in Figure 2.27 the balance provided by the

Simplicity of shape, especially symmetry, predisposes an area to function as figure.

Rudolf Arnheim

A vertical axis produces more compelling visual symmetry than a horizontal axis.

Rudolf Arnheim

In art there are perceptions, opinions, speculations, and interpretations, but no proof. This is both its mystery and its magic.

Paul Rand

A “good” figure is a figure with a high degree of internal redundancy.

Ralph Norman
Haber

Figure 2.26

“Clouds of Color and Light” by Jane Hopkins. This mandala was created by cropping the original image to a square format. Four copies are made; two copies are mirrored vertically and two horizontally. After these are merged, a circular crop produces the final mandala (janehopkins.net/).

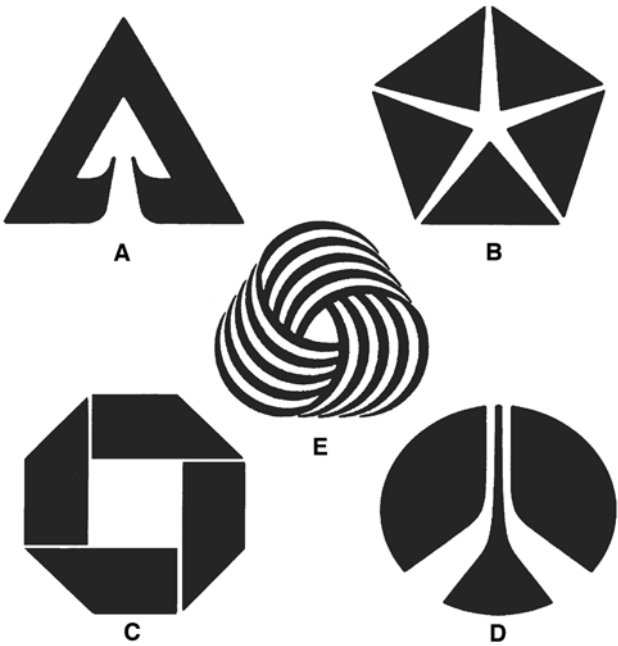
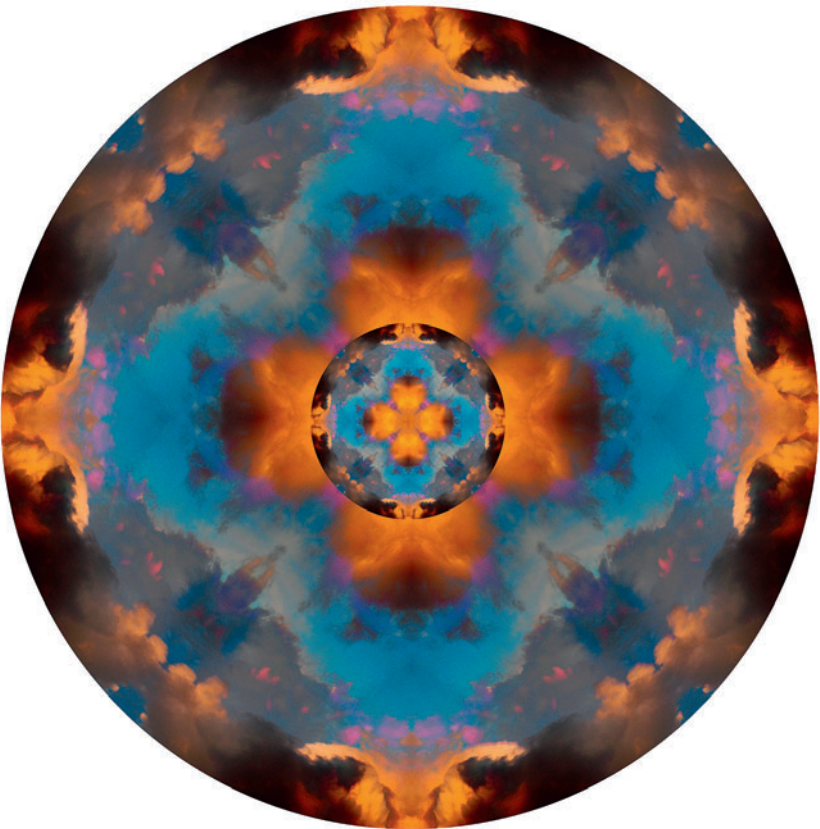


Figure 2.27

Examples of symmetry in the design of graphics: (A) Weyerhaeuser Company; (B) Chrysler Corporation; (C) Chase Manhattan; (D) Rockwell International; (E) Pure Wool®.

symmetry of the visual elements. Note how the proximity, regularity, simplicity, stability, closure, and continuity of the visual elements all work together to facilitate the grouping of the elements into a whole unit—into a “good” gestalt. The strong figure–ground relationships in these logos also provide fine examples of Notan, which we discussed in Chapter 1.

Complete or perfect symmetry in photography is often undesirable because it tends to static or monotonous. Some asymmetry is necessary to establish interest and tension. In portrait photography, lighting is normally adjusted to break up the symmetrical form of the face. The subject is rarely photographed straight on with even lighting.

CONTINUITY

Visual elements that require the fewest number of interruptions will be grouped to form continuous straight or curved lines. If you refer back to the array of small circles in Figure 2.14A and consider all the possible lines or shapes that could be generated from such a 7×7 array, it becomes apparent that perception seeks simple lines and shapes—those that require the least change or interruption in the visual experience.

If the circles in Figure 2.14A were electric lights with each one wired to go on and off independently, we would have a system for generating any line, shape, or picture we might desire. You’ve probably seen advertising signs like this. A television screen is similar to such signs, for it has thousands of little phosphor lights (pixels). Analogies could be made to other display systems such as the halftone dot matrix in graphic arts (Figure 2.12). Such an array is the basis for a video screen and inkjet printers.

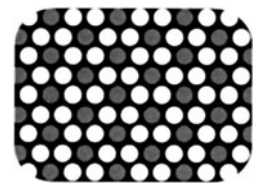


Figure 2.28

Now look at Figure 2.29 and notice the first thing that you see.



Figure 2.29 Organization of visual elements according to the law of continuity.

When there is a choice between several possible continuations of a line, the spontaneous preference is for the one that carries on the intrinsic structure most consistently.

Rudolf Arnheim

In working with multimedia, it is imperative that sound and sight be experienced holistically. Continuity in design is essential, including any interactive development.

David Page

Was it a pair of Xs? Seeing the Xs requires the fewest interruptions or changes. Seeing a diamond is also relatively simple. Because the Xs and the diamond are familiar figures, they require few visual changes. The diamond is also closed, which facilitates its perception (we'll talk more about *closure* later). If you look hard enough you can see other familiar figures, perhaps a W, an M, or a V. Those letters are harder to see because they require more visual changes. It is easier to perceive the slanting lines as continuous than discontinuous. To see them as discontinuous one has to visually break apart the gestalt, which requires concentration.

The Union Flag or Jack shown in Figure 2.30 provides an interesting example of continuity. It is easy to see a cross and an X. Because the cross is continuous it is difficult to see it as anything other than a cross. Even though parts of the X are hidden, we still have little difficulty seeing it also as continuous. It is interesting to note that this Union Flag is a combination of the national emblems of England, Scotland, and Northern Ireland.

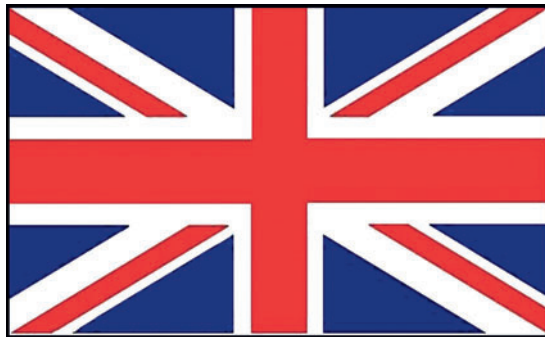


Figure 2.30 The Union Flag of the United Kingdom.

A photograph that serves as an excellent example of continuity is Edward Weston's "Nude, 1936" (Figure 2.31). His wife, Charis, who modeled for the photo, said this about the experience:

I sat in the bedroom doorway [to the sunroof] with the room in shadow behind me. Even then the light was almost overpoweringly bright. When I ducked my head to avoid looking into it, Edward said, "Just keep it that way." He was never happy with the shadow on the right arm, and I was never happy with the crooked hair part and the bobby pins. But when I see the picture unexpectedly, I remember most vividly Edward examining the print with a magnifying glass to decide if the few visible pubic hairs would prevent him from shipping it through the mail.³

If you placed a piece of tracing paper over the photograph and then traced the contours of the body, you would discover a magnificent continuation of line. Of all the photographs Weston made, this one, according to his son Cole, was his favorite. On photographing nudes, Weston wrote: “without any instructions to the models (I never use professionals, just friends) as to what they should do, I would say ‘move around, all you wish to, the more the better.’ Then something happened. I would say ‘Hold it.’ And things did happen all the time.”⁴

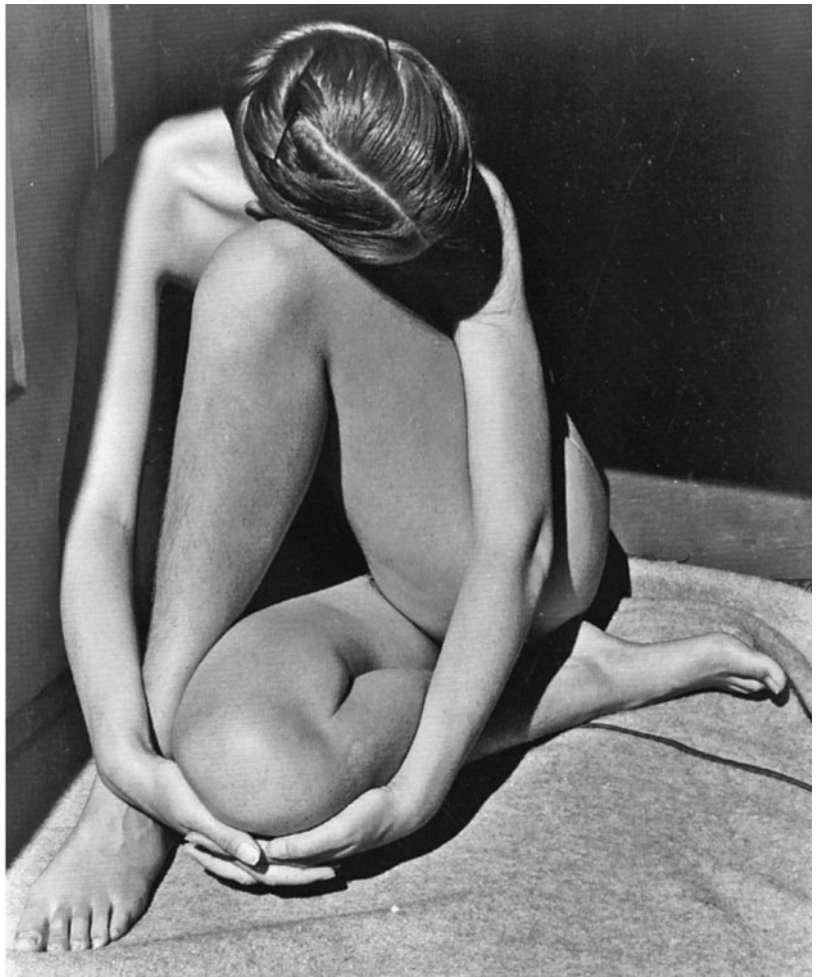


Figure 2.31 “Nude, 1936” by Edward Weston. © 1981 Center for Creative Photography, Arizona Board of Regents.

Continuity in Typography

Type comes in many different styles (Figure 2.32). One style that has dominated printing for many years is serif. The upper word “WINE” (Figure 2.32A) is an example of serif style, while the word below is sans serif. One reason for the popularity of serif letters is that they provide a “good” gestalt. Serif letters flow together to group more naturally than sans serif letters. The terminal strokes (serifs) on the letters provide better visual continuity.

Figure 2.32B shows a novel example of the use of continuity in typography. One might think of it as a visual onomatopoeia—the word looks like its meaning.

An example of a unique contemporary type design is shown in Figure 2.32C. Notice the number of changes that the shape of each letter takes. Change demands attention. A number of perceptual studies have shown that the eye is attracted by change: change in contrast, color, texture, shape, line, position, and direction.

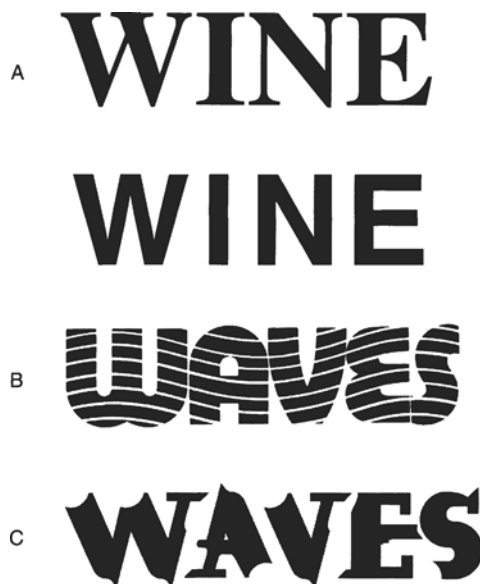


Figure 2.32 Different types of font styles. (A) Due to their continuity, the letters in the popular serif style in the upper word WINE group easier than they do in the sans serif style below. (B) Continuity can be used to provide some interesting effects with printed words. (C) The Caustic Biomorph type design by Barry Beck.

Continuity in Sequences

Moving pictures as in film and video are a sequence of images that vary in their spatial and temporal arrangement. The same is true for still pictures arranged in sequence, because a person viewing each picture does so in a moment-by-moment time frame. What precedes or follows an image influences the perception of it. One difference between motion pictures and still pictures arranged in sequence is that the latter entail far fewer pictures per event being depicted, as evident in Thomas Eakins' classic photograph "History of a Jump" (Figure 4.18).

Transitioning abruptly from one scene to the next, from one train of thought to another, especially when they are very different, reduces the strength of the relationship between adjacent pictures. In movie-making, cinematographers call it a *jump cut*. In some situations creating such an experience of disruption, dissonance, and surprise might be desired (as in scary movies), but usually the goal is to provide a smoothly continuous transition in both space and time. Dissolves, fades in or out of focus, wipes, and similar techniques are designed to enhance this transition. When arranging still photographs in a sequence, as in a triptych, some type of visual continuity creates unity among the images and meaning in the progression.

When we try to represent visual and auditory experiences through the use of sight-and-sound media, it is imperative that a good continuity of events be established. This is the main purpose of script writing,



Figure 2.33 “Costa Rica” by John Suler. In this triptych, similar colors and the shape of the cross provide continuity in the sequence, with the meaning of each photograph influenced by the presence of the other two.

*In putting images
together I become
active, and
excitement is of
another order—
synthesis overshadows
analysis.*

Minor White

storyboarding, and editing film, videotape, audio recordings, and written texts. One of the major problems in television programming is how to introduce commercials without interrupting the integrity and continuity of the program.

CLOSURE

Nearly complete familiar lines and shapes are more readily seen as complete (closed) than incomplete lines and shapes. In Figure 2.34 our mind groups the visual elements to see a triangle, not three unrelated lines—a circle, not a series of dots. We seek to establish the visual equilibrium and balance that closure provides. In Figure 2.34 the proximity and similarity of the visual elements facilitate these perceptions.

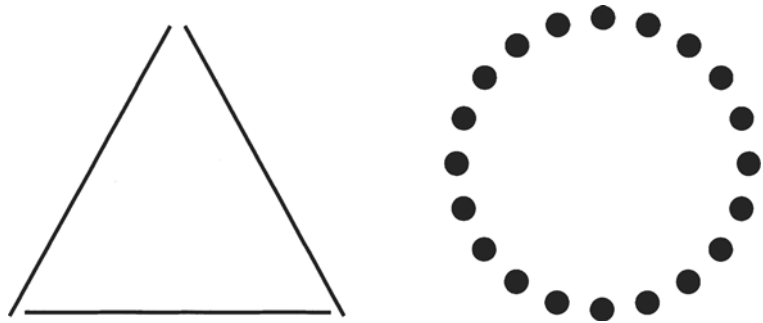


Figure 2.34 Organization of visual elements according to the law of closure.

*Forces of
organization driving
toward spatial order
toward stability, tend
to shape optical units
into closed compact
wholes.*

György Kepes

*An object in
possession seldom
contains the same
charm that it had in
pursuit.*

Pliny the Younger

The design of the five-star flag for a general of the U.S. Army provides another example of closure (Figure 2.35). A careful look at the area within the five stars reveals a pentagon shape. That outline formed by the edges of the stars is not continuous, but is perceived as continuous due to the Gestalt law of closure. Other Gestalt principles also lead to this perception of a pentagon:

1. proximity—the closeness of the stars;
2. similarity—all the stars are of the same size, shape, and color (white);
3. continuity—the orientation of the stars form straight continuous lines from each of the five pentagon apexes.



Figure 2.35 Flag for a general of the U.S. army. Due to closure, a pentagon shape can be seen within the star.

Closure and Nonclosure

The U.S. presidential flags illustrate closure versus nonclosure (Figure 2.36). Both the presidential and vice-presidential flags have stars as visual elements. The 13 stars of the vice presidential flag are not in close enough proximity to allow the easy closure for perceiving a circle. By contrast, the close proximity and similar orientations of the stars in the presidential flag more easily form a continuous line that we see as a circle. It is a better gestalt.



Figure 2.36 The symbols on the flags of the vice president and president of the United States.

Dick Zakia's friend from Australia once sent him a cartoon showing a person standing in front of a psychotherapist's office, about to enter but pausing with a puzzled look. The name plate on the door read "PSYCHO THE RAPIST." Here humor highlights the importance of the *interval* in perception.

This is true regardless of the sensory modality but especially true for sight and sound. If you change the interval between tones in music, you change the music. In Michelangelo's painting "The Creation of Adam" (Figure 2.37), changing the distance between the finger of God and Adam would dramatically change the meaning of the image. The interval tempts the viewer to complete the action; it is a critical distance that invites us to participate in the event. The same can be said for the painting "La Danse" by Henri Matisse in which five nude women are dancing in a clockwise circle, their hands all joined together except for the two women in front. Between their outstretched hands is a gap, a narrow separation, an interval that summons the viewer to join in.

If you jump ahead to Figure 4.20 in Chapter 4, you will see how Henri Cartier-Bresson's famous photograph of a man suspended in air, leaping across a puddle, creates suspenseful anticipation. His forward motion is captured just before the heel of his outstretched right foot touches its reflection in the water. The decisive moment is the decisive distance—the

Figure 2.37

The critical space between the fingers of God and Adam provides a decisive distance that invites closure. From “The Creation of Adam” by Michelangelo.



The interval invites participation; it creates a riddle that involves one.

Edmund Carpenter

Whoever listens to the drum hears silence.

Georges Braque

If we listen to a continuous note on the fringe of audibility, the sound seems to stop at regular intervals and then start again. Such oscillations are due to a periodic decrease and increase in one's attention, not to any [physical] change in the note.

Carl Jung

critical interval that invites the viewer to participate in the photograph by completing the jump.

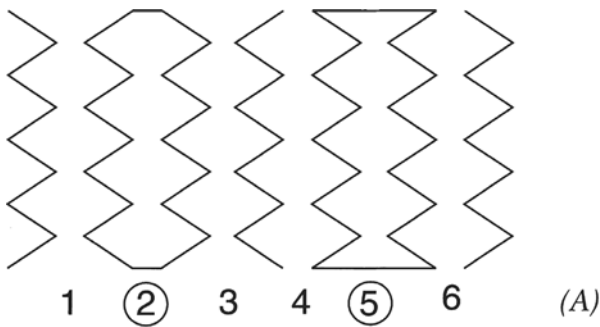
REM EMB ERTH ISIFYO UPU TTH EINT ERV ALINTH EWRO
NGPLA CEITC ANCA USEP ROB LE MS.*

Closed Areas

Areas with closed contours are more readily seen than areas with open contours. In Figure 2.38A the closed areas 2 and 5 are easier to see than the open areas 1, 3, 4, and 6, even though the jagged lines are all similar and in the same proximity to each other.

In Figure 2.38B the widths of the black bars in a resolving power target are exactly the same as the widths of the white spaces between them. The lengths of the black bars are definite because they are closed areas, whereas the white spaces are not even seen as bars because they are open areas. To see the white spaces as white bars, one has to create closure by imagining a line around the three black bars to form a square.

In the first chapter, Figure 1.5 showed how a single contour line forms a figure–ground boundary. This line could be seen as belonging to the face of an old man or to the face and body of a woman. The perception of one over the other can be controlled by enclosing the single contour line (Figure 2.39). In this way image-makers can manipulate visual elements so that perception can be directed to the message being communicated.



A closed area appears more formed, more stable, than one which is open and without boundaries.

György Kepes

RESOLVING POWER TEST TARGET

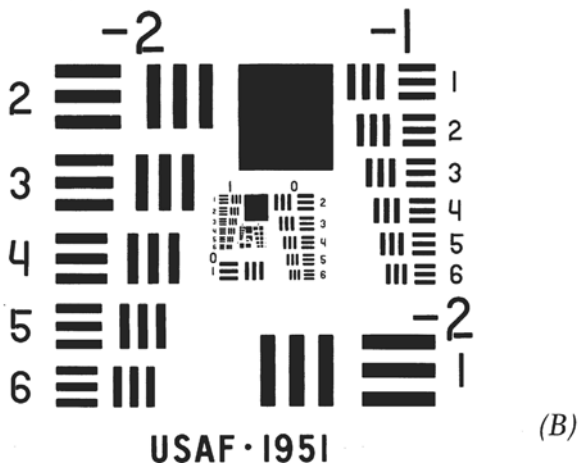


Figure 2.38 (A) Closed areas are more easily seen as figures. (B) The closed black bars on a resolving power target are easily seen as figure.

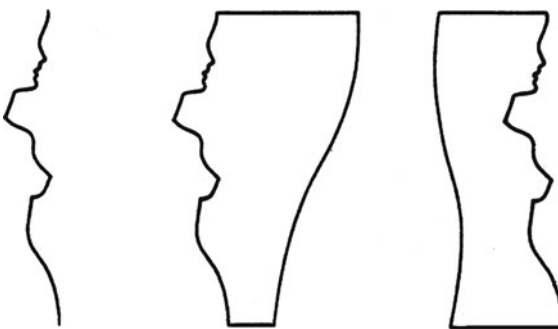


Figure 2.39 Profile of an elderly man's head or the head and torso of a woman? Closed areas are more readily seen as figures. Contrasting the enclosed areas by darkening them would make them even easier to see as figures.

*The incomplete
image and the
unexpected image set
the mind a puzzle.*

E. H. Gombrich

The Zeigarnik Effect

In 1927 a Russian psychologist, Bluma Zeigarnik, conducted a series of experiments demonstrating that tasks interrupted before completion are more likely to be remembered than similar tasks completed without interruption. Subjects were asked to recall favorite quotations from memory, solve a riddle, or do mental arithmetic. Some of them were given sufficient time to solve the problems while others were not. Upon questioning a few hours later, the subjects who were interrupted before completion had better recall (although the effect seemed to disappear within 24 hours). This *Zeigarnik effect* is a variant of the Gestalt principle of closure.

This experience is not an uncommon one. For example, after a test one's mind tends to dwell on the questions left unanswered. A similar situation exists when you are puzzled or worried about something that happened during the day. At bedtime the unsolved problem keeps the mind working, sometimes making sleep difficult. Until the puzzle is solved, it remains active in the mind, either consciously or subconsciously (we will

*I propose that many
authors are
influenced more by
writers they only
partly understand
than by those they
fully comprehend, for
the former leave
unfinished business in
one's mind.*

Rollo May



Figure 2.40 “Split Personality” by John Suler. The dilemma of this pedestrian in need of closure might linger in your mind.

discuss *subconscious incubation* in Chapter 11). Films and TV series apply the Zeigarnik effect in the form of the cliffhanger. As they say in show business, “leave them wanting more.”

Personality plays a role. People who are anxious recall completed tasks better, while those who are achievement oriented recall uncompleted tasks better. Because people have different tolerances and strategies for coping with tension, the pressure of an uncompleted task can motivate some people while discouraging others.

A certain amount of tension in a picture—ambiguity, illusion, confusion, novelty, and the unexpected—can result in a visual Zeigarnik effect (Figure 2.40). If the riddle is left unresolved during the viewing of the picture, the image and its puzzle might linger in memory until closure is reached. Many pictures contain such riddles, especially in advertising. Picture and copy together produce a dilemma that is not easily solved in the short time typically devoted to viewing the advertisement. Rebuses, which are riddles created by combinations of pictures, symbols, and words, are especially good candidates for creating the Zeigarnik effect. We will return to rebuses in Chapter 3.

People as Participants

People derive satisfaction from being able to participate in closure. This is not restricted to visual experience. It is basic to our humanity—to the way we experience many things in life. The art of teaching consists of providing students with enough information organized in such a way that they can put it together, add the missing elements, and discover for themselves what the teacher wants them to understand. In some situations, we cannot resist closure:

Twinkle, twinkle, little star,
How I wonder what you ____.

Could anyone’s mind resist finishing that rhyme?

Years ago when cake mixes were first marketed, they turned out to be a dismal failure, even though the product was of good quality and convenient to use. Studies determined that the failure was due, ironically, to the fact that the manufacturers had done everything but bake the cake. They made the product *too* convenient to use. By changing the cake mix ingredients and making it necessary for the user to increase participation by cracking and stirring in an egg, cake mixes became an almost instant success.

Every artist who paints or photographs nudes knows that what is excluded is as important as what is included. The viewer is allowed the freedom to participate to form closure. The lesson is simple. In any

*Forming is more
important than form.*

Paul Klee

*Interactive media,
well designed, invite
a person to
participate in an
event for
entertainment,
information, or
instruction.*

Keith Tripi

*A person learns
significantly only
those things which he
perceives as being
involved in.*

Carl Rogers

planned experience, never deprive people of the opportunity to participate—to become involved.

GESTALT CRITIQUE

The triangular composition in Henry Jackson's photograph of Native Americans is not only an intriguing symbolic statement about their culture, but also an excellent example of Gestalt principles in action (Figure 2.41). The grouping of the various elements into triangular shapes can be analyzed as follows:

- *Proximity.* The faces of the three women form a symmetrical triangle. The two seated at eye level with each other form a base line for the standing woman's head as one apex, or the baby's face or toes as another.
- *Similarity.* Grouping into triangular shapes is facilitated by the similarity of the shapes of the faces, the facial features, hairstyle, and expression.
- *Continuity.* The outer edges of the women provide lines that are close enough and in proper position to be grouped as continuous. Continuity also appears in the stripes of the standing woman's blanket, which Jackson must have carefully arranged so the stripes would form inverted triangles.
- *Closure.* One example of closure is the grouping of faces to form stable triangular shapes. Other examples are the ease with which one sees closed areas, such as the black-and-white stripes that do not blend in with the background.
- *Figure-ground.* Jackson was careful to position one of the hanging light-colored dress pieces behind the head of the standing woman, which provides a good figure-ground relationship in a critical area of the picture.

The recognition, in real life, of a rhythm of surfaces, lines, and values is for me the essence of photography; composition should be a constant of preoccupation, being a simultaneous coalition, an organic coordination of visual elements.

Henri Cartier-Bresson

Words of Caution

Knowledge of language, by itself, does not make one a great writer or poet. So too knowledge of the Gestalt laws does not ensure a good picture any more than knowledge of imaging processes and sophisticated equipment. One must be able to apply that knowledge skillfully, which takes dedication and practice. The Gestalt laws are not an end in themselves, but merely a means to an end—a means of improving the effectiveness of pictures. Rather than think of them as “laws,” use them as guidelines for influencing how people organize their experience of images.

The Gestalt laws have been separated in this chapter for the convenience of presentation. But do not think of them as separate, for they

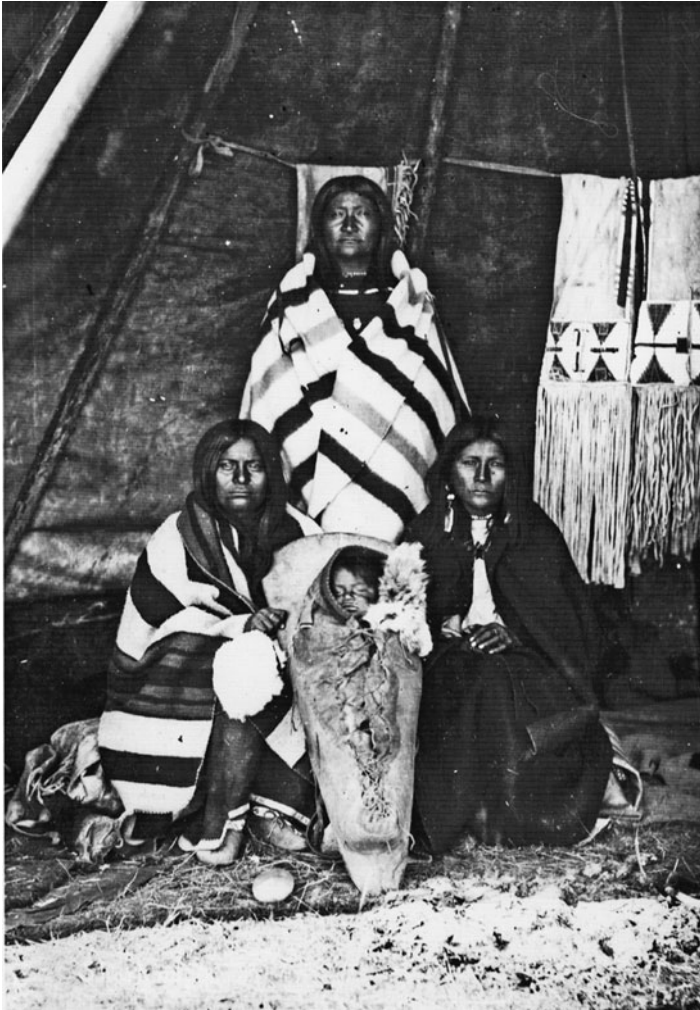


Figure 2.41 Three North American Indian women photographed by Henry Jackson. Smithsonian Institution National Anthropological Archives, Bureau of American Ethnology Collection.

are related and work in unison to facilitate seeing. Visual elements that are close together, similar, that form a smooth contour, and that allow for closure can produce an effective composition.

Keep in mind that many excellent pictures do not conform to the Gestalt laws. Examples of such pictures are those with strong emotional appeal or that delve into the unconscious (although such pictures often stimulate the need for psychological closure). Also, if you know how to arrange visual elements so that they are easily grouped, you know how to arrange them so that they are difficult to group. You may choose that second option to create a feeling of tension or dissonance in your photograph, to camouflage, or to encourage the viewer to look harder.

*Taking photographs
is a means of
understanding that
which cannot be
separated from other
means of visual
expression.*

Henri Cartier-
Bresson

*To define is to
destroy, to suggest is
to create.*

Stéphane Mallarmé

CAPTIONS, COPY, GESTALT

Whether to caption a photograph or not is an important question because the caption becomes part of the photograph—part of the gestalt. It will influence how a photograph is seen. It could lead the viewer to the perception the photographer intended, or it could restrict the viewer's interpretations, limiting their opportunity to participate.

Captions take many forms. They can be generic (tree), specific (oak tree), and suggestive, ambiguous, poetic, equivalent, or narrative (the tree of life). Inspired by poetry and painting, Duane Michals created a sequence of photographs with handwritten narratives as captions, which helped direct the viewer through a story and explore philosophical questions. Alfred Stieglitz captioned his cloud photographs as "Equivalent" (equivalent to the feeling he experienced when he took the photo). Some photographers simply use the caption "Untitled," which in a sense is a contradiction, for it is indeed a title or caption. It does allow the photographer a way of identifying a particular photo, for example, "Untitled 37."

An advertisement usually contains three components: the *image*, the *headline*, and the *copy*. The text of the headline and copy are similar to captions for photographs. They are extremely important for complementing the image to enhance the marketability of the product being depicted. The following anecdote illustrates the value of a good caption:

A blind man with no legs sits in a park begging. A sign beside him says "HAVE COMPASSION, I AM BLIND." People who walk by ignore the sign, the man, and his hat as a receptacle for money. A well-dressed businessman strolls past him, turns around, and stands in front of the beggar. He picks up the sign, writes something on the back, and places it back down so what he wrote is showing. People continue to walk by, but now they are dropping money into the open hat. The blind man is thrilled. When the businessman returns, the blind man asks him what he wrote on the sign. He replies that he wrote, "TODAY IS A BEAUTIFUL DAY AND I CANNOT SEE IT."

We will return to the topic of titles and image descriptions in Chapter 12.

PRAGNANZ

An overriding principle under which the Gestalt laws of perceptual organization operate is called *Pragnanz*, which was introduced by the founder of Gestalt psychology, Max Wertheimer. *Pragnanz* is often formulated like this:

Psychological organization will always be as good as the prevailing conditions allow.

Although the term *good* is not defined, it is associated with such properties as regularity, symmetry, simplicity, uniformity, and closure—properties that minimize stress and maximize stability by culminating in a good gestalt. Prevailing conditions refer to the perceptual environment, which on the broadest scale includes all information accompanying the image. Figure 2.42 illustrates the role of stability in Pragnanz.

Ideally I want every piece analyzed, technically, structurally, formally. And I want it to come out shatteringly integrated, like a crystal, totally whole, defying analysis.

Michael Tilson

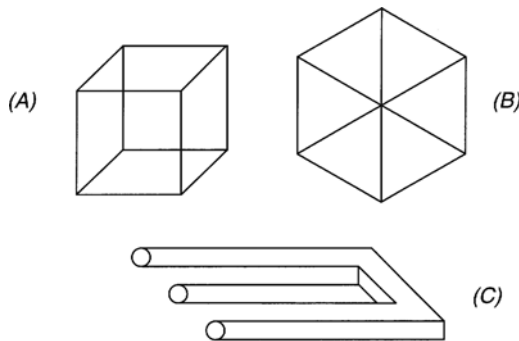


Figure 2.42 Prevailing conditions influence psychological organization: (A) Stable as a three-dimensional pattern; (B) stable as a two-dimensional pattern; (C) unstable.

Pragnanz as an Overarching Principle

Seeing involves more than just visual stimulation. It also depends on our memory of past experiences, our personalities, and what we are looking for. This is why the same picture often gets a variety of responses from viewers. What people experience depends on external and internal factors—what they are looking at, what they are looking for, and why they are looking for it.

What a person sees is called a *percept*. It is the product of perception, which is a psychological process. What a person reports seeing is a verbal attempt to describe that nonverbal experience inside one's mind, but the words are not always accurate. *Saying is not seeing* (Figure 2.43).

We have no way of positively knowing a given person's percept. The percept is a result of interactions between the physical stimulus and the unique psychological makeup of an individual. No two people are completely alike. To further complicate things, a person's state of mind varies from time to time and place to place. If you watch a movie on a weekend afternoon in a theater, or at home late at night after a hard day of work, your perceptions of it will differ.

Despite all these factors that determine our perceptions, Pragnanz remains as a fundamental principle that influences how we all tend to structure our experiences. We organize the world so that we can

Man, actively though unconsciously, structures his visual world. Few people realize that vision is not passive but active . . . in fact, a transaction between man and his environment in which both participate.

Edward Hall

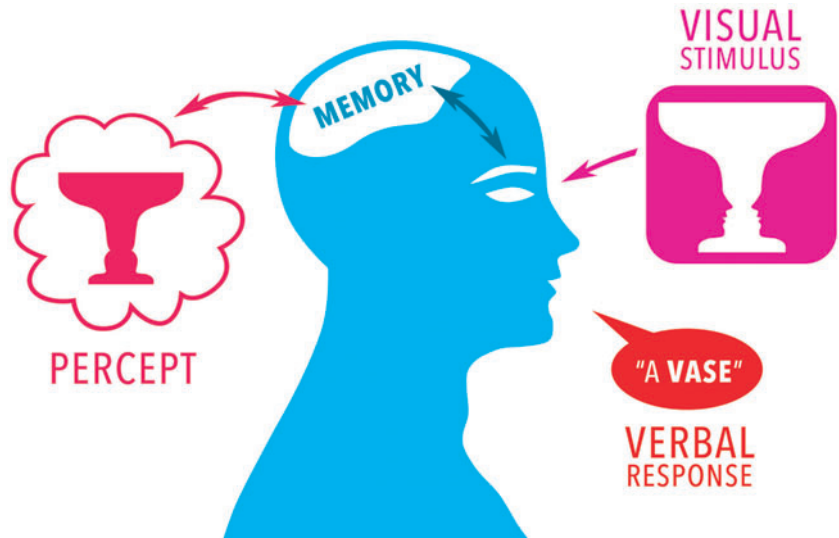


Figure 2.43 Seeing and saying are not the same. Saying is a verbal attempt to describe a visual percept.

*The artist does not
draw what he sees,
but what he must
make others see.*

Edgar Degas

*The eye appears to
act according to the
principle of least
effort and do no
more than is imposed
on it.*

Floyd Ratliff

*The sole difference
between myself and a
madman is the fact
that I am not mad.*

Salvador Dali

comprehend and cope with it. We search for stability, meaning, balance, and security. If too much information is presented at one time, we either filter out some of it or simplify it by grouping its elements. If there is insufficient information, we add to it so that closure and meaning can be determined. We strive to reduce tension in order to obtain a steady equilibrium.

The visual art of mentally disturbed patients often reflects the chaotic conditions created by their illness and their inner struggle to achieve some sense of balance and stability. The Prinzhorn Collection of art produced by the mentally ill is a moving example of this.

Order and Complexity

The mind's organization of information is dependent on the amount of information presented, which in turn depends on the redundancy and predictability of the various individual elements presented within the array of information. If visual elements are very well ordered there is a high degree of redundancy—and therefore predictability. However, what is experienced (percept) could be quite boring.

If mechanically applied in creating images, the Gestalt laws might be technically correct, but the product could be monotonously mundane. There may be no challenge for the person viewing it, no sense of excitement or curiosity, no motivation to become involved. Too much has been done by the designer, so there is little left for the viewer to add. Some variation is needed to engage a person—to add a little spice.

Rudolf Arnheim, a student of Max Wertheimer in the 1920s, emphasized the relationship between order and complexity in visual design. He defined order as the degree and kind of lawfulness governing the relations among the parts of an entity, and complexity as the multiplicity of the relationships among the parts. Order and complexity are antagonistic because order tends to reduce complexity while complexity tends to reduce order. Creating order requires the arrangement of visual elements and the elimination of whatever does not fit the principles determining the order. By contrast, when one increases the complexity of an object, order will be harder to achieve.

Order and complexity cannot exist without each other. Complexity without order produces confusion—order without complexity produces boredom. Although order is needed to cope with both the inner and outer world, we cannot reduce our experience to a system of neatly predictable patterns without losing the stimulating riches and surprises of life. Being complexly designed, humans must function complexly if they are to be fully

It took years to become spontaneous and simple. Nijinsky took thousands of leaps before the memorable one.

Martha Graham

You have to know how to preserve that freshness and innocence a child has when it approaches things.

Henri Matisse



Figure 2.44 “Flight” by John Suler. A reflection of windows in a museum display case creates a complex image that blends the spatial dimensions of the room, the patterns in the curtains, and the intricacies of the butterfly collection. The Gestalt principles of similarity, proximity, and continuity in the linear arrangement of the insects provides order and *Pragnanz* that tames the visual complexity.

*For me expression
... is located in the
entirety of my
painting: the position
the figures are in,
the empty spaces
around them, time
proportions—all of it
contributes. Anything
that is not necessary
to the painting
damages it. A work
must establish an
overall harmony.*

Henri Matisse

*In order to be able to
understand the great
complexity of life and
to understand what
the universe is doing,
the first word to
learn is synergy.*

Buckminster Fuller

*All things are
connected. Whatever
befalls the earth
befalls the children of
the earth.*

Chief Seattle

*Out of chaos comes
order.*

Friedrich Nietzsche

human, which means the setting in which we operate must also be complex. It has long been recognized that the truly great works of art and science combine high order with high complexity. They also include the realization that we humans are part of that order and complexity. The Roman emperor and philosopher Marcus Aurelius said:

This thou must always bear in mind, what is the nature of time whole, and what is thy nature, and how this is related to that, and what kind of a part it is of what kind of a whole; and that there is no one who hinders thee from always doing and saying the things which are according to the nature of which thou art a part.

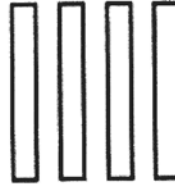
A SUMMARY OF GESTALT PRINCIPLES

In the Pragnanz spirit of creating order, we present Figures 2.45 and 2.46 as a summary of all the information in this chapter about the Gestalt principles. Figure 2.46 shows some international graphic symbols presently in use. The designs in Figure 2.46 were selected from the several thousand categorized by H. Dreyfuss.⁵ Two symbols, the Star of David and that for yin/yang, remind us that graphic symbols go far back into history. They show us how the Gestalt principles are timeless.

All four Gestalt laws are operating in the Olympic graphics (H). Even though they vary in thickness, the dark wavy lines possess similarity in contour, are close in proximity, and show continuity with each other. Similarity, proximity, and continuation all work together to facilitate the closure of our seeing athletes in action. This closure provides the psychological balance of Pragnanz.



(A) Visual elements that are similar and at an equal distance apart are difficult to group.



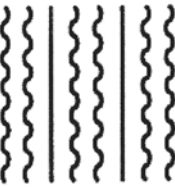
(F) Closed visual elements are seen as figure.



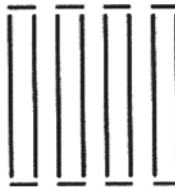
(B) Proximity: Visual elements that are in close proximity are readily grouped together and seen as figure.



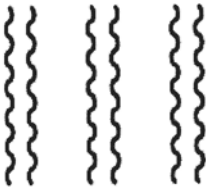
(G) Visual elements that are closed and of different contrast from their ground are seen as strong figure.



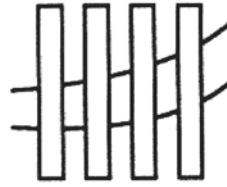
(C) Similarity: Visual elements an equal distance apart are readily grouped according to their similarity and seen as figure.



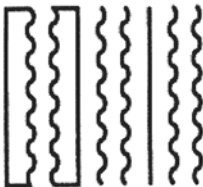
(H) Closure: Visual elements that are nearly closed (close proximity) are visually closed and are seen as figure.



(D) Similarity and proximity: Larger distance between pairs of similar elements facilitates their grouping.



(I) Continuity: Visual elements are grouped to form continuous straight or curved lines.



(E) Dissimilarity and closure: Dissimilar visual elements at equal distances are readily grouped if their areas are closed.

Figure 2.45 Summary of Gestalt principles.



(A) Gestalt: The graphic symbol for Judaism is seen as a total configuration of a star, not as six separate triangles surrounding a hexagon. The whole is different from the sum of its parts.



(B) Figure-ground: The graphic symbol for Taoism, representing Yin/Yang, is perfectly symmetrical, either half being seen as figure or ground.



(C) Proximity: The closeness of the small bars allows easy grouping into a clockwise movement.



(D) Similarity: (1) Bright or hazy sun; sand; snow; (2) Cloudy bright, no shadows.



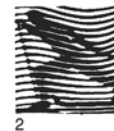
(E) Symmetry: (A) Water sports area; (B) Shooting. The wavy lines are similar and therefore are grouped together.



(F) Continuation: The wavy line is easier seen as one continuous line than not.



(G) Closure: Radioactive sign. The three dark segments are easily seen since they represent closed segments. The similar unenclosed (white) segments are difficult to see.



(H) Similarity, proximity, continuation, and closure: Ice hockey (1) and cross-country skiing (2).

Figure 2.46 Graphic examples of Gestalt principles.

KEY WORDS

asymmetry	diptych	nonclosure	symmetry
closed areas	field theory	Pragnanz	typography
closure	Gestalt	proximity	Zeigarnik effect
continuity	interval	redundancy	
copy	jump cut	similarity	

NOTES

- * Remember this if you put the interval in the wrong place it can cause problems.
- 1 Henri Cartier-Bresson, *Henri Cartier-Bresson*, New York: Aperture, 1976, p. 43.
- 2 Bruce Davidson, *East 100th Street*, Cambridge, MA: Harvard University Press, 1970.
- 3 Amy Conger, *Edward Weston Photographs*, Tucson, AZ: Center for Creative Photography, University of Arizona, 1992, Figure 968.
- 4 Nancy Newhall (ed.), *Edward Weston*, New York: Aperture, 1971, p. 84.
- 5 H. Dreyfuss, *Symbol Sourcebook*, New York: McGraw-Hill, 1972.



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3 Memory and Association

The more facts a fact is associated with in the mind, the better possession of it our memory retains.

William James



Figure 3.1 “Abbey Library of Saint Gall” by John Suler.

*Memory is a diary
we carry about with
us.*

Oscar Wilde

*Vision without
association—pristine
vision?*

Minor White

*There are more cells
in the human brain
than there are stars
in the universe.*

Michael Gazzaniga

When photography first came into existence with the daguerreotype in 1839, it was referred to as “a mirror with a memory.” By looking at a photograph, a person could recall past events. Photo albums, school yearbooks, and social media accounts serve as visual diaries of past experiences.

Memory is an integral part of perception. It is much easier to see what we already know, what is stored in memory, than to see what we do not know, what is not in memory. One of the problems in teaching students how to draw is to convince them to draw what they see and not what they know. The same can be said for photography—photograph what you see rather than what you know about the object. “Let the object come to you, don’t go to the object,” Henry Thoreau reminds us. This is a difficult task because memory and perception are so closely intertwined. When photographing landscapes Minor White recognized this problem and prayed for “pristine vision” —vision that can bypass memory, vision with the innocence of a baby fascinated by a spoon. So too the psychoanalyst Wilfred Bion emphasized the importance of listening “without memory and desire.” We will return to this idea in Chapter 11, when we discuss *mindfulness*.

TYPES OF MEMORY

There are a variety of ways we create, retrieve, and interpret memories that interact with each other to shape how we perceive the world and ourselves. Some memories last a lifetime, others for only minutes or even seconds. Memories appear as pictures in our mind’s eye or as inner experiences of past sounds, smells, tastes, and bodily sensations such as touch, movement, and balance. Words and concepts within memory enable us to think, reason, and communicate. We have a clear awareness of some memories, while others affect us without our consciously realizing it. Skilled image-makers learn how to use all these different types of memory.

From STM to LTM

The memories we retain for extended periods of time are called *long-term memories* (LTMs), as opposed to *short-term memories* (STMs) that last just long enough for some specific purpose. One example of STM is a telephone number that we look up, call, and then forget. A number in LTM that we don’t forget may be our social security number.

There is a limit to the amount of information we can hold in STM, from five to nine items, averaging seven. One researcher¹ referred to this limitation as “The magic number seven, plus or minus two.” To experience this limitation, read to someone a sequence of unrelated numbers or letters. Start with three items in the sequence (e.g., 724) and ask the person to repeat them. Increase the sequence to four randomly chosen items

(e.g., 8401) and again have the person repeat them. Keep increasing the length of the sequence until the person begins making mistakes. Whenever I do this exercise out loud with my classes, invariably the voices of the students become muddled or fade out as soon as we reach eight items.

Because we are limited in the amount of information we can retain in STM, we should be cautious with the amount of information included in the design of a photograph, poster, advertisement, or multimedia program if it is going to have some memorable impact.

A number of strategies help transfer information from STM to LTM, such as rehearsal, strong associations, and focused attention—common procedures we use to learn and remember. Rehearsal is particularly important. During World War II, Dick Zakia was a navy radio operator who learned Morse code so well that he could easily recall it. Practice, practice, practice transfers things from STM to LTM. One does not become a great athlete, dancer, musician, or photographer without practice. Students of Minor White recall his taking hundreds of pictures without film in his camera, just for practice.

Memories are rarely like photos or videos stored intact in the mind as we originally saw the situation in the past. Our emotions, expectations, and wishes shape what we remember and how we remember it, as well as what we forget.

A useful technique for fixing things in memory so they can be easily recalled is the *mnemonic*. It is based on associations. The familiar mnemonic for remembering whether to set a clock one hour ahead in the spring and one hour behind in the fall is “spring forward, fall back.” Mnemonics Dick Zakia used to help students avoid common misspellings of words such as *visible* (visable) and *aperture* (aperature) is that the word visible has two “eyes” (“i”s) to see with, and that there is no “rat” in aperture. In digital photography, the mnemonic “shoot to the right” means slightly over-exposing an image, which pushes its tones to the right or highlight side of its histogram, because cameras are more efficient at capturing light at that brighter end of the exposure. Zone system photographers use Roman numerals from 0 to X as a mnemonic for visualizing the different colors in a scene in terms of their tonalities or lightnesses. A maximum black is zone 0, pure white zone X, and a middle gray zone V.

*My way is to seize an
image that moment
it is formed in my
mind, to trap it as a
bird and to pin it at
once to canvas.*

Joan Miró

Body/Somatic Memory

Our entire body is a somatic memory system. For example, Dick Zakia liked to write sections of this book by hand before transferring them to his computer. “Somehow, perhaps like an artist-painter, my hand movements help coordinate my thinking and tickle my memory.” Athletes and dancers use their entire body as a memory system and practice with it. Many of the physical skills for taking photographs, darkroom work, and working a computer keyboard or tablet to edit images involve well-learned somatic

*It is solved by
walking.*

Latin Proverb

memory. Physical actions of the body—particularly rhythmic, repetitive, or left-to-right or “bilateral” movements—can help activate memories along with their associated thoughts and feelings, which is why many people love to walk and many photographers love to take their cameras for a stroll.

In addition to this type of muscle or *kinesthetic* memory, somatic memory also includes subtle physical sensations that we experience in our body while we think about or examine images, such as seeing a photo of someone being punched in the stomach and feeling an echo of that blow in one’s own gut.

Verbal Memory

Verbal memory is the recollection of words and other abstractions involving language. It forms the basis for thinking that is conceptual, linear, factual, and consciously controlled. Some words, powerful ones, can unlock many emotions along with the memories associated with them.

An important part of photography is having a good memory of its many terms and concepts. The ability to talk or write about a photo by drawing on verbal memory goes a long way in helping people understand how it was created and for them to express how they perceive it. You would not be able to read this book about photography if not for your verbal memory. Choosing good titles and descriptions for photos relies on it.

*Words can be like
X-rays if you use
them properly—
they’ll go through
anything. You read
and you’re pierced.*

Aldous Huxley

Visual Memory

Visual memory is the ability to recall pictures in one’s mind, a subjective “seeing” of past experiences. Memories of events in one’s life are often encoded in a visual form. As compared to verbal memory, visual memory tends to be more personal rather than abstract, holistic rather than analytic. When researchers use the term “imagery” they are often referring to these mental visualizations, although the term also includes recollections of sounds, smells, tastes, and kinesthetic sensations. A visual memory can activate the emotions and bodily sensations that one associates with that memory.

Mental visualizations might be vague and difficult to formulate, or highly spontaneous and vivid, as in reveries, dreams, hallucinations, and flashbacks to trauma. Although some people have “photographic memory”—also known as *eidetic imagery*—only rarely is a visual memory like a photograph, an accurate recording of a past experience. More often it is selectively constructed, modified by expectations, wishes, and emotions.

Can you visually recall one of your birthday parties when you were a child? Can you see in your mind Abraham Lincoln wearing polka dot shorts while pole vaulting? Although your memory of your birthday approximates what actually happened that day, you have never actually seen Lincoln’s athletic feat—and yet your mind can construct this image by accessing and



Figure 3.2 Types of memory: short-term, long-term, verbal, visual, color, body/somatic, unconscious. Illustration by Kira Suler.

integrating its individual elements, things that you have indeed seen: polka dots, shorts, pole vaulting, and photos of Lincoln. Even highly imaginative visualizations draw on actual visual experiences.

Visual memory is as important in all phases of photography as is taste memory for a chef, smell memory for a fragrance designer, and kinesthetic memory for a dancer. When viewing a scene to record, photographers draw on visual memories of similar scenes to guide them. They might rely on recollections of inspiring photographs that they hope to emulate. When editing or printing an image, photographers try to recall the visual experience they had when taking the photo, including their intentions and emotions at that time.

Color Memory

Color memory can be problematic in photography. The colors in a photographed setting are not remembered as they were originally seen. Light colors are remembered as being lighter, dark colors as darker, and hues as being more saturated. Film manufacturers are aware of this and design their products so that the color reproduction coincides with remembered colors. The jpeg format in digital photography similarly enhances color.

It is a poor sort of memory that only worked backwards, the Queen remarked.

Lewis Carroll, *Alice in Wonderland*

I see again in memory my dear.

Francis Picabia

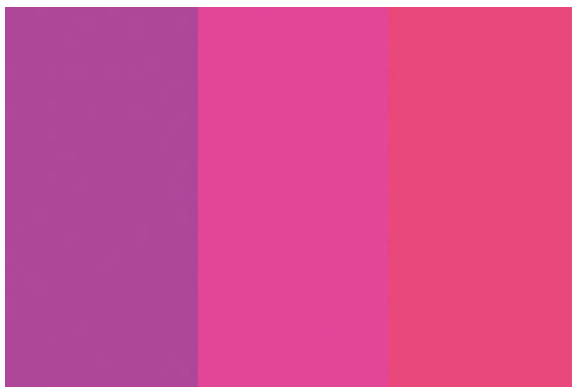


Figure 3.3 To test your color memory, try to determine which of these three colors most closely matches the color of the blurry flowers in the background of Figure 3.11. Try not to refer back to these three colors. Study them, look ahead to Figure 3.11, and make your decision. The answer is at the end of this section on color memory.

Color memory is vital in postproduction work. In editing photos or video, an outdoor scene photographed in daylight when a woman was wearing a red dress has to look similar to one that might have been taken with the same red dress at another time, say indoors at a cocktail party. When working on a project in which pictures were taken with different cameras, types of film, or lighting conditions—or in transferring images from one digital platform to another—one has to make color corrections to ensure a continuity of colors as well as tonalities and levels of brightness. This is a difficult task requiring excellent visual as well as color memory. It is a highly sought-after talent because most people are not skilled at remembering subtle differences in color and tone. See Figure 3.3.

Visual memory is essential in any work requiring *sequencing*—for instance, when preparing large exhibits of photographs or editing pictures for a book, film, video, slide presentation, multimedia, computer animation, or storyboard. The task becomes increasingly difficult when one moves from working strictly in a visual mode, as in photography, to a multimedia mode as in video and films.

If you attempted the challenge in Figure 3.3, the color that most closely matches the flowers is the one in the middle, although the edges of the flowers do approximate the color on the left.

To engage a sequence we keep in mind the photographs on either side of the one in our eye.

Minor White

Unconscious Memory

Some memories affect us without our consciously realizing it. A life experience, movie, photograph, or music can stir up ideas and emotions in us without our fully understanding how it has triggered memories from our past. Unconscious memories affect what people decide to photograph,

how they might edit that image, and how they might share it with others. Sometimes after working on a variety of images in Photoshop, I would decide on one to post to social media, only to discover that in some visual or thematic way it was similar to the previous image I had posted, without my having intended this. Unconscious memory was affecting my work. In Chapter 9, we will return to the topic of subconscious influences in image-making.

*I have a grand
memory for
forgetting.*

Robert Louis
Stevenson

ASSOCIATION

We remember things through *association*. This reminds me of that. One idea leads to another. The theory of *associationism* in psychology described how memory consists of networks of associations among words, concepts, bodily sensations, and mental representations of sounds, smells, tastes, and visual things. Although we can consciously conjure up associations, they often occur spontaneously, operating on a subconscious level.

Whenever my colleague Dick Zakia *heard* opera, he was transported to Verona, Italy, where he once sat in the amphitheater listening to the grandeur of live Italian opera. When he *smelled* bus diesel he thought of his Navy days aboard the diesel-burning destroyer USS *Duncan*. When he *looked* at the photograph by Bruce Davidson of a child standing on a fire escape (Figure 2.23), he saw the image of a crucified Christ and experienced the emotions associated with it.

While teaching at the Rochester Institute of Technology (RIT), Minor White would make remarks such as, “Yes, this is a photograph of a tree (or rock), but what else is it?” He was encouraging students to consider what the image is *about*. Seeing the tree or rock as only a tree or a rock is a literal interpretation. What the tree or rock might signify—its associative meaning and connotation—is what makes a photograph good or great, whether it is memorable or not. Edward Weston’s photograph of a rock cluster, “Eroded Rock No. 51, 1930”² (Figure 3.4), is more than just an eroded rock. It is our associations to it as a visual metaphor or poetic statement that make it a great photograph.

What makes this rock more significant than the many others he must have photographed? In Weston’s own words, the aim was “to photograph a rock, have it look like a rock, but be *more* than a rock.”³ His title for the photo indicates his literal intention, but if it is more than a rock, what else could it be? Because its shape and lying position suggest a reclining nude model or a sculpture of one, we are encouraged to find a meaning that associates a smoothly eroded rock with the form of a nude female.

In Figure 3.5 we see a primary grade school room where four men are putting on white robes, while another wears a black one. Who are they and what is their purpose? One might easily mistake them for Klansmen but they are not; they are Trappist monks away from their monastery,

*The graphic solution
of the problems of
perspective and space
by their [Japanese]
art incited me to find
something analogous
in music.*

Igor Stravinsky

*Every concept in our
conscious mind . . .
has its own psychic
associations.*

Carl Jung

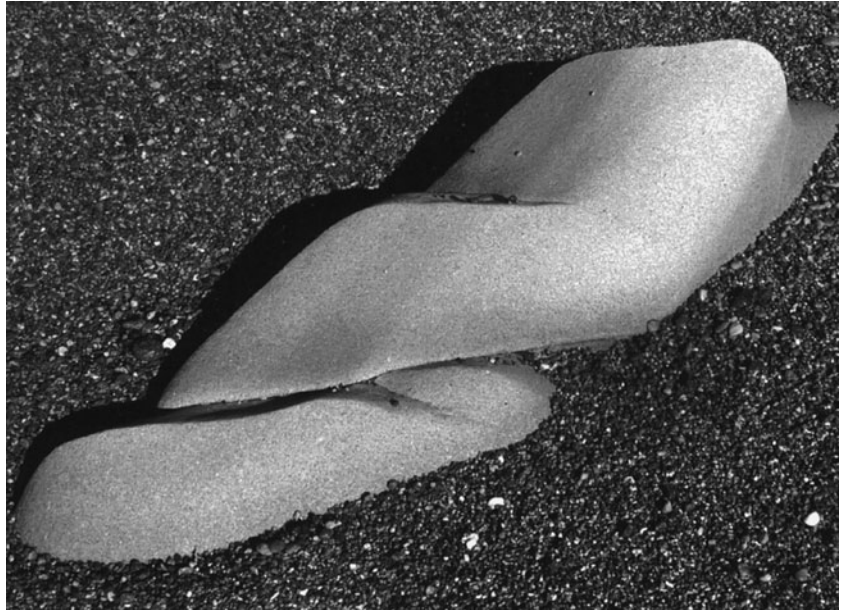


Figure 3.4 “Eroded Rock No. 51, 1930” by Edward Weston. Center for Creative Photography Arizona Board of Regents.

*The copy in a
romantic ad for
Perrier reads:*

*Kiss
Love
Desire
Man
Woman
Perrier*

dressings for a special ceremony in which one of the monks (not shown) will be consecrated as their abbot. Beyond this literal description of the photograph, it is interesting to contrast the monks in white against the monk in black. White signifies innocence and purity—black, darkness, and death. The monk in black appears ghost-like, in profile, walking out of the picture.

The contrast of white against black also reminds us of *Notan*, a Japanese word meaning dark/light, the interaction between two opposing forces (see Chapter 1). In the ancient Chinese yin/yang symbol these opposing forces are seen in perfect harmony. Niels Bohr, a Danish theoretical physicist, reminded us that opposites are complementary, while Sigmund Freud stated that opposites exist close to each other in the unconscious mind. How might these associations shape the meaning of this photograph?

Equivalents

The iconic photographer Alfred Stieglitz and his followers described associations to photos as *equivalents*. A photograph can trigger a memory and the feelings associated with it. Memory and photograph resonate. They become equivalent.

In the early 1920s Stieglitz photographed clouds that evoked feelings similar to those he derived from listening intently to classical music. Visual



Figure 3.5 “Trappist Monks” by Richard Zakia.

and auditory became equivalent. In his diaries Edward Weston refers to some of his photographs of peppers, rocks, and sea shells as equivalents of the human torso. Minor White wrote:

Any photograph, regardless of its source, might function as an Equivalent to someone, sometime, someplace. If the individual viewer realizes that for him what he sees in a picture corresponds to something within himself—that is, the photograph mirrors something in himself—then his experience is some degree of Equivalence.⁴

Things have always found their expression through a system of reciprocal analogy.

Charles Baudelaire

On the day Edward Weston died, Minor White photographed a waterfall at a fast shutter speed to freeze the flow of water over the falls. The memory of Weston’s death called forth the creation of the image. The photo served as an equivalent for the death of Minor’s friend and mentor.

Associations in Advertisements

Advertisements are based on associations and visual suggestion. Popular figures in sports are shown in product ads to suggest success, winning, and the archetypal hero. Women’s products are often placed in the context of an admiring handsome male figure, a beautiful female celebrity, flowers, or diamonds. In these examples we see the Gestalt principle of proximity

*For art at its roots is
association . . . the
power to make one
thing stand for and
symbolize another.*

Robert Hughes



Figure 3.6 Art in ads. Courtesy of Scoresby Scotch.

in action: if things are close to each other, we assume they are somehow associated with each other.

Many ads are based on familiar works of art, either directly or indirectly by style (Figure 3.6). Associating a product with a work of art gives it value. The association, according to John Berger in his book *Ways of Seeing*, is that

Art is a sign of affluence; it belongs to the good life; it is part of the furnishing which the world gives to the rich and beautiful . . . art also suggests a cultural authority, a form of dignity, even wisdom, which is superior to any vulgar material interests.⁵

Classic works of art are easily recognized by many people:

Art expresses some of the most intense testimony to who the members of a society are, what they do, what they think and feel. Once acknowledged as art and valued as such, works created by artists

acquire a special status . . . they become symbolic expressions . . . successive interpretations of the same work accumulate in a shared way of seeing and understanding.⁶

Props (Signifiers)

The objects or *props* used in creating a photograph are intended to stir up associations. They can be thought of as “signifiers” or “symbols,” as in dreams. A snake or serpent can signify temptation, danger, sexiness, or rebirth as it sheds its skin. A serpent can also take the form of an *ouroboros*, coiled in a circle and biting its own tail. It represents a self-sufficient nature, a way of being that always returns to its own beginnings. A circle is symbolic of unity, the everlasting, and of the continuity of life. The circular form of the *ouroboros* symbol can often be seen in advertisements for women’s bracelets.

In selecting a particular prop for an image, think about what you want it to suggest. What association do you want the viewer to consider? An apple with a bite in it made by a sensual-looking woman signifies one thing; an apple in a bowl of fruit as part of a still life signifies something else. When designing a photograph, poster, advertisement, or any visual message, decide first what you would like the message to convey and how you would like it to be read. Then select the props, including models, and arrange them to create a good gestalt.

Props as signifiers can take many forms. What they symbolize is determined by an individual’s context, culture, and personal history. In some cases they are *archetypes* that possess a universal meaning for all people. Information about many types of signifiers can be found online and in books such as *The Dictionary of Symbolism* by Hans Biedermann.

Associations to Color

Colors are symbolic. In its millions of hues and levels of brightness, color feeds our emotions with a wide variety of meanings. As with props, what they signify can be determined by culture, context, and one’s personal history. In Chapter 5, we discuss some of the meanings different colors might suggest. Many of those color associations are based on Western culture. In other cultures the associations might be different. For example, in some Asian countries white symbolizes mourning; in Mexico it is blue.

Synesthesia

Associations can take the form of *synesthesia*, the ability of one sensory input to trigger another. This happens because all of our senses are interconnected in memory. Sight can set off the sensation of sound, smell, taste, touch, movement, and balance. If a powerful photograph for a food advertisement makes one salivate, the visual sense triggers the taste sense. Objects in

*Let us forget things
and consider only
relations.*

Georges Braque

*When a painting
is said to represent
nothing but
significant form—
to carry no meaning,
associative
connections—the
speaker does not
know what he is
talking about.*

Arthur Koestler

*Analogy is the only
language understood
by the unconscious.*

Carl Jung

*Feeling blue; green
with envy; seeing red.*

*I want a red to be
sonorous, to sound
like a bell.*

Pierre Renoir

*Our eyes . . . work in
constant cooperation
with the other senses.*

Rudolf Arnheim

*Everything is shared
by everything else;
there are no
discontinuities.*

Frederick Sommer

*Everything is
connected to
everything else.*

Vladimir Lenin

photographs having visual texture can be “felt” as tactile. A photograph with a tilted horizon can elicit the feeling of being off balance. The non-visual senses can also trigger a visualization, as in people who experience colors when they hear music.

Mondrian’s painting “Broadway Boogie-Woogie” was designed to be the visual equivalent of the bouncing, rollicking movements of a dance craze he embraced in his later years. The painting is geometric and linear with red, yellow, and blue squares of varying size surrounded by a narrow yellow matrix. All the squares seem to move around or jitter—to boogie. They appear that way because Mondrian painted them with a similar luminance value. Colors having similar luminance appear to vibrate.

Wassily Kandinsky (1866–1944), the artist credited with being the first to create truly abstract color paintings independent of objects, was interested in synesthesia. His paintings were the equivalent of music. One such painting can be seen in Figure 3.7. Kandinsky is believed to have been a *synesthete*, a harmless condition in which a person strongly experiences sounds, colors, or words with two or more senses simultaneously. In his case, colors and painted marks triggered particular sounds or musical notes, and vice versa.⁷ Synesthetes may see sounds, taste words, or feel a sensation on their skin when they smell certain scents. We will return to the topic of synesthesia in Chapter 5.

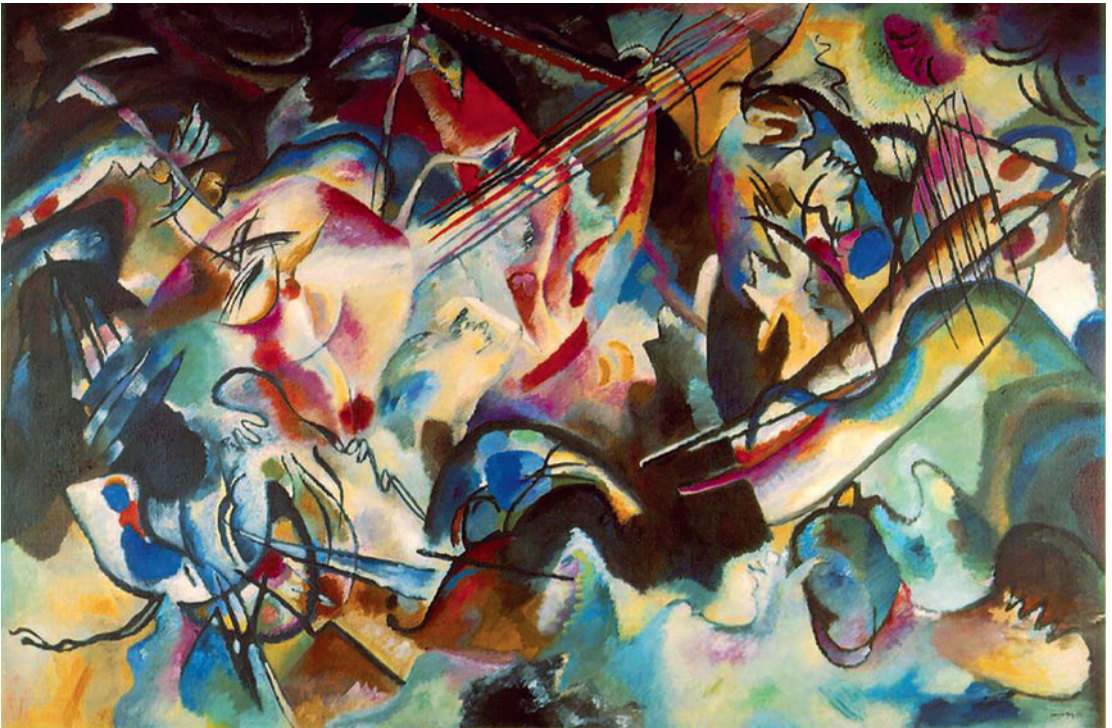


Figure 3.7 “Composition VI, 1913” by Wassily Kandinsky. State Hermitage Museum.

Rebuses and Pictograms

A *rebus* is a puzzle containing pictures and letters that challenges the viewer to detect its meaning. For example, Dick Zakia lived in Apex, North Carolina, and imagined a rebus in which a photograph of an ape is seen holding the letter X in front of him. Figure 3.8 is my concept of how such a rebus might be constructed. The photographer David Spindel created rebuses for many years (see spindelvisions.com).

Rebuses have appeared throughout history. In the Middle Ages they were used as a form of heraldic expression to denote surnames. In the eighteenth and nineteenth centuries, the rebus was popular in correspondence and escort cards (Figure 3.9). Lewis Carroll, the author of *Alice in Wonderland*, wrote rebus letters to some of his friends who were children. These can be found online in their original form. In 1984 the author and artist William Steig devoted an entire book to rebuses containing letters and colorful pictures. Two examples are a picture of a man in a dentist's chair next to the letters "U F D-K N U-R K-9," and two boys with baseball caps watching a game on TV next to the letters "R T-M S B-N B-10."

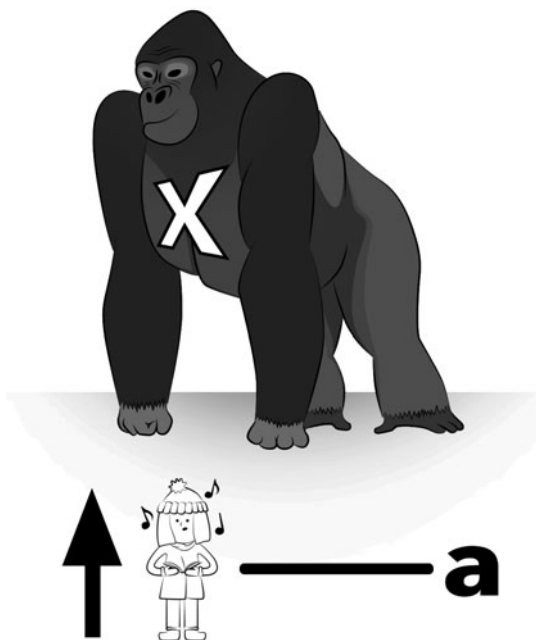


Figure 3.8 A rebus indicating the town and state where did Dick Zakia lived.



Figure 3.9 A set of three rebus escort cards from approximately 1870.

Before you read the remainder of this paragraph, try to guess what they mean. The answers: 1. You have decay in your canine. 2. Our team is being beaten.

Similar to rebuses, *pictograms* are symbols (icons) that represent an object or an idea associated with an object. Usually they bear some kind of physical resemblance to the object, as we often see in signage, such as a “deer crossing” sign. Pictograms led to the development of the alphabet, as evident in Egyptian hieroglyphs. In the age of online communication, we can include the classic emoticons in the category of pictogram. As creative visual combinations of type-texted characters, they display either a sideways face displaying an emotion or a visual symbol of an emotion. Below is a sample of traditional and more unusual emoticons. Which one feels surprised, happy, stupid, love, sarcastic, evil, and confused?

:-) ;-) :-O >:) %-) <:(<3<

Onomatopoeia and Simile

Onomatopoeia is a word that sounds like what it represents: bang, thud, buzz, cuckoo, ticktock, choo-choo. It is an association between the word and the event. The onomatopoeia is a type of *simile*, which is a comparison between two different things that explicitly uses connective words such as “like.”

(Hearing)	It sounds like . . .
(Seeing)	It looks like . . .
(Touching)	It feels like . . .
(Tasting)	It tastes like . . .
(Smelling)	It smells like . . .

Dick once saw a photograph that was poorly printed and messy, which puzzled him until he realized the photographer was making a statement about the slums in a major city pictured in the photograph. It was a visual onomatopoeia and simile—the messy, poorly printed photograph itself looked like the city slums shown in the photograph. Presentation and content worked together to underscore the visual statement. During his darkroom work, Minor White experimented with unusual images by applying chemicals to photographic paper (Figure 3.10). The images look like the brush strokes that created them.

Metaphors

A metaphor is a simile without the “like.” It makes a comparison or association between things more directly and imaginatively than the simile. Something stands for something else. “Life is like a box of chocolates” becomes “Life *is* a box of chocolates.”



Figure 3.10 “Chemogram, 1966” by Minor White. (Collection of the author.) A unique image created by applying chemicals to photograph paper.

Photographs can be considered metaphoric objects. A beautifully processed photo of a flower stands for the beautiful flower. It *is* the flower (equivalence). Roland Barthes added that the creation of meaning in an image requires that it ceases to be simply a static metaphoric object. Instead, it becomes more of an unfolding experience, an opening up of associations, an event.

John Fergus-Jean, a photography professor at the Columbus College of Art and Design, described how this unfolding experience of photography revolves around the metaphors of light/dark, orientation, and the photograph as a container or map.⁸ I would also add the metaphor of the photograph as a screen portal.

The Metaphor of Light and Dark

Fergus-Jean indicated how the metaphor of light/dark has been powerful throughout human history. We associate light with illumination of all types: the ability to see, consciousness, understanding, knowledge, enlightenment, reason, virtue, goodness, unity, spirit, growth, transcendence, and the divine. By contrast, darkness and shadows, being the absence of light, represent the unknown, blindness, ignorance, loneliness, isolation, abandonment, evil, and the hidden emotions and conflicts within the unconscious

*Reason and
imagination come
together through
metaphors.*

Roland Barthes

*We think of
photographs as
journeys of sorts that
involve imagined
physical travel,
mental travel,
navigation, and
goals.*

John Fergus-Jean

[M]etaphor is one of the most important tools for trying to comprehend partially what cannot be comprehended fully.

George Lakoff and
Mark Johnson

Light can be seen to unite the self and the transcendent; in this, Divine Light may connect us to the transcendent mystery of life. Many photographers refer to a similar transcendent connection in their imagery.

John Fergus-Jean

Things go up and down. If you can survive the down, it will come back.

John Denver

mind, including what Carl Jung called the “shadow self.” Constructed from gradients of light and dark, the photograph serves as a metaphoric play with these qualities of light/dark as its actors, props, and stage. Many artistic photographers think of their work as not simply inviting light to illuminate physical objects, but using the metaphor of light to illuminate inner or even transcendent vision.

Orientation Metaphors

Fergus-Jean described how orientation metaphors in photography use location to designate psychological, social, and spiritual position, being included or excluded, and periods of time.

Something being higher or lower in a photo suggests the polarities of rising/falling, important/insignificant, strong/weak, more/less, good/bad, affirmation/denial, and feeling “up” or “down”—with the degree of distance between height and depth stimulating ideas about weight, gravity, shallowness, being downtrodden, the underdog, having the upper hand, being lifted up, physical prowess, nobility of purpose, upper and lower class, being in or out of control, depression versus elation, and the fall from grace.

Things that are near to us suggest closeness, similarity, imminence, or discovery, while things far away suggest separation, abandonment, or remoteness. Moving forward implies progress and the attempt to grasp or embrace things, ideas, or people, while moving backwards and away from things, situations, and people implies regression, inadequacy, loss, mistake, neglect, and the psychological retreat from engagement and intimacy.

The front versus back of things conjures up a variety of associations. Because we usually focus our attention on things in front that face us, we are initially concerned with the front surface as the immediate, outer impression. Facing something means attending to it, a willingness to give or receive, or confronting it, as evident in the expressions “seeing eye to eye,” “being up front,” and “looking forward to”—and as opposed to such expressions as “putting it in the back of my mind” or “on the back burner.” The distinction between front and back, between the visible and the unseen, can be a metaphor for the layers of a personality, including the depth or shallowness of people and things—which is the challenge of the artist who attempts to see beyond the surface of the subject. Because front to back is the path of travel, with front being the direction we are going and back from where we came, the front-to-back relationship can imply points of origin, destination, progress, and regress. Expressions such as “the leading edge” and “avant-garde” rely on these connotations of front versus back.

Left versus right can serve as a metaphor for judgment, comparison, and balance. Because things to our left or right are not in our center stage or direct path, we tend to see them as less significant to our purposes.

Things at the center of our attention draw more immediate interest as the figure, while things on the left and right fall to the periphery as the ground— similar to how the eye itself works with its fovea and peripheral vision. Things to the left or right might even be detrimental distractions. The resolution of an argument is to reach a middle ground, a happy medium, between the extreme positions of left and right. The center suggests compromise, moderation, balance of mind, and unity of purpose.

Some photographs depict several kinds of orientations simultaneously, which can provide many layers of metaphoric meaning. The subjects are near and far, up and down, to the left and right, facing us and showing their backs. In Figure 3.11 we see such combinations presenting us with the metaphor of a bottle “dancing” with itself: up, down, left, right, forward, and back, in a paradoxical manner reminiscent of Escher’s work. Which of the bottle clones is on top, and which is the original bottle that initiated the dance?

Man’s front faces the whole universe.

Henry Miller

They look right. You move left.

Bruce Willis

Clowns to the left of me, jokers to the right. Here I am, stuck in the middle with you.

Stealers Wheel



Figure 3.11 “Bottled” by John Suler.

Photographic metaphors connect the internal and external world as extensions of tangible and intangible experience.

John Fergus-Jean

Photographs compel us to be within a container.

Schlessinger

Semiotic is the Greek word for "sign."

The Photograph as a Container, Map, and Screen Portal

Fergus-Jean described how the photograph is a metaphorical container that stores things, events, and experiences. The fact that it is almost always a rectangular or square shape drives home its role as a box. The frame, the boundary of the box, gathers things together into the package that is the image, much as human mind is a package that holds one's thoughts, feelings, memories, and spirit. The metaphorical container that is the photograph suggests an "outside" and "inside" of the box, just as the human self has its outer actions, persona, and mask, as opposed to its more private, inner thoughts and feelings, such as the "inner child."

We often accept the camera as a faithfully objective witness to the real world. The photograph seems to duplicate what the eye sees, what someone would have experienced if they had been present in that situation. However, Fergus-Jean adds that beneath this veneer of photographic realism is the fact that the mind of the photographer, as well as the mechanisms of doing photography, are embedded in the image. The photograph is a metaphorical map in which selected aspects of the scene are plotted through the organizing principles of the map-making photographer and the map-making process that is photography. The framing of the photo, focus, composition, color processing, and all other choices made possible by the camera and imaging techniques are not simply the products of the territory "out there" being captured: they are also the products of the map-making codes.

Here I will add that the photograph is like a screen portal, similar to the movie screen as described by Colin McGinn in his book *The Power of Movies: How Screen and Mind Interact*. We rarely notice the surface of a printed photo or the device screen itself. Instead we look into it; a window taking us to another realm; a microscope that magnifies things; a telescope that gives us a close-up view of what is far away; an amplifier of color, shapes, textures, and movements, where time can be suspended and magical things happen, as in dreams. The screen is like the human mind itself: a portal to a medium that contains memories and associations held in suspension. Being inside a photograph is like being inside the human mind.

SEMIOTICS

Semiotics, also known as semiology, is the study and application of signs, signs being anything and everything that convey meaning, that create associations pointing from one idea or experience to another. It is an old concept that can be traced back to the writings of St. Augustine in about the year 397. Think about the number of ways that meaning is conveyed: through words, numbers, symbols, color, music, dance, body language, aroma, texture, movement, movies, and so on. Photographs are signs that can convey both information and emotion.

Two of the early pioneers in the field of semiotics were Ferdinand de Saussure, a Swiss linguist, and Charles Peirce, an American philosopher. Saussure referred to signs as *signifiers* and the information or emotion conveyed as that which is *signified*. The flag of the United Nations is a signifier. What is signified is a gathering of nations searching for peaceful ways to resolve conflicts. The familiar and famous photograph of the first man setting foot on the moon is a signifier of the human spirit pioneering unknown territories.

Charles Peirce proposed a semiotic model consisting of three parts:

1. the *object or idea*;
2. the *representamen* that is the signifier of the object or idea;
3. the *interpretant* that is the process of communicating and interpreting the representamen.

A photograph is a representamen or sign. As an example, let's say that the object is an automobile and the photographer's objective is represent it as something luxurious. The representamen would be a photograph taken in such a way as to suggest luxury. The interpretant is how a person looks at and interprets the photo, including how and where it was exhibited, such as an in expensive magazine or a slick brochure, on television, on a billboard, or in social media.

Sporting events display a variety of signals and signs (codes), many of which are not understood by the opposing team or the spectators.

Iconic, Indexical, and Symbolic Representation

According to Peirce, there are three ways to represent something: iconically, indexically, and symbolically (see Figure 3.12).

In an *iconic representation* the representation resembles the object. A photograph of a car looks like a car. An iconic representation can have various levels of iconicity. On a scale of 1 to 10, a color photograph would be a 10, a black-and-white photograph about a 5, and a line drawing about a 1 or 2. As a general statement, the more you show, the higher the iconic value—but the less interesting the image becomes. Always try to leave something for the imagination.

An *indexical representation* is an indirect reference to the object, such as the shadow of a car or the wet tread marks of the tires left on a dry road. Other examples of indexical representations are a person's fingerprints, the smell of smoke, fragrance in an empty room, fossils, train whistles, an empty chair on the porch of an old home, footprints on a sandy beach, an arrow or a hand gesturing toward something. An indexical representation is a pointer to something else. Indexical representations are often more intriguing than iconic ones, but don't mistake the index for the thing. Zen Buddhism uses the analogy of a finger pointing to the moon. Don't stare at the finger and neglect the moon.



Figure 3.12 Iconic representations look like the thing. Indexical representations are an indirect reference to the thing. Symbolic representations are a culturally agreed upon reference to the thing. Photograph by George Hodan.

A *symbolic representation* is a culturally accepted reference to a thing, such as a logo for a car. Words are symbolic, as are flags of different countries, crests, logos, religious symbols, trees, animals, and colors, among other things.

The three methods of representation are not mutually exclusive. For example, a picture of a serpent or snake is iconic, but it can also serve as a symbol of sin or temptation. A tree is a tree but it can also represent life (as in the tree of life) or strength (an oak tree). The rock of Gibraltar is a rock but it is also a symbol of security and safe haven. The color red of a traffic light means one thing but the color red on a flag or in a photograph of a sunset means something else.

Semiotics in Analyzing and Designing Ads

A semiotic triad can be used to interpret the photograph of the model in the Fidji perfume ad shown in Figure 3.13. By free-associating to it, a number of descriptive words surface.⁹ By editing them down to about four, they suggest that the ad is sensual, sophisticated, exotic, and androgynous. What is it about the photo ad (a representamen) that conveys these ideas? We can answer that question by identifying the iconic, indexic, and symbolic elements in the photo/ad that suggest sensual, sophisticated, exotic, and androgynous.

Sensual:

- Iconic:* Partially opened lips, long flowing neckline, long loose hair.
- Indexic:* Feminine finger pointing to the product.
- Symbolic:* Interlocking fingers, warm red, amber, yellow colors.

Sophisticated:

- Iconic:* Elevated face, fancy bottle laced and sealed.
- Indexic:* Paris address, placement of the ad in *Vogue* magazine.
- Symbolic:* Serpent as danger and risk (take a chance).

Exotic:

- Iconic:* Foreign-looking flower in upper left.
- Indexic:* Paris, France, Fidji (Fiji) islands.
- Symbolic:* Native woman, serpent (Garden of Eden), text is in French—"Fidji: le parfum des paradis retrouvés"—(paradise regained with Fidji perfume).

Androgynous:

- Iconic:* Female: face, neck, fingers, fingernails; Male: flat chest, broad shoulders.
- Indexic:* Ad is half light (female) and half dark (male).
- Symbolic:* Yellow flowers and finger interlocking; male and female forms, long phallic neck.



Figure 3.13 An exotic, sensual, sophisticated, androgynous ad. Courtesy Guy Laroche, Paris.

Read not to contradict and confute, nor to believe and take for granted . . . but to weigh and consider.

Francis Bacon

To define is to destroy. To suggest is to create.

Charles Baudelaire

Not everyone will agree with this interpretation because perception is a personal matter. A good photograph or advertisement is one that is layered, that lends itself to several meanings. Semiotics is an effective tool for exploring these meanings.

The semiotic procedure for interpreting a photo ad can be applied in reverse. It can be used to design a photograph for an advertisement. Given information on what is to be signified to sell a product (romance, nostalgia, power, guilt, sexiness, Americana, etc.), give some thought to the kind of

Perception is personal. We see what we see.

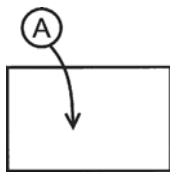
Richard Fahey

iconic, indexic, and symbolic elements that would work well together, including the models, lighting, styling, and props.

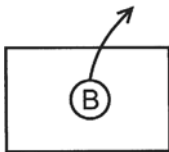
Semiotic Operations

Borrowed from linguistics, the semiotic terms *syntax*, *semantics*, and *pragmatics* can be applied in image-making. Syntax refers to the visual grammar, the design or composition of a photograph—how the various elements are arranged to convey a particular message. Semantics refers to the meaning that the viewer gives the photograph—what is signified. Pragmatics refers to the context in which the photograph is viewed, which includes not only the space or environment where it is displayed but also the time in history. Some photographs that were not considered important years ago are now valued as art.

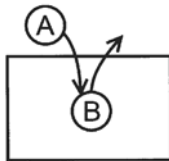
If one changes the syntax (design) or pragmatics (context) of a photograph, its semantics (meaning) will change. In this way photographs can be altered or displayed differently to clarify, amplify, or alter their statement. There are four ways to change the syntax of a photograph or any form of communication (Figure 3.14):



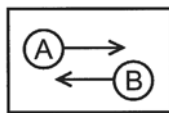
Add



Subtract



Substitute



Exchange

1. Add something to the message.
2. Subtract or remove something.
3. Substitute one thing for another.
4. Exchange one element for another.

As an example, consider the Fidji ad in Figure 3.13. Notice how its meaning can be altered by using any one of these four operations or combinations of them. Here are some possibilities:

1. Add a bust line to emphasize the sensuality of the model and therefore the product.
2. Remove the serpent or the flower, two important signifiers that suggest temptation and the sexual act.
3. Substitute a red, yellow, or white rose for the exotic flower shown. Flowers and colors are signifiers that can alter what is signified.
4. Exchange the position of the flower and the caption in the ad.

Before computers, changing the syntax of a photograph required great manual skill on the part of a retoucher. In the digital age, photographs lend themselves to all kinds of manipulation. Taking a photograph is just the beginning. Using semiotic operations of addition, subtraction, substitution, and exchange allows the photographer to “post-visualize” the image, to change its syntax and therefore its meaning.

People who consult to businesses on how to think creatively emphasize the notion that many new ideas are variations of something that already

Figure 3.14

Four ways to change the syntax of a photograph.

exists. The advice for creating new ideas is the same as that for semiotic operations: Combine something with something else, eliminate something, substitute one thing for another, rearrange something.

Dick Zakia once recalled a political cartoon depicting the growing influence of the religious right. It showed a representative turning the letter “p” upside down in the word *gop*. As the “p” is inverted, it is exchanged for the letter “d” and the billboard now reads *god*. Many cartoons, political and humorous, use these simple types of semiotic operations.

In many semiotic manipulations, the principle of *recognition* is important. While creating any new message there must be some level of familiarity. The message must connect with ideas and emotions held in memory. It activates a memory while adding something new to it.

We will return to these ideas in Chapter 10.

CONCEPTUAL PHOTOGRAPHY

We live in an age of concepts and images. Consider images in magazines that attempt to sell us a “concept car,” or celebrities and politicians who worry about how visuals in the media convey a concept of who they are, what people often refer to as their “image.” The words *concept* and *image* sometimes seem almost interchangeable. This is because the visual image that draws on memory, association, and semiotics can provide a powerful pathway for the expression of a concept.

A picture is worth a thousand words, which means a variety of ideas can be condensed into a single photo. Photographs also offer a seemingly more real, tangible depiction of concepts that otherwise seem abstract or elusive. For all of these reasons, pictures are used extensively in all forms of media to convey an idea. However, our educational system emphasizes the refinement of conceptual thinking via language and semantics, while paying relatively little attention to the development of visual literacy, to how we create and analyze images as expressions of an idea.

Is Conceptual Photography Art?

Beginning in the early twentieth century, defiant artists railed against the commercialization of art objects in the money-conscious world of galleries and museums, where the value of any given work rested primarily on the fact that a very skilled person created it using idealized aesthetic methods. The protests reached a peak in the 1950s when the sculptor Edward Kienholz coined the term “conceptual art” that inspired a new movement, often related to minimalism. Rather than focusing on the masterful execution of aesthetic decisions, this new movement emphasized the *concept* that gives rise to a work of art. It wasn’t so much the visual beauty of the piece that was important, or the materials and

The artist must express the summation of feeling, knowing and believing through the unity of his life and work. One cannot photograph art. One can only live it in the unity of his vision, as well as the breadth of his humanity, vitality and understanding.

Ernst Haas

techniques used, but rather the idea it expressed. In the often cited quote from his 1967 essay “Paragraphs on Conceptual Art,” Sol LeWitt offered this explanation:

In conceptual art the idea or concept is the most important aspect of the work. When an artist uses a conceptual form of art, it means that all of the planning and decisions are made beforehand and the execution is a perfunctory affair. The idea becomes a machine that makes the art.

This point of view works well for some artists because they are free to use an idea as the guide in creating a work, rather than being restrained by aesthetic rules about how things are supposed to be done. On the other hand, it creates a problem too. If the conceptual artist’s primary concern is getting the idea across, and skillful craftsmanship doesn’t matter as much because the execution can be perfunctory, is the end result a work that accurately portrays the concept but appears rather mediocre, so much so that people don’t appreciate it as art? Think about how some people react to minimalist or abstract pieces with the comment, “My five-year-old could do that!” Conceptual art, for some people, isn’t art at all.

These issues pose a particular dilemma for photographers. Early in its history and even to this day, critics claim that a photograph is simply a visual capture of something out there in the world. They use that criticism as one strike against photography as art. Add to that the claim by some people that conceptual photography is relatively easy, even for amateurs, because you don’t have to worry about artistic or technical matters such as f-stops and shutter speed: just get the concept right . . . Strike two against photography as conceptual art. Talented conceptual artists, photographers or otherwise, will tell you that highly developed skills in technique and artistic composition help a great deal in hitting that home run of creating an excellent conceptual work. You could take a blurry, over-exposed, discolored, terribly framed photo of old people dancing hip-hop with smiles on their faces, claim that it portrays the idea of being forever young, and you’d be right. But if you nailed the depth of field, exposure, color, and composition so that the joy of their age leaped right out of the image, your photographic bat succeeded in connecting to the conceptual ball with a resounding crack.

The execution of the concept isn’t necessarily perfunctory and mechanical, as LeWitt and others have suggested. The process might be very challenging and creative, especially when dealing with complex or elusive concepts. Turning ideas into images *should* be demanding, creative, and artistic when developing truly interesting conceptual photographs. As we will see, that challenge might be met before, during, and even after taking the photo.

The Concept in Conceptual Photography



Figure 3.15
“Addiction” by
John Suler.

The dictionary will tell you that a concept is a generalized idea about a thing or a class of things. It’s an abstract thought rather than a concrete, tangible entity in the physical world. The thing you’re sitting on is the particular thing that you’re sitting on. “Chair” is the concept that we apply to such things and all things with a similar appearance and function.

In his work “One and Three Chairs,” the conceptual artist Joseph Kosuth presented a typed-out definition of the word “chair,” a photograph of a chair, and the actual physical chair. The real chair is the thing itself. The typed definition is the concept of chair semantically constructed with words. The photo exists somewhere in between. Kosuth’s work shows us that words, images, and the real things they represent are all intertwined in conceptual photography.

Is the photograph of the chair a concept? Even though a photograph is a representation of a particular thing rather than a generalized idea about the thing (an “iconic” representation, using the semiotic term), it isn’t that particular physical thing itself. You can’t sit in a photograph of a chair, just like you can’t eat the menu at a restaurant. We could therefore argue

*Truth in philosophy
means that concept
and external reality
correspond.*

Georg Wilhelm and
Friedrich Hegel

that an image of a chair, or of anything, is a very simple form of conceptual photography because it's not the actual thing, but a representation of that thing, an abstract version of that thing. Of course a photo of a chair to express the idea of "chair" isn't terribly interesting as conceptual photography—not nearly as interesting as creating a photograph to capture the essential meaning of "freedom," "motherhood," or "psychosis."

Learning how to work with the images, words, and real things that we associate with a particular concept improves our skill in conceptual photography. We take a generalized idea based on the meaning of words and transform it into an image that is more specific and tangible, that contains substance for propelling the concept toward the concrete physical world.

What Does It Mean, and to Whom?

The conceptual photographer strives to bring a message to the viewer. It might be a political statement, a social commentary, or, in the case of my work, the portrayal of a psychological idea about people, relationships, and emotions. The photographer encourages them to ask themselves, "What message is this photo sending me?"

Some conceptual photographers work hard at making the answer to that question as specific as possible. They want the photo to convey a particular idea, regardless of who is looking at it and what that person's background might be. They may want to persuade people to think a certain way about an issue, even encourage them to change their feelings and beliefs about it. They might even claim that the meaning of the image is exactly what they intended and only what they intended.

Take a look at Figure 3.15. It rather unequivocally drives home the fact that smoking is addictively bad for one's health: the overwhelming number of cigarette butts, the sickly green color cast, the sinking and cornered pot as a signifier of the body, and the closed-in feeling of the square format.

In some cases conceptual photographers take a different approach. In the photo they offer up a general concept, but they design the image with a dash of ambiguity so that viewers can interpret its meaning more subjectively, according to their own expectations, feelings, and backgrounds. The photo presents the container for a general concept that people fill with their own personal associations. Some artists would say that this is what their work is all about—to open a door to an idea, allowing people to enter and explore on their own.

In Figure 3.16 we see two women with their backs to each other. The title tells us it is about separation. What associations do you have to it?

Such images function in a manner similar to the pictures of the Thematic Apperception Test (TAT). Subjects are asked to view each one and make up a story for it. One picture shows an older man leaning over

*Always to see the
general in the
particular is the very
foundation of genius.*

Arthur
Schopenhauer



Figure 3.16 “Separation” by John Suler.

to whisper into the ear of a younger man. Another shows a woman opening a door into a room, with a surprised expression on her face. The pictures pull for ideas about a particular topic—father/son relationships and being surprised—but the pictures are ambiguous. The son looks upset, but why? The woman is alarmed by something she discovers in the room, but we cannot see what it is. Due to the ambiguity, subjects tend to project ideas into the story they tell based on their own life experiences concerning the concept being depicted. We will return to this psychological mechanism called *projection* in Chapter 11.

In conceptual photography, the question is more than simply “What does it mean?” It is more like “What does it mean to whom?” If the photographer has a specific concept to convey via the image, how well do viewers detect it? If the picture is an attempt to persuade viewers to think a certain way about that concept, or to encourage them to explore their own associations about it, does the picture succeed in that purpose? These are the essential questions of conceptual photography.

The Sender, Channel, and Receiver

Interpersonal communication theory talks about the sender of a message, the receiver of the message, and the channel through which the message passes. These three elements can help us understand conceptual photography.

The Photographer as Sender

Photographers should have a clear understanding of the concept they intend to portray, especially when they want viewers to think a specific way about it. If your knowledge of the concept is fuzzy, then your visual communication of it will be fuzzy too.

Sender credibility makes a difference in whether viewers are willing to accept the ideas being portrayed in an image. Social psychological research shows that a highly credible sender is someone who is perceived as trustworthy, reliable as a source of information, motivated to be truthful, dynamic, warm, friendly, and possessing an expertise on the subject. Any given conceptual photographer may not possess all these qualities, but this research does help explain why viewers quickly endorse some conceptual photos while ignoring or devaluing others of equal quality.

The Photograph as a Channel

A photo is a more effective channel for the concept when it is free from as much “noise” as possible. Noise is anything that obscures the communication of the message. If you intend to depict a specific concept, make the image complete, clear, and explicit in how it visually portrays it, including onomatopoeia. Ambiguous or contradictory elements about the photo create noise. Cheerfully happy colors in Figure 3.16 would not help drive home the conceptual point. Redundancy—using two or more visual strategies to convey the concept—helps eliminate noise.

The conceptual photo minimizes noise when it’s appropriate to the viewer’s frame of reference. You wouldn’t design the same photo for both adults and children, or experts and novices, or for all viewers regardless of their gender, interest patterns, and cultural background. When creating a conceptual photograph, it’s a very good idea to consider what audience will

most likely perceive the image as intended. Tobacco workers probably will not appreciate the concept being depicted in Figure 3.15.

The Viewer of the Photo as Receiver

Various psychological processes within viewers determine how accurately they perceive the ideas portrayed in the image.

Assimilation is when viewers interpret the message according to their own personality, frame of reference, and belief system. They do not notice elements of a photo that are unfamiliar to them, or they misperceive those elements according to what they know from past experience. People who fear the ocean will assimilate Figure 3.16 into that point of view.

Leveling occurs when people reduce a visually complex image to a few simpler elements. This leveling narrows their understanding of a complex conceptual photograph. It might even derail the photographer's attempt to convey a particular idea. In Figure 3.16, did you notice that the woman lying on the beach seems to be warming her hand between her legs, which suggests she just came out of the ocean?

Sharpening is when viewers focus on one element of the photo, take it out of the larger context, and then build their reactions around that selective perception. For Figure 3.16, someone might spend considerable mental effort wondering about those unusual trees on a beach. Some photographers like to keep their conceptual images as straightforward and simple as possible in order to ensure that people focus on the intended message. However, feedback from viewers based on their sharpening might help the photographer better understand the image as well as the concept. What might those unusual trees have to say, symbolically, about separation?

To evaluate the sender, channel, and receiver variables, it's a good idea to do a test run. Show your conceptual image to people, then inquire about what they saw in the photo, how their personalities and backgrounds influenced their interpretations of the concept, as well as how their perceptions of you, the photographer, affected their reactions. Posting images in an online photo-sharing community provides an excellent opportunity to understand the wide variety of ways people might react to your work.

I would call my work primarily conceptual. I don't carry cameras around with me wherever I go. I get an idea of a subject matter I want to deal with and I pull out my cameras.

Leonard Nimoy

Concept Difficulty

Some concepts are easier to portray in a photograph than others. "Car" won't give you much trouble, but how about "existential anxiety?"

The more you can associate a concept with a concrete thing or situation in the real world, the easier you can represent it in a photo. "Car" is simple because it's an abstract term for a category of real things. Existential anxiety, on the other hand, doesn't immediately conjure up a thought of

*The face is a picture
of the mind with the
eyes as its interpreter.*

Marcus Tullius
Cicero

something familiar in the physical world. That's going to be a tougher concept to portray.

"Car" also isn't terribly interesting as a conceptual photograph, unless you want to convey some message about cars. For example, are cars harmful to the environment? A car oozing oil into a beautiful lake conveys that idea rather nicely. Because both "cars" and "harmed environment" are concepts with ready-made referents in the real world, we can convey that message without too much effort. Now try "Meaninglessness causes existential anxiety." No doubt you're scratching your head trying to imagine that photo.

States of mind and subjective human experiences tend to be more challenging to represent as the concept of an image. They are often subtle, elusive, and intangible. That's why existential anxiety and meaninglessness pose a problem. Exceptions include those internal experiences that correspond to observable behaviors. For example, we can quickly identify the facial expressions associated with basic emotions like anger and sadness, so if you want to convey the message that anger is unnecessary emotional baggage, create an image of luggage with an angry face. Whenever you plan to create a conceptual photo about an internal human experience, start with the question, "What behaviors reveal it?"

In Figure 3.16, the physical distance between the subjects, with one facing away and the other curled up in fetal position, convey body language we could easily associate with emotional separation. The actual story behind the photo: My daughters had gone out surfing for the first time. In the photo, the eldest had returned to shore, exhausted, while her sister stayed in the ocean, with her mother watching vigilantly.

Some messages in conceptual photography are evaluative: something is "good" or "bad." These kinds of photos tend to be easier to create than those that do not propose an evaluation, simply because "good" and "bad" are ideas that we can usually capture without too much trouble. We can think of all sorts of visual things that are good and bad. A photo of happy and vigorous looking people who are exercising clearly conveys the message "Exercise is good for you." By contrast, "Exercise requires dedication" will be a more difficult conceptual photograph.

Three tools come in handy when dealing with challenging concepts: a dictionary, a thesaurus, and an online search engine. A dictionary definition of a conceptual term will give you insights into exactly what that term means, while a thesaurus will point you toward similar and opposing ideas. The meanings and the words you see might trigger some visualization that will help you depict the concept. If you plug the conceptual term or a similar one into an online search engine, you'll discover how other people tried to visually capture that concept. The most challenging concepts will be those with complex and varied definitions as indicated by the dictionary, with numerous synonyms and antonyms as revealed in the thesaurus, and with search engine hits that show lots and all kinds of images.

Creating Titles and Descriptions

Titles and captions help guarantee that viewers will understand that a particular concept is being illustrated, particularly when the concept is elusive or complex. Because online photo-sharing communities often provide tools for creating image titles and descriptions, they are ideal places for sharing conceptual photographs.

As in Figure 3.16, “Separation,” a title by itself can be enough to launch people toward the intended interpretation. If that’s not enough, adding a description seals the deal by explaining the concept along with subtle or direct references to how the photo illustrates it. Prepare yourself for the possibility that some viewers will not see the image the way you intended, even when you do explain the concept in the title and description.

You might use titles and descriptions to supplement the ideas in the image, perhaps explaining aspects of the concept that the image did not depict. You can simply allude to the concept in the title, thereby enticing and even teasing viewers to figure out the rest. For the ultimate in conceptual photography puzzlers, create titles and descriptions that don’t seem related to the ideas in the picture, or that blatantly contradict them. What if Figure 3.16 was instead entitled “surfing,” “motherhood,” or “adventure?” What title might you choose for it?

Symbolism, Metaphors, Similes, and Anthropomorphism

Symbols, metaphors, and similes as discussed previously in this chapter are very useful when designing conceptual photographs. How does this stand for that? How is this thing like some other thing? These are the most basic questions when conceptual photographers start with an abstract concept, then try to determine what visual things might represent or resemble that concept. “Meaninglessness” is like chaos, emptiness, having no direction, or going in circles. Having said that, we’re already off to a good start in creating that conceptual photo of “existential anxiety.” How about using total blackness, a visual mess, or someone or something going in circles?

Symbols can be archetypal, cultural, or personal. The archetypal symbols hold a universal meaning for all people, regardless of their personalities or background. In many if not all cultures, water suggests birth and cleansing, circles indicate unity, and bridges signify transition. Cultural symbols have a meaning to a particular society of people. When deciding on a graphical symbol for a photo, think about whether you want to pick an archetypal one that maximizes the likelihood viewers will grab the specific meaning you intended, or a more ambiguous or complex symbol that allows viewers to interpret the concept in different ways. Also pay careful attention to symbols and metaphors that might have a particular personal meaning to you, but not necessarily other people. For you “white” is like the childhood joy of eating vanilla ice cream. Someone else might immediately think “whitewash.”

*Let’s build a happy
little cloud. Let’s
build some happy
little trees.*

Bob Ross

*We find human faces
in the moon, armies
in the clouds; and by
a natural propensity,
if not corrected by
experience and
reflection, ascribe
malice or good-will
to every thing, that
hurts or pleases us.*

David Hume



Figure 3.17 The use of overwhelming blackness to suggest the isolation and meaninglessness in the concept of “existential anxiety.”

In *anthropomorphism* we inject human characteristics into nonhuman things. Almost any object or scene can stand for a human, a human quality, or a human activity: fast cars, dilapidated houses, lush trees, an animal protecting its young. Anthropomorphism comes in very handy when designing photographs for concepts that aren’t necessarily about people. By attributing human qualities and activities to the concept, people will more quickly grasp its meaning. We see an aging human in the photo of an old leafless tree leaning over, which helps us understand the universal phenomenon of decay. Whatever the concept might be, fill in the blank for the sentence, “This is the same as if people . . .”

We can use any type of photography for conceptual work, whether it’s portraits, landscapes, animals, nature, street photography, still life, macros, architectural, or abstracts. That’s because there are all sorts of concepts to express about this wonderfully intricate world of ours. It’s also due to the fact that symbolism, metaphors, and anthropomorphism encourage us to adapt insights from a very wide range of visual experiences in order to express a concept. It won’t be possible to master the technical aspects of all these different types of photography, but anyone dedicated to creating conceptual images would benefit greatly from developing the basic

skills in composing these various types of images. Experimenting with different types of photography also expands one's technical and artistic capabilities.

Composition and Post-Processing Techniques

Although some might claim that artistic or technical skill do not necessarily play a significant role in conceptual photography, can we really ignore such skills when creating good conceptual photographs?

Those people who belong to the minimalist tradition might create an image that focuses on a single subject to illustrate a single idea. They might use a clean white background, with no visual distractions, so the viewer's attention is focused exclusively on the one subject and the one idea it represents. For example, think of Warhol's can of soup. But even under these seemingly simple conditions, the photographer needs to make some artistic and post-processing decisions to enhance the particular idea being expressed. Should the soup can be centered in the frame, to emphasize that it's rather stable but boring, or placed in a more dynamic rule-of-thirds position? Is it a dreamy, ethereal, soft-focused can of soup, as if delivered from heaven, or is it a hard contrast and boldly colored product that wants to get in your face?

Other conceptual photographers like to load up their photo with props and people in order to create a broad conceptual landscape that expresses a variety of meanings surrounding a particular concept. Such images might be more difficult to create than the minimalist type, with the challenge often being an artistic one. Anyone who knows anything about composition will tell you that you can't just throw a bunch of stuff into a photo, no matter how conceptually powerful it all is, and expect that people will want to figure it out or even look at it. Good composition requires an intriguing visual balance and unity of elements that holds a person's attention and imagination, which is what you want for complex conceptual photographs. It means controlling how a person's eye moves through the photo, so you can guide them first to the main concept, then to auxiliary ideas that elaborate on that concept. Considerable artistic and post-processing skills come into play for such images.

What composition and post-processing techniques work best for conceptual photography? Any technique that works to support or elaborate the concept being illustrated, whether it involves changes in brightness, contrast, color, saturation, or focus. If there's a "hard" quality to the concept, add contrast and sharp focus. If there's a "soft" quality, smooth out contrasts and apply blur. Photographing from a distance or down onto a scene encourages an objective sense of understanding the concept, while up close and immersive viewpoints draw the viewer into a more subjective identification with it. Even though most conceptual photographs are more about stimulating thinking than aesthetically emotive reactions like,

There is nothing worse than a sharp image of a fuzzy concept.

Ansel Adams

I've never seen an ugly thing in my life. Let the form of an object be what it is. Light, shade, and perspective will always make it beautiful.

Unknown quote

I would warn you that I do not attribute to nature either beauty or deformity, order or confusion. Only in relation to our imagination can things be called beautiful or ugly, well-ordered or confused.

Baruch Spinoza



Figure 3.18 “Trauma” by John Suler. Hard contrast and an uneasy tilt may not be aesthetically pleasing, but they reinforce the concept.

“Oh it’s so beautiful,” feelings often do play an important role in conceptual images, especially when they portray ideas about us humans, and most assuredly when they illustrate ideas about feelings. In this type of work, the manipulation of colors, tones, and textures will help create the necessarily emotional atmosphere.

The Pretty and Ugly Factors

“Pretty” tends to be a pejorative term among conceptual as well as artistic photographers. The hardcore minimalist photographer might believe that aesthetic attractiveness plays no role in conceptual work and might even detract from the concept, whereas artists in general become annoyed when viewers simply see a photo as pretty while overlooking the meanings

embedded in the work. Nevertheless, the fact remains that people like to look at pretty things, so concepts wrapped in beautiful visuals can be more effective at holding the viewer's attention while encouraging them to appreciate the concept. Attractiveness and beauty will probably be required for photos in which the concept is about attractiveness and beauty.

What about ugly images? For some concepts—especially those that involve distressing ideas—ugly images could very well be the perfect choice. As horror movies and highway gapers show us, people often have a hard time looking away from awful scenes. Revolting images can paradoxically capture the imagination as much as beautiful images. For some people, ugly can in fact be beautiful. Writers will tell you that stories about boredom don't have to be boring; they can be interesting. So too ugly images portraying distressing ideas can be beautiful because they perfectly capture the concept, because they effectively employ the aesthetic techniques of composition and post-processing, or simply because they reveal the haunting beauty of the distressing idea itself.

When it comes to the pretty or ugly qualities of a photo, never assume. Don't dismiss a beautiful photo as simply pretty. You might be missing the concept. If you feel tempted to look away from an ugly photo, consider the possibility that you're overlooking a beautiful representation of an idea. And when you find yourself skipping past an image that seems, at first glance, to be boringly plain, like a can of soup . . . maybe it isn't.

Forward and Reverse Engineering

Almost any idea can serve as the starting point for a conceptual photograph. If you find yourself stuck, simply think about issues and ideas that inspire you. Look to the news, books, or online and offline discussions you hear every day for concepts about politics, religion, social issues, and people. If you think about it, hardly a day goes by without your mind confronting some interesting, problematic, or even overwhelming idea. The things that linger in your mind at the end of the day probably point to some concept that challenges you. Some might linger for weeks, months, years, or even a lifetime. Turn these ideas into a photo.

The next step is to brainstorm about possible images that capture the concept. Pose some fill-in-the-blank questions to yourself. For example, if you're trying to design an image about Hope, say to yourself:

"Hope reminds me of . . .?"

"Hope is like . . .?"

"Hope is as if . . .?"

"If Hope could talk, it would say . . .?"

"If Hope was a thing, or an animal, or a place, it might be . . .?"

It helps to close your eyes and visually imagine the possibilities. Doing so draws on subconscious levels of thinking, which is where creative ideas often develop. The first thing that pops into your mind might turn out to be a very useful image, but don't necessarily stop there. Continue to visually free associate to the concept. If you let go of deliberately controlling the process, you will find that the spontaneous flow of images will lead you to some very useful material. Let it come to you on its own. Don't try to force your visual associations. The best insights often arrive in your mind spontaneously, sometimes later when you're no longer even thinking about the concept or photography—what psychologists call *subconscious incubation* that leads to the moment of inspiration.

Genius is one percent inspiration, ninety-nine percent perspiration.

Thomas Edison

The reverse side also has a reverse side.

Japanese Proverb

The next step is to turn that visual inspiration into a good photo that portrays the concept. This is the more time-consuming and often difficult part of the creative process called *elaboration*. You will have to ask yourself if it's possible to photograph and post-process such an image. It might be beyond your resources or skill level. If so, it's back to the drawing board of free association to find another more workable insight.

When you're setting up and later editing the photograph, you might find yourself entertaining a variety of questions. Do you want to make the photo straightforward or complex, subtle or in-your-face? Do you want to convey a widely accepted "fact" about the concept, or do you intend to persuade viewers to adopt a particular point of view? Is it *your* personal point of view, or someone else's?

As you grapple with these questions, as well as with the photographing and editing techniques that express your answers, you might find that your insights into the concept will change. You might appreciate the concept at a deeper level. You might discover that you don't understand the concept as well as you thought, which can inspire you to do some research into it. Although the traditional approach to conceptual photography states that the creation of the image follows mechanically from the chosen concept, the process is often much more than perfunctory. Creating the photograph often requires working out your own ideas and feelings about the issue at hand. It's very possible that you chose a particular concept *because* you haven't yet resolved your opinions about it. Attempting to create a conceptual photo is sometimes motivated by your unconscious wish to master what it means to you.

Contrary to what some photographers claim, we might not start with a concept and then create a photo to represent it. We do just the opposite. We start with a photo already taken and then apply an idea to it. In this type of reverse engineering, you might use free association. What ideas does this particular photo remind me of? What are the possible messages this photo is trying to convey? As you look at the picture, notice what you see, feel, and think. Put words into the mouths of the people or things in the photo. Project yourself into it and see what it's like to live inside that image.

You might discover what unconsciously inspired you to take the photo in the first place.

Sometimes the fit between the reverse engineered concept and the photo is perfect. You don't have to do much or anything to the shot. Sometimes the photo has to be massaged to better express the concept. That's where skill in post-processing comes to play. You might have to crop to focus on the parts of the image that pertain to the concept, while eliminating those that do not. You might need to change the colors, tones, contrasts, and sharpness to better address the idea. You might even need to add something into the image that wasn't there from the start, or create a composite of different images. Sometimes, when you're post-processing a photo without even thinking about it being a conceptual image, a concept comes to you—which reminds us that the concept isn't necessarily in the image itself, but in how our mind engages the image.

Educational Applications

Instructors of all types use text and images in their slide presentations. People might think of the image as an afterthought to the “real stuff” being taught via the text—something to simply pretty up the slide. Such an attitude is a mistake. Although bullet-point items in a slide provide a handy means of conveying information, they can also numb the brain by fooling the viewer into thinking that knowledge is always linear, compartmentalized, and preformatted. This is a very left-brain-only approach to learning. More complete learning uses the whole brain, including the right hemisphere that appreciates a more holistic, integrated, and even intuitive understanding of information. Good conceptual images will activate that type of comprehension. They will be especially effective for people who are visual rather than verbal learners.

Figure 3.19 is a slide I use in teaching my course on cyberpsychology. It includes other terms for online “text talk,” visual examples of how people creatively use different text colors and styles, the idea that text talk is a new way of communicating, but also a photograph of an old typewriter suggesting that humans have been conveying concepts via words for a long time.

Instructors find images online to use in their presentations, but hopefully they feel empowered to create their own. In either case, the ideas explored in this chapter can help them present the best possible pictures. Do you want to nail a specific concept, offering a simple visual depiction of a straightforward idea, or do you want to encourage the audience to explore different interpretations of a more elusive concept? If you say to yourself, “This idea reminds me of . . .” and “This idea is as if . . .” does it call to mind an image that might be useful for your presentation? How do the composition, post-processing, and pretty versus ugly qualities of the picture add to or detract from its effectiveness as an illustration?



Figure 3.19 A slide for teaching about online text communication.

For the best possible slide presentations, really think about how the text and images on a slide interact with each other; how do they complement and contradict each other? During the presentation, talk about the images as well as the bullet-point items of text. For a more unconventional approach when creating slides, think about a concept, select an image *first*, and then develop the bullet points of text to elucidate the picture. After you finish your presentation, ask the audience what stands out in their mind. Very probably it will be the images.

Conceptual Advertisements

The question “What does it mean and to whom?” in conceptual photography lies at the heart of an advertisement. To be successful, it must first catch the viewers’ attention and then engage them in the message being presented. It seduces the eye before it addresses the intellect. No matter how well an ad is thought out, designed, and executed, its effectiveness resides with the viewer. This is why some advertisers use focus groups,



Figure 3.20 Chupa Chups. It's sugar free.



Figure 3.21 The lighter side of wind power.

although such groups can be misleading when they do not accurately represent the intended audience. The success of the Apple Corporation depended on the intuitive brilliance of one of its founders, Steve Jobs, and his talented design team and marketing arm. Does anyone in the world *not* recognize the Apple logo? What does the bite out of that apple mean to you?

Dick Zakia had a longstanding interest in the sophisticated nature of eye-catching ads, their use of powerful symbols, their references to works of art, and the marriage of visuals to copy. An ad that once caught his attention was the cleverly conceptual one for Chupa Chups lollipops (Figure 3.20). It portrays a parade of ants in search of nourishment, avoiding the tempting red and white lollipop, the idea being that it did not contain sugar but rather a sweetener and was therefore sugar free. Interestingly, the only copy for the ad was, "It's sugar free." One of Dick's friends read the ad quite differently. He said these were smart ants who avoided the lollipop because they realized the potential danger of artificial sweeteners. In the final analysis, no matter how well an ad is thought out and designed, its success rests with the receiver.

Another ad that can be misinterpreted was for Dow wind-power turbines (Figure 3.21). The headline reads "THE LIGHTER SIDE OF WIND POWER." The intent is obvious. The blades on the turbine are as light as a feather. What is not obvious is the potential misinterpretation. As a bird lover, Dick imagined a migrating flock getting caught up in the steel blades—what remains are the feathers. Not exactly what the advertisers had in mind.

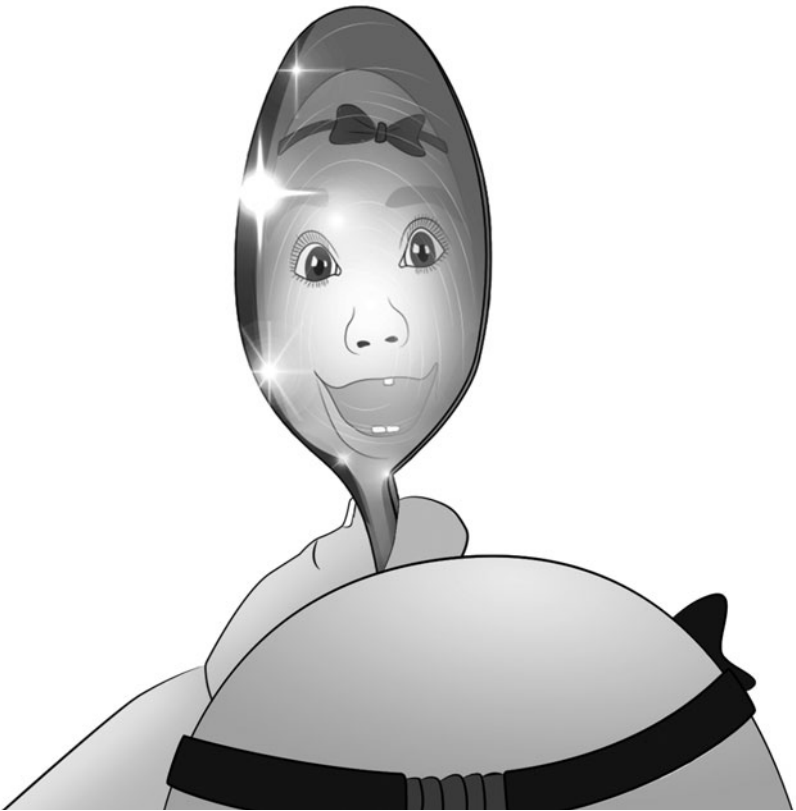


Figure 3.22 “Before Memory” by Kira Suler.

KEY WORDS

association	equivalent	onomatopoeia	sharpening
associationism	iconic representation	ouroboros	simile
anthropomorphism	indexical	pictogram	subliminals
assimilation	representation	prop	symbolic
body/somatic	interpretant	rebus	representation
memory	leveling	receiver	synesthete
channel	long-term memory	representamen	synesthesia
color memory	(LTM)	semiotics	unconscious memory
conscious memory	metaphor	sender credibility	verbal memory
elaboration	mnemonic	short-term memory	visual memory
emoticon	notan	(STM)	

NOTES

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- 7 Ossian Ward, "The Man Who Heard His Paintbox Hiss," online at www.telegraph.co.uk, June 10, 2006.
- 8 John Fergus-Jean, "Metaphors in Photography." In Richard D. Zakia, *Perception and Imaging: Photography—A Way of Seeing* (4th edition, 2013), pp. 82–88, 297–299.
- 9 Mihai Nadin and Richard Zakia, *Creating Effective Advertising Using Semiotics*, New York: The Consultant Press, 1994, p. 1.



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4 Space, Time, and Movement

We have these words “space” and “time,” but you can’t touch them. They’re not objects, they’re not things, they go forever. Space and time are really tools of animal sense perception, the way we organize and construct information.

Robert Lanza



Figure 4.1 “Untitled” by John Suler.

With the exception of movies and holograms, images are static and two dimensional. That fact would seem to significantly limit how they convey space, especially depth, as well as time, which relies on things moving to indicate change. Nevertheless, images can be constructed in subtle ways to encourage the perception of space, movement, and time.

SPACE

To see an object in space means to see it in context.

Rudolf Arnheim

Perspective: From medieval Latin perspectiva, optics; from late Latin, perspectivus, of a view; from Latin perspicere to see through or into.

American Heritage Dictionary

In Chapter 1, we discussed camera angles and the orientation taken when photographing a scene. As illustrated in Figure 4.2, imagine the camera as a versatile space vehicle that can move in different directions: up or down (vertical orientations), left or right, and forward or backward (horizontal orientations), plus the three rotational movements of pitch, yaw, and roll, similar to a plane or space ship (tilted orientations). Such movements allow for better compositions as well as unusual perspectives. Ansel Adams photographed landscapes standing on the top of his van using a platform to hold his tripod and view camera. Thinking in terms of spatial expressions can help us see and photograph from different perspectives. So experiment by looking:

up	through	from outside
down	under	from below
between	over	from above
into	next to	from the other side
along	from inside	

. . . and any combination of these and other viewpoints

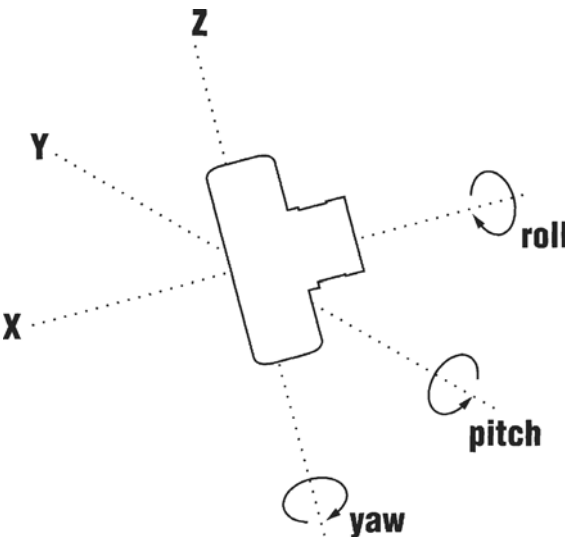


Figure 4.2
The camera as a space ship. Maneuver your camera up, down, and around, to take some unusual pictures.

The Perception of Depth

In a 3D field the ability to see depth and judge distance involves a number of visual cues, two of which involve the physical position of the eyes: convergence and disparity. When looking at objects at varying distances in space, the eyes converge; the closer the object, the more the convergence (Figures 4.3 and 4.4). As the basis for stereoscopic vision, disparity involves images of an object forming in slightly different positions on the retina in each eye, due to the fact that the eyes are inches apart, resulting in an

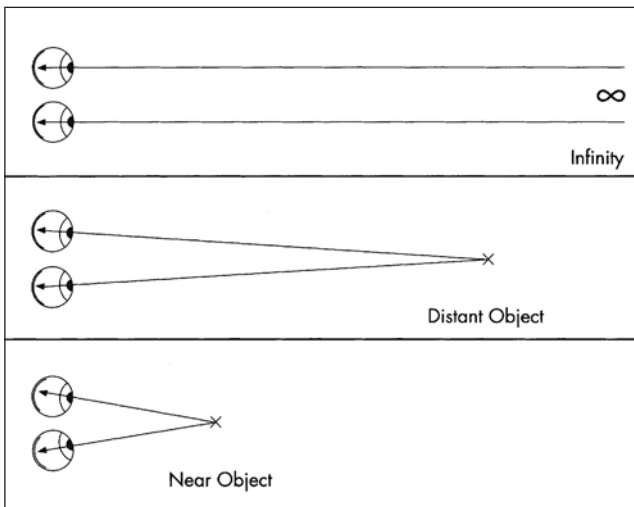


Figure 4.3

Convergence is a 3D depth cue. At infinity the eyes point straight ahead. For various distances the eyes converge; the nearer the object the more the convergence.



Figure 4.4

“Fire Island” by John Suler. The depth cues of parallel lines converging, textures appearing smoother with distance, and reds advancing while cool greens recede.

Vertical columns, such as those found in Greek and Roman temples, look parallel from the ground level because they are wider on the top than on the bottom.

Joanne Kemp

incomplete fusion of the two images. To make sense out of this disparity, the mind perceives it as representing depth.

Capturing pictures with a camera entails the transformation of objects located in a three-dimensional field to that of a photographic two-dimensional field. When looking at a picture in a 2D space, the image contains a number of cues that create the perception of depth. We respond to them automatically. Here are several types of two-dimensional depth clues (see also Figure 4.5):

- *Relative size*: The same object further away appears smaller than at a close distance.
- *Linear perspective*: Parallel lines appear to converge as distance increases, as in railroad tracks and highways.
- *Texture gradient*: As a surface gets further away, its texture appears finer and smoother.
- *Color*: Warm colors such as reds seem to advance, while cool colors such as blues seem to recede.

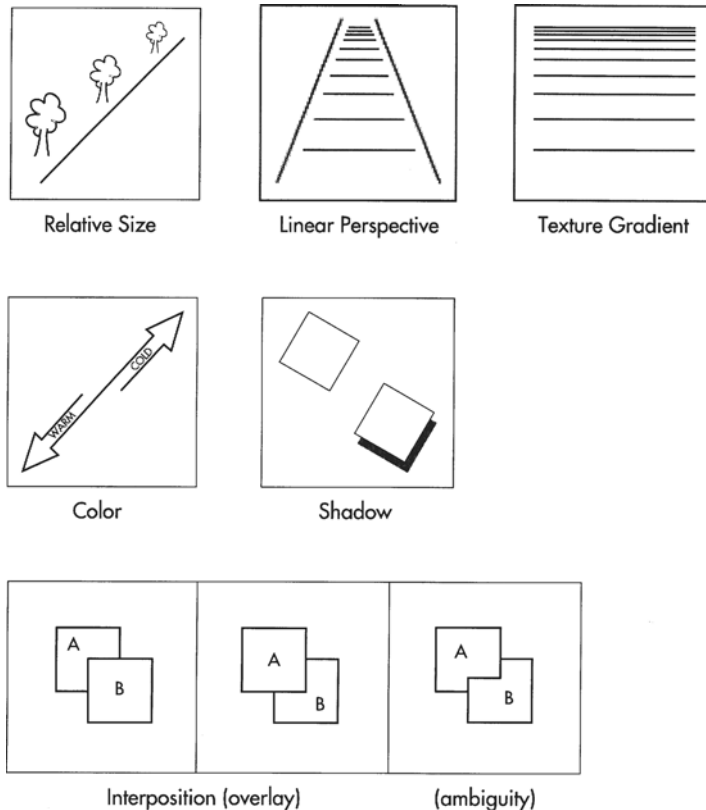


Figure 4.5 Two-dimensional depth clues. When looking at a 2D picture there is visual but no physical depth.



Figure 4.6 “Primordial” by John Suler. Due to atmospheric haze, objects at far distances are less clear than those nearby. Color intensity also fades with increasing distance. The fog in this photograph creates not only the sensation of spatial depth, but also of “depth” in time.

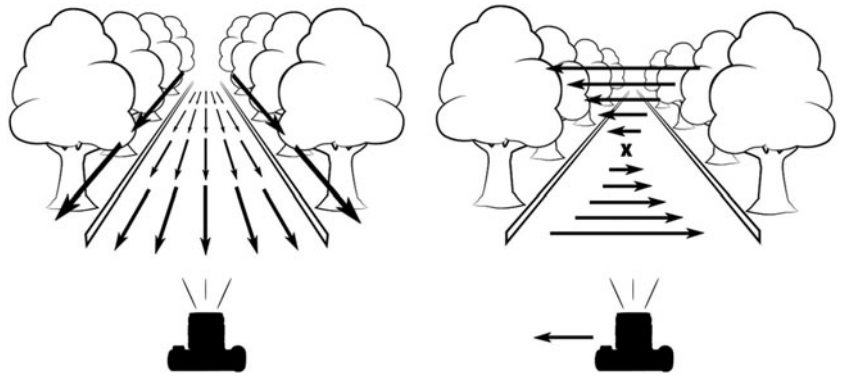


Figure 4.7 Motion perspective. Left: Near objects appear to move faster than far objects. Right: If a person fixates at the x position and moves from right to left, objects beyond x move in the same direction while those forward of x move in the opposite direction. Movement appears least near the fixation x point. The same condition exists when a photographer, moving from right to left, fixates the camera on the x position.



Figure 4.8

In drive-by photography, the foreground blur created by motion parallax creates the impression of depth as well as movement.

- *Shadow*: An object casting a shadow appears to have more depth than one that does not.
- *Interposition*: When objects overlap, one seems to be behind the other.
- *Aerial perspective*: Objects at far distances are less clearly seen than near objects due to atmospheric haze.

For a moving image, two additional depth cues come into play: *motion perspective* and *motion parallax*. With motion perspective we experience depth because the image of an approaching object increases in size. With images moving across our visual field, near objects appear to move faster than far objects (Figure 4.7). In drive-by photography, the foreground blur created by motion parallax creates the impression of movement as well as distance (Figure 4.8).

With motion parallax, a lateral change in camera position reveals objects in the background that were blocked from view by objects in the foreground. To experience this, imagine a window as a viewfinder on a camera; moving your head (camera) from side to side causes parts of the objects previously covered by the window frame to be seen.

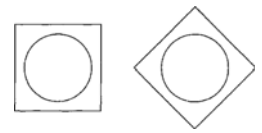


Figure 4.9 A circle is isotropic, a square is anisotropic.

Anisotropy

Anisotropy is having properties that are dependent on position in space, as opposed to *isotropy*, which implies identical properties in all spatial positions. A square is anisotropic whereas a circle is isotropic.

If we apply these concepts to the visual “weight” of an object—how it seems to move downward in response to gravity—we might assume it would be isotropic, the same regardless of its position in the visual field of a picture. However, this is not the case. Visual weight is anisotropic because the same object will appear to have a different weight depending on its location within the visual field. As illustrated in Figure 4.10, an object positioned in the upper half of a picture, or the right half, will have more weight than the same object in the bottom or left half.

The importance of anisotropy in visual perception is evident in typography, the design of letters. Not only must the form of each letter be balanced top to bottom and left to right, but it must also balance when the various 26 letters are combined to make the millions of words at our disposal. The letter S, for example, looks visually balanced top to bottom because the top half, which carries more weight, is made smaller than the bottom half. Turning the letter upside down emphasizes the difference (Figure 4.11).

The color of the object also carries weight. Dark colors will appear heavier than light ones. In composing a picture to establish visual balance, one must take into account size, color, and position of the objects within the field, their relationship to each other, and the negative space that surrounds the objects.

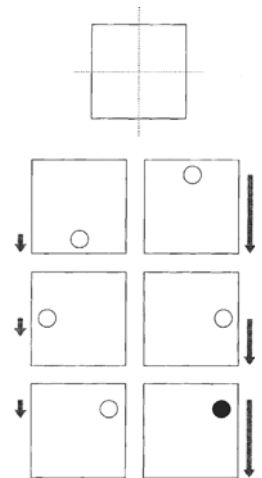


Figure 4.10 Depending on their size, position, tonality, and color, objects within a picture frame have different visual weights. Objects with visual weight seem to be moving downward due to the impression of gravity.



Figure 4.11 The top and bottom loops of the letter S are not the same size.

Rule of Thirds

Imagine a photograph you are about to take as having superimposed on it four imaginary lines spaced equally apart as a method for dividing up that picture space. Two are horizontal and two are vertical. This is the pattern for the well-known *rule of thirds*. If you place the subject on any of the *power points* where the four lines intersect, you create a balance between it and the surrounding space. For a more subtle application of the rule of thirds, place the subject near a power point but not directly on it. Any division of the space in a photograph into thirds, as in three vertical or horizontal layers, will create the rule of thirds atmosphere.

Many digital cameras come with a rule of thirds pattern displayed on the viewing screen, which is helpful when framing your photographs. In Figure 4.12, the woman and her baby are well placed near the upper-left intersection of the grid. Imagine how placing them at the upper-right intersection would have caused them to be walking out of the picture space.

The three-part geometry of the rule of thirds catches the eye. It conveys tension and energy, especially at the power points. The number three is psychologically compelling, sometimes even mystical. Think of mother/father/child, the love triangle, the Pyramids, the Holy Trinity. Think of the Three Stooges and the Three Little Pigs.



Figure 4.12 Placing the subject near but not directly on a power point is a subtle application of the rule of thirds.

Golden Section and Fibonacci Numbers

The Golden Section (aka, golden ratio and golden mean) first appeared as a popular concept in the art and mathematics of ancient Greece. Some claim it even predates that era. Based on the irrational number Phi, the Golden Ratio served as a foundation for geometry, painting, music, design, architecture, and, in modern times, the Fibonacci sequence—a mathematical concept that seems to account for the many “fractal” shapes we see in nature, especially in such forms as the nautilus shell, coastlines, flowers, and the shape of the cosmos itself (Figure 4.13). Scientific research suggests that the pleasing qualities of the human face emerge from these divine proportions.

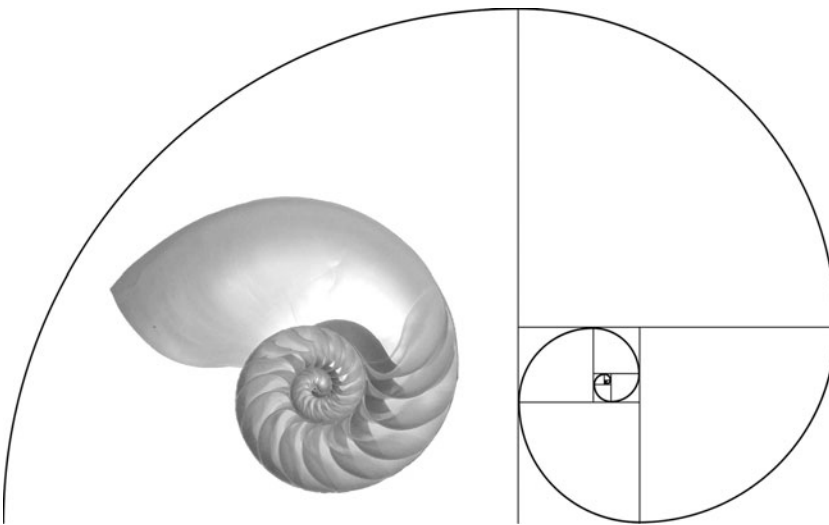


Figure 4.13 The Golden Section and Spiral.

Some artists and mathematicians point to the prevalence of the Golden Ratio in nature as evidence of its intrinsically aesthetic qualities, as if the elegance of the ratio is built right into the fabric of the universe and how the human mind appreciates it. Some thinkers even believe that the Golden Ratio constitutes the essence of what we humans consider “beauty.”

The Italian mathematician Fibonacci (1180–1250) is credited with discovering a series of numbers that expresses the golden section and the corresponding patterns in nature. The numerical sequence is amazingly simple: 0, 1, 1, 2, 3, 5, 8, 13, 21 . . . The Fibonacci numbers are derived by adding the sum of the previous two numbers, such as $0 + 1 = 1$, $1 + 1 = 2$, $2 + 1 = 3$, $3 + 2 = 5$, and so on. By taking the ratios of the adjoining numbers one finds that they follow the golden section closely. $3:2 = 1.50$, $5:3 = 1.68$, $8:5 = 1.60$, $13:8 = 1.62$, and so on. As the numbers continue,

The most beautiful thing we can experience is the mysterious. It is the source of true art and science.

Albert Einstein

they approach the exact ratio for the golden section, 1.618. Looking at the series of ratios in the Fibonacci series, prints cropped to 3×5 , 5×8 , 8×13 , 13×21 , and so on, would meet the golden section ratio.

A rectangle of any size with the proportions of the Golden Ratio has a length that is 1.62 (1.618) times that of its width. In a 3×5 inch photo print, the 5-inch sides are 1.66 times longer than the 3-inch side. As a ratio it can be written as a 3:5 aspect ratio. For prints that are 4×5 inches, 8×10 , 16×20 , their ratios are less than the golden section, being only 1.25. The earlier, popular 35 mm film was 24×35 mm and had a ratio of 1.46.



Figure 4.14

“Ireland” by Richard Zakia. The bottom photograph (4×3 inches) has a ratio of 1.33, which is less than the golden section. The top photograph has been cropped to 4×2.5 inches, a ratio of 1.6, which provides a better visual balance. Notice how the crop enhances the spiraling effect, as in the nautilus shell.



A practical application of the golden section is in deciding how to crop a photograph. The closer the cropped print is to the golden section, the more pleasing the print size is said to be (Figure 4.14). The visual effect can be a spiraling inward and outward movement, as in the shape of the nautilus shell.

Aspect Ratio and Cropping

The term aspect ratio refers to the relative size of the width and height of the space occupied by an image. It is commonly expressed as two numbers separated by a colon. The sensor of many digital cameras has a ratio of 3:2, while standard print sizes have been 4×6 , 5×7 , and 8×10 . That ratio establishes the space in which the image exists. The ratio set by the camera sensor or film is the first step in creating that space. We can even consider taking a photograph as the initial mandatory cropping of a scene from its bigger context, with additional crops perhaps necessary during editing to fit standard output formats, as in prints. In preparing images for device screens, the photographer often can crop to any aspect ratio without worrying about those standards.

One fact remains despite the different aspect ratios created by different crops: every crop leads to a different space, with the proportions of that space affecting the perception of the image. These spaces fall within one of three general categories: tall, long, or square frames.

Very tall frames emphasize and even exaggerate the height of a scene. They create upward and downward movement, elongating things in that vertical direction. The mildly tall “portrait” format fits well for the vertical orientation of the human body.

By contrast, the wide frames of the “landscape” orientation spread the scene sideways, generating lateral movement and the feeling of an open vista. The field of view of the eye is more lateral than vertical, which makes the horizontal frame feel more natural. The extra-long frame of a panoramically stitched image encourages the eye to pan and scan laterally, just as the eye would normally behave when viewing an expansive scene, such as a landscape. As a child, I marveled at the sprawling vistas of widescreen movies, perfect for cowboys riding across the vast countryside.

Although they lack vertical and lateral direction (isotropy), square crops convey a feeling of solidity, straightforwardness, balance, and certainty—while crops that are slightly off square betray those sensations to make us feel a bit “off” and uneasy. The square frame works well as a very predictable box for gathering up visual elements into an orderly bundle, while directing the eye to the center of the image. Radiating patterns, circles, other perfectly symmetrical objects, and patterns or textures that have no obvious direction often fit neatly into the space created by a square box.

Square format cameras have existed since the 1930s, starting with the Rolleiflex and Voigtländer TLR that were favored by artists and professional photographers. Even though rectangular formats became popular with the advent of 35mm film and digital cameras, the square format endured, with an enthusiastic resurgence in the social media phone app Instagram. The popularity of the square format might be attributed to the perception of it as a classic artistic space, as well a convenient space for creating an orderly composition.

Convexity/Concavity

A curved surface such as this) can be seen as having two spatial sides, an inner side and an outer side. If the outer side is seen as figure, the shape is seen as convex, and it is experienced as pushing out. When the inner side is seen as figure, the shape then appears to be concave and it is experienced as collecting, as being receptive.

The sail on a sailboat demonstrates this nicely: the concave side of the sail is receptive; as it collects the wind, the convex side pushes out and pulls the boat along with it (Figure 4.15). An open hand raised in prayer is concave and receptive, while a closed fist is convex and aggressive. Generally speaking, concavity as a psychological space is perceived as receptive, nurturing, and feminine, while convexity is seen as masculine and aggressive. Concave seating arrangements in theaters, classrooms, and houses of worship tend to give the gathering a sense of participation and togetherness.

In photographing dance, I think of the bodies in their space as a series of convex and concave forms in rhythmic movement.

Barbara Morgan

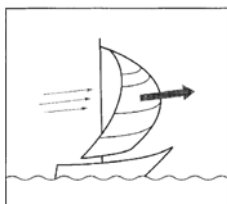
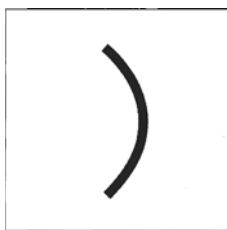


Figure 4.15

Transparency

A material that is completely transparent, such as glass, is nearly invisible. Any object behind it can be seen clearly. A partially transparent (translucent) material allows an object to be seen in a veiled or muted way, which is often more interesting. It creates the impression of different spaces, some revealed and some partially hidden. Translucency in a picture is associated with a loss of contrast of an object. It can be simulated in a photograph by dodging and burning-in, by lowering contrast, and in digital editing by lowering the transparency of an image layer. Photographs of windows and other reflection surfaces can also create transparency (Figure 4.16).

Photographs of moving objects taken during a long exposure of seconds to minutes can result in the moving objects appearing transparent. As the objects move, their edges blur and contrast is lost (Figure 4.17). In the early days of photography this technique was called “ghost photography.” These phantom images were used to deceive the gullible into thinking the photographs were the ghosts of their deceased loved ones.



Figure 4.16 “Space/Time” by John Suler. Transparency in window reflections creates the sensation of different spaces interacting with each other.



Figure 4.17 “Street Musician” by John Suler. Long exposures create ghost-like figures that seem to move through time and space.

Each successive frame of a movie is projected on exactly the same space—the screen—while each frame of comics must occupy a different space. Space does for comics what time does for film.

Scott McCloud,
Understanding Comics, 1994

TIME AND MOVEMENT

Photography, the ability to stop time while capturing an image using light, had its beginnings in the 1820s with the heliographic work of Joseph Nicéphore Niépce, and in the 1830s with the photogenic drawings of William Henry Fox Talbot and the daguerreotypes of Louis-Jacques-Mandé Daguerre. Motion pictures, the ability to recreate time and movement using a series of projected photographs, had their beginnings in the late 1800s. For some 20 years the analysis of motion by the camera was conducted by Eadweard Muybridge and Thomas Eakins in the United States, by Etienne Jules Marey in France, and by Ottomar Anschütz in Germany.

Photographers and cinematographers have this in common: both use cameras and film, and both take still pictures. The primary difference is that with a movie camera the cinematographer can take still pictures in a continuous mode at a rate of 24 pictures a second, while the photographer usually takes pictures one at a time (except for “burst” modes that are typically slower than 24 frames per second).

The photographer’s images are shown one at a time, while the cinematographer’s images are shown in continuous time. The photographer wishing to create the impression of time in a picture must do it with a single photograph or with two or more adjacent photographs. If the picture can convey movement or even the anticipation of movement, it can convey the sense of passing time. There are a variety of ways the perception of movement can be created in an image.

Eye Movement in Composition

Composition in photography entails controlling how the viewer’s eye progresses through the image. It establishes the rhythm for how the eye scans. Because the eye tends to move along lines, different types of lines create different subliminal feelings of movement. This effect is sometimes referred to as *vectors* or *kinetics*. Verticals go up and down to cooperate with or defy gravity; horizontals shift from side to side; diagonals cut across the scene with force and unresolved tension; curved lines, which continually change direction, present graceful flow or quick acceleration depending on their degree of bend; s-lines and zig-zags oscillate back and forth in either predictable or unpredictable fashions.

The Rhythm of Repeating Elements

This sense of movement comes from the rhythm of a visual element that repeats itself—for example, people standing in a line, a row of birds sitting on a tree branch, or chairs curving around a stage. Repeating patterns and

motifs can have a similar rhythmic feeling. Recurring elements create a sense of momentum and continuation, much like notes on a page of music. Your eye flows from one to another to another. It's a visual beat stretching across time and space.

Gradation

Gradated changes suggest movement—as in progressive changes of scale, shape, color, position, texture, tone, and complexity. Imagine a left-to-right line of bottles similar in shape, but decreasing in size from one to the other; a bright foreground that transforms to grayscale in the background; or a complex pile of paper clips that gradually tapers to a single isolated paper clip.

Gradation implies motion because it involves transition and suggests the passage of time in a visual sequence of events. There is a metamorphosis taking place—a feeling of before, during, and after. The bottle shrinks, the scene fades, one paper clip extracts itself from the pile. The eye follows gradation through the coherent progression to its natural conclusion.

Blur

With slower shutter speeds, a moving subject appears faint and blurry. The longer the exposure time, the more faint and blurry the subject becomes, and the greater the perceived movement. If the exposure is sufficiently long, the moving object seems to vanish, what photographers call *disappearance*. A small aperture and neutral density filters allow for long exposure times without overexposure.

In real life the eye naturally registers fast-moving objects as a blur. Because we're all accustomed to looking at photographs, we accept even the blur of a person walking as an indication of movement, even though in real life we'd see the person in focus. Blur is photo-speak for "motion" (Figure 4.17).

Sometimes it's the camera that's moving rather than the subject, as when we shake, pan, or wave it around while taking the photo. If there's any indication of something moving in the scene, like a person walking, then the sense of movement created by camera blur might supplement or complicate it. If the scene logically should be static, like a landscape, we might suspect the photographer was in motion rather than anything in the scene, as when shooting out the window of a moving car.

Blur filters in photo-editing programs like Photoshop come in handy for creating different types of movement sensations—including motion, zoom, and radial blur—with effects ranging from wildly extreme to so subtle that the viewer feels but cannot consciously verbalize it.

Multiple Exposures

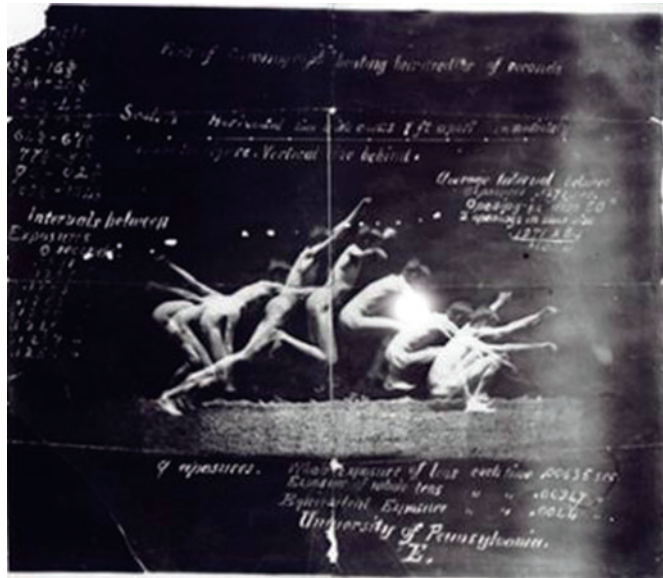


Figure 4.18 “History of a Jump” by Thomas Eakins.

Multiple exposures suggest movement in a still photograph. In studies for his paintings, Thomas Eakins photographed on a single plate successive stages of a man jumping, which he titled “History of a Jump” (Figure 4.18). The famous painting “Nude Descending a Staircase” by the French artist Marcel Duchamp (1912) also created this sensation of movement in the multiple, overlapping forms of the model’s body. The development of electronic stroboscopic flash by Dr. Harold Edgerton of MIT in the 1940s made the task of recording multiple images on a single sheet of film a routine matter for suggesting motion. In the digital age, multiple images can be layered on top of each other in photo-editing programs in order to create the impression of movement.

Motion in Stillness

Because we look at photographs all our lives, we’ve grown accustomed to the idea that they capture a moment frozen in time. Consciously or unconsciously, we assume there is a before and after that flow into and out of that moment, that this magically static instant comes to us from a world filled with change.

High shutter speeds that freeze the movement of people, animals, vehicles, rivers, balls, and all mobile things clearly let us know that the photo is extracted from a scene with action (Figure 4.19). The mind fills



Figure 4.19 High shutter speed photographs can create the impression of stillness in a scene that the mind recognizes as filled with action. Photograph by Ron Sartini, unsplash.com.

A basic problem in art is how to project action upon an immobile, flat surface.

Rudolf Arnheim

Gravity is the root of lightness; stillness, the ruler of movement.

Lao Tzu

in the rest. We humans are so acutely aware of our own body language that almost any photo of people encourages us to read movement into their postures, even if they are sitting, lying, standing. If you look at the last three words in that previous sentence, they are all verbs suggesting action, albeit subtle action, what psychologists who work with the Rorschach inkblot test call *passive movement*. Even the line-of-sight direction when people, animals, cameras, weapons, and so on are looking or pointing toward something—as well as someone or something facing a certain way—imply movement in that direction. Any photo that reminds us of gravity, like a rock perched on the edge of a cliff, implies a force that says “pulling down.”

Motion can be implied in a single still photograph by capturing the action at the precise moment the body transitions between stillness and mobility. Barbara Morgan’s ability to suggest motion in her still photographs of dancers in the early 1940s was referred to as “stillness and mobility” by Professor Rudolf Arnheim. So too Taoism, the ancient Chinese philosophy about how change occurs, referred to this as “stillness in motion.”

THE DECISIVE MOMENT

Stillness, motion, space, and time all come into play in what some photographers believe is the unique purpose of their craft as compared to other visual arts: to capture a fleeting, quintessential, and holistic instant in the flow of time. Henri Cartier-Bresson, one of the most famous photographers of all time, called it the *decisive moment*.

In 1952 Cartier-Bresson published *Images à la Sauvette*, which roughly translates as “images on the run” or “stolen images.” The English title of the book, *The Decisive Moment*, was chosen by publisher Dick Simon of Simon & Schuster. In his preface to the book of 126 photographs taken around the world, Cartier-Bresson cites the seventeenth-century Cardinal de Retz who said, “There is nothing in this world that does not have a decisive moment.” When photographers talk about their work, they often refer to this perfect instant frozen in time, perhaps even transcending time.



Figure 4.20 “Paris. Place de l’Europa, 1932” by Henri Cartier-Bresson (Magnum Photos). The iconic decisive moment photograph.

Since Cartier-Bresson, photographers have expanded, revised, and challenged the concept of the decisive moment, resulting in considerable complexity about what exactly it is. The idea has achieved an almost mythical, even mystical status. Below we will summarize ten of its features that have been proposed, using as an example Cartier-Bresson's famous photograph that some have called "The Puddle" (Figure 4.20), which was taken in a construction site behind the Gare St. Lazare train station in Paris in 1932. He happened to be peeking his camera through a gap in a fence just at the moment a man was about to jump over a puddle. Photographers consider it the iconic DM photo.

Capturing the Unique Fleeting Instant

Cartier-Bresson said he was not interested in "manufactured" or "staged" photography. He believed that life is fluid and that the fleeting moment is the essence of the DM photo. Specializing in situations that vanish, photographers forever fix that precise, transitory instant. Once that moment has disappeared, there is no contrivance on earth that can bring it back, except the photograph. The photographer has only a creative fraction of a second to see a perfect composition of life expressing itself, and to click the camera. Once you miss it, it is gone forever.

For Cartier-Bresson, who started out as a painter, the unrivaled ability of the camera to freeze the evanescent here-and-now made it the exciting medium of his time. Advocates of the DM believe that capturing such brief, unrepeatable events is what photography is all about. The DM photo can condense and solidify the seemingly confusing action in a scene, giving us time to explore the essence of that event, to organize our ideas and feelings around it. The icing on the cake is that the photographer catches the event at the precise moment, while standing in the right place, at the right time, with the best possible camera settings, in order to create the lighting and composition that resonates perfectly with the essence of that scene. It helps a great deal if photographers are fast on their feet along with general physical adeptness, especially in street photography. The DM photographer is not a klutz.

For these reasons, we can see why Susan Sontag in her classic book *On Photography* compared photography to hunting. The photographer tracks down and catches a very rare animal. One does it on the fly, on the run, and in the real world of action. It's no wonder that photojournalists and street photographers embrace the idea of the DM. In the preface to his book, Cartier-Bresson himself describes how he prowled the streets, ready to pounce, determined to trap life. We might consider how Cartier-Bresson's escape from a prisoner-of-war camp during World War II drove home in his mind the value of the fortuitous moment and being furtively on the run.

Photographing, for me, is instant drawing, and the secret is to forget you are carrying a camera.

Henri Cartier-Bresson

People think far too much about techniques and not enough about seeing.

Henri Cartier-Bresson

There are those who take photographs arranged beforehand and those who go out to discover the image and seize it. For me the camera is a sketchbook, an instrument of intuition and spontaneity, the master of the instant which, in visual terms, questions and decides simultaneously.

Henri Cartier-Bresson

*To take photographs
is to hold one's
breath when all
faculties converge in
the face of fleeing
reality. It is at that
moment that
mastering an image
becomes a great
physical and
intellectual joy.*

Henri Cartier-
Bresson

*I kept walking the
streets, high-strung,
and eager to snap
scenes of convincing
reality, but mainly I
wanted to capture the
quintessence of the
phenomenon in a
single image.*

Henri Cartier-
Bresson

*Photography is
nothing—it's life that
interests me.*

Henri Cartier-
Bresson

Some people claim that landscape, architectural, and especially studio photography do not produce DM photos. They consider it manufactured or staged photography. Professionals who do this kind of work might disagree. When dealing with the unpredictability of nature, precise timing that takes into account the movement of clouds, the sun, shadows, and the wind makes a big difference between a good photo and one that is a uniquely decisive moment. Although many portrait photos in studios appear posed, a skilled photographer knows how to anticipate the subject's behaviors, to catch them off-guard at much more natural moments when something essential about their personality reveals itself. The prepared backdrops for such studio work might not fulfill the DM criterion of a true-to-life scene, but that problem can be solved in environmental portraits taken in the subject's natural locales.

Candid Photos of People in Real Life

According to the tradition set by Cartier-Bresson in his street and journalistic photography, the DM photo is a candid photo of people in real life situations. Interested in both common laborers as well as the rich and famous, he emphasized the importance of capturing "the little human moments"—spontaneous actions, gestures, and facial expressions in everyday life that symbolized the archetypal struggles and triumphs of human existence. The puddle jumper is not simply a man trying to avoid wet feet; he is a timeless symbol for the human leap of faith into the unknown.

These DM photos are candid in that they depict subjects during moments of authenticity and openness, without rehearsal or pretense (see Figure 4.21). The situation is not contrived in any way. The subjects are not posing, nor aware of a photo being taken. The photo is taken on the run, slyly, furtively, or even "stolen." As a street photographer, Cartier-Bresson had a reputation for being the unobtrusive observer, like a fly on the wall, who did not interact with his subjects. When taking the photo of the puddle jumper, he was peeking through a fence. In a short article about the DM attributed to Peter Marshall (www.cathedralcatholic.org), Marshall said:

Years ago a photographer friend described to me how he had worked when she accompanied him as a guide in Ireland; he would position her between him and a likely subject, standing talking until he was ready to take a picture, his camera shielded by her. Rapidly the camera would rise to his eye as he photographed over her shoulder. Sometimes she was shoved abruptly and firmly out of the way. His single-minded approach to getting his picture offended some of his collaborators and occasionally those that he photographed - the jovial French farmer stretching out a hand to the photographer's companion in a 1955 picture was apparently shortly afterwards chasing him with a pitchfork!



Figure 4.21 “Life Stages” by John Suler. The archetypal theme of people following their paths through the stages of life, sometimes overlapping with the paths of others, sometimes not.

It seems dangerous to be a portrait artist who does commissions for clients because everyone wants to be flattered, so they pose in such a way that there's nothing left of truth.

Henri Cartier-Bresson

One has to tiptoe lightly and steal up to one's quarry; you don't swish the water when you are fishing.

Henri Cartier-Bresson

In order to obtain candid photos of people, the photographer must possess skills at being the invisible observer. This requires some physical adeptness, but also the psychological, visual, and spatial understanding of when subjects might notice you. How close can you get before they spot your attempt to snap a photo? What movements of yours might draw their attention? How do you follow interesting subjects without their knowing? Successful DM photographers must master the habits of a stealthful spy, or at least master the art of being an unassuming, benign presence that subjects invite, tolerate, or ignore.

Nowadays, the candid aspect of DM photography poses some problems. In this digital age of photos being taken everywhere, by almost everyone, in all kinds of public and private situations, with the option of posting pictures to social media for all to see, people have become wary about being photographed. If the goal of the DM photo is to capture a candid, spontaneous photo of people in an extraordinary moment—a moment that reveals some essential idea about that person or life in

To take photographs means to recognize—simultaneously and within a fraction of a second—both the fact itself and the rigorous organization of visually perceived forms that give it meaning. It is putting one’s head, one’s eye, and one’s heart on the same axis.

Henri Cartier-Bresson

In photography, visual organization can stem only from a developed instinct.

Henri Cartier-Bresson

We often hear of camera angles? (that is, those made by a guy who throws himself flat on his stomach to obtain a certain effect or style), but the only legitimate angles that exist are those of the geometry of the composition.

Henri Cartier-Bresson

general—how will the subject feel about it? Will it present them in a positive or negative light? How might people online react to the images of them?

To bypass these problems, the identity of the subject in the photo might be hidden or disguised, as in “The Puddle.” Nevertheless, some photographers feel stymied by the sticky ethical issues of DM photography. Some even believe the concept of the DM is now outdated.

Visual Coalescence

In the DM all the visual elements of the photo come together in resonance with each other to form a perfect composition. Balance, harmony, unity, the rule of thirds and the golden ratio, or any other important feature of good composition are quickly recognized and captured by the photographer on the spot, sometimes literally on the run. The ability to spontaneously execute this perfectly composed DM comes from training, experience, and intuition. It calls on the automatic memory of both mind and body working together seamlessly. It is second nature.

These ideas are reminiscent of Gestalt psychology, especially the concept of *Prägnanz*, which is how we organize experience according to basic perceptual laws in order to create balance, simplicity, and unity—what Cartier-Bresson meant by “geometry.” In “The Puddle,” we can certainly see a beautifully intricate collaboration of lines, angles, and circles—along with an interplay of light and dark, figure and ground—that all coalesce around the leaping man. The inversion of the image in Figure 4.22 can help you spot aspects of this geometry you might have overlooked. The experienced photographer who captures the DM possesses the ability to subconsciously notice these Gestalt phenomena emerging and interacting with each other for a brief moment of perfect harmony. They have developed an acute sensitivity to the temporal fluctuations of the Gestalt field.

Figure–Ground Relationships

As we discussed in Chapter 1, figure–ground relationships create a duality where the primary subject of the image (the figure) synergistically interacts and alternates with the background (the ground).

In “The Puddle” the leaping man immediately captures our eye as someone who might find himself in a wet predicament. However, the many subtle details of the background—such as the clock tower, the female dancer, the onlooker—encourage us to shift our attention back and forth between the man and his surroundings, looking for meaningful connections between figure and ground.

In the most fascinating DM photos we see this ongoing reversal in which the subject, for a period of time, becomes the focus of attention,



Figure 4.22 A tonal inversion helps us appreciate aspects of the elegant geometry and figure–ground relationships of “The Puddle” that we might have overlooked.

while at another point in the time the background becomes the focus, hence becoming the figure. The fact that the puddle–jumping man is darkly silhouetted makes him a perfect candidate to temporarily recede into ground while details of his surroundings become the figure. Once again, the image inversion of this photo in Figure 4.22 can help you see aspects of the figure–ground relationship that you might not have noticed.

In photography contests and online groups devoted to DM photos, the authorities running the show sometimes dictate specific rules about the background that adhere to these ideas about figure–ground relationships. The background should contribute to the overall composition. It should be in focus or at least clear enough to offer recognizable forms that contribute to a meaningful composition. Photos taken with a shallow depth of field to emphasize a central subject against an indistinct background might be good portraits, but they are not a DM. In response, one might argue that ambiguous shapes, colors, and textures in the background might

indeed activate interesting figure–ground interactions, as in a photo of a man about to finish off a tall glass of beer, with blurry things in the background reflecting his state of mind.

The Gap and Anticipating Closure

As we discussed in Chapter 2, the principle of closure states that the mind seeks completion of a visual figure and will anticipate that completion even when it doesn't exist. The law of closure is yet another example of how the mind expects integration, unity, and wholeness.

Our first thought might be that the DM photo is one in which the photographer captures the precise climactic moment of completion, when the mind feels perceptually satisfied. A more interesting idea is that the DM photo captures the action that is almost completed, the moment right before closure. According to the adage in show business, leave them wanting more, which is a variation of the *Zeigarnik Effect*, the tendency for unfinished activities to linger on our minds. Wedding photographers

Figure 4.23

“Street Corner” by John Suler. Taken from the passenger seat of a moving car, this photograph encourages us to speculate about the couple. Dick Zakia and I once discussed the ways this photo might and might not meet the various criteria of the decisive moment. What do you think?



often claim that the unforgettable photo is the second before the couple kisses, when their lips are just an inch apart. In “The Puddle,” it is the jumper’s foot just about to land that makes the image a DM.

In some DM photos the event suspended in time and space arouses our curiosity because the outcome is not entirely clear. Cartier-Bresson said that it questions and decides simultaneously. Will the jumper find himself ankle-deep in a puddle, or not? In Figure 4.23, will the man lift his dangling arm to embrace the woman, as she fully embraces him?

Some photographers believe that the anticipation of closure takes the form of a visual gap or interval of some kind—one that implies action, process, direction, and the flow of time, rather than finality. It is a special type of negative space, which always plays an important figure–ground role in composition. It is the empty space between the jumper’s foot and its landing, between the wedding couple’s lips, and between the finger of God and Man in Michelangelo’s painting of *The Creation*. In Figure 4.23, it’s the gap between the woman’s heels and the sidewalk, juxtaposed with the space between her and her man’s dangling arm. That gap generates a tantalizing feeling of expectation—and perhaps even frustration, as in the myth of Tantalus. Something important might or is just about to happen. The almost completed action draws the viewer into an image more powerfully than a finalized deed. It tempts the viewer with the hope of a Gestalt finale. In “The Puddle,” the almost completed circular formations of the debris in the water serve as inconspicuous reminders of our awaiting completion, unity, and closure.

In another famous DM photo taken from a high camera angle (Figure 4.24), Cartier-Bresson captured a speeding bicyclist on the street exactly at the moment he appears in the space between two buildings. It was precise



Figure 4.24
“Hyères, France 1932”
by Henri Cartier-
Bresson. Magnum
Photos.

timing on Cartier-Bresson's part, although the picture doesn't necessarily create an anticipation of an impending completion. Instead, the need for closure, as evident also in "The Puddle," takes the form of our having difficulty leaving that event frozen in time and space. The biker is captured in a suspended moment just after suddenly appearing and just before quickly disappearing from view. With the staircases pulling us down into the scene, we too are captured by that serendipitous moment because we cannot leave him there.

The One-Hit Wonder

We're not using this expression in the usual sense, as if suggesting a photographer attains fame by capturing one fantastic DM. Instead, it refers to how the photographer has one and only one chance at getting that DM photo—that fleeting, quintessential instant that transcends time. The amazing skill of Cartier-Bresson is that he achieved such one-hit wonders consistently, using wisdom, foresight, patience, devotion, exceptional eye/hand coordination, and without any rapid-fire camera.

Any out-of-the-ordinary post-processing might disqualify a photo as a DM, especially if anything is added to or removed from the composition. Cartier-Bresson forbade anyone to crop his photos, which is yet another testament to his skill at perfectly composed one-hit wonders. Ironically, "The Puddle" was one of the very few photos he did crop, but he felt he had no choice. As he was pointing his camera through the gap in a fence to capture the leaping man, part of the fence partially obscured the camera lens, leaving a vertical dark bar that cut the photo off on the left. He cropped out that bar.

The lesson learned? We should not be too concerned with the rule that no decisive moment photo is ever cropped.

Some photographers dismiss the DM as an outdated idea precisely because fast-burst digital cameras and video make it easier to capture the DM in a quickly changing scene. Out of all the images captured, there's a good chance one will be the DM. Cartier-Bresson himself did compare even the cameras of his era to a machine gun. Rather than a precisely timed, unrepeatable, one-chance photo, the DM photo might entail a process of selecting a particular image out of several—the photo that clearly stands out as the one in which the visual and psychological elements of a scene briefly came together in perfect resonance to express the essence of the subject matter.

Some photographers question just how successful Cartier-Bresson was at consistently capturing a DM. It seems impossible, they say, that he was either so lucky or skilled to achieve such a high hit rate. Perhaps he took many more photos than history realizes, relying on cherry picking the best ones after the fact—not unlike what many photographers do. However, given the many superb DM photos taken by Cartier-Bresson that have

You shouldn't overshoot. It's like over-eating or over-drinking.

Henri Cartier-Bresson

It's seldom you make a great picture. You have to milk the cow quite a lot to get plenty of milk to make a little cheese.

Henri Cartier-Bresson

withstood the test of time, many photographers can't help but admire his artistic and technical skill. Others find it so difficult to even spot a DM that they give up on the idea of ever capturing one.

Many photographers are familiar with the strategy of setting up a perfectly composed scene through the viewfinder, then waiting for unknowing subjects to enter into it. If you take enough of these photos, you just might capture a DM when a particular person, wearing particular clothes, carrying a particular object, or in a particular posture, resonates in a meaningful symbolic way with your composition of the scene. Although this strategy does not meet the standard of taking photos on the run, some photographers consider it a DM.

Hardcore advocates of the DM will hold true to the purest interpretation of this concept. They believe that photographers should not use their cameras as if shooting video, recording as many images as possible in the hopes of capturing a DM somewhere in the mix. Nor should they wait for interesting things to happen in their predetermined composition. Instead, always take photographs with the mindset that you have only one chance. There is only a single photo that counts—the one that happens spontaneously, without deliberation, when the subconscious mind intuitively resonates with the surfacing of a unique moment.

Creating and Losing Oneself

The DM photo pinpoints the factual reality of the scene, but through the subjective viewpoint of the photographer. Being people-smart as well as insightful into their own psyches, DM photographers capture reality through the expression of their personal thoughts and feelings. It is the intersection of reality with the mind of the photographer. One has to be personally involved in the image while also abandoning the awareness of oneself. Photographers who talk about the decisive moment often describe their experiences in ways that resemble *mindfulness*—the state of mind in which they are totally aware of their surroundings, at one with it, losing themselves in it, not thinking, planning, desiring, or expecting anything, but simply experiencing what is happening around them, ready to spontaneously and intuitively capture the moment. We will return to the concept of mindfulness in Chapter 11.

There will always be individual differences in the attribution of meaning to a photo. For the DM photo, we should not concern ourselves with finding a specific idea being depicted, but rather with the variety of archetypal ideas concerning human existence that the photo embodies. Cartier-Bresson said, "I don't know what it means to be dramatically new. There are no new ideas in the world, there's only new arrangements of things. Everything is new, every minute is new. It means reexamining."

Finding meaning is more than intellectual interpretation. It embodies emotion. The power of the DM photo rests in its ability to activate

In order to give a meaning to the world, one has to feel oneself involved in what one frames through the viewfinder. This attitude requires concentration, a discipline of mind, sensitivity, and a sense of geometry—it is by great economy of means that one arrives at simplicity of expression. One must always take photographs with the greatest respect for the subject and for oneself.

Henri Cartier-Bresson

It [photograph] is a way of shouting, of freeing oneself, not of proving or asserting one's originality. It is a way of life.

Henri Cartier-Bresson

*I'm not responsible
for my photographs.
Photography is not
documentary, but
intuition, a poetic
experience. It's
drowning yourself;
dissolving yourself;
and then sniff, sniff,
sniff—being sensitive
to coincidence. You
can't go looking for
it; you can't want it,
or you won't get it.
First you must lose
yourself. Then it
happens.*

Henri Cartier-
Bresson

*I believe that,
through the act of
living, the discovery
of oneself is made
concurrently with the
discovery of the world
around us.*

Henri Cartier-
Bresson

*Chance favors the
prepared mind.*

Louis Pasteur

feelings. The image possesses what Roland Barthes called “punctum”—an emotion that pierces the viewer. The subtle cues in its composition deepen and expand the nuances of the emotion being expressed. The emotional reaction might be powerful but hard to articulate, because its origin is unconscious. We are all familiar with the unpleasantly cold and soggy experience of stepping into a deep puddle, as well as the tiny triumph of leaping over it. We are also all familiar with the drippy failures and exuberant successes in life, while others in the background watch us or make leaps of their own.

The Hour Leading to the Decisive Moment

There are no photographers, even great ones, who go out with their cameras, take one spectacular DM photo, and return home. The DM image emerges in the context of an entire photography excursion. Some lead to a great DM photo, and some don't. Is there a difference between the two?

Psychoanalysts talk about the “Good Hour”—a term originally proposed by Ernst Kris in his classic 1956 article “On Some Vicissitudes of Insight in Psychoanalysis” published in *The International Journal of Psychoanalysis*. The Good Hour starts off with emotional tension—such as anxious anticipation, doubt, or frustration. That tension provides the energy that pushes one's mind toward meaningful insights. What people suddenly experience comes from an unconscious realm where it was already prepared, formulated, and integrated—a kind of subconscious incubation stimulated by previous psychotherapeutic work. In this Good Hour people feel autonomous in their search for meaning, as opposed to the “Pseudo-Good Hour” when they believe they have gained an insight, but actually their perception is motivated by the need to please someone, gain praise, or defy an authority.

During their Good Hour, photographers might also start off feeling tension, like Cartier-Bresson who walked the streets high-strung about snapping convincing scenes of reality. Some artists say they often begin their work session feeling doubt, frustration, anger, grief, or any other negatively tinged emotion. That energy catalyzes their artistic insight, which is for the photographer the sudden realization of the DM. It's not about getting that great photo to impress others or to prove oneself. It is that instant when subconsciously incubated ideas about oneself and the human condition suddenly coalesce around one's insight into visual elements of the scene. It is the “Aha!” moment of clarity.

Kris believed the psychological processes occurring during the Good Hour in psychotherapy resemble those in artistic endeavors, while Cartier-Bresson compared photography to the psychoanalytic couch. As we will discuss in Chapter 11, photographers consider their work to be personally therapeutic. “The Puddle” is not just a photo of a man leaping over water that symbolically captures the human condition. It is also

Cartier-Bresson's insight into his own life—perhaps at some level a realization of what it must have meant for him to escape from a Nazi POW camp.

The Myth and Reality of the Decisive Moment Photo

Now that we've explored these features of a DM photo, we have to ask ourselves how many photos entail all of them. It might be a very rare bird. The more criteria met by a particular photo, the more likely people will perceive it as a DM. Obsessing about them, however, will only block the state of mind leading to a DM photo.

Each online photo-sharing group devoted to the DM tends to define it differently. Some have very strict, meticulous rules. Some offer a simple definition, such as, "Have you been blessed by space and time, to have pressed the shutter button at exactly the precise moment to get the perfect photo?" Others simply refuse to explain it at all. Like Justice Potter Stewart's comment about pornography, these groups imply, "I don't know how to define it, but I know it when I see it." If you visit these online groups, you will see almost every kind of image you can imagine: people suspended preposterously in midair, spectacular sunsets, animals performing strange acts, and balloons popping.

The DM is an artistic, philosophical, and poetic concept about life as the flow of time. It is about the magical transcendence of time made possible through the photograph. Although it is not easy to pin down with any specific definition, it very well might be the one thing that makes photography unique. Several weeks before he died, Dick Zakia told me something that summed it up beautifully: "More and more I am beginning to think the photos that have taken on a life of their own must be the decisive moment."

*A human being is
part of a whole,
called by us the
"Universe"—a part
limited in time and
space.*

Albert Einstein

*Two men were
arguing about a flag
flapping in the wind.
“It’s the wind that is
really moving,” stated
the first one. “No, it
is the flag that is
moving,” contended
the second. A Zen
master, who
happened to be
walking by,
overheard the debate
and interrupted
them. “Neither the
flag nor the wind is
moving,” he said, “It
is mind that moves.”*

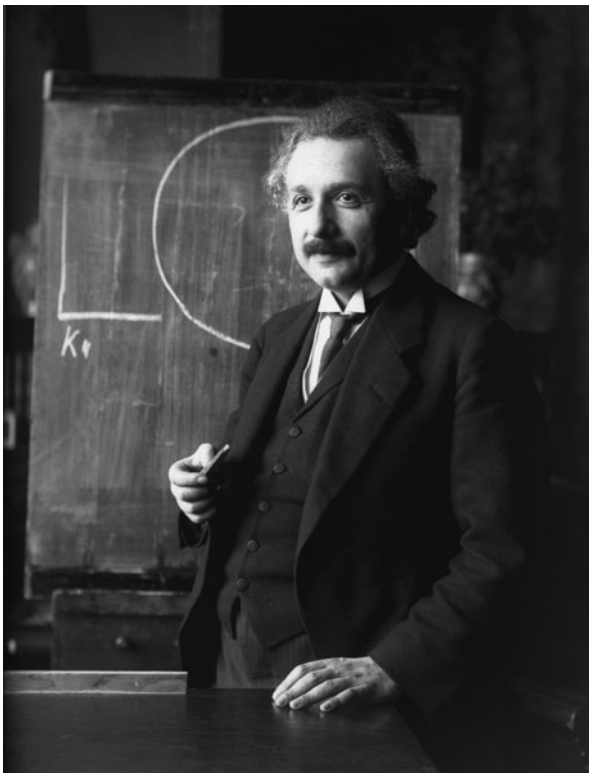


Figure 4.25 “Albert Einstein, 1921” by Ferdinand Schmutzer. An Austrian photographer and engraver, Schmutzer took this photograph of Einstein in 1921, the year he won the Nobel Prize for Physics. Schmutzer was a member of the Vienna Secession that wanted to explore art outside the confines of academic tradition, to create a new style that owed nothing to historical influence. So too Einstein’s theory transcended conventional thinking by demonstrating the interdependence of space, time, and movement—an insight that inspired many thinkers and artists, including photographers who strive to capture time, space, and movement in a still, two-dimensional image.

KEY WORDS

anisotropic	golden section	motion perspective	rule of thirds
closure	good hour	neutral density filter	transparency
convexity/concavity	interposition	passive movement	vectors/kinetics
decisive moment	isotropic	power points	Zeigarnik effect
disappearance	linear perspective	Prägnanz	
figure–ground	motion parallax	punctum	



5 Color

Mere color, unspoiled by meaning, and unallied with definite form, can speak to the soul in a thousand different ways.

Oscar Wilde

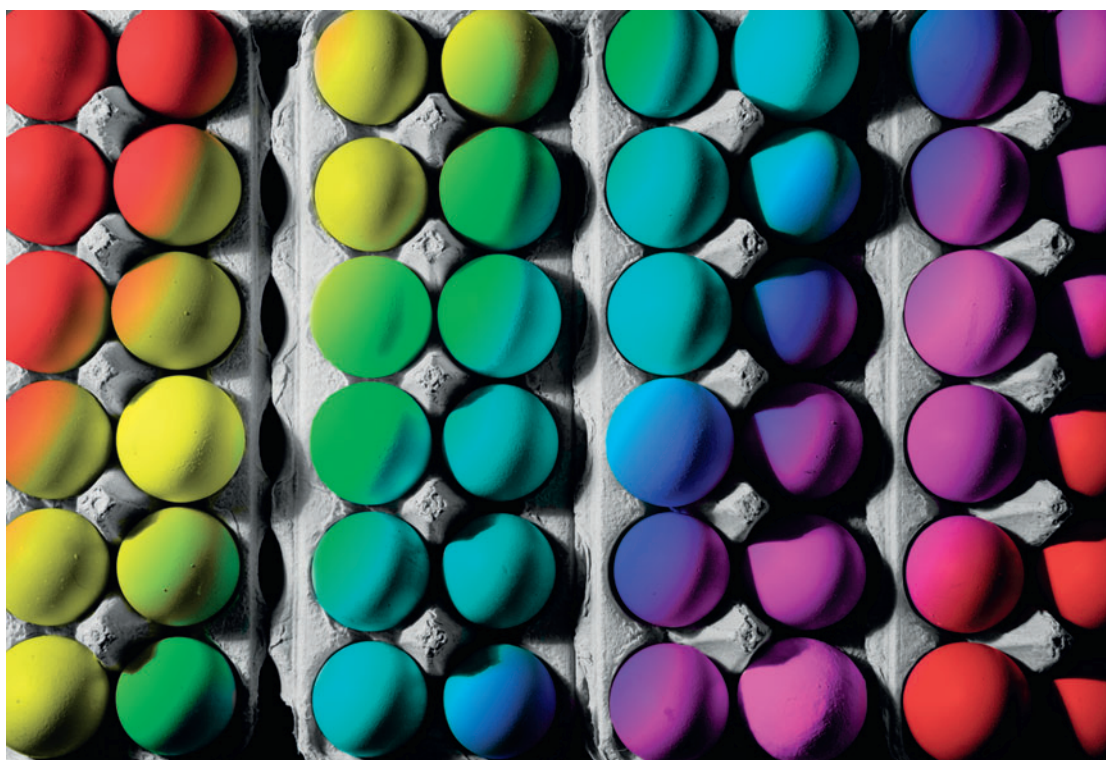
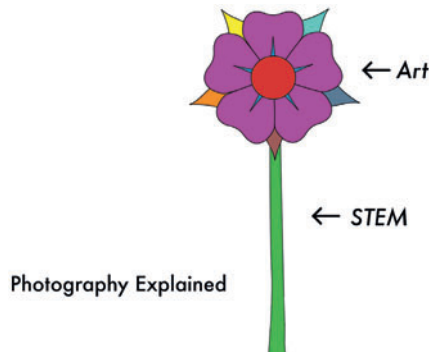


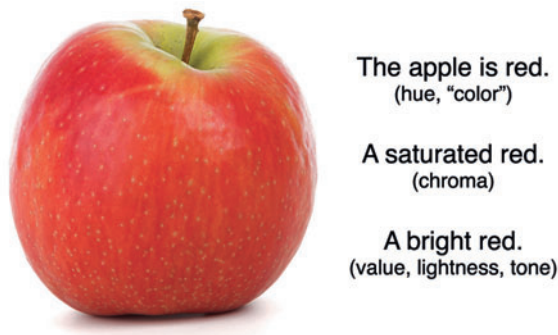
Figure 5.1 “The Birth of Color” by John Suler.

**Figure 5.2**

The complex technical and artistic aspects of color make it one of the most fascinating aspects of photography and image-making. In this chapter we will see how the artistic use of color in photography rests on the complex science, technology, engineering, and math involved in defining and creating color in photographic images (Figure 5.2).

Similar to space, color has three dimensions or attributes:

- *Hue* is what we usually think of as “color.” If you move the slider that controls hue in an image editing program, you will see changes from one color to another.
- *Saturation*, also known as *chroma*, is the intensity or purity of a color, which is determined by how much gray is added to it. Move the slider for saturation to its two extreme positions and the image will be intensely colored or completely grayscale (a simple method to create a black-and-white image from a color one).
- *Lightness*, also known as *brightness*, *value*, or *tone*, is the degree of brightness of an image, which is determined by how much white or black is added to it. Move the brightness slider to its extreme positions and the image will begin to turn white or black.

**Figure 5.3** The three dimensions or attributes of color. Photograph by Petr Kratochvil.

Color is a visual experience dependent on light—if there is no light, there is no color. The familiar statement that black is the absence of color is incorrect: black is a color, as are white and grays. They are all *neutral* or *achromatic* colors that have no hue. Black-and-white photography records only the lightness dimension of color. The zone system is based on the ability to visualize and photographically control the brightness dimension of color in tones of blacks, grays, and whites.

COLOR NOTATION SYSTEMS

Physical measurements such as distance, temperature, and time are relatively easy to make. They do not require a human observer. Color measurements are a different matter. Color is a visual experience dependent on a human observer, as is the perception of sound, smell, taste, and touch. Remember this tricky question: “If a tree falls in a forest when no one is there, does it make a sound?” Without a human observer, there is no sound, no noise to be heard, even though physical vibrations can be recorded.

Color can be measured in a number of different ways; the most sophisticated being psychophysical measurements such as those used in the CIE system. Such measurements include a human observer. An analogy may be useful here. The temperature on a winter day may be a cold 32°F (0°C). That is strictly a physical measurement using a thermometer. The wind chill, however, may be (feel like) a colder 20°F. That is a psychophysical measure.

Munsell System

A number of different methods are used to specify color. One of the earliest is the *Munsell system*, which is an international standard. In 1905 Albert Munsell, a painter and art teacher, published his first edition of *A Color Notation*. Because disagreement on how to identify colors caused a multitude of misunderstandings among his colleagues, he decided to establish a standardized visual system. He prepared hundreds of color chips having different *hues*, which he described as the “name of the color”; different *values* or lightnesses from black to white; and different *chromas*, how strong or intense a particular hue is. The chips were first arranged in terms of their hues (reds, yellows, greens, blues, and the in-between hues). Then each grouping of hues was arranged in terms of its values. For example, green hues were arranged from the darkest green to the lightest. The next arrangement was the most difficult, grouping all the chips having the same hue and value according to their chroma or saturation. At one end green chips having the same value or lightness were arranged so that they went from a near-neutral green to a strong vibrant green—one that was highly saturated.

*Munsell notations
can be converted to
CIE and vice versa.*

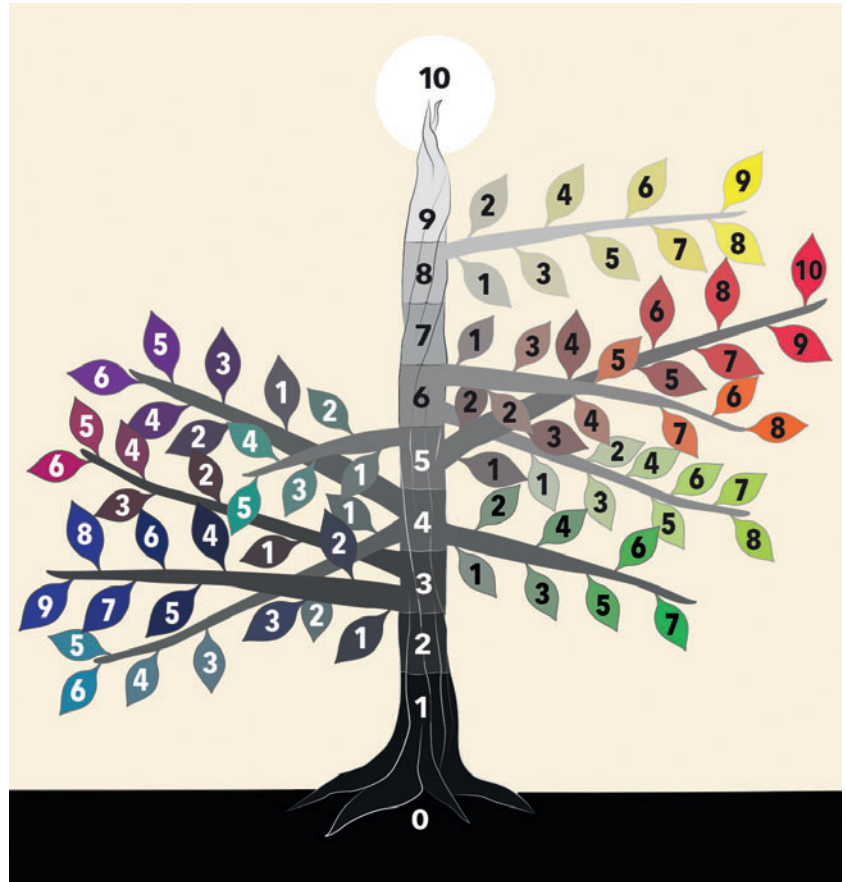


Figure 5.4 The Munsell color tree has a vertical trunk that represents a scale of values, branches that represent different hues, and leaves extending along the branches that represent chromas. The hues change as you walk around the tree, the values increase as you climb up the tree, and chromas increase as you move out along the branches. Illustration by Kira Suler.

Munsell used the metaphor of a tree to illustrate the relationship between hue, value, and chroma, as seen in Figure 5.4. It presents a useful visual mnemonic for remembering that color occupies a three-dimensional space. The trunk of the tree represents values/lightnesses from 1 as black to 9 as white. On the extended branches around the tree hang leaves indicating the various hues: yellow, red, yellow-red, and so on. Note that the leaves are in various positions on the branches, some are close to the trunk and some at the extreme of the branches. This shows that some hues can be more saturated, have a higher chroma, than others. Munsell indicates this by assigning numbers to the leaves on the branches. Some of the numbers go higher than others. The numbers on the leaves farthest from the trunk indicate the maximum chroma possible for a particular hue. Red,

for example, can be highly saturated with a chroma of 10, while green can only reach a chroma of 7. To specify a particular color using the Munsell tree, one would first indicate the hue, then the value, then chroma. For example, a color having a green hue, a value of 4, and a chroma of 5 can be written as “Green 4/5” (hue value/chroma, HV/C). A darker green would be “Green 3/5,” and a lighter one, “Green 5/5.” The hue and chroma would be the same but the lightness would differ.

Figure 5.5 shows hues in a circle, around a neutral axis rising from black to white with chroma increasing as it moves away from the neutral center post. For a middle gray value, the warmer colors reach a greater chroma than the blue-green colors.

Newton named seven colors, which corresponded to the seven tones on a diatonic musical scale: red, orange, yellow, green, blue, indigo, and violet.

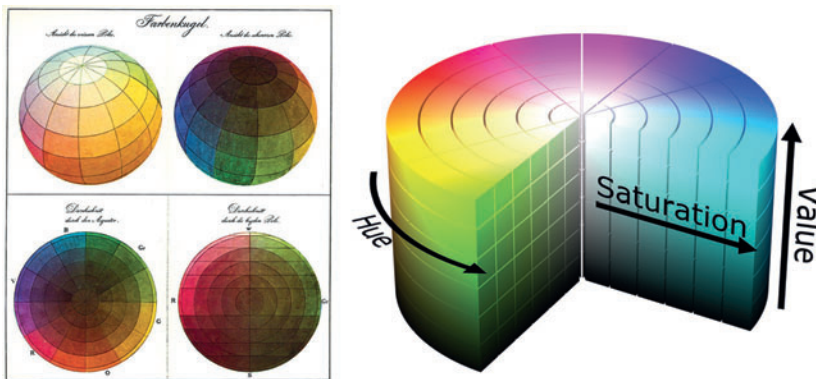


Figure 5.5 The Munsell color space. Color sphere by Philipp Otto Runge (1810). Illustration by SharkD.

The Munsell system is unique because it is based on *equal color differences*. Munsell selected and arranged each color chip so that the intervals between chips would be visually equal in adjacent hue, value, and chroma. For additional information, visit www.munsell.com.

Color sells . . . the right color sells better.

Advertisement

Pantone®

The *Pantone® Color Formula Guide* is a practical color-naming system for printing inks, similar to the color swatches found in paint stores to name paint colors. The *Pantone Guide* is a book of color swatches containing more than 1000 Pantone spot-color ink mixtures, each having a number for identification and communication (see Figure 5.6).

The ink mixtures are available on coated or uncoated paper, and on a matte surface. The number of a particular color swatch is used to communicate to a printer the mixture of inks necessary to produce the sample color. The result is usually a good approximation to the color on



Figure 5.6 Pantone Color cards. Photograph by Yanis Ladjouzi at pixabay.

the reference swatch. Pantone also has available *Pantone Matching System Colors for the Web*. This is authoring software for both Macintosh and Windows computers. More information is available at www.pantone.com.

CIE System

In 1931 the *CIE system* of color specification became an international standard for colorimetry—the measurement of color. The letters CIE stand for Commission Internationale l’Eclairge (The International Commission on Illumination).

Combinations of colors judged offensive a few years ago are in style now.

Roger Remington

Color specification with the CIE system differs from that of the Munsell system in that a mixture of red, green, and blue light is used in varying amounts to match a given sample. It is a matching system of color specification. A standard colorimetric observer is used to adjust the amounts of red, green, and blue light that will match a known sample of color. The observer views the colors through a small aperture. The colors viewed are not surface colors but rather aperture or film colors. They have no surface characteristics. The numerical data derived from a large number of matched samples are mathematically manipulations and transformed into a graphic representation, as seen in Figure 5.7.

CIE Chromaticity Diagram

Chromaticity refers to two of the three attributes of color—hue and chroma. The first thing to notice in Figure 5.7 is the traditional x and y (horizontal and vertical) axes for plotting two variables. The periphery of the horseshoe shape represents the maximum saturation for any given color and is indicated numerically by the wavelength of the color. For example, 480 nanometers (nm) lies in the blue area, 520 nm is in the green area, and 590 nm in the red area. No colors exist outside the horseshoe corral.

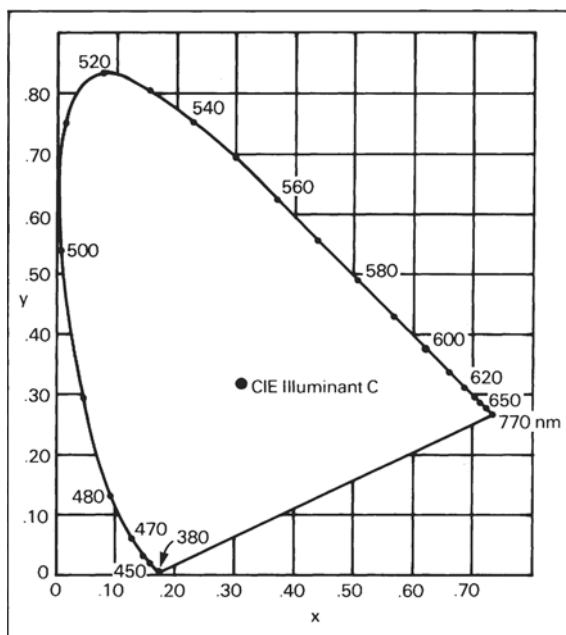


Figure 5.7 CIE chromaticity diagram, a two-dimensional representation of chrominance (hue and chroma) for a particular color at a certain level of luminance (value, brightness), and a specific CIE standard light source. All possible colors are contained within the horseshoe shape.

The x and y axes are used to plot the chrominance of any color. The plot will fall somewhere within the horseshoe. The closer the colors fall to the periphery of the horseshoe shape, the higher the chroma and therefore saturation.

By plotting a large number of different colors that an imaging system such as a printer or screen can reproduce, a range of colors called a *gamut* can be mapped within the horseshoe corral. In this way it is possible to compare the gamut of colors that can be reproduced by various imaging systems. For example, different colorants C, Y, M, K (dyes, inks, toners) or R, G, B phosphors can be tested to see if they extend the gamut of colors a particular system can reproduce. Will some color be better reproduced than others? Can the reproduction of some colors be sacrificed for the improvement of others? Comparisons can be made among different sets of inks to see which one will provide the widest range of colors (the largest gamut).

Gamut—the complete range of something such as colors (color space).

Luminance (Value and Brightness)

The CIE diagram shown in Figure 5.7 is for just one level of luminance. For every other levels of brightness, another two-dimensional map would

be needed. In looking at the CIE diagram, imagine a vertical axis (perpendicular to the diagram) analogous to the tree trunk in the Munsell tree. One can imagine a pile of such horseshoe-shaped diagrams representing the chromaticities at various luminances from black to white. This would generate a three-dimensional space. What would such a color space look like? It certainly would not be symmetrical. The shape would change as the pile moves from the lowest luminance to the highest.

How the shape might change can be seen in the asymmetry of the three-dimensional color space for Munsell colorants, as illustrated by the Munsell color solid shown in Figure 5.8. For a given level of luminance (value), there is a limit to the saturation (chroma) a particular hue can display. At high levels of luminance, yellows have the highest chroma and blues the lowest. At the lower levels of luminance, blues do much better. This is shown in Table 5.1 in terms of Munsell notation.



Figure 5.8 The Munsell color solid.

TABLE 5.1 Munsell notation for two colors

Color	Hue	Value/ Chroma
Yellow	5Y	8/11
Blue	7.5PB	2.9/12.8

Naming Colors within the CIE Map

Figure 5.9 illustrates how groupings of colors would be located on the CIE chromaticity map. Notice that the largest segment of color is in the green location; green being the color to which the eye is most sensitive. The light source used was a CIE illuminant C, daylight. Had a different light source been used, the arrangement of colors would be somewhat different. The various CIE standard light sources and their *correlated color temperatures* (CCTs) are listed in Table 5.2.

CIE illuminant A, having a color temperature of 2856 K, approximates the color temperature of a 100-watt tungsten lamp. Photographic daylight (sunlight plus skylight) is 5500 K. D50 with a CCT of 5003 K represents average daylight and is often used in the graphic arts. D65 having a CCT of 6504 K also represents average daylight and is used in colorimetric measurements. The F series of fluorescent standards is broken down into 12 types, three of which are shown in Table 5.2.

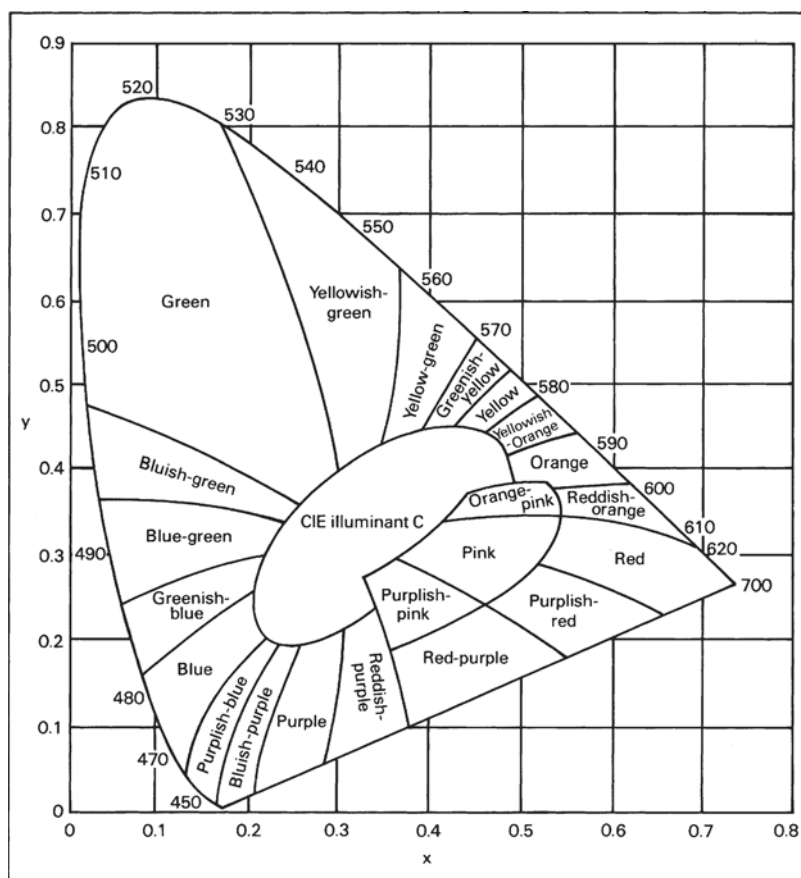


Figure 5.9 The CIE chromaticity diagram with approximate locations of various colors when viewed under CIE standard illuminant C. “The color names . . . have been suggested by Kenneth L. Kelly of the National Bureau of Standards.”¹ The area labeled CIE illuminant C represents a somewhat neutral area. Moving away from this neutral area, the colors become progressively more saturated.

TABLE 5.2 Standard CIE Illuminants

CIE illuminant A	2856 K (Kelvin)
CIE illuminant C	6774 K daylight (CCT)
CIE illuminant D65	6504 K daylight (CCT)
CIE illuminant D50	5003 K daylight (CCT)
CIE illuminant F2	4230 K cool-white fluorescent (CCT)
CIE illuminant F8	5000 K fluorescent (CCT)
CIE illuminant F11	4000 K triband fluorescent (CCT)

*Color! What a deep
mysterious language,
the language of
dreams.*

Paul Gauguin

Color Gamuts (Color Space)

The gamut of any medium for reproducing colors will fall somewhere within the horseshoe space, as shown in Figure 5.10. Notice that the gamut of colors that can be reproduced at a particular level of luminance is less than the colors the human eye can see, which is represented by the boundaries of the horseshoe shape. The shaded area represents colors that can be seen but are not reproducible. Every color reproduction medium has this limitation.

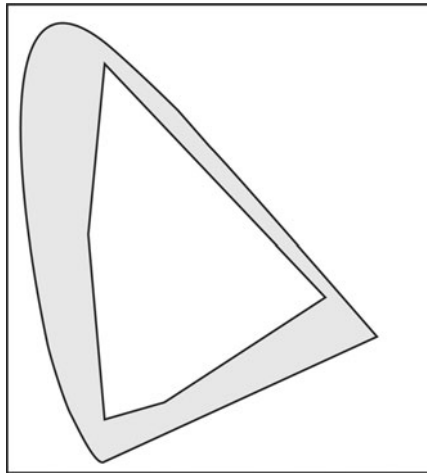


Figure 5.10 The white area represents the gamut of reproducible colors possible for a photographic transparency film at one level of luminance, the color space. The gamut will be different at different levels of luminance and for different films.

*The gamut of green
colors is the largest
discernible by
humans.*

*An ideal cyan dye or
ink would absorb
only red light.*

The CIE system is very useful as an international standard for assessing how well a particular color reproduction system can reproduce colors: photography (prints and transparencies, using different C, M, Y dyes), video monitors (using different R, G, B phosphors), and printing systems (using different C, M, Y, K inks, dyes, toners, and papers). Figures 5.11A and B illustrate the color gamut for a particular set of R, G, B phosphors and a particular set of C, M, Y, K inks.

After reviewing the color gamuts in Figures 5.10 and 5.11, we see that the ranges of colors that can be reproduced by films, monitors, and printers vary and are limited. Transparency film can reproduce the most colors, and a press printer the least. The colors on a monitor are *illuminant colors*, red-, green-, and blue-emitting phosphors. The prints from an inkjet printer or press printer are surface colors reflected and not absorbed by the cyan, magenta, yellow, and black colorants.

The limited range of colors that a press printer can reproduce compared with a monitor or film is quite acceptable in practice, as long as side-by-

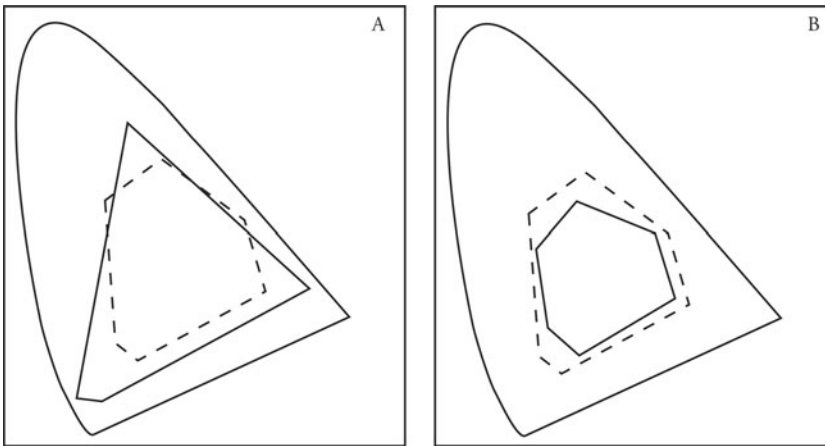


Figure 5.11 (A) Gamuts of reproducible colors for a particular monitor (solid lines) and inkjet printer (dashed lines). The gamut of colors is for one level of luminance and will be different at other levels as well as for different monitors and printers. (B) Gamuts of reproducible colors for a particular inkjet printer (dashed lines) and a press printer (solid lines) at one level of luminance.

side comparisons are not made. Reproduced images in magazines, for example, are well received. Even color reproductions in newspapers, which use a lesser quality of paper, are acceptable when seen without comparison.

Figure 5.12 compares the reproducible colors using Adobe sRGB (red) with sRGB (blue). The color space for Adobe extends further into the green and cyan area, which means that greens and cyans will be more saturated,

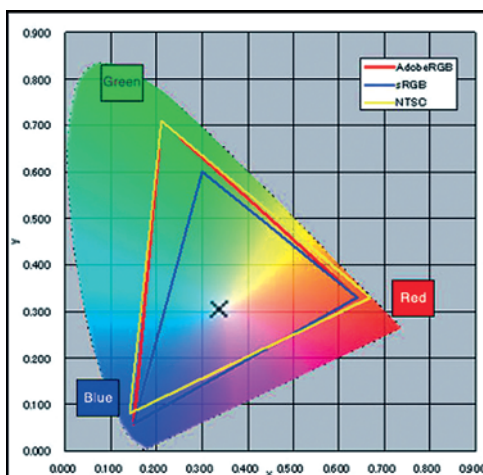


Figure 5.12 Color spaces for Adobe sRGB (red), sRGB (blue), and NTSC (yellow).

more intense. The NTSC (National Television Systems Committee in yellow) has a color space that is similar to Adobe.

The sRGB color space was designed for the web. The s stands for standard and the size of its color space approximates that of most device screens. Although it is relatively smaller than aRGB (a for Adobe) it is large enough for most color applications. The aRGB color space, however, covers more of the colors that can be produced on a printer using C, M, Y, K inks.

Is aRGB preferred over sRGB for printer use? Part of the answer is that it depends on the printer, the inks, and the printing paper. If one is using a high-quality printer capable of reproducing colors outside the sRGB color space, aRGB is the better choice, especially for greens and cyans. However, there are other factors to consider if the print is to come close to what is seen on the monitor screen.

Transferring color information from the camera to the final print requires a color profile, a set of data that describes how each component—camera, RAW converter, computer, monitor, Photoshop workspace, and printer—will handle the color space. Printing inks and paper must also be considered. All the separate components must work harmoniously together to create a high-quality color print.

COLOR PERCEPTION

At this point in the chapter, we can appreciate how complex color is. In addition to differences in the various technical systems for designating and reproducing color, a variety of other factors also influence our color perception.

The Visual Field

Assume a person is looking at a color image on a device screen. If the field of view is restricted to just the screen and nothing more, the image will have a certain look. If the visual field is now extended to include the frame of the screen, the perceived image will look a bit different, depending on the width and color of the frame. If the view is extended further to include the area around the screen, the perceived image will again change. For highly critical color matching, as in postproduction editing work, the area surrounding the computer monitor is kept clear of objects, with the wall of the room being an 18 percent neutral gray.

Another factor is the level of the ambient light in the room and its color temperature. Is the lighting tungsten, fluorescent, daylight, or combinations? These same variables come into play when viewing images in a gallery or at home. Color is a slippery chameleon and changes as the viewing conditions change.

Flare Desaturates Color

The light reaching your eyes from an image on a device screen consists of the light being emitted by the phosphors on the screen, mixed with any ambient light reflected from the glass surface of the screen. This ambient light, called *flare*, tends to desaturate the colors of the image. The stronger the amount of light falling on the screen and entering the eyes, the greater the flare and therefore the greater the desaturation.

For critical color work, a black hood can be constructed around the screen to shield it from flare, similar to a lens hood on a camera. When used outdoors, digital cameras with LCD screen displays suffer most from stray light. Screen hoods for digital and video cameras help minimize the problem.

Flare is also a problem when looking at prints in a gallery or any room. The next time you visit a gallery, try this: Cup your hands over your eyes to block some of the overhead light illuminating the print. Your hands will shield your eyes against flare light from above as well as from the sides. Due to reflections from the print, some stray light will still enter your eyes, especially if it is glass covered. Nevertheless, you will be delightfully surprised with the improvement in the colors you see—but don't be surprised if other people in the gallery give you puzzled glances.

The eye is the only valid instrument for measuring color.

Reduce flare by cleaning the glass on your screen.

Color Test Chart

To test how well a particular imaging system can faithfully reproduce colors, or to compare one system against another, some type of reliable color test chart is needed.

Ideally, the chart should have a representative range of colors and a scale of neutrals from black to white. One such color test chart is the *GretagMacbeth ColorChecker*. It consists of 24 color samples in a 6×4 array, similar to Figure 5.13. The color samples are close visual matches to real



Figure 5.13 A ColorChecker chart. Photograph by ColorScientist.

*Please remember that
no two monitors have
exactly the same
palette or contrast.*

Arnold Gassan

*In visual perception,
a color is almost
never seen as it really
is—as it physically is.
This fact makes color
the most relative
medium in art.*

Josef Albers

objects such as foliage, skin tones, and blue sky. It has the added feature that the colors are specified in Munsell notations as well as CIE notation and National Bureau of Standards (NBS) color names. Dark colors such as purple have a low Munsell value 3 and a low CIE luminance value Y of only 7 percent. Yellows, on the other hand, have a high luminance and Munsell value. A yellow with a Munsell value of 8, for example, has a luminance of 59 percent.

The results of a test can be subjectively judged by simply comparing the test print to the ColorChecker colors to determine which colors reproduced best, including neutral colors. Care should be taken that the surface of the test print is similar to that of the ColorChecker. One would not test a glossy color print against a matte print, unless one was interested in how the surface of a paper affects the colors. Because the color samples in the ColorChecker are quantifiable in terms of CIE and Munsell notations, quantitative measures of the test print can be made and compared.

Tests using the ColorChecker can be helpful in simple comparisons, such as deciding whether to purchase a new color printer, a different set of inks, or higher-quality paper. First determine how well your present system will reproduce the colors in the ColorChecker, and use your findings as a reference. Then change one component of your imaging system, for example the inks, and judge the results. The comparison may reveal that the new set of inks is better for some colors and not others. Decide which colors are most important for your work. A portrait photographer would certainly require the best dark and light skin colors possible, while a landscape photographer would be more interested in how well blue sky and green foliage reproduce with the new inks.

After the testing is done with the ColorChecker, it would be advisable to actually capture images outdoors or indoors to judge how well the test results stand up in practice. Such a test is purely subjective and dependent on memory, because one cannot compare the captured images with the original scene. Nevertheless, it is a worthwhile procedure. Not only are there a greater range of color surfaces and textures but also shadows. Further, the ColorChecker colors are all object or surface colors. In nature, other color modalities are represented: *volume color* (water), *aperture color* (sky), and sometimes *illumination* and *illuminant colors*.

If a ColorChecker or equivalent is not available, you could instead collage a grouping of color samples and customize your own test chart using things such as paint chips from a local paint store, samples of cloth, pieces of tree bark, and the like.

The GretagMacbeth ColorChecker contains only 24 color samples of a much larger color space. This is somewhat of a limitation but a necessary practical one because of size constraints. For digital color testing, GretagMacbeth now has available ColorChecker DC, which consists of 180 color samples including some high-gloss colors. The new ColorChecker is

based on color standards developed by the International Color Consortium (ICC) and CIE. It can be used for testing color on a digital scanner, camera, or printer.

Color Reproduction

Light fills our atmosphere, but we are unaware of it because it is invisible until reflected from some surface. Outdoors it is sunlight and skylight; indoors it is tungsten, fluorescent, or halogen. All of the colors we see around us are a result of the selective filtering of the variety of colors that already exist in the white light that comes from the sun. Every color that we see already exists in that white light. When white light reflects from a surface such as grass, the grass acts as a green filter, absorbing all the colors in the white light except the green, which it reflects. This is why grass is green. Bananas are yellow because they act as a yellow filter; tomatoes, as a red filter; and so on.

The fact that white light contains all the colors was demonstrated by Sir Isaac Newton in 1666, and even earlier by Leonardo da Vinci. Newton directed sunlight into an optical prism, which separated the white light into its various components; red, orange, yellow, green, blue, and violet. A rainbow is produced in the same manner: sunlight on small water droplets suspended in air separates into a spectrum of colors from red to purple.

If white light can be separated into its various colors, then the reverse is also true. When mixed, colors result in white light, although it is not necessary to mix all of the colors to create white light. We need only three: red, green, and blue. If this were not the case, color reproduction in any one of the mediums that reproduce color—photography, printing, film, video, and so on—would be much more complicated.

The situation is different for painters. They can use as many color pigments (colorants) as they please. They select their own palette of pigments to apply to a canvas. Some colors are applied directly; some are mixed before being applied. Photographers with only three colorants for their palette can reproduce most colors using combinations of cyan, magenta, and yellow transparent dyes. To reproduce color on a video screen, only three colorants are needed but this time they are red, green, and blue phosphors. The two systems are different. One requires transparent dyes; the other requires tiny lights called phosphors.

Color, as the most relative medium in art, has innumerable faces or appearances.

Joseph Albers

An 8-bit color system has a palette of 256 colors (2 to the 8th power).

Color depends on light. No light, no color.

Subtractive Color

Color reproduction systems that use cyan, magenta, and yellow colorants are called *subtractive systems*. They include photography, graphic arts printing, sublimation printing, inkjet printing, and electrostatic printing (Figure 5.14). The colorants can be dyes, inks, toners, or pigments. All of the colors we see in prints and transparencies, in magazines, newspapers,

*Subtractive
primaries: cyan,
magenta, and yellow
(dyes, inks).*

*Additive primaries:
red, green, and blue
lights (phosphors).*

*Psychological
primaries: red, green,
blue, and yellow.*

*Both additive and
subtractive color
systems are based on
controlling red, green,
and blue light.*

Gordon Brown

and posters are produced using a subtractive system of color reproduction. Often a fourth colorant, black, is added to darken the blacks in an image and give it added contrast.

Additive Color

The colors seen on a device screen are a result of a mixture of only three colors of light: red, green, and blue phosphors (Figure 5.14). These mixtures, in various amounts, produce all of the colors seen on the screen. Each phosphor lights up when it is excited and goes off when it is not. When all three phosphors are excited, the color white is seen. When none of them are excited, black is seen (see Table 5.3). The size of the phosphors is too small to be seen by the naked eye, but they are arranged in a repetitive pattern. Phosphors go on and off as the image on the screen changes. These color dots too small to be seen by the eye fuse to produce an additive mixture of colors.

TABLE 5.3 Additive and subtractive mixtures of colorants used to reproduce colors seen on a device screen or in photographs (see also Figure 5.16)

Additive Mixtures of Red, Green, and Blue Light/Phosphors	Subtractive Mixtures of Cyan, Magenta, and Yellow Colorants (dyes, inks, toners)
Green + Blue = Cyan	Magenta + Yellow = Red
Red + Blue = Magenta	Cyan + Yellow = Green
Red + Green = Yellow	Cyan + Magenta = Blue
Red + Green + Blue = Neutrals	Cyan + Magenta + Yellow = Neutrals
Red + Green + Blue = White	No Cyan, Magenta, or Yellow = White
No Red, Green, and Blue Light = Black	Cyan + Magenta + Yellow = Black

An example of the difference in the color space for additive and subtractive color systems at one level of luminance can be seen in Figure 5.15. Monitor colors, which use red, green, and blue phosphor lights, reproduce some colors better than printer colors, which use cyan, magenta, yellow, and black inks or dyes. This is illustrated on the CIE map and is one reason why color prints will not look the same as what is seen on a monitor. Another reason is that the viewing mode is different. On a device screen we are looking at the light source (red, green, and blue phosphors)—*illumination color*. With a print we are looking at the light reflected by cyan, magenta, yellow, and black inks or dyes—*object color* (see the “Color Modality” section in this chapter).

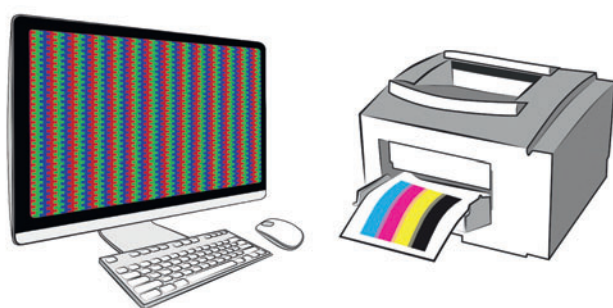


Figure 5.14 Additive (monitor) and subtractive (printer) color systems.

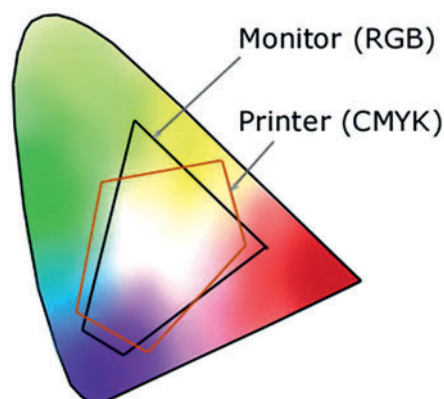


Figure 5.15 Comparison of monitor and printer color spaces. How well colors will be reproduced on a monitor screen and as a color print will be different as their color gamuts reveal on this CIE map.

Complementary Colors

Two colors are called *complementary* when mixing them leads to a neutral color. Imagine the beams of light from two projectors superimposed on a screen. Over one projector lens is placed a blue filter and over the other, a yellow filter. If adjustment of the intensities of the beams can produce the appearance of a neutral white, the two colors are complementary. A very large number of complementary colors result from this additive mixing of lights.

Subtractive complementary colors can make many near-neutral or desaturated colors. In photography, a normal practice is to examine a test color print through a variety of CC filters, changing the filters until a “neutral” appears neutral. Such a procedure aids in distinguishing, say, a cyan color balance error requiring a red complementary filter from a blue error requiring a yellow filter.

The term *complementary* is also used when mixing pigments. Two paints are complementary when mixing them in the correct proportions produces a neutral gray or black. Not all pairs of pigments that appear to be complementary are capable of producing a truly neutral mixture due to the complex light-absorbing characteristics of most pigments.

In most color imaging systems three primary colors are used to produce color images, because variable mixtures of three colors provide maximum control over hue, saturation, and lightness. These colors are red, green, blue (R, G, B) with the additive system and cyan, magenta, and yellow (C, M, Y) with the subtractive system. When all of the primary colors of the subtractive or additive color systems are combined, the result is black or white, respectively (Figure 5.16).

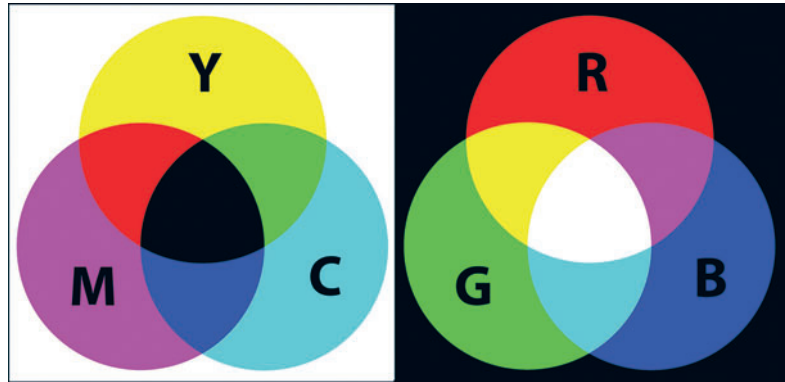


Figure 5.16 Combinations of the primary colors in the subtractive and additive systems. Complementary colors: red/cyan, green/magenta, blue/yellow.

Due to *afterimages*, complementary colors can be seen using only one color. For example, if you look steadily at a vivid blue patch for a minute or so, and then look at a white surface, you will see a complementary yellow afterimage.

Perceptual complements play an important role in color composition. When complementary colors are part of the design, each has the effect of making the other appear more saturated, which makes the composition more dramatic. For example, red looks redder next to green, and vice versa. For a more delicate, soft, and soothing effect, avoid using complementary colors in a design.

Color Is a Chameleon

Color is not only dependent on light and an observer, but also on its context or surroundings. Change the surroundings of a color and the perception of the color changes. A red apple against a green background will look more saturated (reddish) than against a maroon background or a neutral background (Figure 5.17).

Whenever the background of a color changes, the color itself changes; it is an interdependent and interactive figure–ground relationship. Artist and former Yale professor Josef Albers in his classic book *Interaction of Color* wrote that “with color we do not see what we see. Because color, as the most relative medium in art, has innumerable faces or appearances.”²

A color cannot exist without an environment.

Edwin Land

Constancy

The perceived color (hue, chroma) of an object will remain the same even as the color of the light (color temperature) illuminating it changes. A bouquet of red roses will appear red under studio lights, as it will under

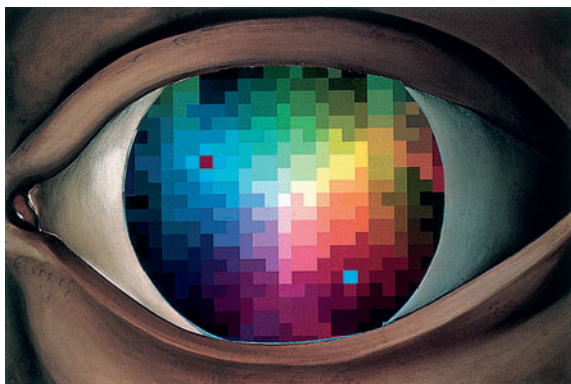


Figure 5.17 Color is surround dependent. Put one of the small red squares in the field of blue squares and its color will be seen differently, and vice versa.

sunlight or even on an overcast day. Color constancy is strictly a perceptual phenomenon. Our mind compensates for the differences in lighting.

The situation is vastly different when photographing. Red roses photographed under different lighting conditions require either daylight or tungsten film or appropriate filters to record the red roses correctly. Under the mixed lighting of daylight, tungsten, and fluorescent, proper filtration would be a real problem and at best a compromise.

There is also consistency in the perception of the size, shape, and lightness of an object. The perceived size of a tree or car remains the same as we move farther away from or closer to it, even though the optical image on the retina gets smaller or larger. The change in image size is automatically interpreted as a change in viewing distance rather than a change in the size of the object. The shape of an object will also remain constant even though the viewing angle may change. The circular-shaped watch on my wrist retains its circular appearance regardless of how I rotate my wrist to change the viewing angle, even though the optical image on my retina approaches the shape of an ellipse.

So too the lightness of an object remains the same even though the illumination level may change. The “white” of the page you are now reading will look white indoors or outdoors, under a dim tungsten light or under bright sunlight.

In his book *Inner Vision*, Semir Zeki alludes to the phenomenon of constancy when he writes “the function of the brain is to represent objects as they really are, that is to say differently from the way we see them from moment to moment if we were to take into account solely the effect that they produce on the brain.”³ Artists who create caricature faces of prominent people seem to be able to capture something that is consistent, that is essential in the features of a particular face. Zeki suggests that what distinguishes a person as an artist is the ability to capture the essence of

Color is what you see, not what you should see.

Ralph Evans

*Color is my day-long
obsession, joy and
torment.*

Monet

things, the essentials, to separate them from the larger array of visual information present. He offers a neurobiological definition of art: “that it is a search for constancies, during which the artist discards much and selects the essentials, and that art is therefore an extension of the function of the visual brain.”⁴

Metamerism

Two color prints made with different sets of CMYK inks may look the same under one type of light source, such as tungsten or daylight, but different under fluorescent or halogen. This is called *metamerism* and is due to the fact that the spectral reflectance of the set of inks (how they reflect light at each wavelength) is somewhat different.

*Do you suffer from
metamerism?*

Advertisement

Metamerism is not limited to just the dyes and inks used to make an image. It can also occur if two observers have different color vision (observer metamerism) and when, for some color surfaces, the angle of illumination is changed (geometric metamerism). Such surfaces are highly directional in the way they reflect light. Plastics and metals are two examples.

Simultaneous Contrast and Assimilation

Physical measurements for specifying color do not account for the effect that different backgrounds have on the appearance of color. Figure 5.18A shows how the lightness dimension of a gray color changes as the background changes. To make a gray color appear darker, choose a lighter background, and vice versa. The greater the difference between a color and its background—between figure and ground—the greater the change:

A dark surround makes white areas (highlights) in a picture appear lighter.

A light surround makes dark areas (shadows) in a picture appear darker.

Notice in Figure 5.18B that adding dark lines across the gray color darkens the color and that light lines lighten the color. The degree of change in lightness can be controlled by increasing or decreasing the number and width of the lines. The closer together the lines, the greater the change. This visual effect of *assimilation* is the opposite of *simultaneous contrast*.

The same effect on a blue color can be seen in Figure 5.19. In the illustration on the left, the white surround darkens the blue bar, while the blue bar with the dark surround is lightened (simultaneous contrast). The opposite happens when black lines and white lines are superimposed on the blue areas in the illustration on the right. The blue is lightened by the assimilation of the white lines and darkened by the dark lines. The same blue ink was used throughout. The blue colorant did not change; the blue color did.

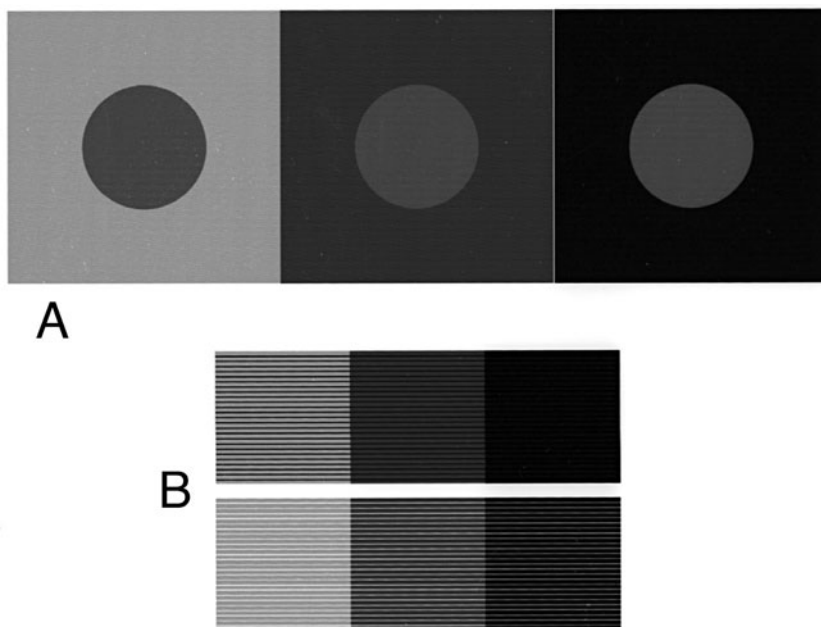


Figure 5.18 (A) Simultaneous contrast. A light surround darkens the small circular area. (B) Assimilation. A light surround lightens an area. (Assimilation is the opposite of simultaneous contrast.)



Figure 5.19 Simultaneous contrast (left) and assimilation (right).



Figure 5.20 A practical example of assimilation. Ralph Evans, *An Introduction to Color*, New York: John Wiley & Sons, 1948, p. 192.

A practical example of how strongly assimilation can affect a color can be seen in Figure 5.20. A design pattern of black lines and white lines is imposed on a blue background. The black lines make the blue areas look darker, while the white lines make the blue areas look lighter. The color of the blue areas without the lines would be intermediate. More white line patterns would make the blue look even lighter.

What happens if colored lines or design patterns are added to a neutral gray area? If the gray area, for example, is interlaced with blue lines, it appears bluish and darker; if it is interlaced with yellow lines, the gray area will appear yellowish and lighter. The neutral gray area takes on the tint of the blue and yellow colors.

Color Dependency

The colors in an image depend on one another. No color exists independent of its neighbor.

Colors of contrasting pair of hues are complementary. They call for each other.

Rudolf Arnheim

Depending on its neighbors, a color undergoes startling changes in appearance. In a painting by Matisse the deep purple of a robe may owe much of its saturated redness to a green wall or skirt bordering on it, whereas in another area of the painting the same robe loses much of its redness to a pink pillow or even looks quite bluish in response to a bright yellow corner. Depending on what local association one is looking at, one sees a different color.⁵

Phosphors and Pointillism

One could think of the soft-edged red, green, and blue phosphors on a device screen as dependent on assimilation. When yellow areas on a screen are seen, it is because the red and green phosphors have been assimilated. When a white area is seen, it is because the red, green, and blue have been assimilated. When a red, green, or blue area is seen, it is because only those phosphors have been excited. The thousands of colors seen on a device screen are a result of the assimilation of various amounts of red, green, and blue phosphors.

Paint not the thing but rather the effect it produces.

Stéphane Mallarmé

In the late 1800s Georges Seurat began the art movement known as *Pointillism*, which consists of an array of color dots on canvas that function similar to screen phosphors. For example, red and blue dots from a distance produce purple. Up close, one sees only a display of dots of different colors. At normal viewing distance, the various dots blend so that a picture with a variety of assimilated colors is seen (Figure 5.21).

Seurat was very interested in the science of color vision, which became the basis for Pointillism. One of the scientific papers that inspired him was *The Law of Simultaneous Contrast* by Michel Eugène Chevreul, written in 1839—the same year that another Frenchman, Louis-Jacques-Mandé

Daguerre, announced his daguerreotype process. In his book *The Shock of the New* Robert Hughes wrote:

Local color, Chevreul had shown, was mixed on the eye. A spot of pure color gave the retinal impression of a halo of its complementary around it: orange rimmed with blue, for instance, red with green, purple with yellow. The “interference” of these aureoles meant that each colour changes its neighbor. Colour perception is therefore a matter of interaction, a web of connected events, rather than the simple presentation of one hue after another to the eye. Seurat resolved to make this explicit by making his colour patches tiny, reducing them to dots: hence the name, “Pointillism.” Stippled side by side, the dots grew by the millions like coral polyps.⁶

Seurat’s masterpiece is a very large painting of billboard size—10 feet wide by nearly 7 feet high. According to Robert Hughes, “some critics who saw it in the 1886 Salon des Indépendants either teased Seurat for hiding reality under a swarm of coloured fleas (the dots) or made fun of his ‘Assyrian’ figures.”⁷

Seurat’s process of producing color differed from that of the *Impressionist* painters such as Monet, Manet, Renoir, and Degas. They intuitively mixed the colors on a palette and applied them to the canvas. Based on the science of color, Seurat created his canvas with dots of color so that the eye did the mixing. He discovered that this method of dot painting, using carefully selected pure colors, produced a radiance not possible by mixing colors.

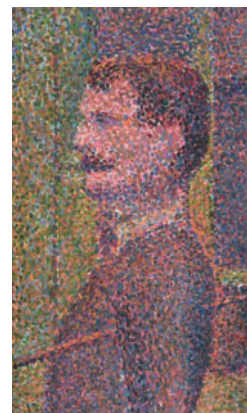


Figure 5.21
A detail from Seurat’s “La Parade de Cirque” (1889), showing the contrasting dots of paint used in Pointillism, unlike previous paintings based on brush strokes. The Metropolitan Museum of Art.

Color Modality

Color is not only unique to its surround but also to its mode of presentation. The colors of a fashion model will not look the same in a reflection print, a transparency, or a video screen having the same measurable colorimetric characteristics. The medium changes the color appearance. There are five different *modes of color appearance* to consider whenever color reproduction and comparisons are being made:

1. *Object color* is the surface color of an object such as a green tree or a red sweater. Color reflection prints are surface colors.
2. *Volume color* is the color seen when looking into a transparent medium such as water, glass, or plastic. It is the color of a blue lake or swimming pool, a glass of red wine.
3. *Aperture color* refers to color seen in space but not recognizable as belonging to an object, such as a blue sky. Color measurements made with densitometers and colorimeters using small apertures are aperture color measurements.

Figure 5.22
Illumination color.



Viewing of a color in a particular situation is, at best, a peculiar mixture of attention, intention, and memory.

Ralph Evans

Color is a means of expressing light.

Henri Matisse

4. *Illumination color* is the color of light, other than white light, falling on an object, such as a bluish light reflected from a white dress. The blue shadows on snow seen in photographs are a result of illumination from the blue sky. A color slide projected on a screen is illumination color (see Figure 5.22).
5. *Illuminant color* is the color of the light source itself such as a red, yellow, and green traffic light, Christmas tree lights, computer screens, and fire.

Color Temperature

Any source of light may be given a color temperature rating if it visually matches the light produced by a *blackbody* at the same temperature. A blackbody is a theoretically perfect absorber and emitter of every frequency of light. The light emitted by a blackbody is a function only of its temperature. The reddish color of a candle matches that of a blackbody at a temperature of 1800 Kelvin, so a candle gives off light having a *color temperature* of 1800 K. Device screens have color temperatures that range from about 6500 to 10,000 K. Color temperatures for some other sources of light are shown below and in Figure 5.23.

250-watt photographic lamp	3200 K
250-watt studio flood lamp	3400 K
Direct sunlight	5000 K
Photographic daylight	5500 K
Electronic flash	6000 K
Overcast sky light	8000 K
North sky light	15,000 K

With the exception of the expression “white hot,” the relationship between colors and their temperatures seems a bit counterintuitive to human experience, because we associate blue with cool and red with hot. In reality, as temperature increases the color of light goes from reddish, to bluish, and finally to white.

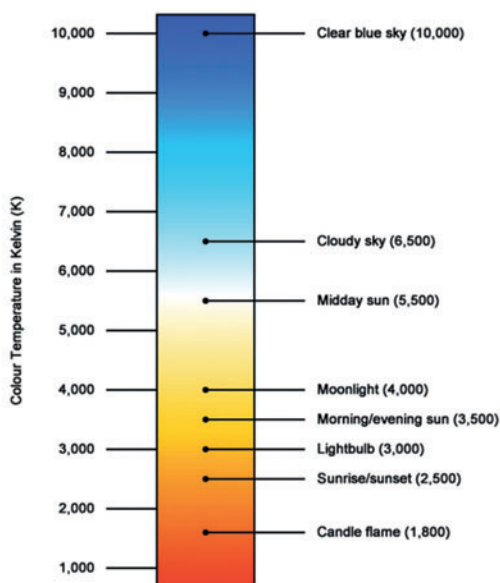


Figure 5.23

Light temperatures will affect the color of a photograph unless the exposure is “balanced” to compensate for it. Because color film can be balanced for only one color temperature, the most accurate color is obtained when the film is exposed at that temperature. Digital cameras have settings for photographing under light of different temperatures. Color temperature is also important in establishing standard viewing conditions for printing, judging, and displaying color images.

Color Names

Under controlled conditions using side-by-side comparisons, people can distinguish between a million or so different colors, including variations in hue, chroma, and value. It is inconceivable that any system of color names could be devised that would provide accurate identification of such a large number of different colors.

When great precision is not required, the basic hue names serve their purpose well—such as referring to red, white, and blue. Other hue names can be added by identifying intermediate hues such as a reddish-blue. Value (lightness) variations can be identified as light or dark, and chroma (saturation) variations as strong or weak.

TABLE 5.4 Color Names, Munsell Notation, and ISCC-NBS Names

Color Names	Munsell Notation		ISCC-NBS Names
	Hue	Value/Chroma	
Red	5R	4/12	Strong red
Orange	5YR	6/11	Strong orange
Yellow	5Y	8/11	Vivid yellow
Foliage	6.7GY	4.2/4.1	Moderate olive green
Blue sky	4.3PB	5/5.5	Moderate blue
Dark skin	3YR	3.7/3.2	Moderate brown
Light skin	2.2YR	6.5/4.1	Light reddish brown
White	N	9.5/0	White
Gray	N	5/0	Medium gray
Black	N	2/0	Black

*Imagine a piano
having 75,000
different sounds.
This is the situation
of painters.*
Salvador Dali

Although there are size limitations to any system that identifies colors by names, the Inter-Society Color Council (ISCC) and the National Bureau of Standards (NBS) produced the ISCC-NBS Method of Designating Colors and a *Dictionary of Color Names* in 1955 that included 267 different colors, identified by Munsell notations, and 7500 color names. Table 5.4 shows a sample of some color names and their Munsell values. These Munsell notations can also be converted to the scientific CIE (1931) system of color notations. For example, strong red with a Munsell value of 5R 4/12 has a CIE value of $x = 0.54$, $y = 0.31$, and $Y = 12$.

In the field of advertising, color names are usually created for emotional impact. Without actually changing a product, changing the name of its color from something common, such as pink, to one that is more exotic, such as Oriental pink, can increase sales dramatically. Cosmetic manufacturers marketing products such as lipstick commonly use sensually charged words such as:

Strawberry Red	Dreamy Red
Lilac Champagne	Little Red-Red
Rose Crush	Darling Pink
Wild Wine	French Pink
Whispering Wine	Spicy Pink

The names Spicy Pink and Whispering Wine tend to stimulate the palate in addition to the eye or ear, a phenomenon known as synesthesia.

Color and Synesthesia

Synesthesia refers to the ability of a person receiving stimuli in one sensory mode to experience it in another. This phenomenon demonstrates how all of our senses are interconnected. For example, when a certain musical pitch is heard, a person will see a particular color. As strange as it may seem, they are “seeing” color through their ears. Some people even smell odors when seeing certain colors.

A person who has such abilities is called a *synesthete*. Because most people do not have this talent, they are somewhat puzzled by those who do. V. S. Ramachandran stated that synesthesia is eight times more common in artists, poets, and novelists than in the general population, suggesting that it may be linked to creativity in some mysterious way.⁸

The most common form of synesthesia involves seeing color in response to sounds, especially music. It is called *chromesthesia*. Musicians that are chromesthetic experience different colors when hearing musical notes. The color might vary among musicians. One person hearing a C-sharp might experience it as the color red while someone else might see it as blue.

In 1922 Alfred Stieglitz titled a group of his cloud photographs “Music—A Sequence of Ten Cloud Photographs.” He wrote about how he hoped Ernest Bloch, a famous composer, might respond to them: “I told Miss [Georgia] O’Keeffe I wanted a series of photographs which when seen by Ernest Bloch he would exclaim: Music! Music! Man, why that is music! How did you ever do that? And he would point to violins, and flutes, and oboes, and brass, full of enthusiasm, and would say he’d have to write a symphony called ‘Clouds.’”⁹

Stieglitz did have the opportunity to show his photographs to Bloch, who responded to them just as Stieglitz had hoped. Bloch was also a photographer who titled some of his tree photographs using the names of earlier, famous composers. Music and photography have much in common as Eric Johnson points out:

Both photographer and musician work with similar fundamentals. The scale of continuous gray from black to white, within a photographic print, is similar to the unbroken scales of pitch and loudness in music. A brilliant reflecting roof can be heard as a high pitch or very loud note against a general fabric of sound or gray tone. This background fabric serves as a supporting structure for either melodic or visual shapes.¹⁰

Dick Zakia once invited the California photographer Oliver Gagliani to talk to his graduate students. Gagliani showed many of his black-and-white photographs, most of them in darker tones. When one student asked why he preferred those tones, his reply was that, as a former musician, he had always favored the “darker” keys on the piano.

*Perfumes, colors and
sounds intertwine.*

Charles Baudelaire

*A black
E white
I red
U green
O blue*

“Sonnet of the
Vowels” by Arthur
Rimbaud

*Music Pink and
Blue, Blue and
Green Music*

Titles of two
paintings by
Georgia O’Keeffe

*Sounds clothe
themselves in colors
and colors contain
music.*

Charles Baudelaire

Because many people are not aware of how profound an experience synesthesia can be, they might be tempted to label the synesthete as suffering from some kind of psychological problem.

Most synesthetic individuals report extreme relief upon hearing that there are others who have the same kind of perceptions; although they knew their perceptions to be “real” they frequently refrained from telling anyone about them for fear of being called mad.¹¹

After Dick Zakia gave a lecture on synesthesia, one of the students came into his office in tears. While consoling her, Dick discovered that since her childhood she had experienced vivid colors when she listened to music. She never told anyone, not even her parents, thinking that she was not normal and might even have to be hospitalized. That lecture on synesthesia was like therapy for her, releasing years of unnecessary worry and dread.

The phenomenon of synesthesia has a long and interesting history in art. The Italian painter Arcimboldo experimented with color music. Charles Darwin’s grandfather tried to make a color-harpsichord in 1790. Composers such as Alexander Scriabin and Olivier Messiaen, Nikolai Rimsky-Korsakov, and Jean Sibelius were all thought to be synesthetic,



Figure 5.24 One form of synesthesia is when musicians experience musical notes as different colors. Photograph by John Suler.

seeing colors when they composed or heard music. The artist David Hockney is considered to be synesthetic, associating music, shape, color, and space. "Hockney's conception of space is related to his synesthesia (he feels that sound and color both relate to space) as are his photographic collages made of numerous tiny, shifting parts."¹²

It is well known that sound and music enhances the visual experience of a movie. In an article titled "Stretching Sound to Help the Mind See," Walter Murch writes:

Film sound is rarely appreciated for itself alone but functions largely as an enhancement of the visuals: by means of some mysterious alchemy, whatever virtues sound brings to film are largely perceived and appreciated by the audience in *visual* terms. The better the sound the better the image.¹³

Murch also raised rather interesting questions regarding this marriage of image and sound on film: Why is it that sound usually improves the quality of the image and not the other way around? Why is the image experienced as figure and the sound as ground?

Synesthesia and Photography

Music played an important role in Weston's photography. He was strongly influenced by Bach, at times immersing himself in music for inspiration before going out to photograph. In his *Daybooks* he wrote, "I never hear Bach without deep enrichment—I almost feel he has been my greatest 'influence.' . . . Whenever I can feel a Bach fugue in my work, I know I have arrived."¹⁴ Minor White, according to Paul Caponigro, once commented, "When I hear Bartok's music in my prints, I know that I have arrived."¹⁵

At one time in his life Ansel Adams had to choose between becoming a concert pianist or a photographer. He chose photography, of course. It is interesting that in his development of the zone system of photography, he assigned a scale of ten visual notes, using Roman numerals from 0 to IX as notations for scene lightnesses from black to white. He also used a much-quoted musical metaphor to refer to the photographic negative as *the score* and the photographic print as the *performance*.

In correspondence with Paul Caponigro, a musician and artist/photographer, Dick Zakia once asked him if he ever experienced color while listening to music. He replied, "Years ago, while listening intently to a composition by Sergei Rachmaninov I not only heard the sounds of his music but simultaneously watched a richly colored rug being woven and unfolding somewhere in my internal perception . . . Synesthetics?"¹⁶

Photography depends to some degree on synesthesia in both creating a photograph and experiencing it fully. Synesthesia allows what is seen in

Poetry is probably the most fruitful source of verbal synesthesia.

L. E. Marks

Come down to the basement and listen to my negatives.

Roy De Carva

Brightness of a visual image relates directly to auditory brightness . . .

L. E. Marks



Figure 5.25 Does this ad tickle your taste buds as well as your eyes? Notice how the complementary color blue is added to the still life to accentuate the original colors.

*When I see a tree . . .
I can feel that tree
talking to me.*

Joan Miró

a photograph to trigger other senses. If a deliciously colorful photograph for a food advertisement only excited the eye and none of the other senses, it would not be an effective photograph (see Figure 5.25). Without some measure of synesthesia we would not experience taste, smell, texture, or emotions when looking at photographs or other images. Due to associations among different sense memories, we are all probably synesthetic to some degree.

Color Connotations

Graphic designers are well aware of the importance of a logo or logotype as a symbolic way to identify corporations and products. In fact, throughout history graphic symbols have played an important role in religion, politics, and commerce. The devotion people feel for their national flags, in all their colors and insignias, clearly illustrate it.

The highly successful international designer Massimo Vignelli extended the idea of logotype to include the importance of color—what he called

chromotype. Because they are symbolic and convey emotions, colors are a powerful tool for representing one's identity. For example, we easily associate Coca-Cola with red and Google with the primary colors. Many companies uphold stringent specifications for color reproduction in packaging and advertising.

Mr. Vignelli kindly allowed Dick Zakia to make extensive use of one of his unpublished articles, "Chromotype and Connotations," that he originally prepared for a summer workshop on semiotics given at the Rhode Island School of Design. Dick considered it one of the best discussions on the important role color plays in imaging and communications.

Color, in its tremendous variety of hues and shades, organizes our feelings according to precise connotations. These connotations are obviously related to whatever society generates them and reads them in a codified manner.

It is understood that the concept of chromotype as used here relates to our society, which is the intended final recipient of this code. Consequently the notion of chromotype becomes a specific tool in the hands of designers who could use it either to achieve an identity or to manipulate the reader's perception to reach a particular feeling as intended.

Practically all colors of the basic spectrum have assumed particular connotations to which we all respond in a codified way. However, the same color could have a very extensive range of connotations according to its different shades.

Colors in their strong shades tend to be interpreted as more expressive, vulgar, dynamic than their counterparts in the lighter shades, which connote femininity, gentleness, elegance. Pink, for example, in its shocking tones tends to represent a vibrant, violent, or perverse set of images, while the softer pinks will conjure images of intimacy, femininity, and sophistication. Reds span from the yellow range to the purple. The brighter orange reds are full of life, vibrating energy, but miss the understatement which connotes elegance. The more sanguine reds stress manhood, definitely "macho" in their assumption. It is the red used in most flags, uniforms, racing cars, cigarette packages. The terracotta reds are meant to bring forward historical allusions. They refer to the Pompeian frescos, the Greek vases, the colors of Rome, the awareness of the past.

Yellow ranges from very acid tones to warm almost orange hues. It is called the color of jealousy. It is the color of the sun in basic iconography. Its energy is solar, positive, and its connotations are radiant. In conjunction with black it becomes very assertive, compulsive; in conjunction with red it is playful, popular. When it becomes gold, yellow transcends its own dimension, and we all know the range of the connotations of gold, from sublime to infamous.

No individual symbolic image can be said to have a dogmatically fixed generalized meaning.

Carl Jung

Color is the most capricious dimension of visual imagery.

Rudolf Arnheim

Red colors tend to increase tension. White, blues, and greens tend to release tension.

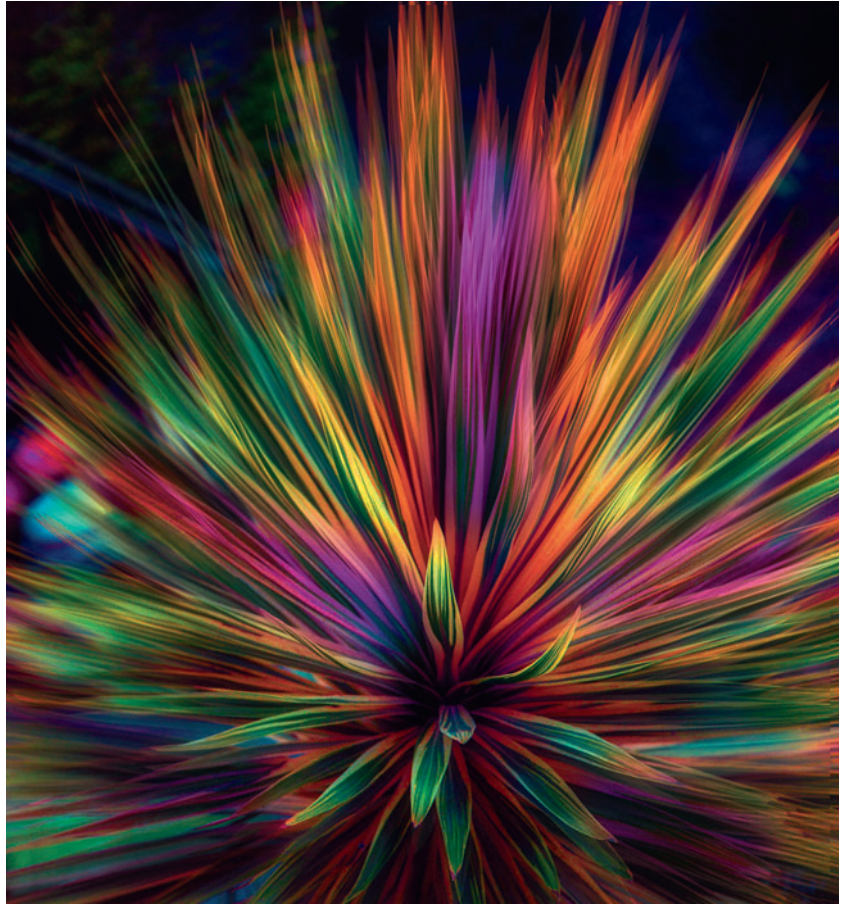


Figure 5.26 The wide variety of colors stimulates a wide variety of ideas, sensations, and emotions. Photograph by John Suler.

Responses to green change immensely from country to country. For a variety of reasons, rooted in each country's traditions, green is loved in places like Italy and Ireland . . . Sometimes there seems to be a mass acceptance and predilection for the colors of each country's flags, not for patriotic reasons, but perhaps because of exposure.

Blue stands for everything that is proper . . . Navy blue is masculine, businesslike, timeless. It is the color of Western elegance, the most understated. As dark as black, but without the connotations of black, blue (navy blue, midnight blue) represents the ambiguous boundary between color and no color. Indigo blue represented the desire for color without the presence of it. It was the color of the Shakers, it is the color of blue jeans—the color of ubiquitousness.

Purple ranges from red-purple to blue-purple, from cyclamen to violets. It is an intensive range of hues and shades, with morbid intensities and connotations of penitence, sorrow, and old age. The

cardinal's robe is purple; the crucifix is wrapped in violet during Holy Week. The lighter range of lilac and lavender, however, reverses the connotations into its opposite—young, educated, sensitive, probing, and unconventional.

Black in our culture has two basic connotations: opaque black is death; glossy black is formal. It is the only color which changes connotations completely by changing finishes. It is quite dramatic how the notion of dullness applied to black makes it appropriate for mourning. And it is even more surprising how glossiness transforms black into a very elegant celebration of richness.

White is the color of the absolute. Committed and uncommitted, ambivalent in its richness and simplicity, it represents honesty, cleanliness, and purity. The paper on which we write and read is usually white, implying truth. Hospitals, ambulances, and appliances are white to convey cleanliness and hygiene. For all purposes they could be any light color, but they wouldn't look real. Brides wear white gowns to imply purity. White is the color of objectivity, beyond subjectivity.¹⁷

The painter of the future will be a colorist such as had yet never existed.

Vincent van Gogh

sophistication power mystery formality evil death	stability security strength of character authority maturity	royalty luxury dignity wisdom spirituality passion vision magic
joy cheerfulness friendliness intellect energy warmth caution cowardice	freshness hope goodness light purity cleanliness simplicity coolness	romance compassion faithfulness beauty love friendship sensitivity
danger passion daring romance style excitement urgency energetic	peace stability calmness confidence tranquility sincerity affection integrity	life growth environment healing money safety relaxation freshness

Figure 5.27

Color versus Color

The word *color* is used in two quite different ways, which can cause misunderstanding and even confusion. First, color is a perception dependent on our eyes as a receiver and our brain as an interpreter. Like the other senses of hearing, smelling, tasting, and touching, seeing color is a subjective experience. Second, color is an objective physical phenomenon. As we have seen in this chapter, the physical attributes of colors (colorants) can be technically measured and mapped. Subjective perceptions of colors are more difficult to measure due to the variability of human perception as well as how colors change as their backgrounds and lighting change.

It is therefore important to keep in mind the context in which the word “color” is used. Advertisements boast about the millions of colors that can be displayed on a device screen, a claim that can be supported by controlled physical measurements. However, the number of the colors that can be distinguished by the human eye is far less. Under the best laboratory conditions, a carefully controlled side-by-side comparison of colors would be necessary to estimate a person’s ability to judge small differences—called *just noticeable differences* (JNDs). But this is not the way we experience color on a screen or in the real world. Color is context dependent.

Subjective measurements of color discrimination made in a laboratory use instrumentation far removed from how we see color in our everyday lives. One such measurement is made by using an instrument such as a colorimeter, which displays two monochromatic wavelengths of light next to each other in a very small and restricted area. The two samples of color are viewed through a peephole aperture, similar to looking through a pair of binoculars, in complete isolation from the surrounding environment. Trying to identify colors as being different without a side-by-side comparison results in a limited number of different colors that can be distinguished. The closer two colors are alike in hue, chroma, and brightness/lightness, the more difficult the judgment. Unless the colors being compared are in proximity to one another, memory comes into play. For example, you are shown a color that is then removed from view. You are then shown another color and asked if it is the same. Unless the colors are quite different, this is indeed a difficult task. Color memory for some individuals is a given talent: some people are much better at it than others. They are able to retain colors in memory exceptionally well, just as there are people who have excellent memories for taste, fragrances, and pitches in music. People who are responsible for color editing film and videotape in postproduction houses are blessed with exceptional color memories.

Of all the colors we can see in the “real world,” how many can a device screen actually reproduce? According to the Munsell Color Science Laboratory in Rochester, New York, only a fraction of them, because the color gamut of the screen depends on additive combinations of only three pixel phosphors: red, green, and blue. Inkjet and sublimation printers,

Color

Colour

Couleur

Colore

Cor

Farbe

which use a subtractive system for reproducing colors, rely only on inks or dyes that are cyan, magenta, and yellow, with black necessary for producing darker colors (CMYK). Nevertheless, it is amazing that both systems of reproducing color can create so many different colors with only three different colorants. For painters to have only three colors on their palettes would be an extreme handicap.

How many colors on a screen are necessary to produce a quality color image? According to the Munsell Lab,

Many of us can select a setting for our computer monitors that displays millions of colors and we see an improvement in image quality with this setting. However, if you select the colors correctly, you can reduce the number of colors to a couple of hundred or even fewer (depending on the image) without noticing degradation in quality. This would indicate that we can't see millions of color variations simultaneously.¹⁸

Neutral Colors

The photograph in Figure 5.28 was taken in a Chicago department store. It caught Dick Zakia's attention because the T-shirt broadcasts an incorrect statement that black is the absence of color. It is not uncommon for people



Our visual system encodes luminance at a higher resolution than chrominance.

Black is a color having no hue or chroma.

Figure 5.28 The T-shirt reads “Black is the absence of color.” Black is a color, a neutral color of extremely low value (brightness), reflecting about 1 percent of the incident light. Middle gray is a neutral color reflecting about 18 percent, and white, also a neutral color, reflects nearly 100 percent of the light. Black, grays, and white are all neutral colors (achromatic colors)—colors having no hue.

*I've been forty years
discovering that the
queen of all colors is
black.*

Henri Matisse

*It is a splash of
"black" in a sunny
landscape, but it is
one of the most
interesting black
notes.*

Vincent van Gogh

to confuse the terms "color" and "hue." Recall that colors have three visual attributes: hue, chroma (saturation), and value (lightness). Black is a neutral color (no hue or saturation) with low lightness, and white is a neutral color with high lightness. As paradoxical as it may sound, a black-and-white photograph is a color photograph, but it has only one attribute of color: lightness. In a television or video image, neutral colors such as a black, white, and grays have no chrominance, only luminance.

How important is the lightness attribute of color in an image? The short answer is that without lightness variations, the image will look flat (low contrast). It will not be perceived as a reasonable representation of the subject even though it contains realistic variations of the hue and chroma (saturation) of the subject colors. See Figure 5.29.

BLACK AND WHITE PHOTOGRAPHY

We have unique associations to the symbolic meanings of black and white just as we do to all colors, but black and white images have acquired a special status in the history of photography. Many people continue to debate, sometimes intensely, its merits compared to color photography.



Figure 5.29 A color photograph separated into its hue/chroma component and its luminance (black-and-white) component.

B&W as the Origin of Photography

Many of our attitudes about B&W come from the fact that we associate it with the origin of photography. Because color photography did not become widespread until the 1970s, we tend to think of B&W as traditional, classic, the foundation of photographic practice and philosophy. It was during the B&W age that photography came into its own as a genuine art form while also providing a powerful method for recording history (Figure 5.30). Many of the legendary figures in the history of photography took B&W photos, and any newspaper that did not contain photographs was considered second rate for its lack of presenting the visual realism of an event. The famous B&W shots that have withstood the test of time were also excellent photographs, taken by master photographers, often of important people and events in human history. We therefore perceive B&W photos as a classic photographic art form as well as historical statements of fact. In discussions about the qualities of B&W, you will often hear such words as “factual, serious, traditional, artistic, truth, stability, and reality.” For these reasons, B&W prevails as a go-to standard for artistic and documentary images.

Which is probably the reason why I work exclusively in black and white . . . to highlight that contrast.

Leonard Nimoy

I shoot color and enjoy it, but when I wish the total satisfaction of creating an image, whatever it may be, I make it in B&W. It's like making it my own.

Thom Halls

The Absence of Color

The absence of color removes the distraction of color. The eye can focus its attention on shapes, textures, composition, and subtle changes in the



Figure 5.30 “Civil War Scouts and Guides, 1862” by Alexander Gardner.

*When you
photograph people in
color, you photograph
their clothes. But
when you photograph
people in black and
white, you
photograph their
souls!*

Ted Grant

gradients of light and dark. When the purpose of a photograph is to emphasize any of these characteristics, or to highlight the symbolic meanings of light interacting with shadows, photographers often choose B&W (Figure 5.31).

We see the world in color. By eliminating color, the B&W photograph removes the scene from reality, which is why photographers see it as “abstracting” the subject. Although a B&W treatment might mute or at least alter the feelings, symbolism, and focus of attention on something that is inspired by colors, B&W can create a factual presence not perceived in a color photograph. It reveals, clarifies, and galvanizes the subject by making it seem more direct and strong. This is why photos of disasters or crime scenes are often converted to B&W. The lack of color results in an image that is focused, stark, and impactful as fact. Especially in darker or “low key” photographs, B&W enhances serious, mysterious, and somber atmospheres. In a chapter for a previous edition of this book, Thom Halls, an instructor at the Fresno City College School of Photography, known for his documentary work, described the abstraction of the B&W photograph as a shortcut to our perceptive consciousness:

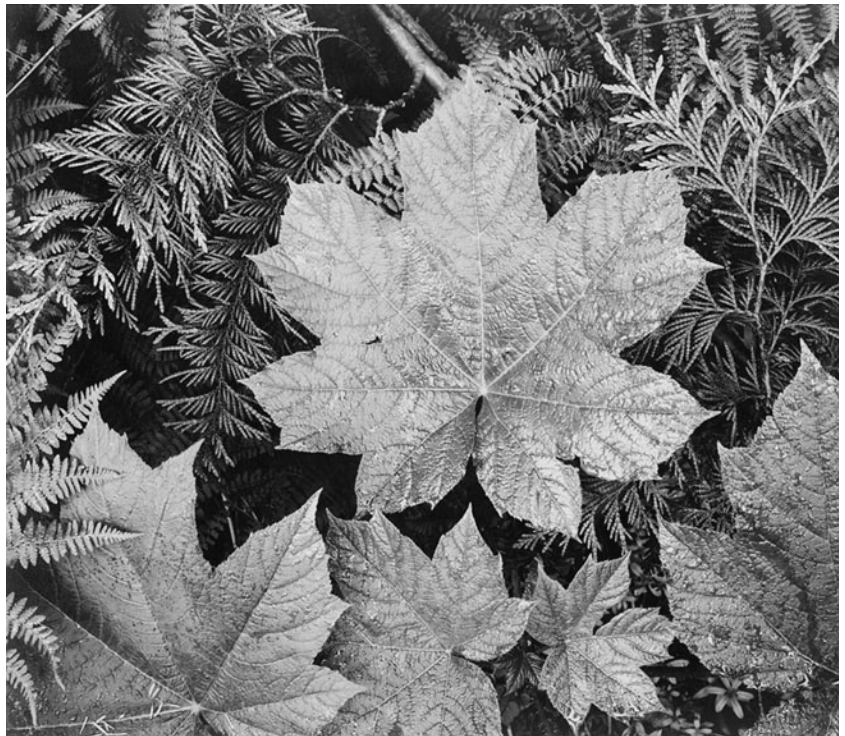


Figure 5.31 “In Glacier National Park (1942)” by Ansel Adams. B&W photographs focus on shape, texture, composition, and the interaction of light and dark. Ansel Adams National Archives.



Figure 5.32 “Migrant Mother” (1936) by Dorothea Lange. Colorized version by John Boero. People’s opinions differ about B&W versus color images, so the role of B&W in photography is not a black or white issue. Of these two versions of Lange’s classic photograph, some will prefer the B&W because it feels more historical, direct, and solemn. It is also what Lange intended. Others choose color over B&W because it feels more realistic. How do you perceive the emotional tone of the original as compared to the colorized version? Although colorizing B&W photos has become very sophisticated and realistic, we must consider when such techniques are needed, and when not. Original image from the United States Library of Congress’s Prints and Photographs division.

For the B&W shooter, this abstraction removes our emotional reality and takes us to those woods in a way that Adams wanted us to see it; the abstraction is enough. In color, the inclination is to take us to the virtual woods. As if you are standing beside the photographer as he takes the photo . . . We do not see the B&W image in the same way as we do color. When viewing it, we are taken perhaps not to the meadow itself, but into the mind of the photographer as a slice of time. Both color and B&W have their origins in reality but travel different perception roads.¹⁹

B&W Photography in the Digital Age

Thom Halls pointed out several reasons why there is still an ongoing attraction to traditional B&W, despite the rise of color photography and

*In black and white
there are more colors
than color
photography, because
you are not blocked
by any colors so you
can use your
experiences, your
knowledge, and your
fantasy, to put colors
into black and white.*

Anders Petersen

*Color is descriptive.
Black and white is
interpretive.*

Elliott Erwitt

*Colour is everything,
black and white is
more.*

Dominic Rouse

even despite the blossoming of digital photography that made it easy to take and process images using a cornucopia of color manipulations. The fascination for B&W among young photographers might actually reflect their reaction to the plethora of quickly produced, colorfully popping images that bombard the senses in this visually hyped digital age, images that so frequently traverse the entire range from pure fact to surreal fantasy that we are not sure anymore which ones are real or contrived, or if anyone even cares. The attraction to B&W reflects the wish for simpler and more serene times, a respite from the intensity of digitized colors in an insanely chaotic visual world, a more straightforward presentation of emotion. It is a quest for stability, certainty, and a secure foundation for our photographic record. B&W offers realism and truth in a world where reality and “truthiness” have become pawns in social-political games.

Halls noted how the photography programs that decided not to convert all their darkrooms to digital workspaces are now happy with their decision to show restraint against the pressures of the high-tech wave. Numb from sitting in front of glowing displays that suck them into cyberspace, many photography students return to B&W not just for its aesthetic realism, but for the tangibly stabilizing tradition of hands-on work in the darkroom, feeling the physical things and sensations that lead to the photographic print.

Selective Color

Some people might also call this selective desaturation, because in many cases that’s how you do it: desaturate almost all parts of a color image, leaving one element in color (Figure 5.33). We can’t help but rivet to the colorful thing in an otherwise black-and-white image. It’s a deliberate exaggeration of figure versus ground. Selectively colored images can be so powerful that the color leaps out at us as if we were wearing 3-D glasses. For that reason, some photographers dislike this technique. It seems too obvious—a gimmick for someone who has developed a little bit of Photoshop skill.

Selective coloring certainly might rub our noses in something, but that’s not always a bad thing. It can be delightfully playful. It can enhance a concept being portrayed. It can draw out something in an image that otherwise might have been overlooked. In some cases the selective coloring is actually quite subtle and intriguing, even affecting us on a subconscious level.

If the colored and black-and-white areas appear disconnected from each other, they will create two seemingly separate realities. A colored figure might even look like it’s popping right out of the black-and-white ground. That might be an interesting effect for some images—but if not, the photographer should take care to somehow integrate the two areas. Selective coloring will work better if you use a photo in which the Gestalt laws of

grouping help the selectively colored area appear as if it still belongs to the rest of the image, as in a row of bottles where only one is in color. In Figure 5.33 the woman in the desaturated background is looking at the selectively colored man in the foreground, which helps connect the colored and desaturated areas. In the other half of that figure, the strawberry and the cliffs certainly do look like separate dimensions of experience, but that's the point of the Zen story for which the image was created.



Figure 5.33 A selective color diptych. The strawberry image was created to illustrate a classic Zen story: One day while walking through the wilderness a man stumbled upon a vicious tiger. He ran but soon came to the edge of a high cliff. Desperate to save himself, he climbed down a vine and dangled over the fatal precipice. As he hung there, two mice appeared from a hole in the cliff and began gnawing on the vine. Suddenly, he noticed on the vine a plump wild strawberry. He plucked it and popped it in his mouth. It was incredibly delicious! Photograph by John Suler.

KEY WORDS

additive mixtures
(R, G, B)
afterimage
aperture color
assimilation
blackbody
chroma
CIE

color appearance
color connotations
color constancy
color dependency
color management
color modality
color temperature
ColorChecker

colorant
complementary
colors
flare
hue
object color
Pantone®
Pointillism

saturation
selective color
simultaneous contrast
subtractive mixtures
(C, M, Y, K)
surface color
synesthesia
volume color

NOTES

*A Japanese artist
would study a single
blade of grass and
live amongst nature
as if he himself was a
flower.*

Vincent van Gogh

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6 Contours

The borderline between two adjacent shapes having double functions, the act of tracing such a line is a complicated business. On either side of it, simultaneously, a recognizability takes shape.

Maurits Escher

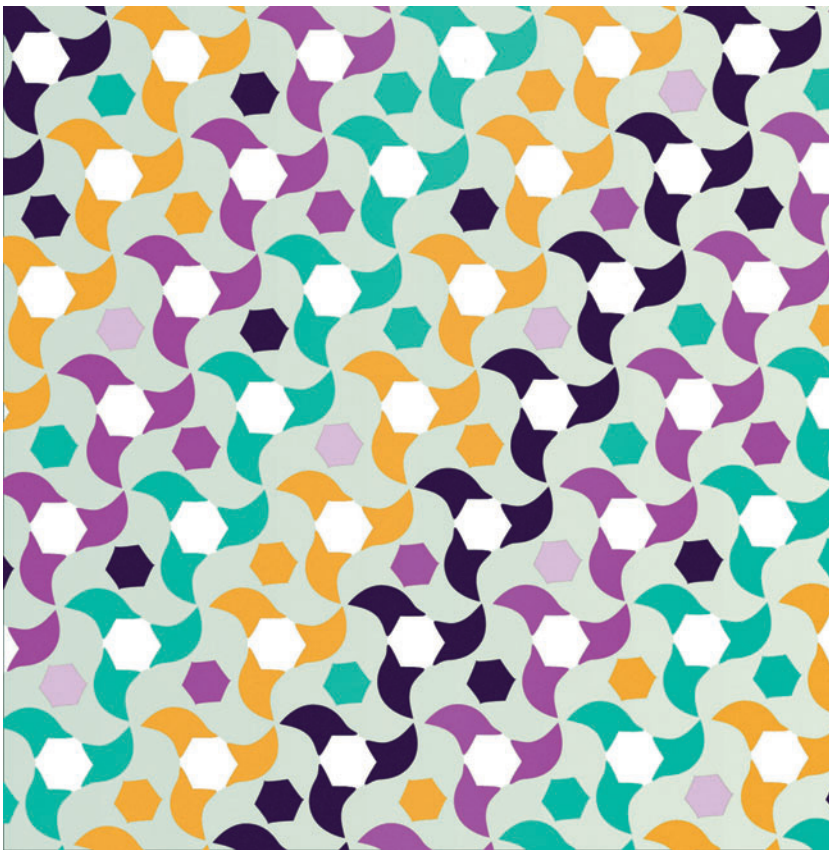


Figure 6.1 “Tessellations” by Kira Suler. A design similar to those in the Alhambra that inspired Maurits Escher.

*Most tribal art is
hard-edge. It is art of
sharp contrasts,
sudden juxtapositions,
and superimpositions.
So is children's art.*

Edmund Carpenter

Contrast is a density difference between adjacent areas in an image that allows us to see *contours* or *edges*. The higher the contrast and the more abrupt the tonal change at an edge, the sharper that edge looks. Because sharp or “hard” edges appear to advance while soft edges appear to recede, controlling the sharpness of an edge can also influence the perception of depth.

Edges give rise to lines, one of the most fundamental visual elements. The line is the first thing we ever drew. The human eye, as well as that of most animals, instinctively moves along it, probably for evolutionary reasons. A line marks the border between here and there, between different spaces. It creates contours, boundaries, shapes, and a sense of direction. Things move along lines.

COMMON CONTOUR

In his book *Art and Visual Perception*, Rudolf Arnheim poses this question: “What happens when two similarly qualified competing surfaces both claim the same contour?”¹ Figure 6.2 shows such a competition—a *contour rivalry*—at the common boundary between shapes. Concerning the hexagons, Arnheim said:

Perceived as a whole, the figures look stable enough, but when we concentrate on the common central vertical we notice a tug-of-war. The sharing of borders is uncomfortable and the two hexagons exhibit an urge to pull apart since each figure has a simple independent shape of its own.²

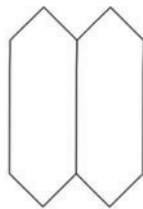


Figure 6.2

Contour rivalry.

Notice how the heart appears to be both inside and outside the envelope.

Examples of common or shared contours abound in the work of the Dutch artist Maurits Escher (1898–1972). Escher was keenly aware that shapes can have a “double function,” which he used brilliantly in his drawings. In 1936 he visited the Alhambra, located in southern Spain, one of the most exquisite monuments of Arab culture. Seen from the outside, the Alhambra takes the form of a fortress. Inside, it is a palace of honeycomb courts and chambers where Escher carefully studied and copied the mosaic patterns, sometimes also called *tessellations*. The repeated cloning of shapes vary in orientation and tonality, but all share a common contour. “These patterns represent a high point of the Arab exploration of the subtleties and symmetry of space.”³

In the early 1900s the Danish psychologist Edgar Rubin called attention to the playful ambiguity of common contours, which he illustrated in Figure 6.3 as well as in the vase/face illustration in Chapter 1, Figure 1.7. Earlier artists used common contours to embed shapes in a visual hide-and-seek game to make a variety of statements, some dangerously political.

In the photograph “Dunes, Colorado” (Figure 6.4), a common contour is shared by the very edge of the white and black areas. Where the edges are sharp, a competition takes place between the black and white shapes. Where the edges are soft, the competition is less noticeable. This photograph is also a wonderful example of Notan: the play of dark/light, opposites in harmony, figure and ground as one, which we discussed in the first chapter.



Figure 6.3

Edgar Rubin's double profiles, 1921. The two profiles share a common contour but are unable to share a kiss.

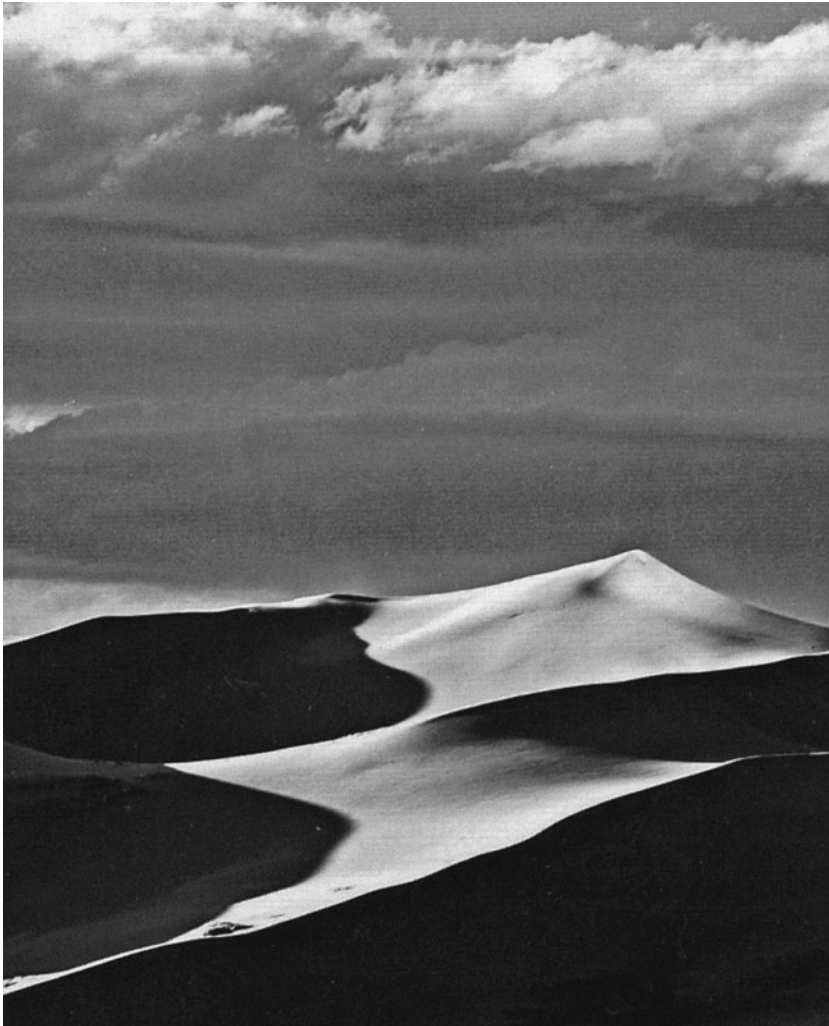


Figure 6.4

“Dunes, Colorado.” © Dr. Thomas L. McCartney. At the very edge where the black and white areas meet, a common contour is shared. Rivalry for possession of the edge serves to shift the figure–ground relationship.

A ligature is a character that contains two or more letters. Ligatures were employed by the medieval scribes since they could be easily constructed with a pen and enabled them to write at a more rapid rate. Gutenberg's movable type included an extensive assortment of ligatures because he wanted to create a printed page that was undistinguishable from the hand drawn manuscript. The number of ligatures decreased as time went on for economic rather than esthetic reasons.

Figure 6.5 Common contours are the basis for ligatures in typography.

Common contour in typography appears in the design of letter combinations such as *Æ* or *æ*. This binding of letters is called a *ligature*—something that unites, as seen in the text of Figure 6.5. Gutenberg's movable type consisted of a large assortment of ligatures so that he could create a printed page that looked similar to a manuscript.

Playing with Depth Perception



Photographers can playfully experiment with common contours by adopting a camera angle that creates a shared contour between two objects located at different distances (Figure 6.6). This results in an ambiguous image in which the perception of depth is lost at the common contour area where the two objects meet, resulting in what is often called a *forced perspective* that tricks the eye into thinking near objects are far away and vice versa.

Figure 6.6 Forced perspective. When near and far objects share the same contour, there is no overlap, which is an important depth cue. The perception of depth is lost at that shared contour. The humorous use of this *forced perspective* is popular in tourist photography, especially with the Leaning Tower of Pisa.



Ultimately, simplicity is the goal in every art, and achieving simplicity is one of the hardest things to do.

Pete Turner

Figure 6.7 “Push” by Pete Turner.

An interesting color photograph by Pete Turner shows a trash can on a sandy beach photographed from a perspective that positions the top edge of the can to coincide with the blue horizon line (see Figure 6.7).

What is it about Turner’s photograph that catches the eye? Is it the beautiful symmetry and simplicity; the clever use of the perceptual primary colors red, yellow, and blue; the historical symbolism of earth, sky, and water? It is all of these and something more; something more subtle and puzzling. The picture plays tricks with the eye that viewers might not consciously realize. By carefully coinciding the top edge of the trash can with the distant horizon, Turner erased the perception of depth in that area. The edges of the distant horizon and the nearby trash can paradoxically merge in the same visual plane.

At that shared contour line the important depth cue provided by overlapping objects is lost, although the overlap of the trash can against the sandy beach and the water is preserved. The trash can seems to exist in two places at the same time, near the viewer and far off at the horizon—physically but not visually impossible. We might intellectually chalk it up as just another illusion, but illusions tell us that what the eye sees is not

*A photographer can
bring coincidence of
line simply by
moving his head a
fraction of a
millimeter.*

Henri Cartier-
Bresson

always real. Turner's photograph is a visual reality that contradicts the physical reality of the original scene. He created something that wasn't there, something for us to puzzle over, think about, and enjoy. We will return to this topic in Chapter 7.

The common contour between the trash can and the horizon not only collapses depth, but this juxtaposition also enhances the colors at the very edge of the shared contours. The blue horizon line becomes bluer and the red top of the trash can redder (which may not be apparent in the reproduction on this book page). The British psychiatrist Anton Ehrenzweig called attention to the experimental work of Josef Albers' nesting of squares and pointed out how much color interaction depends on a comparative weakness of forms.⁴ The simplicity of form in Turner's photograph makes it subservient to the colors that are set free to interact.

In Figure 6.8A a large plastic storage box sits in front of a wooden railing. A squirrel rests on top of the box and a frog on the rail. They are seen as separated in space. The box overlaps the wooden railing, an important depth cue. In the distance is a white house with a black roof. By lowering the camera slightly, the perspective is changed, as seen in the second photograph (Figure 6.8B). The top of the box and the top of the



Figure 6.8 “Squirrel and Frog.” (A) With overlap as a depth cue, the frog sits on the rail and the squirrel on the box. (B) When the box and the rail share the same contour, the depth cue is lost. Both appear to be located in the same spatial plane.

railing now share the same contour; there is no overlap. The perception of depth in that area is lost.

The question before us is whether the frog is still sitting on the railing and the squirrel on the box. Because they both share the same contour, it is difficult to determine just where they are located in space. They both appear to be sitting on either the box or the wooden rail. They could even have exchanged positions. This is indeed strange because we know from looking at other areas in the photograph that the box overlaps the wooden railing and therefore must be located in front of it. What we have here is a variation of an early period of art called *trompe l'oeil*, a French term meaning “fooling the eye.” Painters delighted in falsifying perspective to puzzle viewers with visual magic.

Incidentally, you might notice that the roof line of the house also shares the same contour as the box and wooden railing—a further collapse of depth in that section of the photograph. Part of the photograph has depth and part does not. Somehow our mind seems to accept this contradiction.

Common contour provides us with an opportunity to inject uncertainty into our photographs. A bit of ambiguity makes the act of seeing more challenging. It invites the viewer to participate more deeply in the visual experience. In the words of Victor Shklovsky:

The purpose of art is to impart in us the sensation of an object as it is *perceived* and not merely recognized. To accomplish this purpose, art uses two techniques: the defamiliarization of things, and the distortion of form so as to make the act of perception more difficult and to prolong its duration.⁵

*It is by great
economy of means
that one arrives at
simplicity of
expression.*

Henri Cartier-
Bresson

Activating an Image

Competition for common contour can activate the energy of an image. For Figure 6.9, imagine a brilliant burst of sunlight from a dark sun. The eye can settle on the dark area at the bottom with comfort, but not as easily on the radiating black, white, and gray lines that seem to pulsate. In that space, there is a competition for the shared black, white, and gray contours. This rivalry visually activates the image, resulting in increased brilliance and the vibrating effect that captured the eye of the photographer.

With common contour in mind, take a look online at well-known photographs, such as the landscapes by Brett Weston, the humorous images by Elliott Erwitt, and the altered landscapes by John Pfahl. You might even review some of your own photographs or create new ones that show the effect of common contour on depth and on image activation.



Figure 6.9 “St. Johns River, Florida” by Frank Dienst. The radiating lines are activated by the common contours they all share, causing vision to quickly alternate within the black, white, and gray areas.

SUBJECTIVE CONTOUR

The two triangles in Figure 6.10 provide a powerful example of how our visual system, given partial information, fills in to create closure on a familiar shape. The incomplete triangle with the disrupted lines is readily seen as a complete triangle due to the Gestalt laws of *continuation* and *closure*. The other far less complete triangle, having no lines but only short edges where the three black disks are located, is also perceived as complete. It is difficult not to see it as a triangle, even with the minimum amount of information provided. It is a *subjective contour*. Notice also that the white area enclosed by this triangle appears whiter than the white of the surround, when actually no difference exists.



Figure 6.10
Subjective contour.

The contour lines of that white triangle are all *virtual lines*, making it a virtual triangle—not an actual physical form but rather a visual effect with a *virtual contour*. A famous photograph by Harold Edgerton of a golfer swinging his club shows a similar effect (Figure 6.11). Between the repeated ends of the golfer’s club and his body, a curved contour appears, with the

enclosed area appearing blacker than the black surround, even though density measurements would reveal no physical difference. Notice also the shell-like pattern that emerges when our eye connects the elements of the white golf clubs, as in a moving image. The similarity of the repetitive golf clubs and their proximity to each other provides for easy continuity, implied movement, and closure, as dictated by the Gestalt laws.

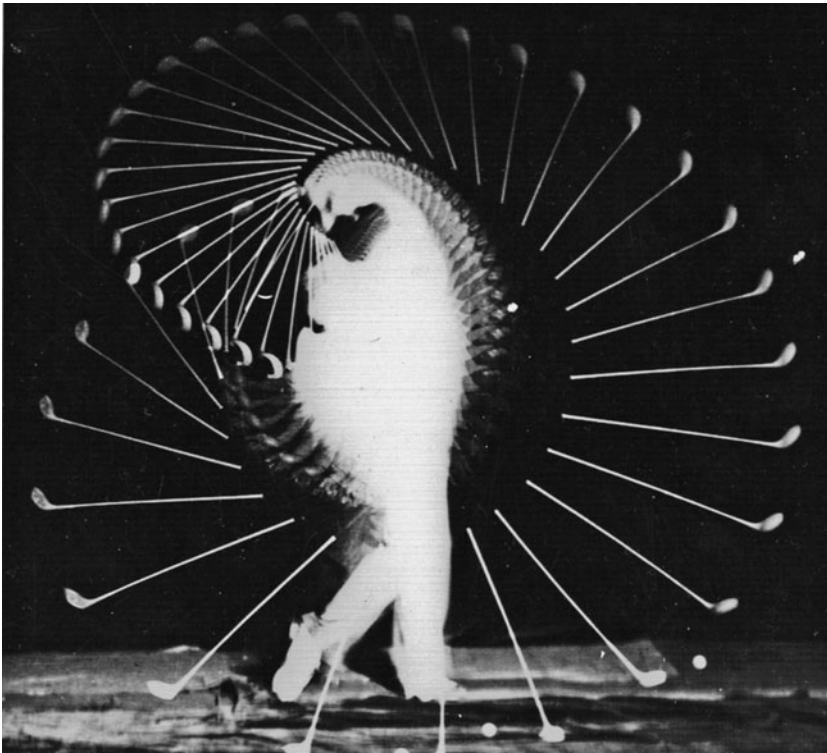


Figure 6.11 “Densmore Shute Bends the Shaft” by Harold Edgerton. (c) The Harold E. Edgerton 1992 Trust. (Courtesy of Palm Press, Inc.) Notice how the enclosed “crescent” between the repeated ends of the golfer’s club handle and his body appears darker than the surround—an example of subjective contour in a photograph.

Most creative photographs are departures from reality and it seems to take a higher order of craft to make this departure than to simulate reality.

Ansel Adams

MACH BANDS

In a completely homogeneous visual field—a Ganzfeld—there is no vision, as mentioned in Chapter 1. Vision is dependent on something changing, as are all the senses of hearing, touching, smelling, tasting. Perception is a dynamic, interactive process.

The familiar gray scale in Figure 6.12 shows that in the area between the grey segments, an edge or contour appears. That edge is a virtual edge. It exists as a result of the tonal change—the contrast—between adjacent



Figure 6.12 The Mach effect. In the gray scale, at the very edge of each gray area there appears to be a very narrow dark and light band. This is strictly a visual effect. Without it there would be a loss in contrast. It is the way our eyes process edge information and shows why edges are so critical to perception.

areas. If you look very closely at the edge, you will notice a very narrow darker band in the dark area and a lighter band in the light area. This is known as a *Mach band*, named after the Austrian scientist Ernst Mach (1838–1916) who first described it. Mach bands have their existence in the way we see and not in the actual image.

A close look at the photographs of the dunes and the plant in Figures 6.4 and 6.9 illustrate how the Mach effect enhances the contrast of the edge between two adjacent areas, and therefore the perceived sharpness of the image. Contrast and sharpness go hand in hand. When using a camera, the sharpness of an edge can be controlled by selective focus, depth of field, and special filters—which in turn affects the contrast. Software such as Adobe Photoshop increases sharpness and contrast of an image by digitally enhancing its edges.

Artists have used this contrast enhancement effect for centuries. “Artists of the nineteenth-century Neo-Impressionist school were unusually meticulous in their observations . . . A good example is Paul Signac’s ‘Le petit déjeuner.’ In this painting there are numerous contrast effects in and around the shadows and half-shadows.”⁶

Similar effects can be seen in Edward Weston’s photograph “Nude, 1936” (Chapter 2, Figure 2.31). Notice that some shadows have a soft edge while others have a hard edge, and how this affects the local contrast.

VISUAL VIBRATIONS

In color images, the border between color areas having similar lightness and complementary hues, such as red and cyan, appear to vibrate or shimmer. In her book *Vision and Art*, Margaret Livingston shows why the reddish sun in Claude Monet’s “Impression Sunrise” (1872) appears to pulsate. A black-and-white reproduction of the painting reveals that the luminance of the sun is exactly the same as its immediate surround.

The more saturated the colors, the stronger the visual vibration. An early movement called Op Art capitalized on the shimmering of repetitive

*The observer is part
of the observed.*

Thomas Merton

*Without contraries
there is no
progression.*

William Blake

patterns, most notably in the paintings by Victor Vasarely. Vincent van Gogh used it in subtle ways. In a letter to his brother Theo in 1888, he wrote about trying “to express the feeling of two lovers by a marriage of two complementary colors, their mixtures and their oppositions, the mysterious vibrations of tones in each other’s proximity.”⁷ Josef Albers, who did extensive experimentation with color interactions in his “Homage to a Square” series (Figure 6.13), wrote in his chapter about vibrating boundaries, “The conditions for these effects occur between colors which are contrasting in their hues but also close or similar in light intensity.”⁸

The reasons why edges seem to vibrate under certain conditions are complex. It appears to be related to the inhibitory process in the retinal ganglion cells, the tremors of the eye called *nystagmus*, and to perceptual phenomena such as simultaneous contrast (Figure 6.14).

Vibrations also occur with certain repetitive patterns of black-and-white lines, as in Figure 6.15. Although *visual vibrations* rarely appear in conventional photographs, they are easily created photographically by making high-contrast photographs of moiré patterns, applying various darkroom techniques such as relief images and masking, or through digital editing.

Albers’ approach to color was not mechanistic but very playful. You learned that the same colors appear different on different ground or the reverse.

Richard Serra

The important task of all art is to destroy the static equilibrium by establishing a dynamic one.

Piet Mondrian

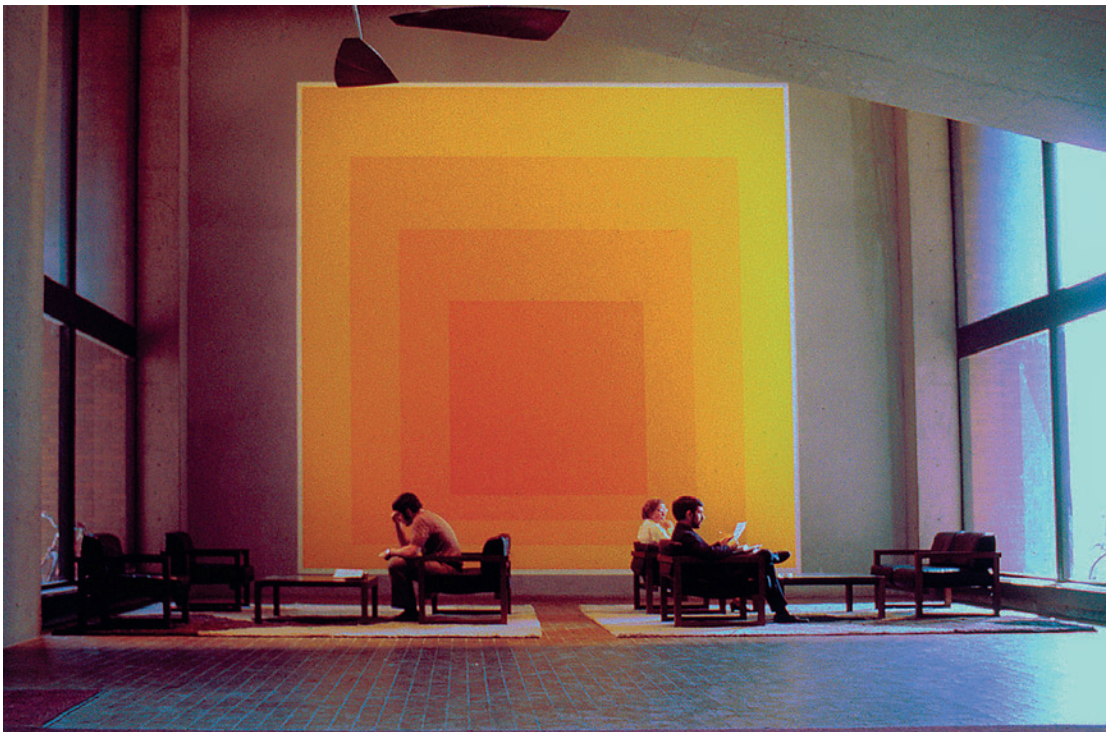


Figure 6.13 “Homage to a Square.” A large wall painting by Josef Albers can be seen in the administration building at the Rochester Institute of Technology. On the opposite wall is the same painting but with a different arrangement of the same colors. Photograph by Richard Zakia.

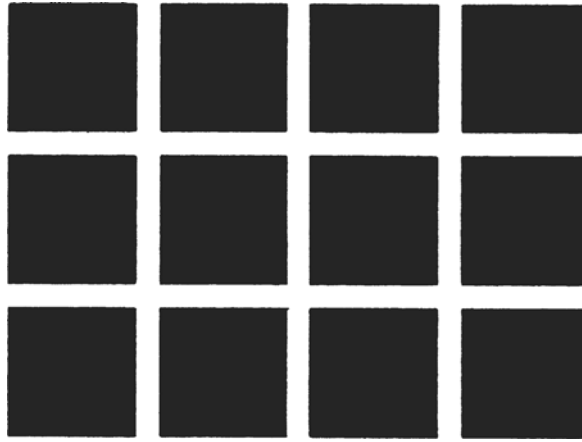


Figure 6.14 The Hermann grid illusion. Lateral inhibition and simultaneous contrast. Note the on/off gray spots where the white areas cross.

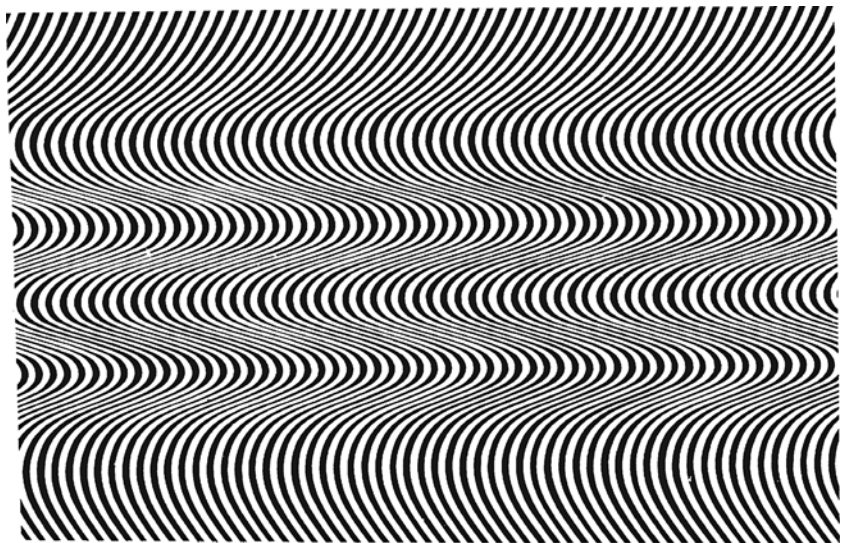


Figure 6.15 Visual vibrations. Various patterns of edges restrict the ability of the eye to fixate, thereby frustrating the eye and causing a shimmering sensation.

PHOTOGRAPHIC EDGE EFFECTS

A phenomenon similar to the Mach effect of increased contrast at the edges of an image can occur in photography, xerography, and screen displays. In photography these effects are achieved by a physical increase and decrease in density at the very edges of the image. Figure 6.16 is a graphical representation showing this density enhancement. It occurs over a very small distance on the order of a fraction of a millimeter—about 50 microns.

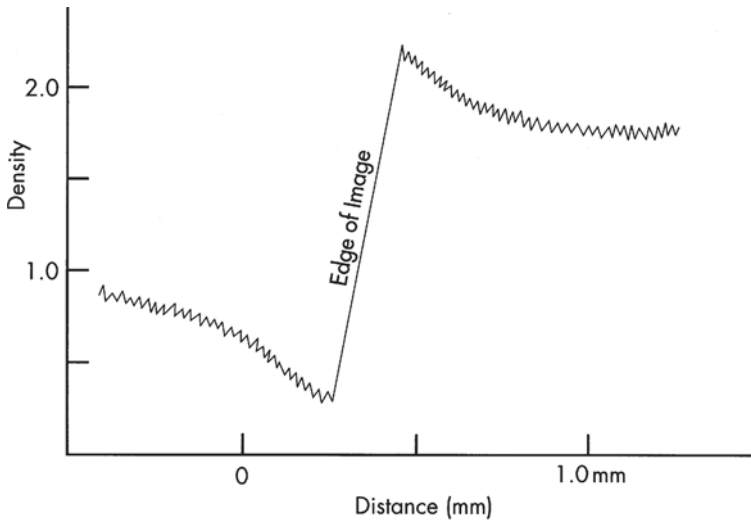


Figure 6.16 Photographic edge effect. The decrease and increase in density at the very edge of an image enhance the density difference (amplitude) and therefore the sharpness of the image.

In addition to being called an edge effect, this increased contrast resulting from an increase in edge density is also called an adjacency effect, neighborhood effect, border effect, fringe effect, and, depending on the size and shape of the image, the Eberhard or Kostinsky effect.

Acutance

A physical measurement of sharpness due to edge effects is called *acutance*. Some slow-working developers enhance the acutance of an edge in a photograph by increasing the density difference at the very edge. This result is called an *adjacency effect*. It is a physical effect within the photographic image, with an actual increase and decrease in density at the edges (contours, boundaries). Microdensity measurements of the edges can be made with a scanning microdensitometer. The density numbers are then placed into a computer-calculated mathematical formula to produce an acutance value as a measure of sharpness. Some technical and scientific films are rated in acutance as well as speed, resolution, and graininess. There is a positive correlation between acutance values and the subjective judgment of sharpness.

Film and Digital Sharpness

Whether working with the silver halide crystals of film or the pixels of digital images, the sharpness of the image depends on the abruptness in change of density at the very edge of an image. The more abrupt the change,

the greater the sharpness. This is why some painters use a black line around edges to increase contrast and therefore sharpness.

In film photography, an *unsharp mask* was used to increase edge sharpness. It involved the challenging darkroom work of combining a blurred negative of the image (the unsharp mask) with the positive image. In digital imaging, creating an unsharp mask is much easier using a filter designed for that purpose. Newer digital imaging software, such as Adobe's Smart Sharpen, offers even greater control over image sharpness.

Regardless of the software used, sharpening involves a search for edges. When an edge is detected, the software program increases the density on one side of the edge and decreases it on the other side. This increases the density differences at the very edge of the image—and therefore its sharpness.

Cornsweet Effect

The eye operates similar to edge detection software. It searches out abrupt luminance differences, which are seen as edges separating one area from another. In the *Cornsweet effect* a gradual increase in darkness, followed by an abrupt decrease, followed by another gradual increase, results in the perception of an edge. This can be seen in Figure 6.17. One side of the edge looks lighter than the other, but if you block out the perceived edge by placing a pen or a finger over it, both sides appear to be the same. This is because the change in luminance (darkness) is gradual and not as detectable as is an abrupt change.

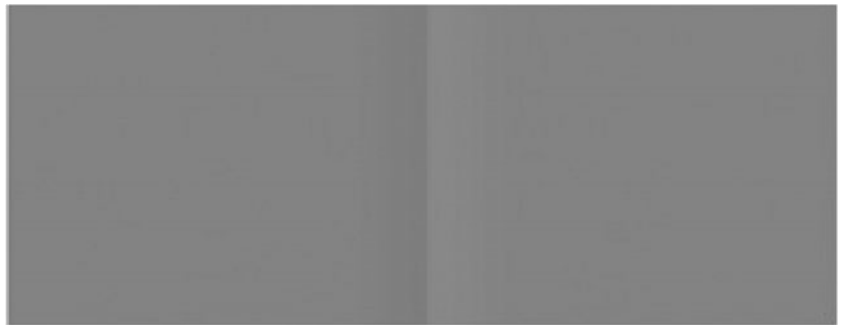


Figure 6.17 The Cornsweet effect. The eye is very sensitive to abrupt changes in luminance (brightness). Most people see the right side of this gray panel as being lighter than the left. A density scan of the panel from left to right would show a gradual increase in density, an abrupt decrease, and then a gradual increase. At the point where the abrupt change in density occurs, we perceive an edge. Place your finger or a pen over the perceived edge and the two sides appear to have nearly the same lightness.

Development

Acutance and sharpness are dependent on not just the film characteristics, but also the method for developing the film.

Development factors that alter edge effects, and therefore image sharpness, include developer strength, developing time, and agitation. Diluting the developer and developing for a longer time with no agitation enhances edge contrast and sharpness. Unfortunately, this procedure can also cause uneven development with some film—developer combinations . . . One developer specifically formulated to enhance image sharpness with normal-contrast film is the Beutler High Acutance Developer [named after the man who pioneered developers of this type].⁹

THE PSYCHOLOGY OF BEING SHARP

Many years ago in high school, a friend and I were studying in the library. He had taken off his glasses and placed them on the table. Thinking it would be an interesting experiment, I asked if I could try them on. “Sure,” he replied. I anticipated seeing the world in some strangely distorted way, like being underwater or looking into a funhouse mirror. Instead, when I placed them on my nose, my jaw dropped. Things weren’t blurry or warped at all. Everything was crisp and sharp!

“Wow,” I said to him. “Is this how you see? It’s so *clear*!”

My friend raised one eyebrow. “John, I think you need glasses.”

Being a teenager, I didn’t particularly like the idea of becoming a four-eyes, but I sure did like being able to see 20/20. Who wouldn’t? Everyone wants to see the world as clearly as possible. We function better that way. We believe we’re more in touch with the way things truly are. We feel like we see reality more accurately.

Think of all the expressions that indicate the admirable quality of sharpness. A sharp mind, eye, dresser, and shooter. In many ways, sharp is good. It indicates precision, clarity, discernment, a no-nonsense take on things. You notice the details. You’ve got the edge. You get to the point. So too in a well-sharpened photograph, we appreciate the precise details of a scene. We marvel at how clearly and intricately the photo depicts reality.

When the edges of an image are greatly enhanced—as in high dynamic range techniques (HDR)—the eye can’t help but feel captivated by an image that seems to pump up reality beyond the range of normal vision. The world look surrealistically detailed. It’s the eye of an eagle, the eye of the tiger. Lines and textures are so crisp that they shout at us. The image might even feel harsh, aggressive, with cutting edges that pierce one’s

consciousness. Think of the other expressions we associate with sharpness. A sharp wit. A sharp tongue. A sharp remark.

The Beauty of Blur

Good photography doesn't always require sharpness. Wonderful images may be something less than sharp and sometimes downright blurry. Their beauty rests in how they have a different psychological impact than the sharp image. They are soft, smooth, liquidy, flowing, tender, and dreamy, suggestive of fantasy and distant or fading memories. They might make us feel dizzy, disoriented, like we're floating, gliding, spinning, or drunk.



Figure 6.18 Notice how the sharp versus soft treatment of the subject's face have different psychological impacts. In the sharp version, he seems more stern and analytical. In the soft version, more friendly and gentle. What role do the different colors play in these effects?

*In nature there are
few sharp lines.*

A. R. Ammons

Many artistic photographers, especially those who enjoy imaginative and altered states of consciousness, love smoothness, blending, and blur. Impressionistic and non-representational artists might claim that how they portray the world is how the world looks in the spontaneous moment of first perception. I'll throw in my two cents to say that if you have "bad" eyesight, a slightly blurry image might feel perfectly normal.



*You can observe a lot
by just looking
around.*

Yogi Berra

Figure 6.19 This photograph by John Fergus-Jean is of his then-girlfriend, now wife/mother/artist. The narrow long leaf is in front of Elizabeth, but why does it appear to embed itself in her face?

KEY WORDS

acutance
adjacency effects
boundary
closure
common contour

continuation
contour
contour rivalry
Cornsweet effect
edge

ligature
Mach bands
nystagmus
shared contour
subjective contour

trompe l'oeil
unsharp mask
virtual contour
virtual lines
visual vibrations

NOTES

- 1 Rudolf Arnheim, *Art and Visual Perception*, Berkeley, CA: University of California Press, 1974, p. 223.
- 2 Ibid., p. 223.
- 3 Jacob Bronowski, *The Ascent of Man*, New York: Little, Brown & Company, 1973, p. 172.
- 4 Anton Ehrenzweig, *The Hidden Order of Art*, Berkeley, CA: University of California Press, 1967, p. 155.
- 5 Richard Zakia, *Perceptual Quotes for Photographers*, Rochester, NY: Light Impressions, 1980, p. 92.
- 6 Floyd Ratliff, "Contour and Contrast," *Scientific American*, June, 1972, p. 90.
- 7 Vincent van Gogh, *The Complete Letters of Vincent van Gogh*, Greenwich, CT: New York Graphic Society, 1958, p. 277.
- 8 Josef Albers, *Interaction of Color*, New Haven, CT: Yale University Press, 1972, p. 62.
- 9 Les Stroebe, John Compton, Ira Current, and Richard Zakia, *Basic Materials and Processes*, Boston: Focal Press, 1990, pp. 265, 266.

7 Illusion and Ambiguity

Those things which are most real are the illusions I create in my paintings.
Eugène Delacroix



Figure 7.1 “Euclidean Walks” by René Magritte. © 2006 C. Herscovici, Brussels/Artist Rights Society (ARS) New York. Are we looking at a painting on an easel that depicts what is outside the window, or are we actually looking directly at the scene outside the window? Similarity and proximity of the two cone shapes encourages grouping of the two that are in different picture planes, causing further ambiguity.

*Even the clearest
water appears opaque
at great depths.*

Anonymous

*What we see is not
identical with what
is imprinted upon
the eye.*

Rudolf Arnheim

Seeing is believing.

Proverb

Illusions are defined as experiences that are not in accord with physical reality, even though we perceive illusions as reality. Because vision is our dominant sense, we usually think of illusions as a visual phenomenon, although they can occur in the other senses. Visual, auditory, and tactile hallucinations are extreme examples of illusion.

Perceptual psychologists have studied visual illusions extensively in an effort to understand the psychological process of vision, a knowledge now being applied in the design of computerized vision. People in the theater and movies rely on trickery in special effects with sight and sound. They realize that illusions create visual tension, that they challenge viewers to question what they see.

Knowledge of illusions explains why there are contradictions between physical and perceptual reality, why there is a difference between what we know to be true and what we experience. This knowledge can be very useful to photographers, designers, and animators who wish to create images that encourage us to explore the discrepancies between the physical world and how we interpret it.

The artist René Magritte, in his painting of a large eye titled “False Mirror” (see Figure 9.3), calls attention to how the eye seems to mirror our world just like photography, the “mirror with a memory.” But Magritte also alludes to how the image that falls on the eye is actually not what we see. What we see is the result of millions of neurons exchanging information in the cerebral cortex of the brain. The image on the eye’s retina is just the first step in the complex process of seeing.

TROMPE L’OEIL

Creating illusory images has a history, beginning in ancient Greece and extending to the sophisticated computer imaging we witness today. Around 400 BC, the Roman scholar Pliny recorded an incident concerning two Greek painters, Zeuxis and his rival Parrhasius.

Challenged by the latter, Zeuxis drew aside the curtain covering his work to reveal a painting of grapes so realistic in effect that some birds attempted to peck them, but he had to admit defeat when, demanding that the drapery covering his rival’s picture be drawn aside, he was chagrined to find the curtain itself was painted.¹

What came to be known as *trompe l’oeil* (“fooling the eye”) has taken many forms over the years, including some of the graffiti we see on walls and buildings. It dealt with a type of hyper-reality where two-dimensional images acquired a realistic three-dimensional appearance that was so convincing one had to reach out and touch the painting to confirm it was indeed a painting. “Trompe l’oeil painters . . . relied on the mutual

reinforcement of illusion and expectation . . . the most successful trompe l'oeil I have ever seen was . . . a painting simulating a broken glass pane in front of a picture."²

A Times Square billboard in New York City attested to the power artists and photographers have in fooling the eye (Figure 7.2). On a busy Broadway street corner atop a storefront was a huge photograph of a woman dressed, sitting on what appears to be a window ledge. Although this is a photograph, the illusion that the woman and window are three-dimensional was quite convincing. It was nearly impossible to see it otherwise. The illusion is enhanced by both the size of the picture and its high location.

A picture is something which requires as much knavery, trickery, and deceit as the preparation of a crime.

Edgar Degas



Figure 7.2
Billboard in Times Square, New York City, 1995. Richard Zakia.



Figure 7.3
"Parisian Dreams" by J. Tomas Lopez.

Illusions, like puns, can be playful, interesting, and engaging. Take a good look at the photograph in Figure 7.3. Some people puzzle over it, finally concluding that it must be a “photoshopped” montage. It isn’t. Similar to highly realistic sidewalk and street paintings, it creates the illusion of depth where none actually exists.

SPACE, TIME, AND COLOR ILLUSIONS

There are many different types of visual illusion, but most can be placed into three broad categories: geometric, chronometric, and colorimetric. The *geometric illusions* are a result of misperception of length, size, shape, and direction; the *chronometric illusions* involve time and movement; and *colorimetric illusions* demonstrate that color is a chameleon whose perceived hue, saturation, and brightness can change according to the surround, color temperature of the light source, light level, and other factors (see Chapter 5).

*The whole is
different from the
sum of its parts.*

GEOMETRIC ILLUSIONS

An important aspect of human vision is that it does not see things in isolation but rather in relationships. Instruments, like one-degree light meters, “see” in isolation; humans do not. Perceptually we cannot separate figure from ground. We see them in relation to each other and that relationship determines what we see. This is the key to understanding most illusions. By controlling the background, the length, size, shape, and direction of a line can be changed.

Figure 7.4 shows examples of illusions in which the perceived lengths of lines appear different from their actual physical lengths. If the surround were removed, we would see them as having the same length. You may want to prove this by measuring the lines yourself. In Figure 7.5, an interrupted leg looks longer than it is.

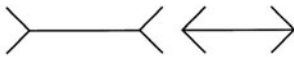
The family of illustrations in Figure 7.6 shows how the surround can change the apparent size of a visual element. Notice that some illusions of size are just variations of others. Again, it is the relationship between figure and ground that creates the illusion.

Figure 7.7 shows how angular and circular background lines can change the perceived shape of a horizontal line, square, or circle. In the Hering and Wundt illusions, horizontal lines bend to become convex or concave depending on how the background lines intersect the horizontal lines that are seen as figure. The same is true for the Ehrenstein, Orbison, and Ponzo illusions. They are all variations of the Hering–Wundt illusion.

Figure 7.8 shows how the surround can change the direction of a line. In the Zöllner illusion the angle at which the short lines intersect the longer

*Objects such as
buildings will look
taller in a vertical
format than in a
horizontal one.
Landscapes will look
wider in a horizontal
format than a
vertical one.*

Luke Michael



MÜLLER-LYER (1889)
A and B are the same physical length,
but are seen as different.



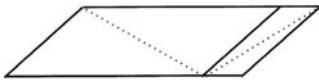
Variation of the Müller-Lyer illusion



PONZO
The two horizontal lines are the same length



OPPEL
The vertical and horizontal lines are the same length

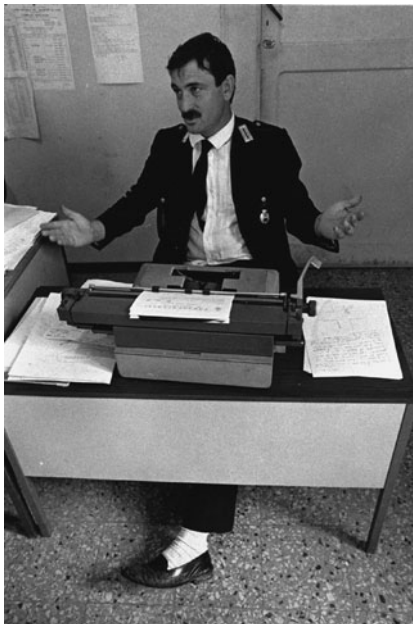


SANDER PARALLELOGRAM
The two dashed lines are the same length.



OPPEL-KUNDT
Interrupted or divided lines or spaces generally appear
to be longer than undivided ones.

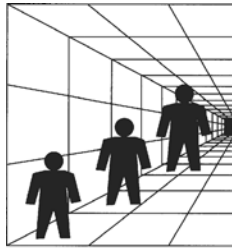
Figure 7.4 Geometric illusion: length.



*Reality is only an
illusion, albeit a
persistent one.*

Albert Einstein

Figure 7.5 An Italian policeman sitting at his desk seems to be standing while his leg appears longer than it is, due to the OppeL-Kundt illusion: how a distance divided by graduated lines seems longer than an undivided distance. Photograph by Barry Myers.



Converging lines create an illusion of depth. All three persons are the same height. The one furthest, however, appears the tallest. Size is traded for distance.

Draw a straight line askew as long as it gives the impression of being straight.

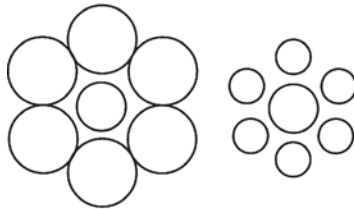
Edgar Degas

Why assume that to look is to see.

Pablo Picasso

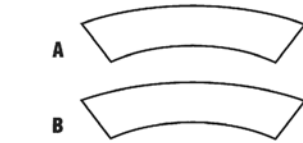
This is not an optical illusion, it just looks like one.

Anonymous



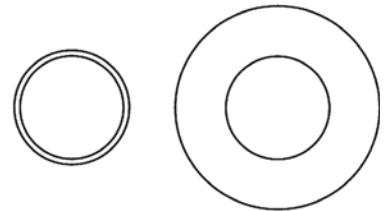
EBBINGHAUS

The two center circles are the same size, but one appears smaller compared to the larger circles that surround it; the other appears larger because of the small circles that surround it. Size is relative to the surround.



JASTROW

A and B are identical in size and shape. A looks smaller because its bottom curvature is in close proximity to the larger outer curvature B.



DELBOEUF

The two inner circles are the same size. One looks larger than the other because of the size of the surround circle.

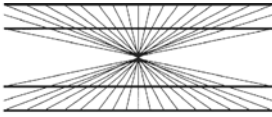
Figure 7.6 Geometric illusion: size.

lines causes the longer lines to be seen as tilting in opposite directions. Once again, figure cannot be separated from ground.

A number of geometric illusions are related in that the lines crossing or intersecting one another appear to bend and change shape. With the Zöllner illusion the lines appear bent away from one another rather than parallel. The Hering and Wundt illusions exhibit similar characteristics. “Many other illusions are constructed on the basis . . . of an apparent tilting of certain lines away from other lines that cross them. The distortion of the square (Ehrenstein illusion) and the circle (Orbison illusion) are cases in point.”³

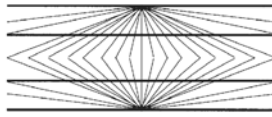
When looking at something we tend to see it in such a way that it will cause the least amount of visual tension. Rudolf Arnheim gives an explanation of the bending of lines in the Hering illusion based on this principle (Figure 7.10):

An objectively straight line crossing a sunburst of radii bends toward the center. In this case the centric, expanding pattern creates an



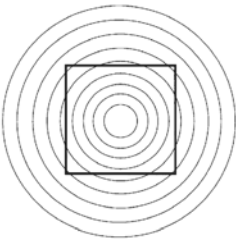
HERING

The horizontal lines bend away from the vertex of the converging lines in the background and appear somewhat convex.



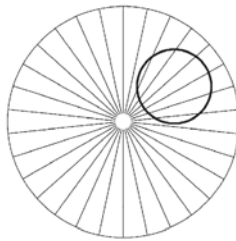
WUNDT

The horizontal lines bend away from the vertex of the converging lines but now appear concave. Both illusions have the same basis. The difference is in the position of the vertices.



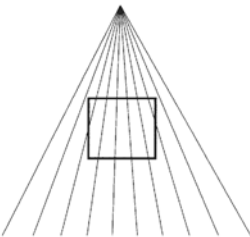
EHRENSTEIN

The angles at which the circular lines intersect the square distort it.



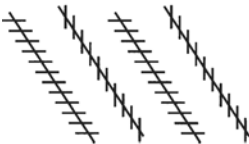
ORBISON

The angles at which the spoked lines intersect the circle distort it.



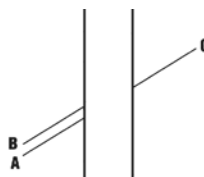
PONZO

The angles at which the converging lines intersect the square distort it.



ZÖLLNER

The angles at which the small lines intersect the longer parallel lines cause them to appear non-parallel. (*To prove this simply cover the even or odd lines with a pencil.*)



POGGENDORFF

Which line, A or B, connects with line C?

Figure 7.7

Geometric illusion: shape.

Figure 7.8

Geometric illusion: direction.

inhomogeneous field, in which objective straightness is no longer as devoid of tension as it would be in a homogeneous field (B). Its equivalent in the centric field would be a circular line (C) because all sections of such a line would be in the same relation to the field and to its center. The straight line in A, on the other hand, changes angle, size, and distance from the center in each of its sections. To the extent that the line gives in to the tendency toward tension-reduction we see it curving.⁴

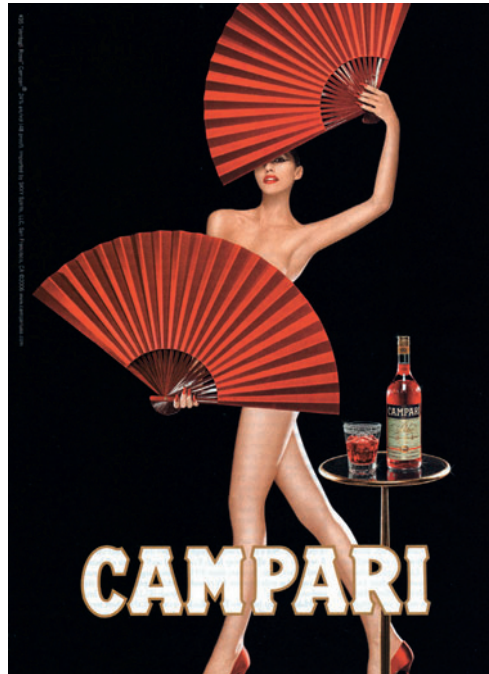


Figure 7.9 The red fan in front of the model's body causes her left leg to appear somewhat displaced due to the Poggendorff illusion, which is the misperception of the position of one segment of a transverse line that has been interrupted by the contour of an intervening structure.

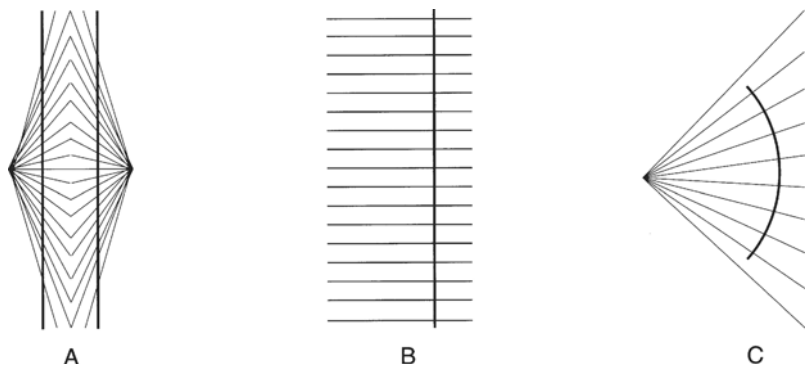


Figure 7.10
Hering illusion.
Figure and ground are
interdependent.

Reversibles

One type of illusion involves reversible images or “flip-flops.” An article titled “Multistability in Perception” by Fred Attneave describes a number of them, including the familiar *Necker cube* and works by artists Salvador Dali and Maurits Escher.⁵ In Figure 7.11 all four reversible figures are related in that their geometry is similar. They are all also based on the configurations demonstrated by Ernst Mach and Louis Necker.

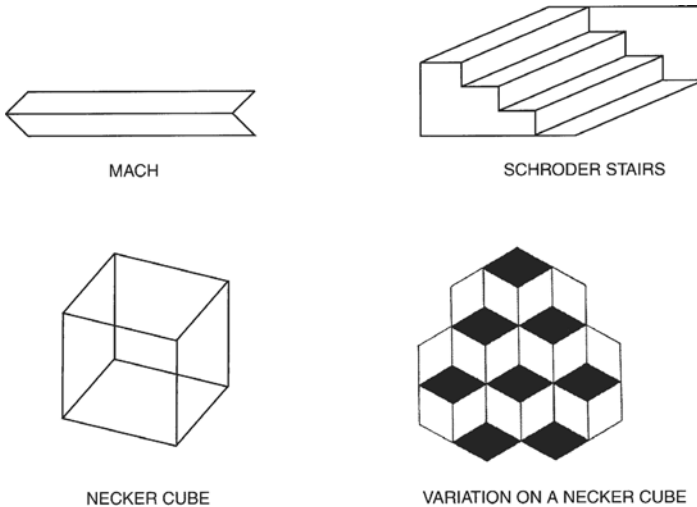


Figure 7.11 Reversibles. Variations on a theme. Acute angles are critical to perception.

TIME (MOVEMENT) ILLUSIONS

Imagine two small lights a short distance apart in a darkened room. The first light is flashed briefly, then goes off, and for a brief interval nothing is visible. Now the second light is flashed briefly, then goes off, and for a brief interval nothing is visible. The process continues with the lights going on and off. If the interval (dark time) between the light going on and off is right, the observer will see an apparent movement between the lights. This illusion of movement by two stationary lights is so convincing that it cannot be distinguished from real movement. It has been referred to as the *phi phenomenon* or *stroboscopic movement*.

Without such a phenomenon, motion pictures, which are still pictures presented at a rate of 24 frames per second, would not be possible. A movie frame is projected at $1/48$ of a second, followed by a dark period of $1/48$ of a second (total time of $1/24$ of a second per frame), and then the next frame is projected, and so on. The result is the perception of a moving image.

*Motion is the
strongest visual
appeal to attention.*

Rudolf Arnheim



Figure 7.12 A sequence of images from Fred Ott's Sneeze (also known as Edison Kinetoscopic Record of a Sneeze)—an 1894 American, short, black-and-white, silent documentary film shot by William K. L. Dickson and starring Fred Ott. It was the first motion picture to be copyrighted in the United States.

The same phenomenon accounts for movement on a video screen, which is made up of thousands of red, green, and blue phosphors that act as little colored lights that go on and off. A series of alternating horizontal lines of phosphors is lit up every $1/60$ of a second for a total time of $1/30$ of a second per still image on the screen. To capture a still image on a video screen, the camera shutter must be set at $1/30$ of a second or longer, otherwise the result will be only part of the image on the screen.

Depth Cues and Movement

Since the Renaissance, artists and other image makers have worked with the illusion of depth on a 2D surface. As we discussed in Chapter 4, depth cues involve perspective, overlap, texture gradient, size differences, aerial haze, motion parallax, motion perspective, and colors that seem to recede or advance. What adds to the illusion of depth with moving images is the visual experience of movement. As objects increase and decrease in size, they appear to move forward and backward. They can move right and left, up and down, yaw, pitch, and roll—movement in every possible direction.

Movement is a powerful depth cue. Added to the other depth cues and to sound, the illusion becomes even more convincing. Sound can enhance the perception of 3D by increasing and decreasing in volume, in the type of sound, and also the direction from which it seems to come relative to the moving image on the screen.

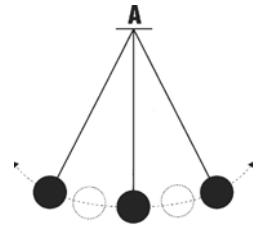
The Pulfrich Effect

If one were to look at a simple pendulum movement (Figure 7.13) with a dark filter or sunglass covering one eye, what would be seen is an elliptical movement (B), rather than a linear movement (A). The filter causes a delay in the signals reaching the brain from the retina. “Since the target is moving, a temporal delay corresponds to a spatial displacement: the covered eye is seeing the target with a delay in time, and thus at a spatially lagging point in its trajectory. The lag produces a stereoscopic disparity, and therefore a shift in depth.”⁶ This is called the *Pulfrich effect*.

*The greatest grace
and life that a
picture can have is
that it expresses
motion, which the
painters call the spirit
of the picture.*

Gian Lomazzo

The Pulfrich illusion applies not only to a linear pendulum movement but also to any object in a horizontal movement relative to the eyes. “In an ordinary television picture, for example, objects moving from left to right will appear displaced in front of the screen if the right eye is covered by a filter.”⁷ Years ago an experimental video advertisement, based on the Pulfrich effect, successfully presented a 3D appearance on a video screen for those who watched the television commercial with filtered viewers.



The Waterfall Effect

If one were to stare at a waterfall for a minute or so and then look away, the after effect would be a movement of the waterfall image in an opposite direction; up instead of down. A similar illusion occurs when looking at a rotating spiral; the after effect is an image of the spiral rotating in the opposite direction (Figure 7.14). It seems that our perceptual system, like our biological system, tries to restore balance and maintain equilibrium by responding in an opposite way. This happens with color as well. If you looked at a red circle for a period of time and then switched to looking at a white surface, you would see a cyan afterimage.

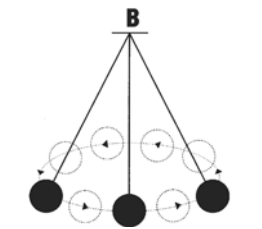


Figure 7.13
The Pulfrich effect.

COLOR ILLUSIONS

Regardless of the medium used (photography, printing, xerography, video) none will faithfully reproduce all colors. For example, a video screen is not capable of reproducing an aquamarine color correctly. The problem is not in the recording of the color but rather in the display on a video screen.

Because the color of an object is dependent on its surround (see Chapter 5), one way to overcome the problem is to change the surround. A red surround can strengthen the hue, saturation, and brightness of aquamarine (simultaneous contrast) to make it appear more correct. A similar problem exists when trying to faithfully reproduce on a device screen other precise colors, such as IBM blue and Coca-Cola red. The choice of an appropriate surround color can improve the appearance of the color reproduction.



Figure 7.14
The waterfall effect

SIZE-DISTANCE TRADEOFFS

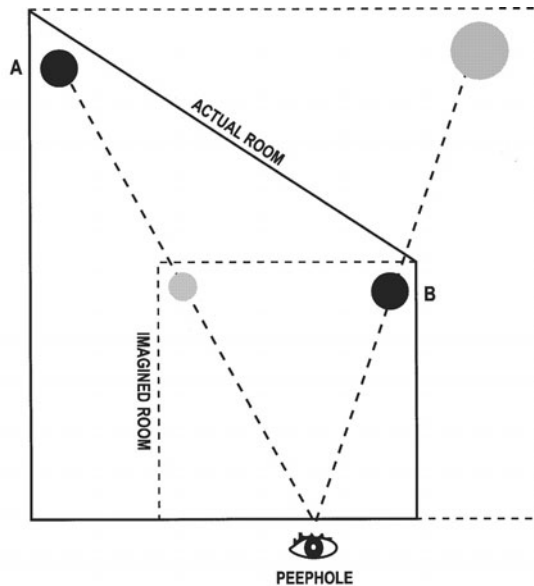
We perceive things in relationships, including the perception of size and distance. You cannot judge one without the other. The perception of size and distance is dependent on some familiar reference. This is the basis for a variety of interesting illusions, one of them being the Ames room illusion seen in Figures 7.15 and 7.16.

A color has many faces, and one color can be made to appear as two different colors.

Josef Albers

*We see what we
expect to see.*
Rudolf Arnheim

Figure 7.15
The Ames Room
in action. Photographs
by Ian Stannard
([flickr.com/photos/
silly_little_man/](https://www.flickr.com/photos/silly_little_man/)).



1. Black circles A and B are the same size in a distorted room.
2. The room (solid lines) as seen with one eye through a peephole is assumed to be a normal room having square corners.
3. The gray circles show the perceived size; A is seen smaller and B larger.

Figure 7.16
The construction of
the Ames Room.

The room is located in an enclosure and can only be seen from a peephole (one-point perspective). The viewer assumes that the walls, ceiling, and floor meet at right angles, which is what one would expect and indeed they appear that way viewed from a fixed peephole position. However, the room is distorted; ceiling and floor are trapezoids that slope toward each other—the right wall being smaller than the left. The floorboards are not rectangular and the far left corner of the room is twice the distance from the peephole as the right corner. The result is that a person B standing on the right is assumed to be the same distance as the person A on the left. Projecting person B to that distance would make the person appear much larger than he or she actually is.

The phenomenon is somewhat similar to the illusion that the moon or the sun at sunrise or sunset looks much larger on the horizon than in the sky above. The mind assumes the moon is very far away, and yet when near the horizon it still looks bigger than houses and trees. This size–distance dependency provides opportunities for creative arrangements in imaging.

Dutch Cabinets

The Ames room illusion is an interesting variation of the early rooms, called *Dutch cabinets*, which were created by Dutch artists in the 1600s. They would construct a normal-size room with a peephole. Inside the room were chairs, tables, walls, and hangings that looked normal from only the peephole position. Upon entering the room everything looked distorted. Samuel van Hoogstraten's "View Down a Corridor" and "Interior of a Peep Show" are wonderful examples.⁸

*Nothing is more sad
than the death of an
illusion.*

Arthur Koestler

*Illusions are
perceptual realities.*

Rashid Elisha

SIZE–SIZE DEPENDENCY

We judge the size of an object based on its context, its relationship to other objects, and to some extent on its familiarity. A classic example is the painting "The Listening Room" by René Magritte. An apple squeezed into a room appears to be the size of an elephant (Figure 7.18).

By assuming the room is normal size, there is no alternative but to see the apple as huge. But why isn't the room perceived as miniature and the apple as normal? Curiously, the mind favors one perception over the other. The same illusion occurs when normal-size people are photographed or filmed in miniature settings. We see the people as giants and not the furniture as miniature.

Magritte's "big apple" painting was completed in 1952. Long before that time, photographers were creating paste-ups to create a similar size–size illusion. A number of them appeared on photographic postcards that can be seen in the book *Larger Than Life*: a man standing next to a 6-foot ear

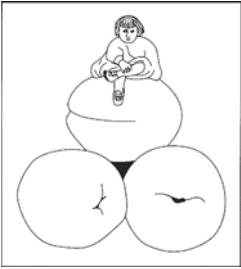


Figure 7.17

Sketch of an early photographic paste-up depicting a girl on top of three gigantic peaches (see also Figure 10.14).

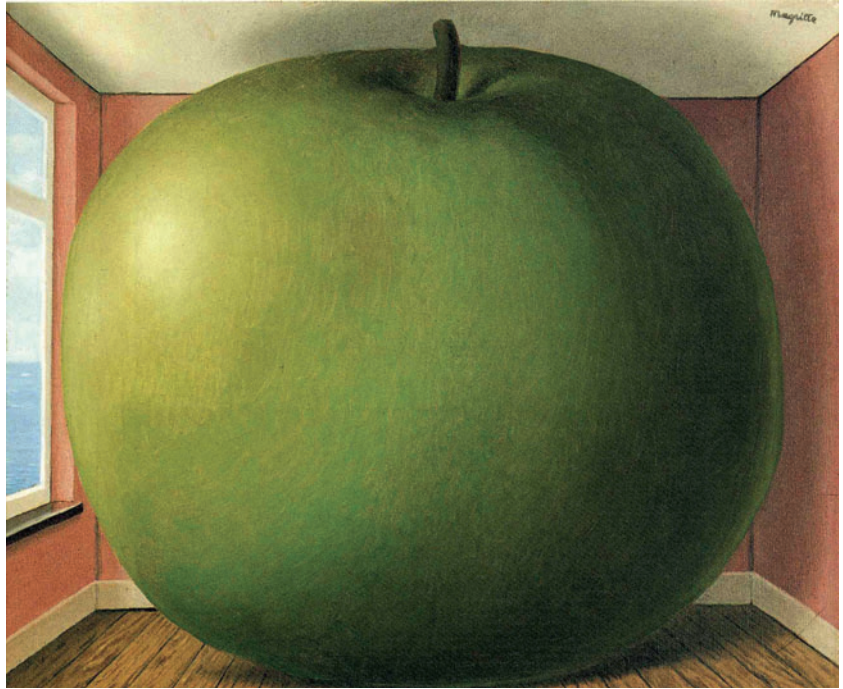


Figure 7.18 “La Chambre d’Ecoute” (“The Listening Room”), René Magritte. © C. Herscovici, Brussels/Artists Rights Association (ARS), New York, and the Menil Collections, Houston, Texas. Why do we see this as a huge apple rather than a small room?

of corn; men pitching horseshoes about 5 feet wide; a farmer harvesting sweet potatoes the size of hippopotami; a little girl dressed in white sitting atop three peaches the size of hot-air balloons (Figure 7.17).⁹

Shrinking Size, Increasing Distance

An effective demonstration of the relationship between size and distance requires only a white balloon inside an empty dark area. With a spotlight on the inflated balloon, it is slowly deflated. As it becomes smaller and smaller, it appears to be moving farther and farther away. In fact, the balloon has not moved at all; it has merely gotten progressively smaller. Figure 7.19 simulates this effect. Size determines distance and distance determines size. The two are inseparable.

Emmert’s Law

If a person sits next to a projector while an image is first projected onto a screen at a distance of about 10 feet and then onto another screen at a further distance, the person will see the second image as being larger, even

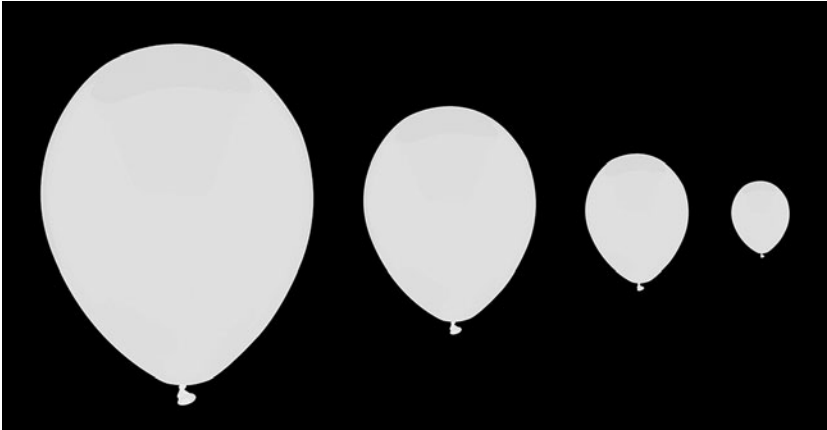


Figure 7.19 The shrinking white balloon appears to be drifting away.

though the angles of the projected image (at the projector) and the received image (at the eye), and the size of the images formed on the retina, are identical for the two images. For example, a coin projected onto a background that looks far away will look massive, while one projected onto a background that seems nearby will appear tiny. This is known as *Emmert's law*: the perceived size of an object is proportional to its perceived distance. It is similar to the moon illusion and the Ames room illusion.

Size–Distance Reversal

In a B.C. cartoon by Johnny Hart (Figure 7.20), we see a playful depiction of a surreal world where the principles of size/distance perception break down and even reverse themselves. This perceptual joke is reminiscent of the Ames room in Figure 7.15. The mind expects constancy in the size of objects, unless there is a clear reason for any such discrepancies.



Figure 7.20

A surreal world where the law of perspective does not apply. B.C. by permission of Johnny Hart and Field Enterprises, Inc.

AMBIGUITY

Something is said to be ambiguous when its meaning or intention is unclear, suspicious, or can be interpreted in several different ways. It comes from the Latin “ambi” (both ways) and “agere” (to drive), suggesting things that waver, go around, or seem to contradict themselves. There can be ambiguities in language as well as visuals.

Ambiguity in Language

Words that have double meanings are ambiguous *double entendres*. They are plays on words, puns. Some words called homonyms sound alike and can be used as puns: made/maid, rain/reign, board/bored, wood/would. The visual equivalent would be words that look alike: angle/angel, conservation/conversation, natural/neutral, public/pubic. During Edward Weston’s career, a museum refused to display some of his photographs of nudes showing pubic hair. From then on Weston referred to pubic hair as public hair. In one of my undergraduate psychology textbooks, the copy editor for the book apparently overlooked the erroneous sentence stating that women during the Salem witch hunts were subjected to “pubic” humiliation.

Because words are context dependent, they lend themselves nicely to ambiguities with double meanings: “My professor’s wife wakes up with a jerk.” A company wanting to increase its market share of product X in some of the larger cities ran a series of visually interesting ads showing the city in all its glory with headlines like “Boston Pops Over X,” “Chicago Goes for a Loop Over X,” “Don’t Seattle for Less,” “Buy X.” In a classic *Saturday Night Live* routine, the director of a nuclear power plant, hoping to warn his staff about the correct procedures for avoiding a disastrous explosion, gives them this last word of advice: “You can’t put too much water into a nuclear reactor.” After he leaves, the staff argues about whether too much water is a good thing or a bad thing, as the reactor slowly creeps into the red zone.

Photographers can create thought-provoking ambiguities by providing titles for images that seem to contradict what we see in the image or that can be interpreted in several different ways. Figure 7.21 is an example.

A wonderful cartoon that appeared in the *New Yorker* magazine shows a parking garage with a large opening for cars entering and exiting. A sign above the garage opening reads “PARK.” At the opening of the garage is a beautiful park-like setting of trees, shrubs, grass, and flowers. Similar to anomalous titles for photographs, the playful ambiguity of the cartoon comes from the mix of language and image.

Some surrealist artists play hide-and-seek with the beholder, producing ambiguous pictures susceptible to different mutually exclusive views.

Rudolf Arnheim



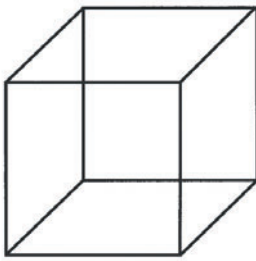
Figure 7.21 “Bottle Neck” by John Suler. The title of the image creates semantic ambiguity for a photo that is already visually ambiguous. Does our thinking become bottlenecked as we try to decide if we are looking through the neck of a bottle, at a man with a bottle neck, or both?

Ambiguity in Images

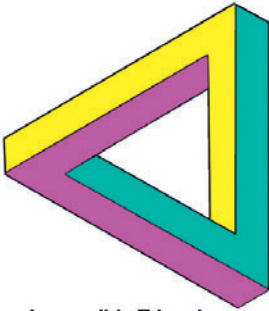
Pictures, like words, can convey more than one meaning, which adds to their intrigue or confusion. Simple but striking examples of ambiguity in depth perception are the Necker cube, described by the Swiss geologist Louis Albert Necker in 1832, and the “Impossible Triangle” devised by Lionel S. Penrose (Figure 7.22). Seen as a 2D representation, the Impossible Triangle appears especially perplexing. In a 3D model of the triangle, isolating the three connecting angles from the triangular shape reveals the source of the confusion (Figure 7.23).

*We look at the world
and see what we
have learned to
believe is there.*

Aaron Siskind



Necker Cube



Impossible Triangle

Figure 7.22
The Necker cube and
Penrose illusion

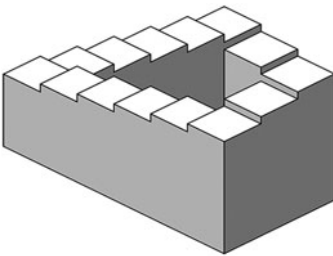


Figure 7.24
The impossible staircase.

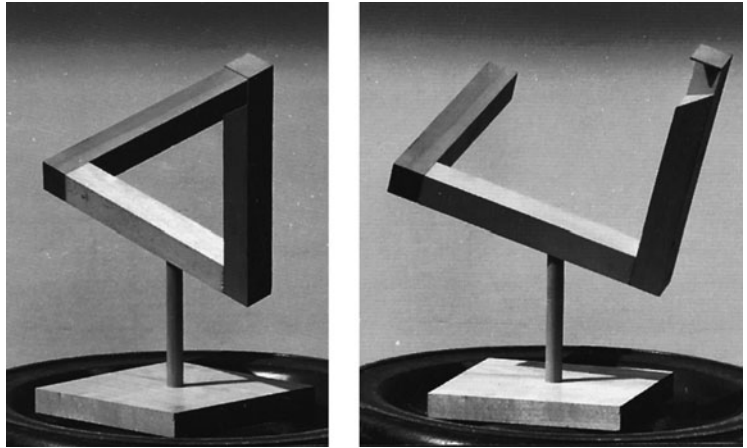


Figure 7.23 The Penrose illusion in 3D. A three-dimensional model of the Penrose illusion photographed from two different camera positions. Three-dimensional model courtesy of Richard N. Norman.



Figure 7.25 Many photographers, including myself, have enjoyed the attempt to recreate Escher's famous drawings of impossible staircases. The illusion is enhanced by eliminating depth cues, such as creating uniform brightness and clarity across foreground and background.

The works of Maurits Escher rely on some of the same techniques to present us with ambiguous depth and puzzling construction. His drawings of bewildering stairs that seem to go up and down simultaneously have inspired many photographers to simulate the effect (Figures 7.24 and 7.25).

Other artists, such as Salvador Dali, have also used their talent to exploit the dual interpretation that can be attributed to image. Picasso is noted for his visual double entendres, such as using a bicycle seat and handle bars to create a sculpture of a bull's head (see Figure 1.17B). "The game had been played before in the 17th century by Arcimboldo, who enjoyed creating two totally different interpretations of the same composition—a man's head could equally well be a pile of fruit."¹⁰

Photographers have created ambiguity by taking advantage of *isomorphism*: how objects having one form can be seen as taking on another form, a topic we will discuss more in Chapter 8 on morphics. Edward Weston's "Eroded Rock No. 51, 1930" comes to mind (see Figure 3.4 in Chapter 3). Is the picture of an eroded rock as the caption states or of a reclining nude figure? In his diaries edited by Nancy Newhall, Weston wrote: "Clouds, torsos, shells, peppers, trees, rocks, smokestacks are but interdependent, interrelated parts of a whole, which is life. Life rhythms felt in no matter what, become symbols of the whole."¹¹

When does a computer mouse resemble a wine glass? As demonstrated in Figure 7.26, when one's viewing position changes from horizontal to vertical—a reminder that objects can be observed from more than one point of view. You might at first have seen this as a wine glass, a perception reinforced by the caption "Visit North Carolina Wineries." However, your noticing "visitncwine.com" might have helped you see the mouse, as well as realize that you can visit the winery both online and offline. The ad is an invitation to visit the winery as well as interpret the ad.

ILLUSION IN THE DIGITAL AGE

As we push further into the digital age, we bear witness to how illusions have been raised to previously unprecedented levels of sophistication and power. In *Psychology of the Digital Age*, I include "reality" as one of the eight basic dimensions of cyberpsychology architecture that can be freely and effectively manipulated in digital environments. Such phenomena as

*Recording unfelt facts
by acquired rule
results in a sterile
inventory.*

Edward Weston

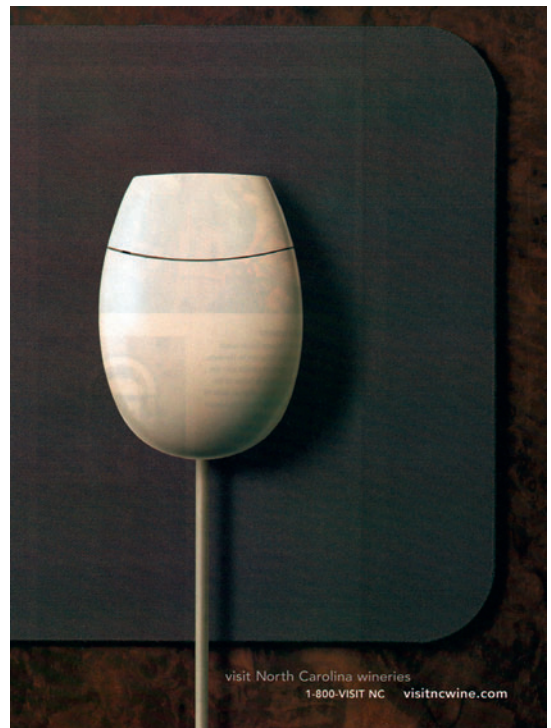


Figure 7.26 Visual double entendre.

“photoshopping” pictures via digital editing, CGI, augmented reality, virtual reality, and reality TV shows result in everyday people during their everyday lives being challenged to discern between images that are truth, partial illusion, or total illusion. We have become so accustomed to reality being bent that we almost accept it as matter of fact. Ironically, an entire genre of photography has been devoted to creating illusory photographs that look like products of digital editing (“photoshopped”), when in fact they were not (see Figure 7.27). Among all the different types of image-making, photography as the “mirror with a memory” is unique in its ability to make us wonder whether its images are fact, as a photograph is “supposed” to be—or fiction.

*You can't depend on
your eyes when your
imagination is out of
focus.*

Mark Twain

The study of illusions has taught us that even on the most basic levels of perception, our mind sees things that do not actually exist in the physical world. Now in the age of digital manipulations, we must apply those lessons on sophisticated levels of perception and understanding during our everyday experiences. We must take to heart not only the challenge of realizing that what we see in digital realms might be illusions, but how and for what purpose they were created as illusions.



Figure 7.27 “Flying Women” by Pete Turner. You might immediately think “photoshopped,” but in his book *The Color of Jazz* (Rizzoli, 2006, p. 125) Pete Turner writes, “It’s an interesting picture because if you turn the image upside down you see that the women are just lying on the beach! . . . I picked the island of Dominica, where they have black-sand beaches.”

KEY WORDS

Ames room	Emmert's law	phi phenomenon
chronometric	geometric illusions	Pulfrich effect
illusions	illusion	stroboscopic
colorimetric illusions	isomorphism	movement
double entendre	Necker cube	trompe l'oeil

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<http://taylorandfrancis.com>



8 Morphics



Figure 8.1 “Saguaro Cacti Couple, Arizona” © Jennifer Steensma.

The word *morphic* is from the Greek word *morphos*, which means “form” or “shape.” This chapter on morphics is about the different forms objects can take, how we photograph those forms, and how forms might look like other forms.

A form that can resemble a number of other forms is called *polymorphic*, like clouds floating in sky. Something that has no form, such as the wind, is called *amorphic*. Because the mind often determines meaning according to shape, it is difficult to interpret amorphic things. Other terms that describe resemblances between forms include the following:

- *Biomorphic*—having an organic form;
- *Isomorphic*—having a similar form;
- *Anthropomorphic*—having a human form;
- *Zoomorphic*—having an animal form;
- *Theriomorphic*—having a beastly, scary form;
- *Mechanomorphic*—having a mechanical form;
- *Anamorphic*—having a distorted form.

*I didn't want to tell
the tree or weed what
it was. I wanted it to
tell me something
and through me
express its meaning
in nature.*

Wynn Bullock

ANIMISM

Seeing or photographing objects as if they possessed a spirit or soul, similar to humans, is a type of *animism*. The soul is thought to be immaterial, eternal, and amorphic, although it manifests itself through the material form of the object. This is an ancient idea. Pythagoras and Plato hypothesized that there was an immaterial force present everywhere that animated and gave shape to the universe. The famous mythologist Joseph Campbell also described how the hidden force or soul of the universe expresses itself in the multitude of human, animal, and inanimate forms we witness in classic myths and stories. *The Oxford Companion to the Mind* defined animism in this way:

The belief, common among primitive peoples, that all things in the world (including stones, plants, the wind, etc.) are imbued with some kind of spiritual or psychological presence; this may imply that things are “ensouled” or “animated” by a universal “world soul” or by individual spirits of various kinds.¹

Whether one believes in animism or not, the important issue is the relationship that photographers establish with whatever they are photographing, be it a person, a tree, a stone, a landscape, a flower, or anything. How do they relate to the form of that subject, as well as to the essence represented by that form?

At least three different approaches are possible. The first is called *projection*; the photographer projects onto the object what they feel and

think at the time. If the photographer sees the form of the tree as the essence of standing tall and proud, then the photographer attempts to capture that feeling. The next approach is *introjection*. Here the photographer spends time studying the tree in a quiet way, attempting to “listen” to what the essence of the tree’s form has to reveal. The photographer then tries to photograph that form. The third approach, *confluence*, is a highly meditative one in which the tree and the photographer become as one form, sharing the same essence, with the photograph revealing that intimate relationship (Figure 8.2).

Native American Indians would put on the skins of animals, such as deer or buffalo, to become one with them, taking on the animal’s form and essence as they prepared for the hunt. A similar practice exists today in sports with teams such as the Atlanta Falcons, Buffalo Bills, Chicago Bears, Cincinnati Bengals, Detroit Lions, Los Angeles Rams, Miami Dolphins, and Philadelphia Eagles. The same can be said of the names given to perfumes that women wear: Tabu, Opium, Passion, Beautiful, Temptation. If a person becomes one with what they “put on,” they can identify with its essence—glamour, sensuality, beauty, risk, danger, strength, power.

What we photograph represents the essence of what we experience at the time. When asked about the meaning of some of his photographs, Aaron Siskind pondered the question and after some thought responded, “Pressed for the meaning of these pictures, I should answer; obliquely, that they are informed with animism . . . Aesthetically, they pretend to the resolution of . . . sometimes fierce, sometimes gentle, but always conflicting forces . . .”²

As a child, Dick Zakia noticed his mother and other women in the neighborhood talking to their flowers when they watered them. As a kid he thought it strange, but as he grew older he began to understand.

BIOMORPHIC

This word combines two Greek words: *bio*, meaning life, and *morphe*, meaning form. Photographs, paintings, sculpture, and architecture that exhibit biomorphic forms refer to or evoke living forms, such as plants and the human body. They call attention to the power of natural life with subtle suggestions of the complex fractal or elusively circular forms in nature. A Western term often used for such shapes is “organic,” while Taoism referred to it as “li.” In keeping with the spirit of animism, we might even perceive the inanimate things in nature as biomorphically life-like. A photographic example of a biomorphic image is seen in Figure 8.3.

Biomorphism, a term coined by Alfred Barr, began as an art movement in the 1930s. The biomorphic shapes of Willem de Kooning’s early abstract paintings can be seen as referencing the female body. In architecture, the



Figure 8.2

*When I looked at
things for what they
are I was fool enough
to persist in my folly
and found that each
photograph was a
mirror of my Self.*

Minor White

*A man walks into an
antique shop and
asks “What’s new?”*

Marshall McLuhan

*I attempt through
much of my work to
animate all things—
even the so-called
inanimate objects.*

Clarence Laughlin



Figure 8.3 A photo of biomorphic shapes on a city street after a rain. Photograph by Richard D. Zakia.

unique buildings in Barcelona, Spain, by Antonio Gaudi assume organic forms. In sculpture, the abstract biomorphic work of Henry Moore typically depict mother-and-child or reclining figures.

ISOMORPHIC

Isomorphism refers to objects and things having the same or similar form or function. Other related terms include:

Correspondence by the Swedish scientist Emanuel Swedenborg.

Predicate thinking by the Austrian psychiatrist Sigmund Freud.

Structural equivalent by the French poet Charles Baudelaire.

Equivalent by the American photographer Alfred Stieglitz.

As an example, turbulent water can be photographed in such a way that it looks like the turbulent flames of a fire (Figure 8.4). Edward Weston's "Eroded Rock No. 51, 1930" (Figure 3.4 in Chapter 3), which resembles a reclining nude, is another example.³ Because we find associations between things that are similar by transferring meaning between them, we might wonder how fire and water are alike, or how an eroded rock and the female body are alike. In reference to Weston's shell photographs, Tina Modotti said, "My God, Edward, your last photographs surely took my breath away, they contain both the innocence of natural things



Figure 8.4 “Maine.” © Robert Walch. Isomorphism: oncoming waves of water splashing against dark rocks take on the qualities of a flaming fire. Opposites sometimes appear similar in form.

and the morbidity of a sophisticated distorted mind. They are mystical and erotic.”⁴

Freud used the term *predicate thinking* to describe associations that are made at a subconscious level.

The tendency of the id to treat objects as though they were the same in spite of differences between them, produces a distorted form of thinking which is called predicate thinking. When two objects, for instance a tree and a male sex organ, are equated in a person’s mind because they both share the same physical characteristic of protruding, that person is doing predicate thinking.⁵

Edward Weston’s photograph “Palma Cuernavaca II, 1925” is a possible example.⁶ The original photograph was a vertical platinum print, which shows only the middle section of the palm-tree trunk against a bare black background. The top and bottom of the tree are not shown, only the trunk of the palm, somewhat like the middle section of a smoke stack.

Such objects and pictures with phallic shapes have a long history. How they are interpreted depends on both the culture and historical period. Barbara Walker writes that “Phallic symbols are objects of either overt or covert worship in all patriarchal societies.”⁷ As examples, she cites the pillars in India as representations of the lingam of Shiva, the Egyptian obelisk as representing the penis of Geb, and in Greece, the phallic pillar of the classic Herm.

The physical object is merely a stepping stone to the inner world.

Clarence Laughlin



Figure 8.5

*So much depends on
one's attitude. One
can shut many, many
doors of receptivity in
oneself or one can
open many doors that
are shut.*

D. H. Lawrence



Figure 8.6
Early primitive
anthropomorph.

Humans are very aware of and concerned about their bodies. Advertising companies pay close attention to this fact. Cosmetic products and jewelry capitalize on it. A careful look at the ads in magazines, on billboards, television, and online readily confirms this. When examining the ads, attend not to just what is being shown but also what is being suggested. In his book *Visual Communication*, Paul Martin Lester writes: “Liquor, lipstick and cigarette advertisers also commonly use phallic imagery in the form of products’ shape in the hope that potential customers will link the use of their products with possible sexual conquest.”⁸

Graffiti can be considered a form of advertising—a way of making a public statement to sell an idea. It is an old art form that can be traced as far back as the scrawls on the walls of Neolithic caves. Some of the graffiti that appears on buildings, bridges, and subways mimic these scrawls. The intents of modern man and Neolithic man may differ, but the isomorphic symbolism used is often quite similar.

Predicate thinking is not limited to the visual mode. It can occur in any modality, including the verbal. Freudian slips are an example. At a gala reception one evening, an announcer introduced the singer for the evening (who had a reputation for being promiscuous) in this way: “Ladies and gentlemen, let’s all give a warm welcome to our wonderful sinner from California . . .”

In this situation it was a verbal slip, but such Freudian slips can also be visual. As we will explore in the next chapter on subliminals, *secondary images* in paintings and photographs can be considered visual Freudian slips—unless, of course, they were consciously intended.

ANTHROPOMORPHIC

The prefix *anthro*, from the Greek *anthropos*, means “man.” *Anthropomorphic* refers to objects that can take on a human form. The hugging cacti at the beginning of this chapter is a good example (Figure 8.1).

The practice of attributing human characteristics to inanimate objects has a long history. Ancient drawings have been found in which facial features were added to the sun. Early as well as modern people can visualize a face in a full moon. Because facial patterns are one of the most distinguishing features among humans, who are highly social beings, we have a propensity to see faces in things.

It can be argued and has been argued, that we respond with particular readiness to certain configurations of biological significance for our survival. The recognition of the human face, in this argument, is not wholly learned. It is based on some kind of inborn disposition. Whenever anything remotely face-like enters our field of vision, we are alerted and respond.⁹

Even though contemporary digital editing of photographs provides fun and challenging opportunities to anthropomorphize objects, there is still a wonderful sense of discovery in locating actual objects in the environment that exhibit human qualities and then capturing those images with finesse. It is as if, through animism, the world is attempting to speak to us through human-like forms. For the July 2001 issue of *Shutterbug*, George Schaub in his “Editor’s Notes” wrote:

In many cases the computer constructs of images rarely matches those scenes and moments available to the photographer’s searching eye. Awareness is what separates us from machines, and awareness is gained through an artistic perception tuned into the harmony and discord of the world.

Whilst part of what we perceive comes to us through our senses from the object before us, another part (and it may be the larger part) always comes out of our minds.

William James

ZOOMORPHIC

Zoomorphic (pronounced “zoh-mor-fic”) is the term used to describe inanimate objects that appear to take on animal forms.

Many of the early gods and goddesses were represented as animals.

There is abundant evidence throughout the world that primitive human beings regarded animals as highly spiritual creatures, even deities. The human-bodied, animal-headed gods and goddesses of Egypt were obviously priests and priestesses costumed as animal spirits, wearing elaborate headdresses and masks.¹⁰

Zoomorphic expressions are often used in fashion design and advertising. Prime examples are jewelry and leather products, such as shoes and handbags, taking on the qualities of a serpent. The snake is one of the oldest symbols of fertility. Snake and serpent were considered holy in early civilizations, because they seemed to possess the power of life.¹¹ One reason some ads are so effective is that they transform the animals of myths and fairy tales into contemporary images using both old and new iconography.



Figure 8.7 While photographing the old, nearly dead, but quite beautiful willow tree in our backyard, I suddenly saw an antelope leaping between its branches.

THERIOMORPHIC

Man can frame to himself ideas of things that are not actual as though they were actual.

Georg Wilhelm
Friedrich Hegel

Forms that take on the characteristics of an imaginary beast are said to be *theriomorphic*. The term also pertains to a deity worshipped in the form of a beast. Such forms are typically frightening and often symbolic of trickery, evil, and the dark side of human nature. Some theriomorphic images represent the attempt to give a concrete shape to intangible, formless fears.

Early in history, shamans and witch doctors used theriomorphic masks, many of which now adorn museums throughout the world. During the great age of cathedral building in the Middle Ages, theriomorphic gargoyles were mounted on structures as a way to scare off evil spirits. Some were used as decorative water spouts.¹² In contemporary times, theriomorphic images appear in horror movies, Halloween masks, and advertisements (Figure 8.8).



Figure 8.8 Theriomorphic. Contemporary gargoyles in a surreal setting. “Pure Mischief.” Courtesy Smirnoff.

MECHANOMORPHIC

Mechanomorphic refers to a human subject perceived as having mechanical characteristics. Such images represent the close relationship humans have to their machines, and how our machines reflect who we are (Figure 8.9).



*I want to reveal in
my work the idea
that hides itself
behind the so-called
reality.*

Max Beckmann

Figure 8.9 “Consumer Service” by Vincent Comparetto. A mechanomorphic image using mixed media.

Photomontage provided early photographers a means of manipulating photographs to make social and political statements using mechanomorphic imagery. A German artist, Helmut Herzfelde, who assumed the English name John Heartfield as a protest against Adolf Hitler’s Nazi regime, was prominent in using photomontage to show the mechanical nature of the regime. The Dada artist Francis Picabia created many mechanomorphic pictures, most with strong sexual statements. He was fascinated by the use of machine parts to represent human features and functions. On a visit to New York City in 1915, he declared,

upon coming to America it flashed to me the genius of the modern world is in machinery and that through machinery art ought to find a most vivid expression . . . I mean to work on and on until I attain the pinnacle of mechanical symbolism.¹³

In the digital age, mechanomorphic images of humans as computerized and technologically modified beings have become quite popular. The



Figure 8.10 A mechanomorphic editing of a portrait. Photograph by Michelle Zell-Wiesmann ([flickr.com/people/89732889@N00](https://www.flickr.com/people/89732889@N00)).

fascination with robots, androids, and cyborgs raises philosophical as well as scientific questions about how humans are like machines, and vice versa (Figure 8.10).

ANAMORPHIC

The word *anamorphic* refers to an image that has been intentionally distorted in its shape, although the viewer can still visually imagine its original form and perhaps even optically or digitally restore it to that form. It means forming anew, transforming, from the Greek *ana* (again) and *morphos* (form).

Images reflected in any non-flat surface—such as car hubcaps, curved metal surfaces, and amusement park mirrors—are anamorphic. The mirror-like surface of Mylar, a thin and flexible sheeting that can be twisted into a variety of curved surfaces, has been widely used to create anamorphic images. Elongated shadows due to the low-angle light from the sun can also be considered anamorphic (see Figure 2.40).



Figure 8.11 “Two French Ambassadors,” 1533, by Hans Holbein.



Figure 8.12

In this reformed version of “Two French Ambassadors,” notice how the skull at the very bottom is now visible.



Figure 8.13

Anamorphic. An early photographic anamorphic image: a self-portrait created by Louis Ducos du Hauron in 1888. George Eastman House.

Perhaps the most famous anamorphic image in art, “Two French Ambassadors,” was painted in 1533 by Hans Holbein (Figure 8.11). Two gentlemen are standing side by side alongside expensive nautical instruments. In the bottom middle of the painting is a skewed image. When squinted at from the right-hand side of the frame, that distorted image transforms into a skull—a reminder of the vanity of earthly possessions and power, and one’s immortality (Figure 8.12).

One of the interesting aspects of Hans Holbein’s painting is that only part of the image is distorted; the larger part is seen in normal perspective. When a camera or enlarger is used to create an anamorphic image, the entire image is distorted. In digital photography, any image lends itself to partial or complete distortion in a variety of different ways.

Albrecht Dürer in 1506 had made reference to anamorphic images as having a “secret perspective”—a point of view that allows the distorted image to be reformed and seen in its proper perspective. It implies multiple points of view of a subject, similar to cubism. Anamorphic images can be found in early Chinese art where the technique was used to hide erotic images—images that could only be seen from a secret perspective.

One of the earliest anamorphic photographic images was a self-portrait made in 1888 by a French photographer and experimenter, Louis Ducos du Hauron (Figure 8.13). He distorted the camera image by using crossed slits instead of a lens.

his technique was published in amateur magazines as “trick photography”—along with anamorphic images, exaggerated perspective, “worm’s-eye” and “bird’s-eye” views, double exposures, composite prints, photomontages. A whole book of them [these special effects] was published in 1896 under the title, *Photographic Amusements*.¹⁴

The creative and effective use of anamorphic technique in an advertisement is shown in Figure 8.14. It also indicates the importance of movement from left to right to increase its effect, as described by Rudolf Arnheim:

Since a picture is “read” from left to right, pictorial movement toward the right is perceived as being easier, requiring less effort. If, on the contrary, we see a rider traverse the picture from right to left, he seems to be overcoming more resistance, to be investing more effort, and therefore to be going more slowly. Artists prefer sometimes the one effect, sometimes the other.¹⁵

While at a conference in Stockholm, Sweden, Dick Zakia came upon a metal gate constructed of anamorphic letters. After taking a photograph of the gate, he tried to determine what the letters spelled. Later he made a line drawing from the photograph to make the letters stand out more clearly, as seen in Figure 8.16. Not knowing whether the words were in

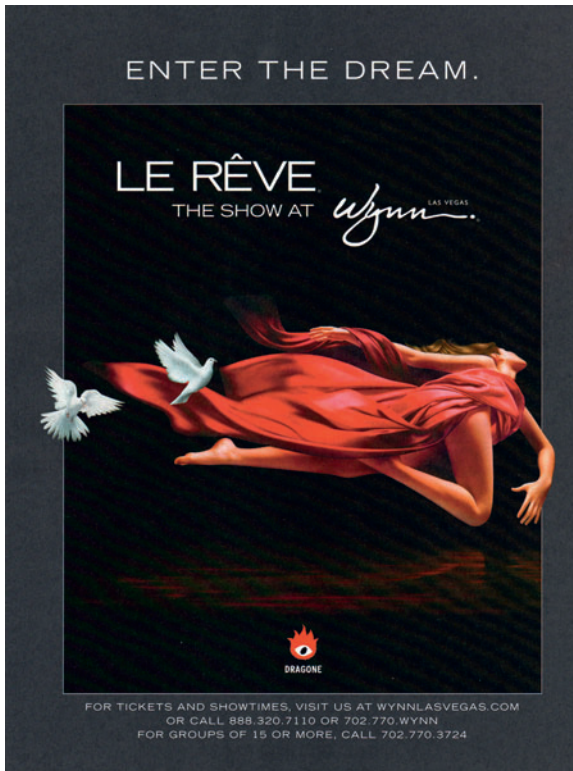


Figure 8.14 Anamorphic ad. The graceful extension of the model's arms and legs provides a feeling of flight, a common occurrence in dreams. Depth is suggested by one arm and a white dove being outside the frame. The color of the model's flowing gown connects nicely to the red logo of Dragone—"Enter the Dream."

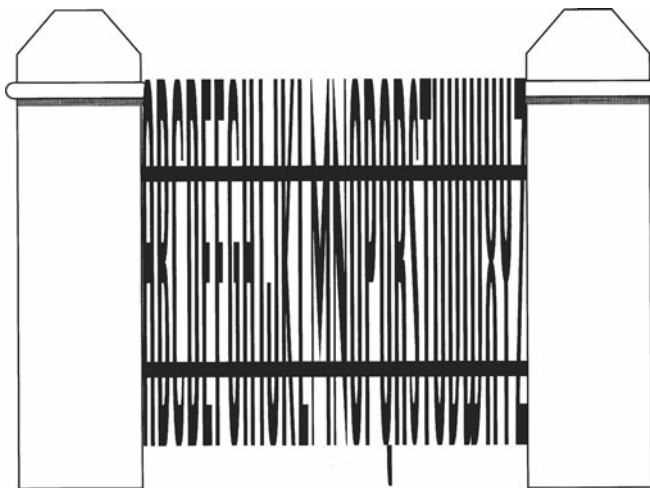
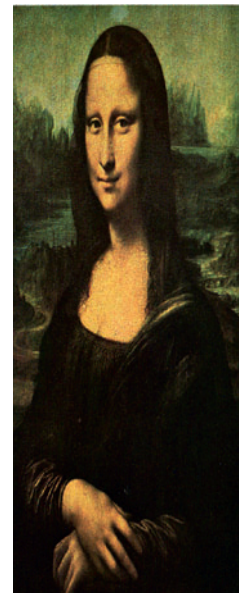


Figure 8.16 An anamorphic gate in Stockholm, Sweden, that displays the letters of the alphabet.



MONA LISA

Figure 8.15
An anamorphic poster for a famous painting that also indicates a famous museum.

*The mysterious way
in which shapes and
marks can be made
to signify and suggest
other things beyond
themselves had
intrigued me since
my student days.*

E. H. Gombrich

*The description of
right lines and
circles, upon which
geometry is founded,
belongs to mechanics.
Geometry does not
teach us to draw
these lines, but
requires them to be
drawn.*

Isaac Newton

*Geometry is not true.
It is advantageous.*

Henri Poincaré

English or Swedish made the determination more challenging. After some time, he did succeed in deciphering the gate. Before reading the caption for Figure 8.16, see if you can too.

GEOMETRIC AND ORGANIC SHAPES

We can think of all patterns as being geometric, organic, or a mixture of both. Some might say that abstract patterns are a third type, but often they are a variation of geometric and organic shapes.

Geometric or Man-Made Patterns

Geometric patterns give us straight lines, circles, triangles, rectangles, and polygons, as well as variations and combinations of these shapes—such as squares, ellipses, cubes, cylinders, and pyramids. Geometric patterns tend to be symmetrical.

To understand the psychological effect of these patterns, think back to geometry class during your school years. You had to learn the very precise mathematical principles embedded in these shapes. There was no room for equivocation. Geometry is all about rules. Geometric patterns therefore conjure up ideas about orderliness, formality, certainty, strictness, efficiency, predictability, accuracy, precision, and, thanks to Plato's concept of Ideal Forms, the striving for perfection. People who embrace rationality, logic, and organization often feel drawn to such patterns.

Most of the time we find geometric patterns in human-made things, such as buildings and machines. They conjure up ideas about construction, civilization, and accomplishment. Because geometric patterns often involve repetition—as in the windows of a skyscraper and the wheels of parked cars—we feel linearity, movement, and a sense of direction. When the progression of shapes is even and unchanging, it might seem relentless, overwhelming, or boring. Unexpected breaks in the repetition add rhythmic interest. In many photographs geometric patterns are clearly the components of some human-created object or environment—a bridge, a shelf full of bottles, a circuit board. In other cases the image goes completely abstract, as in extreme close-ups where all we see are geometric shapes without the identifiable context of the whole object or environment.

To emphasize the strict geometry of these patterns, take a photograph straight on, at right angles to the surface, which results in an image with reduced depth but that accurately renders the symmetry of circles, rectangles, and triangles. If you photograph down along the surface, you will create the sensation of depth and distance, with geometric patterns changing in shape as they recede, as if they might be growing, shrinking, or, in the case of shallow depth of field, slowly fading away and losing their

precise form. As in all types of photography, black-and-white and monochrome images tend to highlight shapes by eliminating the distraction of color.

Organic or Natural Patterns

Organic patterns are harder to describe. They are often biomorphic, but also consider the shapes you see anywhere in nature (which is why they're also called "natural" patterns): leaves, flowers, rocks, the patterns of waves in the ocean, the contours of landscapes, mountains, and shores. With a few important exceptions—like the circular shape of the moon or the sun setting behind a layer of clouds—you will not see any pure geometric forms. Some people even say that nature hates straight lines. Instead, the patterns in nature are irregular, uneven, asymmetrical, flowing, unpredictable, gentle, free-form, soft. They are mysteriously "curvilinear" forms that appear abstract when you photograph them very close up or very far away. Resisting the subconscious urge to inject geometry, artists sometimes have a hard time recreating organic patterns that truly look like they came from nature.

Why we humans enjoy visiting oceans, forests, and mountains reveals the psychological impact of these organic patterns: they help us feel peaceful, calm, connected, and comforted in the presence of the graceful flow around us. We sense beauty. We also feel this way when we view photographs of nature, which is one reason why nature photography is so popular.

Modern mathematics attempts to define the patterns of nature in terms of fractals, which are the curious shapes that repeat themselves when viewed from a distance and when we zoom in on them for infinitely closer and closer views. As discussed in Chapter 4, the ancient Greeks described the Golden Ratio, which continues to fascinate mathematicians as an elegant concept that helps explain fractal forms, such as the naturally spiraling shape of a nautilus shell. Ancient Chinese philosophy talked about "li"—the mysterious irregular patterns that we sense in flowing water, colorful autumn leaves, and the petals of a flower, but that we cannot exactly describe. These Eastern and Western ideas point to some underlying, hidden principle or force that organizes the illusive structure of the universe. Indeed, it feels mysterious, infinite, and mystical. This is the psychological power of organic patterns in photography.

*It is striking to note
how few straight
lines, parallel or not,
appear in a landscape
not yet touched by
human hands.*

Maurits Escher

*The straight line
belongs to men, the
curved one to God.*

Antoni Gaudi

Mixing Geometric and Organic Patterns

Any photograph that includes natural and human-made things will entail a mix of geometric and organic patterns. We might not necessarily notice that combination because we live in a world filled with natural and human-

made objects. We're used to seeing it. If you want to emphasize the juxtaposition, you can do one of several things. Look for compositions in which a relatively small organically shaped object (figure) appears within a larger geometric context (ground); in which a relatively small geometrically shaped object appears within a larger organic context; and in which the shapes of geometric and organic objects balance each other without the distraction of too many other objects.

Mixing these two types of patterns suggests some kind interaction or comparison between human-made and natural forces (Figure 8.17). Depending on the composition and processing of the image, they might compete, fight, overwhelm, cooperate, mimic, tease, balance, or dance with



Figure 8.17 A comparison of organic and geometric shapes. Photograph by John Suler.

each other. As such, your photo can be a commentary on the relationship of people to nature.

Geometric and organic patterns can blend into each other. Human-made things eventually decay, resulting in their geometric patterns slowly returning to organic patterns. Perhaps that's one reason why some photographers love old, abandoned places and objects: the natural world is reclaiming the human-made world.

A photograph requires the geometric taming of purely organic patterns by bounding them in the standard rectangular or square frame. In fact, when photographing organic patterns, the photographer, consciously or unconsciously, might be using the frame along with the composition to infuse geometric ideas into the image. How much should we shape organic patterns using geometric thinking? That's a question answered by personal taste as well as the intention of the photo. When trying to manipulate nature's designs using human-created designs, we might keep this classic Zen story in mind:

The priest in charge of the garden at the Zen temple meticulously attended to pulling the weeds, trimming the shrubs, combing the moss, and arranging all the dry autumn leaves. As he worked, the old master from the adjacent temple watched over the wall. When finished, the priest stood back to admire his work. "Isn't it beautiful," he called out to the old master. "Yes," he replied, "but there's something missing. Help me over this wall and I'll put it right for you." After hesitating, the priest lifted the old fellow over and set him down. Slowly, the master walked to the tree near the center of the garden, grabbed it by the trunk, and shook it. Leaves showered down all over the garden. "There," said the old man, "you can put me back now."

KEY WORDS

amorphic	correspondence	predicate thinking
anamorphic	equivalent	projection
animism morphos	introjection	structural equivalent
anthropomorphic	isomorphic	theriomorphic
biomorphic	mechanomorphic	zoomorphic
confluence	polymorphic	

NOTES

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- 6 Beaumont Newhall, *The History of Photography*, New York: Museum of Modern Art, 1964, p. 124.
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9 Subliminals

The most important feature of subliminal perception is not that people can respond to stimulation below the awareness threshold, but that they can respond to stimuli of which, for one reason or another, they are unaware.

N. F. Dixon



Figure 9.1 “Subliminal” by John Suler.

*The word limen
(Latin) means
“threshold”;
subliminal means
“below threshold.”*

The word *subliminal* is often used to refer to something that is below conscious perception—stimuli received by the eye, ear, nose, tongue, or skin that do not seem strong enough to be consciously seen, heard, smelled, tasted, or felt—and yet it still seems to have an effect on us. For example, in 1957 the market researcher James Vicary inserted the words “Eat Popcorn” into a single frame of a movie, which was too fast for anyone to see, resulting nevertheless in a 58 percent increase in popcorn sales, according to Vicary (Figure 9.2). His claim turned out to be a hoax, but experimental studies since then have demonstrated that some types of subliminal stimulation do affect people, such as positive or negative words very briefly flashed on a screen during video gaming.



Figure 9.2

*Complex arrays of
visual information
can be read in to the
nervous system and
produce subsequent
effects without ever
achieving
phenomenal
representation.*

N. F. Dixon

Subliminal perception suggests unconscious awareness: we can be affected by stimuli that we do not consciously experience. That notion may be a bit unsettling to some people, but we all know that we do not have much control over our dreams or with whom we fall in love. Research has also shown that much of the information registered by the retina is not noticed on a conscious level. If it were, we would be overwhelmed; there is simply too much information. The mind selectively allows some sensory input into awareness, while it subconsciously monitors and reacts to the remainder. Rather than rejecting or feeling anxious about the idea of subconscious reactions, we would do well to embrace and utilize it.

The idea of subliminal perception has a long history. Perception without awareness was taken for granted by such philosophers as Democritus, Socrates, Aristotle, and Leibniz. Despite the historical acceptance and

scientific research supporting it, subliminal perception remains somewhat controversial.

We would like to suggest a second, perhaps less controversial meaning to the term *subliminal perception*. It need not be restricted to stimuli below the perceptual threshold, things that appear too fast for the mind to consciously register. It could include stimuli above the threshold, things that we *could* notice but do not. We look but we don't see, or we only see a small fraction of what we look at. Using terms we will discuss in more depth in Chapter 11, we *level* rather than *sharpen*.

A painting of the human eye by René Magritte called "The False Mirror" is a reminder that the eye registers a scene on the light-sensitive retina—but unlike a mirror, what we actually "see" is what we subjectively choose to see.

*Much is perceptible
which is not
perceived by us.*

Democritus

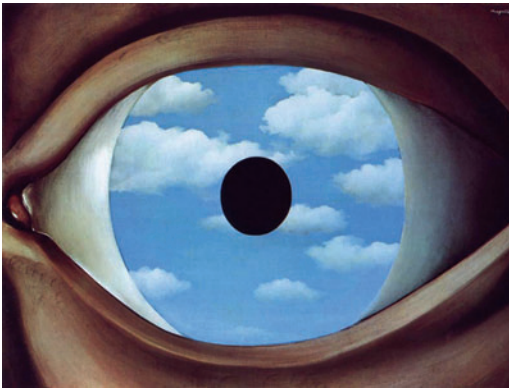


Figure 9.3 "The False Mirror" by René Magritte. © 2016 C. Herscovici, Brussels/Artists Rights Society (ARS), New York.

HOW THE EYE SEES

Just as a camera records light energy that is turned into a photograph, so too the eye gathers light energy that is turned into the mind's perception of an image. However, the translation of what a camera records into an image in print or on screen is a rather straightforward process compared to how the mind interprets what the eye sees, because the human perception of an image involves an interaction of conscious and subconscious forces that play no role in camera sensors, film, prints, and screen displays.

The Retina

The retina is not flat, like film or a camera sensor, but roughly spherical like the inside of a slightly small ping-pong ball. This provides a visual field of approximately 180 degrees, which is about as wide as you can spread your arms.

Figure 9.4 shows a cross-section of the human eye and the location of the curved retina. The retina contains approximately 100 million tightly packed rods and cones. The cones, approximately 5 million of them, are located in a central, very small area of the retina called the *fovea*, about the size of a pinpoint. The cones are responsible for perception of color and

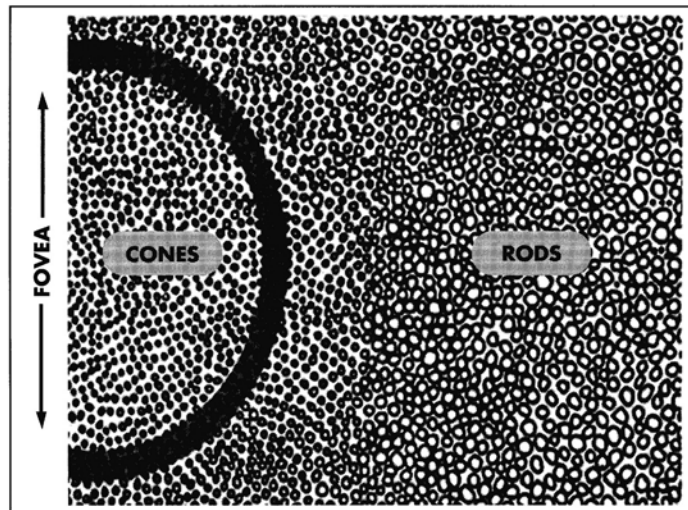
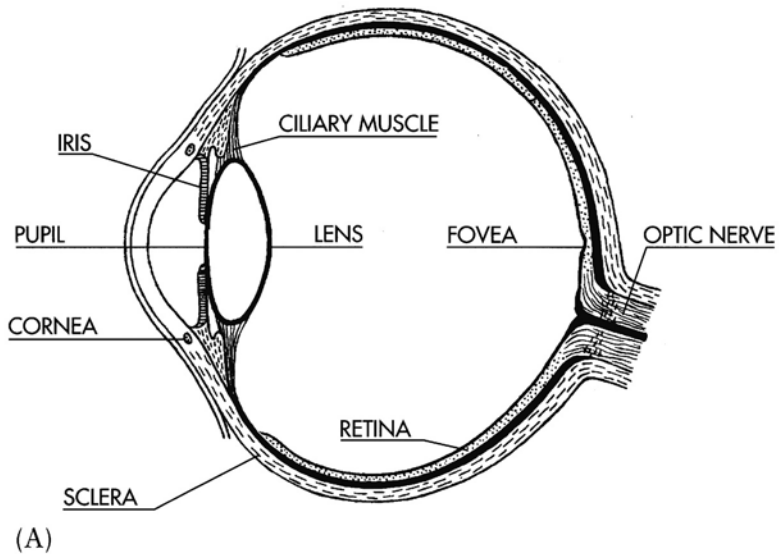


Figure 9.4 The human eye and retina. Within the fovea (shown here by a partial circle) are most of the cones responsible for color vision, resolution, and sharpness. Visual stimulation in the peripheral area of the retina (rod receptors) can subconsciously influence perception.

for visual acuity—the ability to see fine detail. The eye darts around in what are called *saccadic* movements to fixate on areas of interest so that it can use *foveal vision* to detect color and detail.

The remaining area, which surrounds the fovea and makes up most of the retina, consists of the larger rods. They are much more sensitive to movement and light than the cones, but they do not respond to color, only to brightness or lightness (grays). Although rods are very sensitive to dim light levels compared to the cones that require brighter light to function, the rods have lower acuity. Since the rods are located around the fovea and extend to the periphery of the retina, rod vision is referred to as *peripheral vision*.

Peripheral vision acts like a scout continually searching the visual field and informing the eye where next to focus. Without that selective searching, the mind would be overwhelmed as it tried to pay conscious attention to all 180 degrees of visual information falling on the retina. One aspect of subliminal perception is our subconsciously attending to what is happening in peripheral vision. Everyday experiences, such as driving a car, confirm this. We can think of foveal vision as consciously intentional seeing while peripheral vision is automated subconscious seeing.

Photopic/Scotopic Vision

Cone vision is referred to as *photopic vision* while rod vision is referred to as *scotopic vision*. *Relative spectral response* is the difference in sensitivity of rods and cones to different colors of light. The area where the two sensitivities overlap is referred to as *mesopic vision*. See Figure 9.5.

Under daylight conditions and room light, the eye relies primarily on cone vision, which peaks in the yellow-green area. Rod vision peaks in the greenish area. Although rod vision is more sensitive than cone vision in the blue and green area, these colors would still be experienced as dull and desaturated. Under very dim light they would be seen only as grays.

A photograph is dependent not only on the quality of viewing light (daylight, tungsten, fluorescent, etc.), but also on the level of light. A print under room illumination will not look as good as the same print viewed

Although identification requires foveal vision, more information reaches us at an unconscious level than at a conscious, foveal level.

Mihai Nadin

All attention must take place against a background of inattention.

E. H. Gombrich

The very edge of the human retina . . . gives primitive unconscious vision.

Richard Gregory

Purkinje effect—In dim light, blue objects in a photograph will appear lighter and red objects darker than they would in normal light.

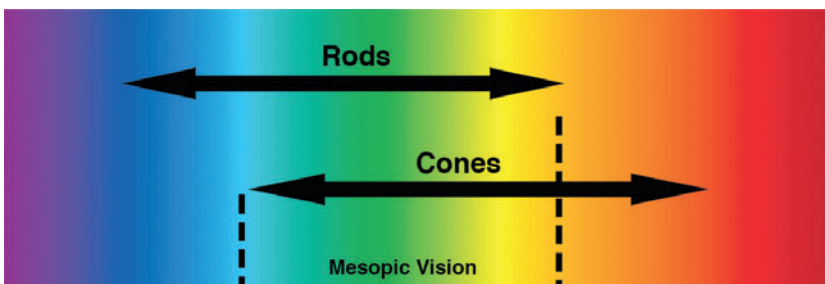


Figure 9.5 Relative color sensitivity of the rods and cones.

outdoors on a sunny day. If photographs are displayed in a room where low light is used to prevent fading of colors, the colors will look desaturated, as in scotopic vision, especially the warmer colors of reds and yellows. Subliminally, this perceived desaturation can affect our reaction to the image.

Luminance Factor

In her book *Vision and Art*, Margaret Livingstone describes how we process luminance and color (hue, chroma) information in different areas of the brain, located several inches apart. Our perception of figure-ground, depth, three-dimensionality, movement, and the spatial organization of composition are dependent upon luminance differences. Our perception of hue/chroma is dependent on color information.

Zone System photographers working in black and white must learn to see only the luminance differences in a scene (using a Wratten 90 filter helps). They think of the differences in terms of “stops,” with luminance difference being twice that of the previous luminance value. A Zone Ruler with Roman numerals is used to mark off Zones 0, I, II, III, IV, V, VI, VII, VIII, IX, X, each zone being one stop difference. Zone 0 was a pure black, V was 18% gray, and X was pure white.

Photographers such as Ansel Adams, Minor White, and Edward Weston did their most notable work in black and white. Why not color? In the last section of Chapter 5, we discussed some reasons why photographers prefer black-and-white photos. We might also consider the possibility that the luminance area of the brain in B&W photographers is more developed or preferred, resulting in a more cultivated subliminal awareness of luminance.

Luminance is a psychophysical term whereas brightness and lightness are psychological, i.e., the light we experience.

Evan Rashid

Ambient Light

In his book *Digital Photography: Fine Print Workshop*, George DeWolfe calls attention to the importance of ambient light as opposed to the light reflected from objects. Photographs contain both types of light, but usually one dominates the other. Reflected light defines the object, while the ambient light sets the surrounding atmosphere of feeling—a “mood light” just as there is mood music, with many subtle variations. We may not consciously notice ambient light, but subliminally it affects us. See Figure 9.6.

A classic example of ambient light can be seen in Ansel Adams’ signature piece “Moonrise, Hernandez, New Mexico.” In painting, we think of Claude Monet’s series of haystacks in an open field that he painted at different times of the day and different weather conditions. Each painting had a different ambience or mood because the ambient light and colors were different. He later went on to paint about 20 variations of the facade of Rouen cathedral under different conditions of ambient light.



Figure 9.6 “Malibu Tide Pools” by John Suler. Ambient light draws us into subtle atmospheres of sensation and feeling. Here it feels delicate, clear, and introspective. If you look back to Figure 4.6 in Chapter 4, you will sense a more somber, mysterious, and mystical ambiance, as often happens with the diffuse luminance of sunlight filtering through mist and fog.

Eye Movements When Reading Pictures

Eye movements while “reading” pictures are quite different than when reading words. When we read words, our eyes alternate between pausing and jumping (saccades) as they move left and right along the lines of text. So too the eyes pause and jump while reading pictures, but not as systematically left and right. People also do not necessarily spend the most time looking at the part of a picture that is assumed to be the most important. Scans from eye movement studies reveal that such things as angles in a picture tend to attract the eye more than straight lines, and that the viewer tends to fixate on areas of high contrast more frequently than large uniform areas. Figure 9.7 shows how the eye scans and where it spends the most time looking when examining a photo of a face and of a family in a room.

Instructions strongly influence how viewers scan a picture and what they look at most. Captioning a photograph therefore shapes how the viewer will read the image. Some photographers choose to call their photographs “Untitled” (which is, paradoxically, a title). It allows viewers

to read a photograph according to their own intentions. We will return to this topic in Chapter 12.

Because high contrast areas attract the mind, portrait paintings such as those by Renoir and Degas enhanced the contrast of the model's eyes and facial features. In photo-editing programs like Photoshop the same technique is possible. As we will see later in this chapter, increasing pupil size is another effective way to draw the viewer's attention.

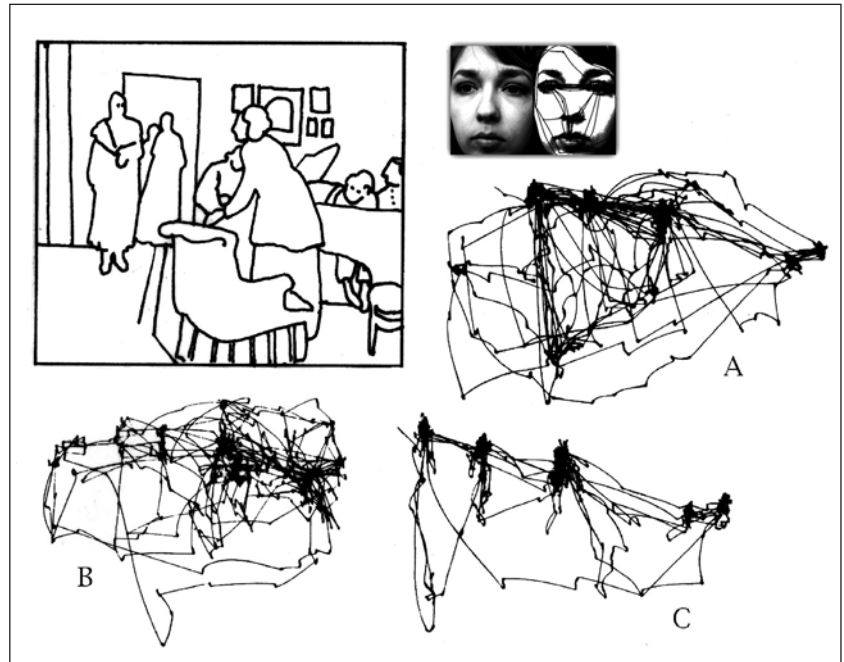


Figure 9.7 Eye scans for a face (top) show how people tend to spend more time fixating on the eyes and lips, which reveals their psychological importance. For the photograph that is outlined in the upper left, A, B, and C represent different instructions given to viewers; A—no instruction, B—estimate material circumstances of the family, C—estimate the ages of the people. Leslie Stroebe, Hollis Todd, and Richard Zakia, *Visual Concepts for Photographers*, Boston: Focal Press, 1980, pp. 160, 161. Face photograph, SpooSpa.com.

EMBEDS

Some photographs, paintings, and advertisements contain embedded information that viewers—and sometimes even the image-creators—do not see until it is pointed out to them. Figure 9.8 is a good example. A controversy about similar advertisements (including for Disney) has been whether discreet sexual embeds such as phallic images were the product of

the viewer's lively imagination, an unconscious Freudian slip for the artists, or the artist's intentional joke, act of revenge, or attempt to subliminally encourage sales with the thing that supposedly always sells: sex. Freud himself would surely have labeled unintentional sexual embeds as evidence of the unconscious mind and its trickery in expressing itself.

In her book about the Mexican artist Remedios Varo, Janet Kaplan writes about how, as a young girl growing up in Spain, Remedios found herself in a strict convent school sitting with a group of other young girls embroidering pictures into a fabric. Kaplan quotes Varo telling how she embedded a picture of herself and her lover in the embroidery and much later in a painting, "Embroidering Earth's Mantle." Varo referred to her embed as a "trick."¹

D. H. Lawrence used embeds to express his concerns about society. In his paintings as well as writings, he wanted to challenge the Victorian moralistic traditions that bound his generation. He embedded phalluses in his paintings, as a letter to a Buddhist friend reveals: "I try to put a phallus, a *lingam* you call it, in each of my paintings somewhere."²

In the summer of 1977, a disgruntled employee embedded a phallus in an ad for Caterpillar tractors. The ad appeared in *The Wall Street Journal*, to their embarrassment. The anomaly evidently had not been noticed during the preparation and production stage, but it did draw sharp attention shortly after it appeared on the newsstands.

*It is a mistake to
enclose the
subconscious in an
outline and to situate
it at the border of
rationality.*

Georges Braque

*Are embeds a playful
form of hide-and-
seek?*



Figure 9.8 An advertisement with a playful embed. In this Guerlain fairytale, a handsome young man gazes into the billowing clouds just to the left of the castle, and bears witness to the magic and charm the product promises.

Secondary or Latent Images



Figure 9.9 “Venice Beach, California” by Corinne Whitaker. Secondary images, such as the small mask-like image in the upper right corner of this photograph, are seldom consciously seen unless one is looking for them. When this secondary image was suggested to Corinne, she replied, “I have looked at this photograph umpteen times over the years, and never saw the face you pointed out in the upper right corner.” This experience is common among photographers.

Superficially insignificant or accidental looking detail may well carry the most unconscious symbolism.

Anton Ehrenzweig

Some art historians have referred to embedded images as *secondary images* and *physiognomic intimations*. Photographers would call them *latent images*. Perceived subliminally, these indistinct and peripherally placed images can affect the viewer’s reactions to the photograph. Such embeds might be consciously intended by the image-maker, or they might surface inadvertently as reflections of personal style cooked up by the chemistry of the unconscious mind (Figure 9.9).

In his column “Art View” for the *New York Times*, art critic Michael Brenson once called attention to secondary images in some of the paintings by Vincent van Gogh and Paul Cézanne. In a 1987 review of an exhibition of paintings by van Gogh at the Metropolitan Museum of Art he wrote:

Of the issues that suggest the problem in distinguishing between the rational and irrational in van Gogh’s work, none has more urgency than

the one of “secondary imagery.” The phrase refers to images that are rarely noticed at first glance, that refuse to get lost once they are found, and whose meaning, importance, or role is hard to define. Van Gogh’s landscapes are inhabited. What faces and heads are doing in his trees and clouds, whether they are intended—and indeed whether they are even there—are questions that can mobilize impressive rational and irrational resources. What cannot be denied after this show is that these faces and heads exist.³

In an earlier article on an exhibition of some of the paintings by Cézanne, Brenson wrote:

There seem to be expressive heads in Cézanne’s work . . . some of them almost visionary in their force. The problem is that they are not part of the primary imagery but rather of what has been called his “secondary imagery.” These heads do not seem to have composed themselves; it is as if they had used whatever imagery was available to will themselves into being. The heads are never obvious and sometimes they remain inaccessible even after the person who notices them points them out. What gives the issue a scope that goes well behind Cézanne is that the history of art is filled with these kind of subliminal images.⁴

Art theorist Anton Ehrenzweig and writer Arthur Koestler pointed to how much creating and perceiving images rely on latent, subconscious inferences. Ehrenzweig said, “While the artist’s conscious attention may be occupied with shaping the large-scale composition, his (unconscious) spontaneity will add the countless hardly articulate inflections that make up his personal handwriting . . . We cannot define their hidden organization and order any more than we can decipher their unconscious symbolism.”⁵ Arthur Koestler wrote:

Perception is loaded with unconscious inferences, from visual constancies, through spatial projections, empathy, and synesthesia, to projection of meaning into Rorschach blot, and the assigning of purpose and function to the human shape. The artist exploits these unconscious processes by the added twist of perspective, rhythm, and balance, contrast, “tactile value,” etc.⁶

Edward Weston was once showing Moholy Nagy some of his photos while Beaumont Newhall looked on. Moholy upset Weston by calling attention to what he saw as secondary images in the photographs.

Moholy kept finding in the photographs hidden and fantastic forms, which were often revealed when—to Weston’s obvious but politely hidden annoyance—he would turn the prints upside down. These

*Perceive those things
which cannot be
seen.*

Miyamoto
Musashi, Samurai,
sixteenth century

*If supraliminal
stimuli are not
attended to, they
become like
subliminal stimuli.*

N. F. Dixon

*A work of art must
narrate something
that does not appear
within its outline.*

Giorgio de Chirico

after-products of Weston's vision fascinated Moholy; he considered photographs not interpretations of nature, but objects in themselves fascinating.⁷

If one assumes that Weston was using a view camera, then the images composed on the glass would have been upside down, as Moholy Nagy viewed them.

Arnold Newman described what he called a "happy accident" while photographing the surrealist artist Max Ernst. Because Ernst was smoking while sitting for his portrait, Newman asked him to let the smoke out slowly. As he did, Newman took the photograph. Upon viewing the print, Max Ernst noticed the form of a bird in the cloud of smoke, which fascinated him since he was drawing birds during that period of time.

Hidden Faces

Art historian E. H. Gombrich called attention to the powerful visual impact of faces, even when they are hidden, reminding us how face recognition is an inborn ability critical to our survival as social creatures.⁸ Faces fascinate us from birth with a "language" that is simple and direct. Controlled by numerous muscles, the face is capable of a wide variety of obvious and subtle expressions.

The research pediatrician René Spitz wrote extensively about the importance of the face to an infant, particularly the mother's face.

In the course of the first six weeks of life a mnemonic trace of the human face is laid down in the infantile memory as the first signal of the presence of need gratifier; the infant will follow all the movements of this signal with his eyes.⁹

Other research has shown that newborns will spend more time looking at a picture of a human face than other types of patterns. It is as if we are "imprinted" at birth to respond to a human face.

We learn to read the visual language of facial expressions long before we learn verbal language. Few people can verbally access memories prior to age two. Memory from the first two years of life is primarily "preverbal"—a reservoir of visual and bodily experience that we tap with subconscious awareness rather than with consciously controlled words.

In his book *The Human Face*, John Liggett wrote:

The image of the face seems to take precedence over all others when the visual scene is at all unclear. The face seems to be, for all of us, a preferred shape. We can see faces in fire, faces in rocks, faces in clouds . . . It is strange to discover, too, how artists . . . seem to be impelled, in their creative work by the same hidden image of the face.¹⁰

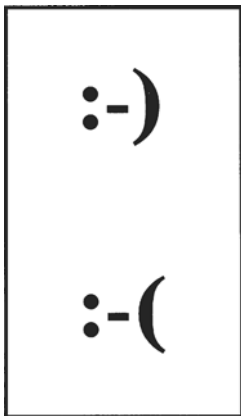


Figure 9.10

These figures are just lines and dots, but immediately you see them as faces.

As evident in the “peek-a-boo” game with infants, faces play a critical role in the child’s developmental path toward *object constancy*, the realization that something still exists even though not visible. When parents cover their faces with their hands or a blanket, the infant believes they have actually disappeared. When the parent suddenly reemerges, to the infant it seems like magic. Things vanish and reappear! Facial embeds in images can subconsciously conjure up this memory of peek-a-boo. Hidden figures of all types summon the feeling of playful discovery that begins with peek-a-boo and progresses to games like hide-and-seek and finding animals, faces, and objects in “hidden pictures” (Figure 9.11).

We can think of photography as satisfying this need for discovery, searching for something to photograph that is hidden in the environment so we can reveal it in an image. Many activities in life are like hide-and-seek; shopping, sightseeing, looking for knowledge in books and libraries. Searching for something “hidden” is an archetypal pursuit that everyone understands.

*What is most
important is
invisible.*

Antoine de Saint-
Exupéry

*My favourite thing is
to go where I've
never been.*

Diane Arbus

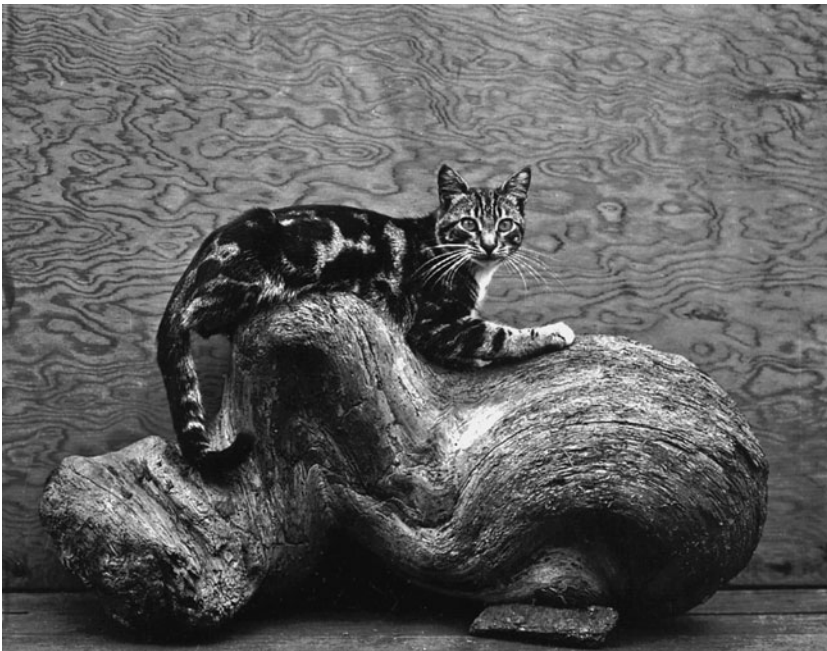


Figure 9.11 “Johnny, 1944” by Edward Weston. (c) Center for Creative Photography, Arizona Board of Regents. Edward Weston was a great lover of cats, many of which roamed the hills surrounding his home in Carmel, California. In this wonderfully compelling photograph, his cat Johnny captures the viewer’s attention with his focused stare. The plywood board that fills the background is also intriguing. Not only are its patterns similar to Johnny’s fur, but they also stir one’s curiosity for finding secondary images.

*Art is a step from
what is obvious and
well-known toward
what is arcane and
concealed.*

Kahlil Gibran

Archetypes

The latent images embedded into art, photographs, and advertisements can activate ideas that are universal among humans, yet subconscious—which is why these images might be more effective when unseen rather than seen—subliminal rather than overt. Carl Jung would consider these latent images as examples of what he called *archetypes*.

An archetype is an original model after which other things that have a similar quality are patterned. Jung believed archetypes originate in the *collective unconscious* that is shared by all humans across all cultures, past and present (as opposed to the *personal unconscious* that is unique to each individual). “Endless repetition has engraved these experiences into our psychic constitution, not in the form of images filled with content, but at first only as forms without content, representing merely the possibility of a certain type of perception and action.”¹¹ Archetypes fall into these general categories:

The myths of ancient peoples are still meaningful to us because they express preoccupations and moods which are universal and eternal.

René Dubos

- *situations* such as good versus evil, death and rebirth, the journey, the task, crossing a bridge, flying, the initiation, and being chased;
- *settings* such as the garden, forest, sea, river, island, mountain, the tower, and the wasteland;
- *characters* such as the mother, father, innocent youth, mentor, doppelganger, scapegoat, wizard, hero, villain, and God;
- *forms and qualities* such as circles, squares, spirals, clouds, lightning, ice, fire, water, light, and dark.

As we become familiar with more objects of art, we discover certain similarities between images which are thousands of years and miles apart.

Graham Collier

Consider any one of the many archetypes and the number of different ways that the original model, the prototype, can be represented. For example, the mother archetype takes various forms: the mother, grandmother, mother of God, mother earth, the nurse, church, synagogue, mosque, plowed fields, gardens, landscapes, the cornucopia, and anything we associate with fruitfulness and fertility.

When we are children, the hero archetype surfaces in the form of parents, admired playmates, and fictitious characters in books, games, and movies (Figure 9.12). All action-adventure films contain a hero, as well as a villain. As we mature we become interested in other heroes in sports, music, literature, history, politics, religion, science, and the military. The success of the movie *Star Wars*, according to its creator George Lucas, was the inspiration he felt from reading Joseph Campbell’s book *The Hero with a Thousand Faces*.

This unexpected image was the record of an innerstate that I did not remember seeing.

Minor White

Jung was fascinated by how these archetypes appear throughout history in mythology, literature, and art. He believed that they surface in our dreams as a way for the collective unconscious to inform us about problems in our lives and how to solve them. In my research in virtual reality communities, I found that the types of avatars people choose for themselves

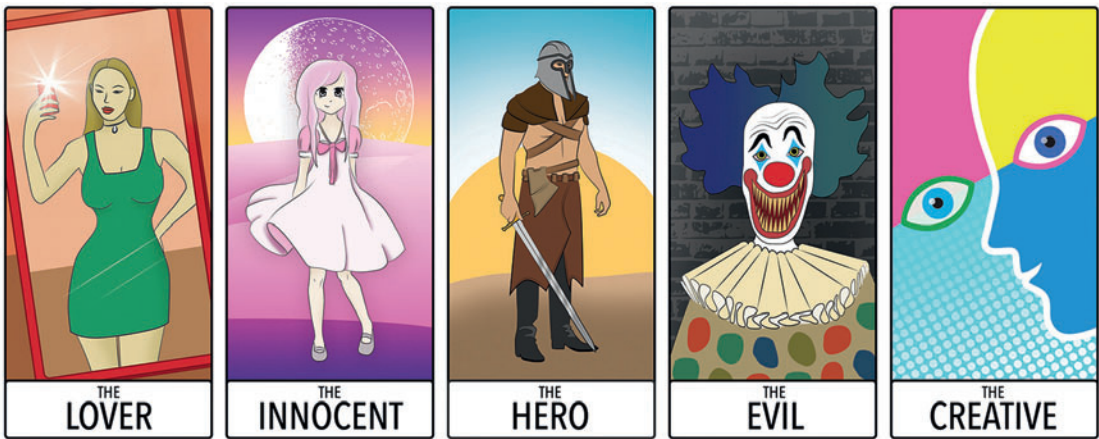


Figure 9.12 Popular characters in books and movies are manifestations of ancient archetypes. Illustration by Kira Suler.

often reflect archetypes. When examining photographs, be on the lookout for subliminal manifestations of archetypes that provide a rich background of meaning for the image.

Kilroy

During and shortly after World War II, *Kilroy* graffiti appeared everywhere. It was a child-like caricature of a face with two prominent eyes, a long nose dangling over a wall, and the words “Kilroy was here.” The English had their own Kilroy, a chap they named Chad. In Australia Kilroy possessed the same features using the symbols of positive (+) and negative (–) for the eyes, and a distorted sine wave for the eyes and nose; which was probably the first way Kilroy was portrayed. Similar images persist in comic strips, cartoons, drawings, illustrations, advertisements, paintings, and photographs (Figure 9.13).

In his article “Depth Psychology of Thing Perception,” Anton Ehrenzweig explains Chad in this way:

May I suggest that its astounding expressiveness is due to the thinly veiled phallic exhibitionism expressed by the nose . . . In primitive dancing or infantile play the heroic display of the phallus represents provocation; little wonder, therefore, that the strongly symbolic “Mr. Chad” should have appeal to the military (heroic) sense of humour.¹²

Another manifestation of this archetypal image appeared as Joe Camel, a pervasively anthropomorphized camel that became an icon for Camel cigarettes, but has since been laid to rest (Figure 9.14). In an article in *Artforum*, Stuart Ewen wrote, “The ‘smooth character’ is truly

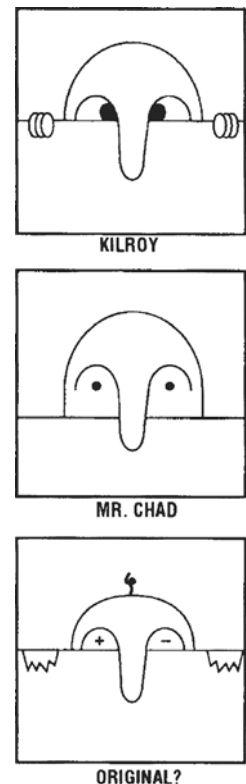


Figure 9.13 Variations on the Kilroy image, reprinted with special permission of King Features Syndicate.



Figure 9.14
Joe Camel, R.I.P.

The milestones of the old French posts in India have occasionally been turned into altars because of their resemblance to the lingam, the phallic symbol and emblem of the god, Shiva.

Henri Cartier-
Bresson

the Henry Ford of phallus worship . . . this desublimated ad is seen as relatively benign, an amusing form of blue entertainment.”¹³ Regardless of how adults interpreted Joe Camel’s features, he became an attraction to children, which led to his demise. At that time he was the second most recognizable character for children, with Mickey Mouse taking first place.

Apparently, the archetypal image of the phallus works very well as an embed that inserts itself into many places, at different times, in different ways, along with the various meanings we attribute to it. We see it in graffiti, sculpture, architecture, rituals, folklore, fairy tales, mythologies, and in dreams. It can be direct, confrontational, sexual, but sometimes secretive and humorous. Hiding as a secondary or latent image within a larger picture, it adds subliminal spice (Figures 9.15 and 9.16).



Figure 9.15 Subliminal phallic symbols appear in old architecture as well as the new graffiti that covers it.



Deep rooted symbols are used subliminally and cynically in advertisements, and even in the images and rhetoric of political campaigns.

David Fontana

Figure 9.16 “Hide-and-Seek.” Kilroy is hiding in plain sight in this ad. Look for him just above the “t” in “diet.” Could there be a more predictable place for him to appear than in bananas?

BODY LANGUAGE

The body can speak to us in powerful ways outside the realm of words, beyond the reach of conscious awareness. The body does not lie, unlike how we censor or give spin to our thoughts and feelings when we talk about them. Even when people are not cognizant of the story the body is telling, its impact still registers subliminally. For example, research suggests that people, without even realizing it, lean slightly forward when thinking about the future and slightly backward when thinking about the past. Skilled photographers tune their eyes to the subtle messages of body language when taking and interpreting photographs.

Microexpressions

Although the human face can express many subtle feelings, the research of psychologist John Ekman identified seven culturally universal *microexpressions*. They often flash automatically and very quickly across a person’s face,



Figure 9.17 The seven basic microexpressions that are universally recognized across cultures: happiness, sadness, disgust, contempt, anger, fear, and surprise. In a study conducted with Susan Cosentino, we discovered that different processing of the photographs (e.g., black-and-white versus color, bright versus dark) affected subjects' reactions to the emotions. Photographs by Susan Cosentino.

usually within 1/15 of a second. These seven basic emotions are: happiness, sadness, contempt, surprise, fear, disgust, and anger (Figure 9.17). We can think of them as temporally embedded into the ongoing change of facial expressions as we interact with each other.

*Photography records
the gamut of feelings
written on the
human face.*

Edward Steichen

Often the person who shows the microexpression, as well as people looking at that person, do not consciously sense the emotion displayed. The expression reveals the subconscious feeling of the person, which has a subliminal impact on how other's react. Your intuition about people might actually be an impression formed by your subconsciously noticing their microexpressions. Law-enforcement workers rely on them as a way to detect if a suspect is lying.

Photographers specializing in portraits well know that when asked to smile, subjects do not look like they do when they smile spontaneously. Their expression often seems a bit contrived. The muscles used for a posed smile are different than those in a microexpression smile. Photographs look more interesting and true to character when subjects act freely, without self-consciousness.

Because they happen so quickly, spontaneous microexpressions pose a challenge for the photographer. Shutter speeds are fast enough to capture them, but the human photographer's reaction time often lags behind the moment. Even if you train yourself to spot a microexpression, they can quickly disappear before you press the shutter button. If you're a person with considerable interpersonal sensitivity, you might tune into the subject,

anticipate when a microexpression will occur, and record it. You might even attempt to trigger one, as in asking a subject how they feel about a certain topic. But tinkering with a person's subconscious reactions should only be done with care.

The Pupils

The study of changes in pupil size is called *pupillometrics*. It is common knowledge that the size increases (dilates) as the light level decreases, and decreases (constricts) when the light level increases. The same changes occur in the automatic diaphragm control in a camera. However, unlike the diaphragm, pupil size also changes in reaction to emotions. When something excites a person, pupil size increases, sometimes as much as 45 percent. That dilation can be in response to something the person sees, smells, tastes, touches, or hears, and to arousing thoughts (Figure 9.18).

This pupil size phenomenon has been known for a long time. Magicians, card sharks, and early Chinese jade merchants trained themselves to notice it. Changes in the pupils are a direct, reliable type of nonverbal communication. They inform other people—often subliminally, without their consciously realizing it—that something aroused your mind. They play a critical role in the idea that the eyes are a window to the soul. Dilation seems to be saying, “I’m taking more in, letting more in.”

The uniqueness of the early photographs by Barbara Morgan that captured the essence of dance was due in part to her ability to read the dancer's eyes, to “dance” with the dancer. Her son Lloyd remembers watching his mother photograph dancers in her New York studio:

From a low position on the floor, her favorite position, and with a 4 × 5 Speed Graphic in hand, she would fixate on the eyes of the dancer and the dancer's movements. Her vision, concentration, and incredible reflexes were as sharp as a hawk's. Patiently she would study and track the dancers' movements and concentrate on the pupils of their eyes. Dancer and photographer would actually carry on a dialogue. They developed a rhythm with each other and would resonate together. At times it almost seemed as if Mom helped choreograph the dance. Mom would say “ready-go.” Dancer and the photographer's eye, hand and shutter were in sync for the planned gesture. At the very instant the pupils of the dancers' eyes dilated—CLICK—“the decisive moment,” the unique moment.¹⁴

During studio portrait photography, the use of electronic flash with low-wattage modeling lights has an advantage over bright tungsten lights that cause pupils to constrict. The dim modeling lights allow the pupils to remain enlarged while the lighting is being adjusted. The bright electronic flash exposure captures the image before the pupils can constrict.

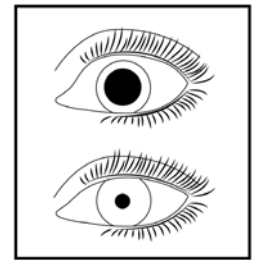


Figure 9.18

Pupil size automatically changes with strong emotional responses.

Our brains are programmed to respond to eyes and faces whether we are consciously aware of it or not.

Dr. Melissa
Bateson, Newcastle
University

Figure 9.19

These photographs are identical except for the size of the pupils. Most subjects prefer a photograph in which the pupil size is larger, even though they often do not consciously realize why they prefer it.

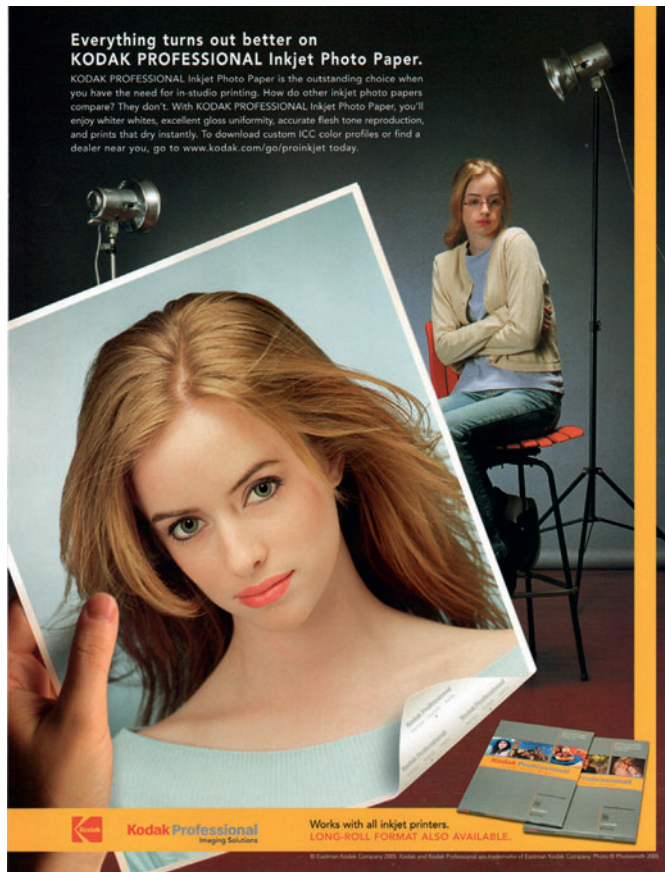


Figure 9.20

Large pupil size adds interest to the photographic ad.

Most portrait photographers realize that large pupils in portraits are enticing because they provide a more emotional, usually romantic appearance. As far back as the Middle Ages women knew about this, which inspired some of them to use the herb belladonna (“beautiful woman”) to dilate their pupils. Perhaps one of the reasons dinner by candlelight feels romantic is that the low light level increases pupil size.

To investigate the subliminal effect of pupil dilation, E. Hess of the University of Chicago conducted a study in which a large number of students were asked to choose between two photographs that appeared to be identical, similar to the photographs in Figure 9.19.¹⁵ Having difficulty with the task, students often remarked that they saw no difference between the two. When forced to make a choice, most picked the photograph having the larger pupils. Asked later whether they were aware of the difference in pupil size, nearly everyone said no. Dick Zakia conducted a similar study using a total of 80 male and female college students. Shown the “identical” portraits and forced to make a choice, 87 percent of the students preferred the portrait with the larger pupil size. There was no difference between male and female preferences. Only two of the subjects were aware of the dissimilarity in pupils when they made their choice.

Body Language Patterns

Photographers can benefit from familiarizing themselves with the basic body language patterns that subliminally express underlying mental states, a topic that Robert Akeret explores in his fascinating book *Photolanguage*. A cluster of physical *signals* makes up a *pattern*, which more reliably reveals a person’s mind than a single aspect of body position. Here I’ll offer somewhat exaggerated descriptions of a few different patterns. Realistic body language is often more subtle, whereas truly intriguing body language mixes signals from different patterns, including signals that seem to contradict each other, such as a clenched fist accompanying a smiling face. Photographs of these mixed patterns portray the complex and sometimes conflicting dimensions of the human personality:

aggression: frowning, staring, snarling, rigid body, clenched fists, threatening or insulting postures, intruding on someone’s space, forcing unwanted body contact;

concentration: stillness, fixed gaze, furrowed brow, leaning body and tilted head toward the object of concentration;

boredom: yawning, drooping eyes, blank face, slouching or leaning body, tapping toes, drumming fingers, looking away;

protective: stiff body, crossed arms, ankles, or legs, looking down or away, arms wrapped around an object, hiding behind something, curled up as in a fetal position;

deceptiveness: forced smile, tense body, distracted, looking away, hands hidden, sweating, biting the inside of one's mouth;
dominance: standing erect and above, legs spread, hands on hips, disapproving face, frowning, direct eye contact, intruding on personal space, holding power objects;
relaxation: soft gaze, open hands, gentle gesturing, shoulders and limbs hanging loosely, body balanced and softened;
sexual interest: dilated pupils, fixed gaze, feet and hands pointed toward the other, preening, mimicking the other's body language, leaning into other's personal space, subtle physical contact;
submissiveness: still, pale face, chin turned down, sweating, smiling with mouth but not the eyes, hands with palms up, looking away, hunching over to appear small.

The Hands

If you have any doubts about the expressiveness of our human hands, consider these facts. Some photography models specialize in hands. Along with the face, the hands are rich in nerve endings, with disproportionately large areas of the brain devoted to processing information about them.

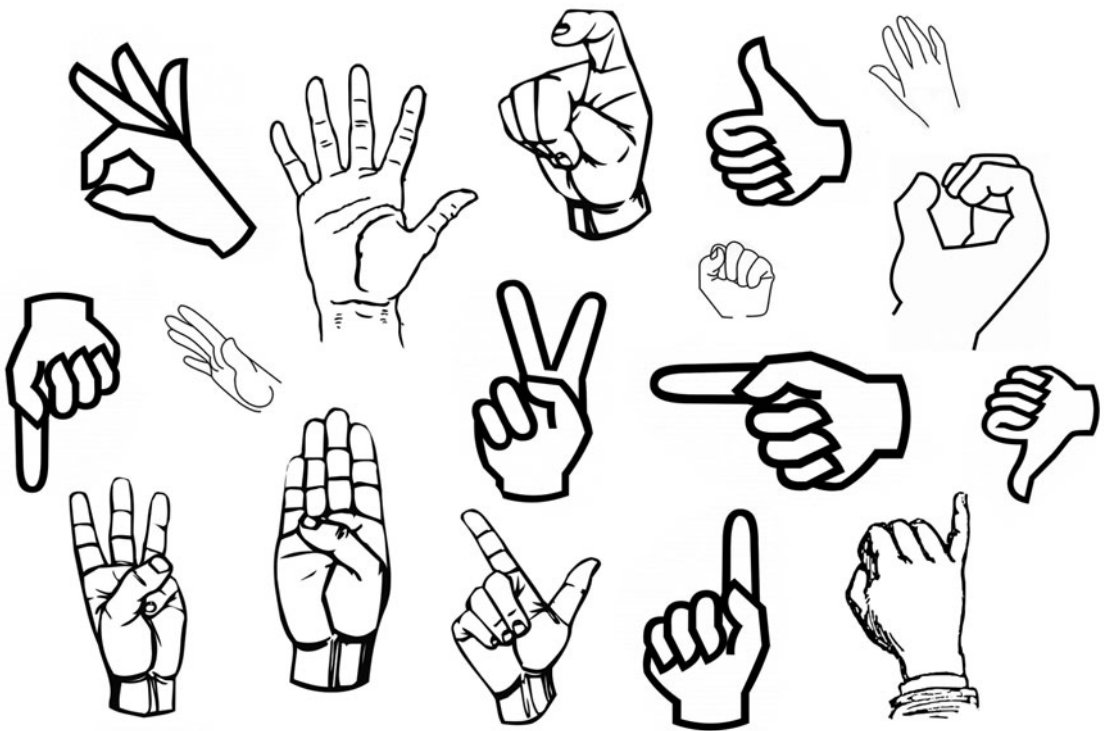


Figure 9.21 Consider the wide variety of hand postures and gestures. When a hand plays a subliminal role in a photograph, it can subconsciously affect the viewer.

A whole language—sign language—revolves around the pictorial shaping of the hands and fingers. There are hundreds of different hand gestures, such as beckoning, the high-five, thumbs up, wagging a finger, handshakes, saluting, and “giving the finger” (Figure 9.21). People clench their fists when angry, fidget with their fingers when nervous, wave you off when they want to avoid you. As many fascinating photographs show us, people often use hand gestures while they are talking, often without even realizing what they are doing. Research suggests that gesturing helps people access language and memory.

Body Language in Groups

The body language of a single subject in a photo can be very intriguing, but things really get interesting when we witness the body language of two or more people interacting with each other. Experts in group dynamics well know that body language subliminally tells the story of the hidden socio-emotional issues within a group (Figure 9.22). When teaching my college course on group dynamics, I take posed and spontaneous photos of the students in their groups. When discussing the photos, we always find ourselves amazed at how much body language reveals the personalities of individual people, the relationships between people, and the psychological attributes of the group as a whole. Photos taken early in the semester actually predicted what happened later in the groups, because they captured subtle interpersonal dynamics that had not yet fully surfaced in the group’s awareness. When examining body language in group photographs, be on the lookout for the following:

Distance and Proximity: The degree of physical distance between people often indicates their degree of emotional closeness. Who stands next to whom? Who are far apart? The more close together all the group members are, the more cohesive the group.

Orienting and touching: Touching, looking at, leaning, reaching, or pointing toward another person might indicate intimacy, or the desire for it. Is the direction of this body language one-way, or reciprocated?

Clusters: Subgroups within a larger group are people who feel more bonded to each other. In a photo you can see subgroups as clusters of people who are physically closer to, orienting toward, or touching each other. Sometimes you’ll see people positioned between clusters, as if they provide a link between those subgroups.

Loners: People who feel less attached to the group, have been overlooked, ignored, or ostracized, tend to stand off to side, lean out, or look away from the group.

Position: Influential group members tend to stand in front, center, or above others. Less influential people stand behind, below, or off to the side. Standing above might also indicate the protectiveness of watching over

*What you do speaks
so loud that I cannot
hear what you say.*

Ralph Waldo
Emerson

*The human body is
the best picture of the
human soul.*

Ludwig
Wittgenstein

*Our bodies are apt to
be our
autobiographies.*

Frank Gillett
Burgess

*I speak two
languages, Body and
English.*

Mae West

the group. Look for people crowded out of the shot, or trying to squeeze their way in.

Group shape: The shape created by the group formation reveals its psychology. Curves are relaxed. Straight lines and distinct rows suggest formality. Circles, as in a group hug, indicate unity. Vertical triangular formations feel secure and grounded, with the people at the bottom of the pyramid providing a foundation, as in many family portraits.

Position in a room: People who sit up front want to be close to the action or to the person in charge. People who sit in the back might be the dozing slackers, the observers who like to see the whole room, the suspicious types who protect their backs, or the people who want to avoid attention or attract it as the rebellious heckler in the back. Those who sit by the windows are the daydreamers, while those who sit by the door anticipate a quick exit. Shy people sit somewhere in the middle of the group, hoping to blend in inconspicuously.

What the human eye observes casually and incuriously, the eye of the camera notes with relentless fidelity.

Bernice Abbott



Figure 9.22 “A Family Fishing.” In this heirloom photograph of my ancestors, body language tells the story of a family on a fishing trip. Enclosing the family on both sides, the father and oldest son join forces in focusing their attention on the task, with the father looking happily relaxed, a pipe in hand, while the son appears more seriously determined in taking the lead as fisherman. Pausing in midstream during her snack, the sister looks sideways with a mischievous grin at her older brother, while her younger brother, immersed in his own world, awkwardly concentrates on eating. His mother holds him protectively in her lap as she gazes at something outside the frame of the photo. Sitting above them, she overlooks the family, trying to understand the bigger picture of their lives, to make sure all is well.

Because body language has a subliminal effect on people, use it effectively as a photographer. To help a subject relax, assume a calm, receptive posture. If you subtly mirror someone's body language, that person will feel understood, which encourages the subject to allow a revealing portrait. Experimenting with body language possibilities in a playful way can help everyone relax as well as open doors to interesting poses. Tyra Banks told her models to push a facial expression to its extreme limits, then pull it back. Activating body language activates emotions, and that's what a good photo is all about.

Interpersonal Space

Consciously and subconsciously, we sense the space between us and the people nearby. In his book *The Hidden Dimension*, the anthropologist Edward T. Hall called the study of this space *proxemics*. He divided that space into four zones: intimate, personal, social, and public (Figure 9.23). We often experience the social and public spaces subliminally, without consciously paying much attention to it. However, when someone enters the personal and especially the intimate zone, a conscious emotional

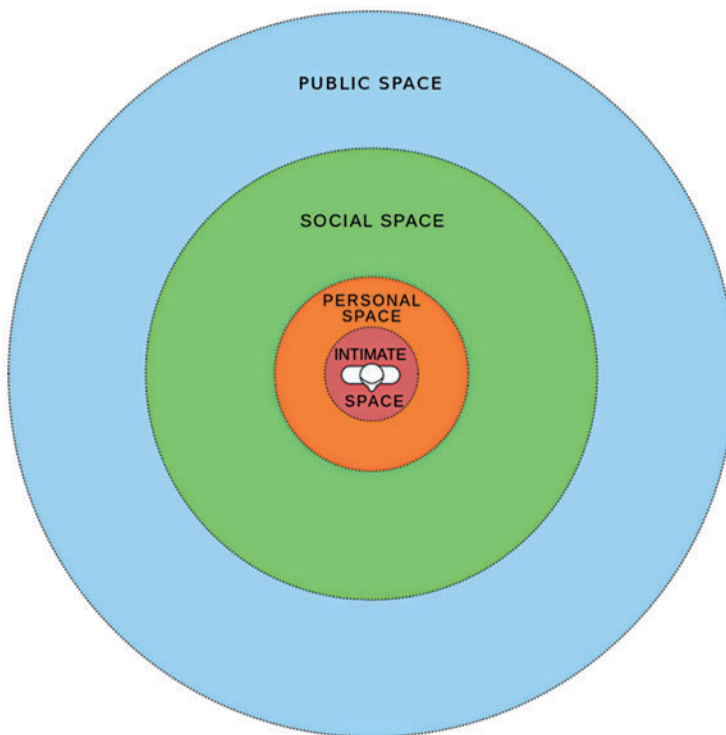


Figure 9.23 Diagram of Edward T. Hall's interpersonal space. In feet and meters: intimate 1.5/1.45, personal 4/1.2, social 12/3.6, and public 25/7.6. Illustration adapted from Webhamster/Fred the Oyster.

Without . . . being aware of it human beings are constantly engaged in adjustments to the presence and activities of other human beings.

Ray Birdwhistell

reaction is quickly triggered. That close proximity is reserved for trusted friends, family, and lovers. With the exception of a polite handshake or hug, strangers are not allowed.

Along with other aspects of body language, interpersonal space in a photograph tells a subliminal story about the people in it. In Figure 9.24 the aerial perspective on vacationing families minimizes our view of their body postures, but it gives us a wonderful view of interpersonal space that would not be possible if I took the photo from other camera angles. Notice the three women, standing close together in a tightly knit circle, while three of the men line up shoulder to shoulder, with the fourth standing a bit apart from them, his attention instead directed to the women. Then there's the girl, launched in her own very different trajectory. What does this body language and configurations of interpersonal space say about the men, women, and child?

Intrusions into Personal Space

People do differ in how they experience the size of the spaces around them. In a conversation or when taking photographs, one person may feel



Figure 9.24 An aerial perspective gives us a view of interpersonal space within groups that is not possible from other camera angles.

uncomfortable if the distance is only 2 feet, while another may feel quite comfortable. What people perceive as appropriate personal space is an elastic balloon that changes depending on such factors as the person, the culture, and the senses involved. For example, two people in love feel comfortable at very close range, Mediterranean people accept closer personal space than the English, and some people may require a greater visual than acoustical space.

When taking photos with and especially without consent, the photographer needs to be sensitive to the interpersonal space with the subject, including the subject's body language cues signaling that the photographer is getting too close. Humans and also animals require that personal space distance between themselves and others, otherwise they start to feel uncomfortable, annoyed, or threatened. If the photographer enters this space, the camera will intrude, trespass, distort, or exploit.

An interesting example is "Gambler, French Riviera, 1937" taken by Lisette Model (Figure 9.25). I imagine the man having been casually dosing in his chair, until his subliminal awareness alerted him to the presence of Model, kneeling down close to him for a low-angle photo. His piercing stare through squinted eyes suggests he is not at all happy about his

*The artist is a man
himself nature and a
part of nature within
a natural space.*

Paul Klee

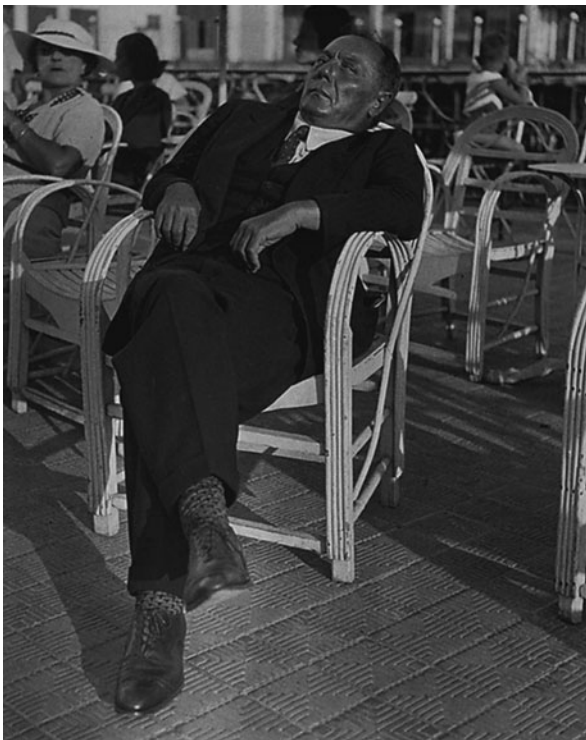


Figure 9.25 "Gambler, French Riviera, 1937" by Lisette Model. © The Lisette Model Foundation, Inc. (1983). Used by permission.

personal space being violated. Dick Zakia imagined the gambler kicking the camera out of her hands if she got any closer.

Some photographers, particularly press photographers, have taken that extra step closer and have indeed had their cameras kicked and have been roughed up in the process . . . Model, I believe, reached the brink of disaster just before she clicked the shutter and, if she had not, the photograph would have lost its intensity and terror.¹⁶

Photographers should be particularly sensitive to the personal space of children. Dick Zakia told the story of photographing his daughter Renéé when she was five years old (Figure 9.26). Having fun on her tricycle, she did not want to be bothered posing for a picture. To protect herself against his intrusion, she partially covered her face. Dick was so intent on taking the photo that he failed to see the plea of her body language. Whenever Dick looked at this photo, he felt a bit of pain for having violated her need for privacy. It taught him firsthand about the protective bubble of personal space that we all occupy to shield ourselves, whether we are adults or children.

In this age of social media and ubiquitous photo sharing, personal space takes on a whole new meaning. If someone snaps or gets hold of a picture



Figure 9.26 “Renéé” by Richard D. Zakia. Her mournful expression and hand-on head gesture is a strong body language response to the photographer (her dad) who inadvertently violated her personal space.

of you, what might they do with it online? Will that photo and what they say about it accurately depict who you are? Might you lose control over your own public identity? Similar to the people of technologically primitive cultures who feared a photograph might steal their souls, we now worry that an image of us could be taking away our true identity if it is inaccurately presented to others online. A photo in social media can become a violation of personal, psychological space.

Creating the Feeling of Personal Space

In motion pictures and television, actors and cinematographers understand the need to use exaggerated gestures for long shots. For close-ups, emotion is conveyed by small changes in facial expression, such as a raised eyebrow or a quiver of the lips. Such subtle body language that we notice at close range conveys to the viewer a subliminal sensation of intimacy, of being within that individual's personal space.

There are several strategies photographers should keep in mind when they wish to create that subconscious feeling of entering the subject's intimate psychological zone. If it's not possible to take the photo within close range, use a telephoto lens to simulate intimacy. Large and/or tightly cropped photos create the illusion of being up close and personal. A picture to be used in a magazine might require a different treatment than one shown in a gallery. If the viewing distance is fixed, as in a magazine or book, the print should be as large as possible. Notice the sizeable presentation of the model's face on fashion magazine covers. By contrast, a small subject in an advertisement or magazine photograph might encourage a nose-to-page, "scratch-and-sniff" invitation to explore it. Photographers sometimes exhibit small prints in galleries to invite the viewer to move closer to the print, from a distance of social space to personal space. A small print, like a whisper, becomes intimate as one moves nearer to it.

In this age of digital photography, we might have different experiences of images on a screen versus prints held in the hand. Within the closest sphere of interpersonal space, intimacy turns tactile. The sensation of a print against one's fingers could very well trigger subliminal feelings of closeness that a screen image does not.

The unconscious depth-messages of ads are never attacked by the literate, because of their incapacity to notice or discuss nonverbal forms of arrangement and meaning. They have not the art to argue with pictures.

Marshall McLuhan

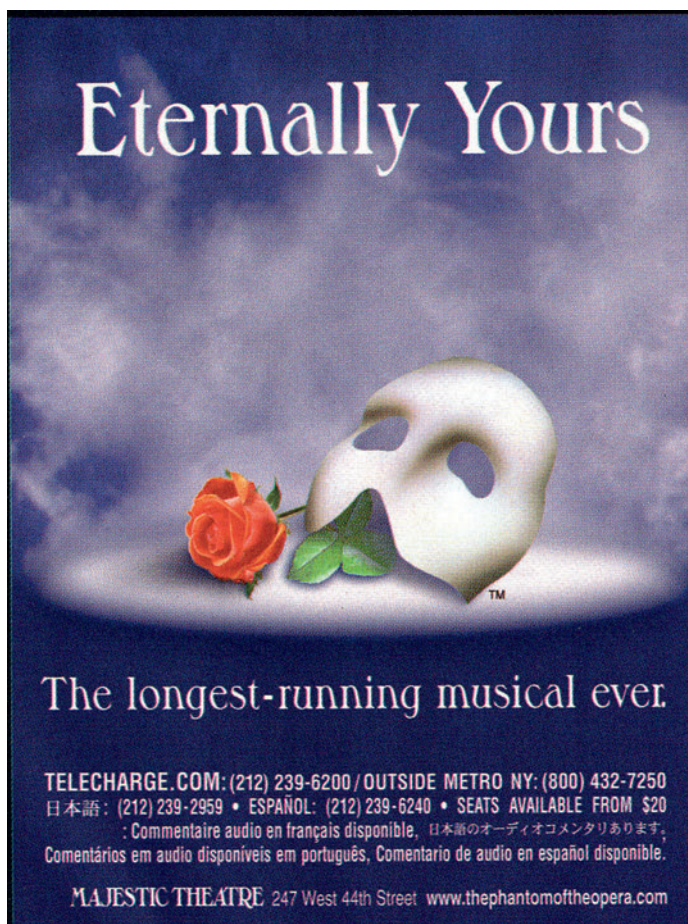


Figure 9.27 “Eternally Yours.” Is there a second phantom mask lurking in the periphery as a secondary image? Look to the extreme left of the white mask. Similar to some latent images, this one contradicts the main message of the picture, for how can a face in the clouds be eternal?

KEY WORDS

ambient light
 archetype
 body language
 patterns
 Chad
 collective
 unconscious
 cones

embeds
 foveal vision
 interpersonal space
 Kilroy
 lingam
 luminance factor
 microexpressions
 object constancy

peripheral vision
 personal unconscious
 phallus
 photopic vision
 pupillometric
 relative spectral
 response
 retina

rods
 saccadic movements
 secondary (latent)
 images
 scotopic vision
 subliminal perception

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- 11 Calvin S. Hall and Vernon J. Nordby, *A Primer of Jungian Psychology*, New York: New American Library, 1973, p. 42.
- 12 Anton Ehrenzweig, *The Psycho-Analysis of Artistic Vision and Hearing*, New York: George Braziller, 1965, p. 214.
- 13 Stuart Ewen, "The Public Eye," *Artforum*, January, 1991, p. 28.
- 14 Lloyd Morgan, private communication, November 12, 1994.
- 15 E. Hess, "Attitude and Pupil Size," *Scientific American*, April, 1965, p. 212.
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10 Rhetoric

Trying to find a verbal equivalent to a visual experience seems to make one more sensitive to both seeing and to language.

Ralph Steiner



Figure 10.1 "Paris" by Richard D. Zakia.



Figure 10.2
Costume of the allegorical figure “Rhetoric” by Giuseppe Arcimboldo (Uffizi Gallery). In the upper part of the page there is the remark: “Rhetoric, led by the Roman Cicero and the Athenian Demosthenes,” who were considered two of the greatest orators in ancient Athens. As a professional speech writer, Demosthenes learned rhetoric from studying the great orators that preceded him. In the illustration, notice the dexterity of the hands as a symbol of rhetorical influence.

There is an art of reading, as well as an art of thinking, and an art of writing.

Isaac D’Israeli

Rhetoric is the art of using language in a persuasive manner to influence how people think, feel, and behave. In his classic *Retorica et Poetica*, Aristotle wrote about the basic principles of persuasion that provided the foundation for other theories throughout history. He emphasized the powerful influence of rhetoric in poetry, even over historical fact.

Although rhetoric traditionally refers to the written and spoken word, it also applies to all types of persuasive communication, including pictures, music, and any combination of communication methods. Films, radio, video, animations, advertisements, and virtual reality all rely on rhetoric. Ideas about rhetoric overlap with those concerning semiotics and conceptual photography, as we discussed in Chapter 2.

The importance of rhetoric in image-making can be traced back to the fifteenth century when the Florentine ecclesiastic and artist Leone B. Alberti advised painters “to familiarize themselves with the poets and rhetoricians who could stimulate them to discover (*inventio*!) and give form to pictorial themes.”¹

In 1970 a French researcher, Jacques Durand, described his extensive study of visual rhetoric in advertising. His analysis of thousands of ads led to a very useful matrix for analyzing advertisements, photographs, or any visual statement, and also for showing how easily one can alter pictures and words to modify meaning.

Figure 10.3 shows his matrix. It consists of two axes. One contains the rhetorical operations of addition, subtraction, substitution, and exchange. For each of those four semiotic operations, there are five kinds of relationships between the elements of the message that can be changed by each operation, which therefore alters the meaning of the message. For example, in the case of addition, you could add the following to a visual statement:

1. Identical elements (A A)
2. Similar elements (A a)
3. Different elements (A Z)
4. Opposing elements (R _)
5. Ambiguous elements (/~)

Figure 10.4 looks a bit more complex because it adds the various technical terms used to identify each rhetorical operation. Some of the terms, such as hyperbole and metaphor, are familiar, while others are not. The abstruse, even tongue-twisting terms are not as important as how these operations can be applied to any form of communication. Also note that similarity and opposition have two subcategories: form and content, although we will not be emphasizing that distinction in this chapter.

Relation between elements	Rhetorical operation			
	Addition	Suppression	Substitution	Exchange
1.Identity				
2.Similarity				
Form				
Content				
3.Difference				
4.Opposition				
Form				
Content				
5.False homologies				
Ambiguity				
Paradox				

Figure 10.3 Jacques Durand's rhetorical matrix (1970).

Relation between elements	Rhetorical operation			
	Addition	Suppression	Substitution	Exchange
1.Identity	Repetition	Ellipsis	Hyperbole	Inversion
2.Similarity				
Form	Rhyme		Allusion	Hendiadys
Content	Simile	Circumlocution	Metaphor	Homology
3.Difference	Accumulation	Suspension	Metonymy	Asyndeton
4.Opposition				
Form	Zeugma	Dubitation	Periphrasis	Anacoluthon
Content	Antithesis	Reticence	Euphemism	Chiasmus
5.False homologies				
Ambiguity	Antanacsis	Tautology	Pun	Antimetabole
Paradox	Paradox	Preterition	Antiphrasis	Antilogy

Figure 10.4 Rhetorical matrix with identifiers.

USING THE RHETORICAL MATRIX

Being able to identify the various rhetorical devices used in a successful visual statement will help you understand how you can put them to use in your own image-making, whatever kinds of images you create. Like anything else worth achieving, it takes practice, especially because the rhetorical matrix is quite intricate and subtle, with the meanings of the various terms sometimes overlapping. As you begin to study pictures in terms of their

*Whatever is well said
by another is mine.*

Seneca

rhetorical composition, you will find that some do not fall neatly into one category. Yet it is helpful to begin by assuming they do and then branching out from there.

When applying the matrix, consider how the rhetoric of language can be translated into the rhetoric of visual statements. Try not to think of pictures and words as being separate, but rather as complementing one another in much the same way as moving pictures and music complement each other. This is especially important when creating titles and captions to accompany images.

A quote by the German philosopher Nietzsche is relevant here:

The most intelligible part of language is not the words, but the tone, force, modulation, tempo in which a group of words are spoken—that is the music behind the words, the emotion behind the music; everything that cannot be written down.²

With a little substitution, this could read:

The most intelligible part of a visual language is not the elements, but the tone, force, modulation, tempo in which a group of visual elements are arranged and displayed—that is the music behind the elements, the emotion behind the music, everything that cannot be visualized.

Where to Begin

Begin by locating a photograph or advertisement that interests you. Then search out the elements that are *added*, *suppressed*, *substituted*, or *exchanged*.

*The crescent moon
was looked upon as
a boat carrying
departed souls to
heaven.*

Barbara Walker

Take a look at photograph of the boats in “Eventide” (Chapter 12, Figure 12.7). The richness of the photograph lies in the many meanings and vicarious experiences that it offers. Using a rhetorical matrix to assess the image, two boats represent the addition of elements that are identical, which is a rhetorical form of *repetition*. If one of the boats were positioned in an opposite direction, it could be considered an opposition of form, *zeugma*, suggesting disagreement, breaking up a relationship, taking a different direction in life. Throughout history boats have symbolized journeys, which is a *metaphor*, expressing one thing in terms of another, which is also an example of *substitution*. “Norseman used the same word for boat, cradle, and coffin, sending their dead into the sea-womb by boat to be reborn.”³

A rather complex image, such as Maurits Escher’s woodcut “Sky and Water,” entails the addition of elements that are similar and different (Figure 10.5). In the lower part of the woodcut, a school of similar fish emerges from the deep black depths of the water. The spaces between the fish begin to assume the shape of birds rising upward with the fish. About halfway up the image, the white fish are transformed into black duck-like

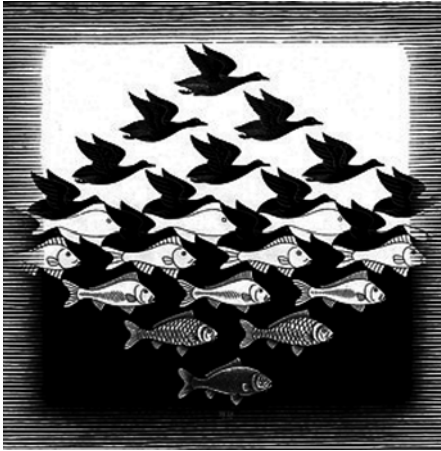


Figure 10.5
 “Sky and Water” by
 M. C. Escher.
 Woodcut, 1938.
 Official M. C. Escher
 website.

birds flying off to the right of the picture frame. In the complex arrangement we have *addition* of the fishes and birds, *suppression* of the birds in the space between the fish, *substitution* of birds for fish, and an *exchange* between fish and birds. Consider the possible meanings suggested by Escher’s visual rhetoric: the link between water and sky, swimming and flying, down and up, black and white; the competition between life forms; how life leads to more life, and how all forms of life and in fact all things are interconnected with and create each other.

One day while Dick Zakia was working with Minor White on *The New Zone System Manual*, White appeared a bit preoccupied and tense. When Dick asked why, he replied that he was reprinting many of his old negatives for an exhibition in New York City. Naively, Dick asked, “Don’t you already have prints from your old negatives?” He replied, “Yes, I do but I see them differently now.”

Dick felt he could make a similar statement about the photographs and other images he had written about. Over time he saw them differently, with greater appreciation, thanks to the insights from his study of rhetoric.

*The path my feet
 took was lined with
 images.*

Minor White

Horse and Truck

While photographing in the picturesque mountain area near Santa Fe, New Mexico, Dick came across a scene that immediately caught his attention. A horse was grazing in a meadow in the sun-filled quiet of the afternoon. Further back was a stalled pick-up truck with its hood raised and a farmer looking at the engine, attempting to figure out why the truck stalled. In the background stood the magnificent mountain range. Dick was taken not only by the beauty before him, but also by the grazing horse juxtaposed with the stalled truck. For some reason he felt he should photograph the event, but only later when printing the color negative did he realize what had prompted him to take the photo.

*If all the animals
ceased to exist,
human beings would
die of a great
loneliness of spirit.*

Chief Seattle

*You should not
imitate what you
choose to create.*

Georges Braque

The stalled truck represented the technology of its time: efficient and powerful, but now inoperative. The horse, representing an older tried-and-true means of transportation, was still functioning. Dick considered how the image served as a metaphor for contemporary photography: how complicated computers and digital cameras offer many wonderful features, but easily break down compared to more traditional photography equipment.

When preparing the third edition of this book, Dick realized his photo might have been influenced by Elliott Erwitt's 1961 photograph "Brasilia," even though Dick was not thinking about it at the time he took his photo. Erwitt's black-and-white image shows a horse standing in a pasture with a stalled pick-up truck in the background. The hood of the truck is up and three men are seen working on the motor (Figure 10.6).

As you read this chapter, think back to this story. You will see how rhetoric provides a very useful framework for understanding Dick's experience with that photograph. You will discover that many of the images that survive the test of time employ rhetoric, as well as how many pictures are creative variations of the rhetoric in earlier works, even though photographers do not always consciously realize these connections.



Figure 10.6 "Brasilia," 1961, by Elliott Erwitt. Magnum Photos.

Intuition First

Hanno Ehse of the Nova Scotia College of Art and Design in Canada emphasizes the importance of rhetoric for graphic designers, illustrators, photographers, typographers, and other visual communicators. He writes that to account for the many successful images they create

it must be inferred that there exists a body of principles, an underlying ruling system that has been mastered in the process, even if the masters are unaware of it. It follows that the creative process, the process of finding an *appropriate* design solution would become more accessible and could be enriched, if designers could become conscious of a system which they seem to use intuitively.⁴

*Everything worked
out perfectly because I
said yes to my
intuition.*

Ruth Bernhard

Trust your intuition. Images are not created by thinking about rhetoric first and then making the picture. That would be putting the cart before the horse. Rather, photographers work intuitively, from the heart, from what they feel, and then later from thinking. The best advice for learning how to apply rhetoric in image-making is similar to what the psychiatrist Carl Jung told his students after they completed their studies. Forget all you have learned. Go out and practice. So too as a photographer, you can study the rhetorical matrix, but then just do your photography. Later, when examining the pictures you have taken, your knowledge of rhetoric will help you understand them better—why some are more effective than others and how you might alter them to enhance their impact.

*What we hope ever
to do with ease, we
must learn first to do
with diligence.*

Samuel Johnson

The sections that follow provide examples of how rhetoric can be used to make visual statements. You will notice that some of the examples fit very nicely into the categories listed in the rhetoric matrix, while some could be listed in more than one category. To simplify matters, no distinction will be made between “form and content” for the categories of *similarity* and *opposition*. Many examples of images mentioned here but not shown can be found online.

ADDITION

Addition refers to the visual elements you include when creating an image. In photography it might be something in the scene as photographed, or something added during its editing.

Identity

In the rhetorical matrix, *repetition* of identity refers to the replication of the same element. The elements can be words, color, texture, shape, form, line, parts of an image, the interval between elements, and movement. This repetition can suggest persistence, sameness, progression, reflection, or the process of duplication.

Duchamp’s “Nude Descending a Staircase” comes to mind, as well as some of the paintings of the Italian Futurist movement, especially those of Giacomo Balla. A photograph by Joyce Tenneson in her book *Light Warriors* shows a young woman with long hair draped over the front of her body as she quietly gazes at the viewer. On each shoulder is perched a



Figure 10.7 “College Basketball.” © Andrew Davidhazy.

graceful, white turtledove. The multiple exposure strobe photograph “College Basketball,” by Andrew Davidhazy, is another example (Figure 10.7). Repetition of identity is the essence of “clone” images in which the same person appears multiple times (see Figures 11.31 and 11.32 in Chapter 11).

Similarity

Similarity refers to visual elements that are similar, yet not identical. The rhetorical matrix refers to this as *rhyme* or *simile*, a similarity in form. The photograph “Maine” by Robert Walch (Chapter 8, Figure 8.4) is an example. The shape of the waves crashing against rocks resembles that of fire emanating from burning logs. Similarity can suggest kinship, variations on a theme, or something in transition.

Milton Glaser’s poster titled “5 Bach Variations” was a collage of 12 portraits of Bach in various colors and tonalities. The portraits were arranged in an interesting 3×4 matrix that demanded attention due to the repetition of Bach’s image as well as how he was looking directly at the viewer. A verbal equivalent of this poster might be the word “Bach” repeated 12 times but in different font styles.

In a popular 1984 postage stamp created by graphic designer James Bradbury Thompson, the word “LOVE” appears five times (Figure 10.8). A heart shape serves as the “V” in the word love, with a different color for each word. The substituted different color hearts are also an example of *metonymy*, which is the replacement of one element by another.

Jasper Johns “Three Flags” (1958) shows three American flags of different sizes, centered and layered one on top of the other, a small one on the top of a larger one on top of the largest one.

Charles Demuth’s painting “I Saw the Figure 5 in Gold” (1958) refers to his experience of seeing a fire engine with its number 5 glittering as it passed and then diminishing in size. In his painting, a large number 5 is centered, followed by a smaller one and a smaller one yet.

Man Ray’s photograph “Violon d’Ingres” (1924) displays the bare back of his favorite model, Kiki (see Chapter 11, Figure 11.38). Her back looks like the shape of a violin. The addition of two S-shaped violin sound-holes to her body makes the simile clear. Man Ray intended the photo as an allusion to the odalisques nude figures by the French painter Ingres. Kiki is “crowned with a turban, seated in a position similar to one of the beauties in the *Bain turc* of Ingres,”⁵ a reference to his paintings of baths in Turkey. Of additional interest is the fact that Ingres was a violinist before becoming a painter.



Figure 10.8 Visual elements that are similar but not identical.

Right makes might.

Abraham Lincoln

*I photograph what I
do not wish to paint,
and I paint what I
do not wish to
photograph.*

Man Ray

*Weston’s sliced
artichoke looks like
the wings of an
angel.*

Ralph Steiner

*The mind is
insatiable for
meaning drawn from
or projected onto the
world of appearances.*

Arthur Koestler

Difference

Elements added to an image can be different visually as well as different in purpose. In the rhetorical matrix this is called *accumulation*. It is often used in advertising to call attention to abundance—for example, all the cosmetic products made by a company, such as lipstick, hair coloring, nail polish, face powder, eye makeup—or jewelry such as bracelets, earrings, finger rings, and watches. In a 15-second television commercial, a quick sequence of men’s apparel flashed across the screen: T-shirts, shorts, shirts, ties, sweaters, shoes, socks, designer jeans, belts, hats, and even some jewelry.

In the 1813 drawing of Napoleon (Chapter 2, Figure 2.4), the artist Johann M. Voltz used a variety of visual elements in a collage that profiles Napoleon. The picture serves as a narrative of the rise and fall of Napoleon, including the death and devastation he left behind.

New York photographer David Spindel used accumulation to portray the heroic career of Joe DiMaggio by arranging a collage of baseball memorabilia that reflected his accomplishments—all part of Spindel’s private collection. In the upper right of the photograph Joe DiMaggio, with a nostalgically thoughtful expression, reviews his accomplishments as one of the greatest baseball players in history (Figures 10.9 and 10.10).

Sandy Skoglund’s installations are familiar settings in which she included the unexpected. In her photograph “Fox Games” (1989), the scene

Figure 10.9

An accumulation of visual elements portraying the many accomplishments of Joe DiMaggio during his highly successful baseball career. Photograph by David Spindel.



Figure 10.10

A snapshot of Joe DiMaggio and David Spindel in the studio where the photograph was made. Photograph by David Spindel.

is a restaurant with covered circular tables, baskets of bread on the tables, chairs, and a couple at the far table being served by a waiter. The colors of everything in the restaurant are all suppressed with a grayish-blue appearance, which provides a muted background that stands in contrast to the numerous red foxes that are jumping on tables, over tables, hiding under tables, rolling on their backs, and drinking from a saucer on the floor, as if the foxes have taken over. All the foxes are red except for one, which is hardly noticed because it has the same grayish-blue as the surround. The whole scene is bizarrely unreal. In explaining the photograph Skoglund says:

My work is based on this Frankensteinian model where the intervention of the human being has created something out of control. The theme of invasion is the theme of other animals or components—the world that we have made—turning on us.⁶

Opposition

Opposites attract, as the saying goes, which is one reason why a juxtaposition of opposing or very different visual elements draws attention. In the rhetorical matrix, *antithesis* is the use of an unexpected or surprising contrast to make a point. “In many ways, the old are young.” *Zeugma* refers to the joining together of seeming different things. “She wore a pink hat and a beautiful smile.” Conceptually, opposition and difference in the rhetorical matrix can overlap.

Imagine a photograph of the Eiffel Tower in its true Paris location and another with the tower alongside Mount Fuji in Japan. Such a rhetorical concept is sure to grab attention, and indeed was used in an ad where the famous Paris landmark was displaced into the French countryside (Figure 10.11).

*A picture demands
a certain mystery,
vagueness, fantasy.*

Edgar Degas

In the early 1970s, Robert Heinecken seemed to be following a recommendation by an earlier artist, Hans Richter, who advised artists to “Give chance a chance.” Heinecken would place a large photographic transparency of a nude figure over a television screen, turn on the TV, and then photograph fleeting TV images superimposed on the transparency. The resulting combinations of images were filled with unexpectedly ambiguous, contradictory, and ironic juxtapositions.

A wonderful example of antithesis is a photograph by Elliott Erwitt who is well noted for his subtle visual humor. Entitled “East Hampton, New York, 1983,” it shows an artist’s studio in which five student artists, with their backs to the camera, are standing in front of their easels painting a model. It is a typical scene one might find in any art school studio except for one variation: Erwitt changed the content, by reversing the roles. The model is posed and fully clothed while the five artists with their backs to the camera are completely nude except for their socks.



Figure 10.11 French government tourist advertisement, 1973.

*If there is symbolism
in my work, it can
only be in the seeing
of parts—
fragments—as
universals. All basic
forms are so closely
related as to be
visually equivalent.*

Edward Weston

Designed by Lester Beall, a 1939 promotion for a magazine called *Collier* shows a large bloody handprint. Superimposed over the hand is a small photograph of Winston Churchill in full formal dress, holding his hat in one hand and his cane in the other, and with a resigned expression on his face. The poster refers to Churchill's dire prediction of World War II. The poster "uses a reverse perspective in which the large . . . handprint is placed in the background with the smaller photograph of Winston Churchill in the foreground."⁷

In the 1920s Hannah Hoch combined fragmented pictures of body parts and other things from magazines to create photomontages. Her work is often interpreted as dismantling the fable of social roles, especially concerning women.

False Homology

In false homology, also known as false similarity, a likeness is established between different elements in order to create what the rhetorical matrix

calls *paradox* and *ambiguity*. Paradox is a seemingly contradictory statement, such as “I always lie” and “Youth is wasted on the young.”

A jewelry advertisement for pearls used a vineyard as a background for a woman’s hand that is gracefully cradling a cluster of shiny white pearls that look like a cluster of grapes. Although obviously different things, the pearls are like a fine wine.

A type of ambiguity that the matrix calls *antanaclasis* is the repetition of something in such a way that changes its meaning. “If we do not hang together, we will hang separately.” In an advertisement for a video DVD, two identical disks were shown side by side. The headline below said, “Same CD, Different Quality Content.” You can’t judge a disk by its cover.

A window in a sporting goods store displayed two men, one dressed as a golfer and the other as a fisherman. Each holds the same identical golf bag by his side, but one bag contains a set of golf clubs and the other fishing poles. Golfers and fishermen have much in common.

In an exposé of what he referred to as “the tyranny of language,” René Magritte added a caption to his painting of a pipe: “*Ceci n’est pas une pipe*” (This is not a pipe). The image and puzzling caption seem to contradict each other, yet the statement is true—a painting of a pipe is not the pipe, simply a representation, as is true of any image.

SUPPRESSION

It is not always necessary to include everything in a visual statement. In suppression, something is being excluded, removed, or minimized. Holding back or suppressing something can give the picture an enigmatic quality, inviting the viewer to become more involved in framing the completion of the visual statement. The meaning of the message becomes more of a challenge and a reward. In photography, suppression might entail some visual elements being excluded or minimized while taking the photograph or during its editing.

Identity

The identity of a subject in an image can be suppressed, minimized, or suggested but not clearly stated. In the rhetorical matrix this is called *ellipsis*, which is the opposite of repetition; elements are left out instead of added.

An ad announcing the introduction of a new automobile placed an outline of the shape of the car on a full page that was completely blank, except for the identification of the car. By leaving out a detailed photograph, the viewer was invited to imagine with anticipation what the new car might look like.

A clever advertisement showed what appeared to be a bottle of wine cradled in a wicker basket—but no bottle is actually there, just a floating

*I am a horse for a
single harness, not cut
out for tandem or
teamwork.*

Albert Einstein



Figure 10.12 Suppression of a physical bottle emphasizes the importance of the label. Thanks to the Gestalt principle of closure, we do imagine that the bottle exists.

wine label carefully arranged so that the missing bottle is not readily noticed (Figure 10.12). Suppressing the physical presence of the bottle calls attention to the label. The headline reinforces the idea that one should buy Beaujolais by the label, not by the bottle.

In Figure 10.13, the high contrast created during digital editing of a photograph suppresses the men's physical features, which symbolically suggests the suppression of individual identity for the sake of the group.

Similarity

When similarity is suppressed in an image, attributes of things that should be alike and recognizable are minimized or omitted. The rhetorical matrix calls this *circumlocution*, which is a vague and evasive communication, a “talking around” something.

An ad shows a fashion model looking into a mirror, with her back to the viewer so only part of her face and body are reflected in the mirror. Because we can directly see only her back, the similarity between the reflection and the front of her body is suppressed. It is a roundabout, indirect, and interesting way to focus our attention on the dress and jewelry being advertised.

*One of the most
important
characteristics of
a masterpiece is
ambiguity because it
never exhausts its
meaning.*

Umberto Eco



Figure 10.13 “March” by John Suler. Suppressing individual identity for the sake of the group.

A scene from a movie shows an airport at night in which a woman stands by a window looking out as her lover prepares to board a plane. In the darkness, the window acts as a somewhat blurry mirror, reflecting her seemingly tearful face but with salient features suppressed.

Difference

In the suppression of difference, a discrepancy or dissimilarity between things is minimized or negated, which then implies some kind of similarity. In the rhetorical matrix this is called *suspension*, a suspended belief or understanding of something.

Advertisements can accomplish a suppression of difference by suggesting on one page that two different things might be similar, and then revealing that similarity on the following page. It is very effective in creating suspense. When sequencing photographs for an exhibition or book, a puzzling situation might be presented in an earlier photograph that is then resolved later in the sequence of photographs. The same idea is used in motion pictures and video. Certain information about seemingly dissimilar things is held back to create suspense, and then later revealed for dramatic emphasis. “Leave them wanting more.”

In the January 2001 issue of *Vanity Fair*, an attractive, sophisticated, and well-designed four-page ad for a woman's cigarette used a colorful Egyptian motif in which two royally dressed woman, with their faces in profile, are looking at each other. The tantalizing headline reads "Some Women Have Always Known Their Place," leaving the reader to wonder how these two majestic women fit the cultural stereotype of the submissive female. As the page is turned, another Egyptian woman is shown. Her name, the headline proclaims, is "Hatshepsut, The Woman Who Would Be King." Hatshepsut of the eighteenth-century dynasty ruled as the only female pharaoh of Egypt. "See Yourself as King," the ad proclaimed. The following two pages revealed how easily this could be accomplished by simply purchasing a pack of Virginia Slims cigarettes.

In one of O. Henry's short stories, "The Last Leaf," a very sick young lady lies in a bed looking out the window at the 21 leaves remaining on an ivy vine. We might logically perceive the leaves and woman as different things, but she is 21 years old and feels very much connected to the vine. She sees the falling leaves as a sign of her failing health, truly believing that when the last one falls, she will die. Over the course of several days, the leaves drop one at a time until only one remains, mysteriously hanging on the vine.

Opposition

In the rhetorical matrix, *dubitation* and *reticence* refer to the sense of doubt and hesitation we experience when we are made to question the opposition or contrasts between things.

Imagine a photograph of a person in which the shadow cast is not that person's form, but a different form. If the dark shadow has a sinister appearance, it could illustrate the darker side of that person. If it looked angelic, it could suggest the spiritual side. The shadow in Figure 2.40 of Chapter 2 makes us wonder about a "split" personality.

In the 1920s and 1930s, Edward Steichen served as the chief photographer for *Vogue* and *Vanity Fair*. His fashion portrait of the movie star Gloria Swanson titled "The Cat" shows her beautiful face and eyes partially hidden behind a lacy veil of delicately patterned flowers and leaves. A cat and a woman are different beings, yet the suppression of that contrast created a sense of mystery and cunning in the portrait, suggesting that Swanson is like a cat.

False Homology: Ambiguity

A questionable or puzzling similarity can create ambiguity. In this part of the rhetorical matrix, *tautology* refers to a redundant repetition of something that might at first seem ambiguous in its intention, but it does drive home a point. "I can't believe I'm seeing it with my own eyes."

*He is right wing but
is he the right man?
We'll be right back.*

TV News Reporter

In tautology, a repeated word might take on different meanings. “A Rolex is a Rolex.” The redundancy is at first puzzling until the reader realizes that the first word identifies the product, while the second word implicitly and proudly suggests the quality of the product. A visual example would be an elegant photograph of a Rolex seen by itself on a blank white page of a magazine. Without a headline or explanatory copy, the ad speaks for itself—a Rolex is a Rolex.

A photograph is a secret about a secret.

Diane Arbus

False Homology: Paradox

A false similarity can also create paradox. In this part of the matrix, *preterition* refers to the paradox of saying something while implying it is not being said. “Let’s not mention how dumb he is.” In the world of photography, a model feigning a secret or showing false modesty would be an example.

Eikoh Hosoe wanted to make a satirical political statement regarding his government’s ban on pubic hair being shown in a photograph. While visiting in California, he photographed several nude women models all lined up in a row fully exposed, but with their hands paradoxically covering their faces rather than their pubic area.

In the Atlanta, Georgia, High Museum of Art, there is a beautiful marble statue of a woman clothed in a flowing garment with her face veiled. At first glance it appears as if it is an actual cloth draped over her face, but it is not. It is marble skillfully crafted to look like a veil; an example of *trompe l’oeil*, fooling the eye. It is amazing that something as hard as marble can appear to be a soft veil that suppresses and softens the marble face behind it. Making soft hard must be hard. The sculpture, by Giovanni Maria Benzoni, is called “The Veiled Rebecca, 1864.”

SUBSTITUTION

In substitution, one thing takes the place of another. Substitution might combine both suppression and addition. One element of something is suppressed or negated and then replaced by adding something else.

Identity

In the rhetorical matrix, a *hyperbole* calls attention to a visual element within an image by substituting it with a more extreme version of itself. An ad for a perfume shows a model with a bottle of perfume in her hand, but twice its normal size. René Magritte’s painting “The Listening Room” (Chapter 7, Figure 7.18) displays what appears to be a gigantic apple in a room.

Headline: A national celebration of cosmic proportions.

Some photographic postcards in the early 1900s exaggerated the size of familiar farm products: potatoes, pumpkins, apples, corn, cabbage, and the like (Figure 10.14). The cards were motivated by the farmers' desire to counter the "city slicker" jokes about the supposedly unsophisticated farmer. Realizing that urban folks knew next to nothing about farming, and suspecting they might also be a bit gullible about the validity of photographs, the farmers created a number of these postcards and sent them to friends in the East. The pictures were an immediate success, leading to a number of other items being exaggerated; chickens the size of a pony transporting children, sheep the size of a horse grazing in pasture, 20-foot insects roaming around, and frogs as large as kangaroos. A book titled *Larger Than Life*, published by Abbeville Press, has many wonderful and humorous examples of early photographic hyperbole.

In 1943, at the age of 16, Nile Root was more interested in photography than his work as a high school student. His composite image in Figure 10.15 gave expression to those feelings. He later went on to become a professor of Photographic Arts and Sciences at the Rochester Institute of Technology.



Figure 10.14 "Bumper Crop." Collection of the author.

A *litote* calls attention to something by miniaturizing it. A classic example was the ad introducing the VW Beetle at a time when Americans adored their big automobiles. To gain a foothold, Volkswagen went against the popularity of "big" by praising smallness. The ad showed a VW car in miniature displayed in the center of a blank white page of a magazine. The bold headline read "Think Small." Many people did by purchasing the car designed for ordinary folks.



Figure 10.15 A young photographer's visual thoughts on being a high school student. Photograph by Nile Root.

Similarity

Substitution might entail the inclusion of elements that are similar to something else but not exactly the same thing, resulting in *allusion* or *metaphor*. Allusion is an indirect reference to something. In a metaphor, one thing stands for something else.

The January 7, 1991, cover of *The New Yorker* displayed 12 pictures in the style of 12 well-known artist/painters. The content of the pictures related to each of the 12 months of the year. January pictured two people fighting over a January sale item, presented in the cubistic style of Picasso. March showed a very windy day with fences and houses falling, debris flying, and a young couple airborne in a style reminiscent of Marc Chagall's painting "The Birthday" (1915). August depicted a hot summer sun shining on a street scene where everything seems to be melting; street signs, lamp poles, buildings, and a large circular clock melting over a horizontal tree limb—an allusion to Dali's 1931 "The Persistence of Memory."

As a photographic example of allusion, consider Judy Dater's most popular photograph, "Imogen and Twinka at Yosemite." The photographer

The recipe for a good speech includes some shortening.

Anonymous

I didn't have time to write a shorter letter, so I wrote a long one instead.

Mark Twain

*The sun burst
through with its
atomic mane.*

Gordon Parks

Imogen Cunningham, in her nineties and wearing a long dark dress with a camera hanging from her neck, stands beside a large tree trunk while peering at Twinka, a nude model in a frontal pose, one knee slightly bent as she looks at Cunningham with a pixie-like expression. Dater and Cunningham had been conducting a photographic workshop, with the painting “Persephone” by Thomas Hart Benton inspiring the idea for the photograph, according to Dater. In the painting an old farmer is peering around a tree trunk gazing at an unaware nude woman lying on a red blanket. Dater’s photograph alludes to Benton’s painting and Benton’s painting alludes to the Greek myth of Proserpine (Persephone). The ad in Figure 10.16 makes reference to the famous and often imitated painting by Grant Wood.

The designer William Golden’s CBS logo created in 1952 alludes to René Magritte’s painting of an eye titled “The False Mirror” (Figure 9.3 in Chapter 9), which in turn references the early Egyptian mythological Eye of Horus.



Figure 10.16 “American Gothic Allusion.” Live models mimic the farmers in Grant Wood’s “American Gothic” (see Figure 2.20 in Chapter 2). In the painting, Wood’s sister modeled as the woman and his dentist as the man. The two look-alikes in the ad are well cast. To be sure there is no gender mistake, the woman is in pink and the man in blue.

Cindy Sherman is a master of impersonation, performance, parody, and allusion. Her carefully staged self-portraits illustrate the way women have been stereotyped in fashion, movies, sexual images, and historical portrait paintings. In each situation she substitutes herself into the persona of the character she mimics. Sherman has an uncanny ability to disguise herself, using elaborate costumes, cosmetics, props, lighting, and her skill at mime.

“What is a meta phor?” someone once punned. Often used when talking and writing, metaphors are figures of speech by which a word used to designate one thing implicitly refers to something else. Neil Armstrong remarked when he first landed on the moon, “The eagle has landed,” making reference to both the name of the lunar module as well as America itself, whose symbol is the eagle.

Ansel Adams’ photograph “Moonrise, Hernandez, New Mexico” (1941), taken on All Souls day—the day the dead are remembered—serves as a metaphor representing the archetypes of life and death. The moon above symbolizes life shining on the gravestones.

Figure 10.17 is an engaging advertisement in which an egg yolk substitutes for the sun. Both have the same circular shape and similar color. Just as the yolk provides sustenance to the developing chick, the sun provides sustenance to all life on earth.

PACCIONE FOR MEAD PAPER WITH TAMRON.

“Without zoom lenses this shot might have taken a month. Even with zooms it took three days. Two on location in East Hampton for the sunrise, a day in my New York studio for the egg.”

I use Tamrons because they cut like lasers and the color balance is superb. Mechanically they’re rugged and reliable, with movement that’s as smooth as silk.

For the sunrise I used a Tamron 80-200 f/1.3 B&W at around 160 or 170mm. For the egg I used Tamron’s new 35-135 f/1.5 S&W. Zoom-Macro at around 40-45mm. Film for both shots was Kodachrome 25.

But what really knocks me out about Tamron lenses is the price—maybe a third to a half the price of the so-called “name” lenses—yet every bit as good as the best of them.

And I should know. I’ve shot with just about every lens on the market.”

Good Morning America. Mead says it. Brilliantly.

TAMRON
We design excitement™

Tamron Industries, Inc.
P.O. Box 385, Fort Washington, PA 19063
(610) 662-8800 • FAX (610) 662-8801
In Canada: Tamron (Canada) Ltd., Markham, Ontario L3R 9Y5
© 1985 Tamron Industries, Inc.

Figure 10.17 “Good Morning America”—a one egg, sunny side up metaphor.

One of Judy Dater's favorite photographs is "My Hands, Death Valley, 1980." She was nearing her fortieth birthday, facing a midlife crisis, and looking for a new direction. As she was sitting in her parked car, gazing out the partially open window, she noticed the landscape looked slightly different through the glass than without the glass. The idea came to her to photograph her hands pulling aside the window so that it is half open, providing a partial clear view of the landscape. "It was a metaphor for me in regard to my own life, my personal quest to see things more clearly."⁸

Duane Michals' "Illuminated Man" (1968) shows a man walking out of a traffic tunnel under Park Avenue in New York. Michals positioned the man so that a single bright shaft of light falls on his face, completely obliterating it with pure light. The photograph is reminiscent of a painting by his friend Magritte for whom Michals had great respect. Michals said, "The Illuminated Man illustrates my idea of enlightenment, in the Eastern sense by which one becomes what we are and have always been, but have forgotten—a joyous energy and light transcendent."⁹

An early Russian film classic has a scene in which a politician stands boastfully on a balcony overlooking a large crowd of people. With typical political oratory and gestures, he bellows his message, on and on, nonstop. Every so often during his verbal diarrhea the scene changes, showing workers struggling desperately to turn off a broken water main flooding the street.

Chuck Jones, creator of the animated cartoon *The Roadrunner*, depicts his coyote character persistently chasing the roadrunner, hoping to catch him, but never succeeding. Jones suggested that the coyote was a metaphor for those who are continually chasing after something but never succeeding.

Difference

Metonymy in the rhetorical matrix refers to the substitution of one word for a different one that it suggests. It comes from the Greek meaning "a change of name." For example, "The pen is mightier than the sword" means that the pen substitutes for the sword as a superior type of weapon. If you say, "I'll Google it," you are using the word "Google" as a substitute for the different word "search."

In visual statements, one thing can substitute for something different that it suggests. An advertisement for a zoom lens shows three photographs of a young girl holding a bouquet of flowers. The picture of the girl in each photograph becomes larger and larger as one would expect when using a zoom lens at different focal lengths. The photographs substitute for the lens.

Andreas Feininger's self-portrait "The Photojournalist, 1951" shows him holding his 35-mm camera so that its lens covers one eye and the flash unit the other. Behind the camera lens, the iris shutter is partially open so



Figure 10.18 “Comprehending Art,” photograph by John Suler. “Solemn” (2000), aluminum sculpture by Robert Strang.

that it looks like the iris and pupil of the human eye. The image suggests that a photojournalist sees with the camera as well as with the eyes. Even though they are different things, the camera substitutes for the eye.

While strolling through Grounds for Sculpture in New Jersey, my mother bent over briefly to take a closer look at something (Figure 10.18). In the humorous photograph I took, the sculpture substitutes for my mother’s head as a symbolic statement on how challenging it can be to put one’s mind into an understanding of art.

Synecdoche is a type of metonymy in which a detail or part is used as a substitute representation for the whole, or vice versa. In announcements for an art exhibition, one piece of the artist’s work is often shown as a representation for the entire body of work in the exhibition.

In November of 1984, a *New Yorker* magazine cover showed a cornfield after the harvest, with three smiling pumpkins dancing with three playful turkeys while a farmer plays a violin. Pumpkins and turkeys, which are details we associate with Thanksgiving, stand for Thanksgiving itself.

The scale of red-violet is the calm before the storm, whereas violet is the storm itself.

S. Macdonald-Wright

Another example of synecdoche is Man Ray's "The Lovers or Observatory Time" (1931–1934). It shows an enormous pair of red lips hovering over part of a landscape, floating among white puffy clouds in the sky, with a nude woman apparently sleeping on the ground below. The lips hint at what the woman might be dreaming.

Opposition

In this part of the matrix, *periphrasis* is a roundabout rather than direct way of stating something, while *euphemism* is a pleasant way of saying something that otherwise might be offensive or hurtful. In both cases, something seemingly benign is being substituted for something that is not so benign.

An anamorphic image is one roundabout way of making a statement. A classic example is Holbein's painting "Two French Ambassadors" in which seafaring explorers stand side by side in front of the various instruments used for their explorations (see Chapter 8, Figure 8.11). In the middle of the painting is an anamorphic skull that can only be seen from a very specific perspective. It serves as a reminder that no matter who we are or how successful we are, death will someday greet us all—*memento mori*.

The Hungarian photographer André Kertész and the British photographer Bill Brandt went through a period of creating anamorphic nudes. Kertész's interest in distorted figures began in the early 1900s when he was photographing the bodies of swimmers refracted in a swimming pool. His anamorphic images of nudes were similar to the altered forms of the human body that intrigued Picasso.

Used cars are no longer called "used" cars. They are now euphemistically said to be "pre-owned." An ad for used cars shows a large selection of polished vehicles, flags waving, and a young man and woman hoping to buy one. An exceptionally courteous sales representative is treating them like royalty. The headline for the ad reads, "The Best Selection of Pre-Owned Cars Anywhere." Other euphemistic ads are those for hygiene products and funeral services.

False Homology: Ambiguity

In the rhetorical matrix, *puns* are a play on words or visual elements suggesting different meanings, often humorous. As substitutions of one thing for another, they often make use of ambiguity in words and images.

A photograph by Elliott Erwitt, "Puerto Rico, 1969," shows a house with artificial brick siding. In the center of the photograph is a white window frame without a window, just more artificial siding in the window space.

In another photograph of a nudist colony, a man stands in the middle of the photograph, his back to the camera. A woman and child are walking away from the camera. The man standing in the middle appears to have a baseball glove in his right hand and in his left hand he prominently holds two baseballs.

The designer Saul Bass told how he and his colleagues looking for ideas would get together to play free-association word games. For example, consider the word “fish.” One might say, “The cat is perched in the tree,” because cats like fish and perch is a type of fish. Someone else, associating a cat with purring, might remark, “The car engine purred quietly.” The next step in this brainstorming process would be to translate such ideas into an image.

Suppose you were looking for a poster idea dealing with students. Given the word “student,” people in the brainstorming group would offer different responses. Look at the school of fish in the pond. Pencil in your answer on the test form. Book me on a later flight. Out of the cluster of associations would come an idea for a poster.

Long before the artist Christo began covering up large objects and keeping them covered for a period of time before unwrapping them, Man Ray created “L’Enigme d’Isidore Ducasse,” an object covered up in a black cloth with rope around it. The shape of the covered piece resembled the form of the famous dancer Isadora Duncan. The work serves as a pun, fooling one into thinking Duncan might have modeled for the piece or is actually under the cloth.

The cover of the Winter 2000 Christmas issue of *Forbes* *fyi* showed a beautiful and somewhat seductive close-up portrait of a model. She looks at the viewer in a flirting way with her highly accented, dilated green eyes. Her prominent and protruding lips are candy-striped red and white like the familiar peppermint candy canes that make their debut during the Christmas season. Directly below the lips in large red type are the words “MERRY KISSMAS.”

*Echo answers echo;
everything
reverberates.*

Georges Braque

*Snow covers the
ground and then
later, ground and
object reappear.
During Lent,
religious statues are
covered with a purple
cloth, which is
removed for Easter.*

False Homology: Paradox

In the rhetorical matrix, *antiphrasis* refers to an ironic or humorous use of words, often involving the substitution of an opposite meaning for the word. “I am but a child of 60 years.” The substitution creates the paradox of similar things that are not really similar.

A clever television ad began with a group of people in an art gallery admiring a billboard-size painting of a new luxury car with an attractive model at the wheel. After 10 or 15 seconds, much to the people’s utter surprise, the car starts up, the motor roars, and the car drives along the gallery wall and out of the television-viewing screen. It wasn’t just a picture of a car. It was a car.

*I shut my eyes in
order to see.*

Paul Gauguin



Figure 10.19 A paradoxical picture that plays with a false similarity. Are there two pictures of a building with an intact man, or only one picture with a partially invisible man? Photograph by Leslie Stroebel.

Take a look at Figure 10.19, a photo of Dick Zakia that was created before the age of digital editing. It is a paradox, reminiscent of Magritte's statement that everything that is visible hides something else that is visible. To create the image, a photograph of Dick holding a blank mount board in front of the building was first taken and printed. Then a second photograph was taken of only the building. The section of the building obstructed by Dick was then cut out and pasted onto the first photograph so that it coincided with the building behind him. This combined photograph was then photographed to create what is seen in the final picture.

A photographic illustration in the February 2001 issue of *American Photographer* shows a model, dressed in a bikini bathing suit, standing in front of what appears to be a large window through which one can see an overhanging roof and mountains in the distance. A reflection of the model with her head slightly tilted downward appears in the "window." It takes a few minutes before one realizes a clever play on what one expected to see—the window has all the features of a window but is not a window. It is difficult to determine what exactly is outside the window as opposed to what the window reflects inside the room. The inspiration for this photograph might have been Magritte's 1955 painting "Euclidean Walks" (shown at the beginning of Chapter 7). In both cases we are invited to question what we see and how we see. Is what we see the real thing, the same thing, a substituted thing, or not?

EXCHANGE

Exchange involves reciprocity between elements in a visual statement, some type of tradeoff, switching, interchange, or conversion between them.

Identity

An exchange of identity is called *inversion* in the rhetorical matrix. An element in a visual statement is somehow inverted, usually in its spatial orientation.

To show that a newly designed ballpoint pen can be used in any position, a man in a business suit is standing on his head, pen and pad in hand while writing upside down. An advertisement for men's stylish clothing consists of a handsome male model in full dress from head to toe in a very fashionable outfit. Alongside him is the same image but upside down, implying that no matter how you look at it, he looks good.

After the 9/11 attack on the United States, an illustration depicting the event appeared on the editorial page of the Raleigh, North Carolina, *News and Observer*. It showed the side view of the Statue of Liberty looking at the New York City skyline without the Towers. An ominous, opaque, gargantuan dark cloud of smoke and debris hovers over the skyline. Liberty, with her body slumped and head bowed, covers her face with her left hand. In her right hand the torch of liberty that had been held high, welcoming immigrants, was now lowered and pointing down. The Statue of Liberty, a symbol of freedom, was inverted to a symbol of sorrow.

The painting “Male Nude (Self Portrait),” by the German artist Georg Baselitz (Figure 10.20), is part of the permanent collection of the North Carolina Museum of Art in Raleigh. The text accompanying the painting on exhibit reads, “Georg Baselitz paintings—large, ambitious, and emotionally turbulent—explore the territory between abstraction and representation.” By inverting the figure he shifted attention to the abstract quality of the composition, as he explained: “An object painted upside down is suitable for painting because it is unsuitable as an object.”



Figure 10.20 “Male Nude (Self-Portrait)” by Georg Baselitz. Courtesy of the artist and the North Carolina Museum of Art.

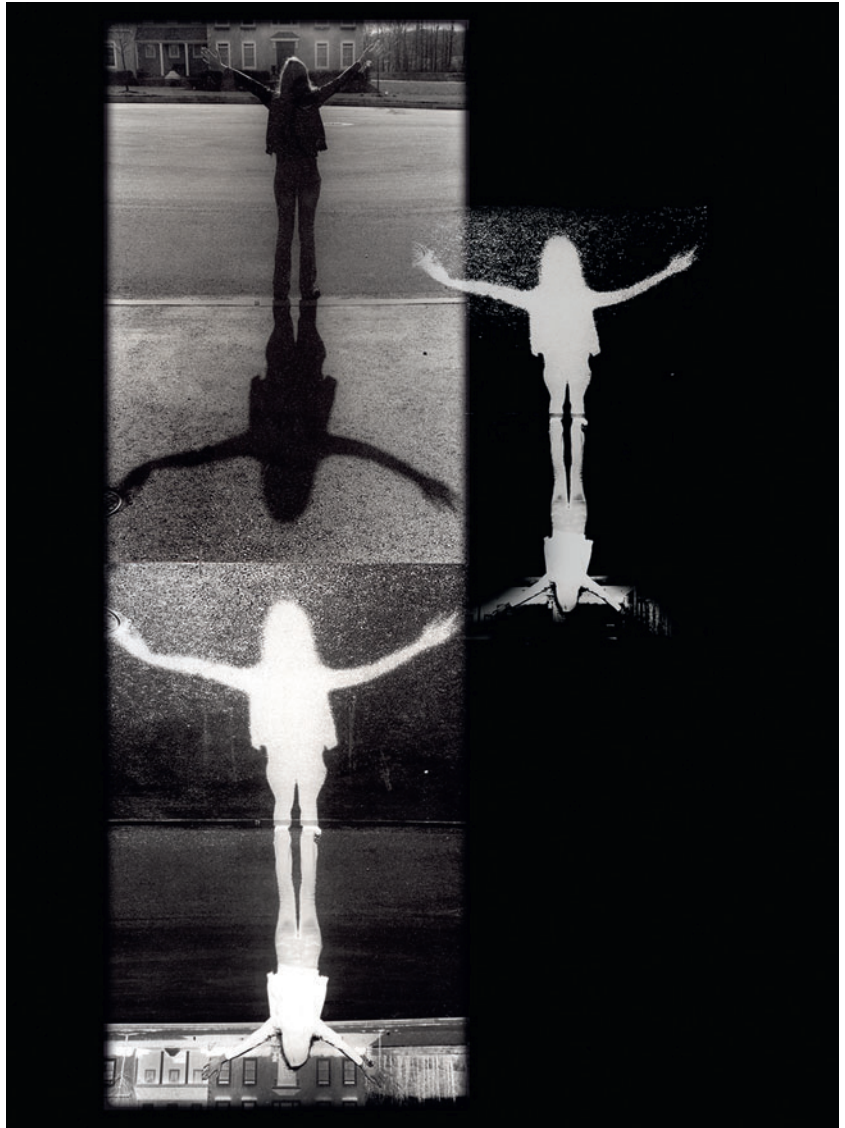


Figure 10.21 “Identity” by Kira Suler. An inversion of both orientation and tones.

Inversion of identity can also include an inversion of tones, as illustrated in Figure 10.21 (which also includes an inversion of orientation). Another example is “Noire et blanche” (“Black and White”), a 1926 photograph by Man Ray in which a woman’s face rests sideways on a tabletop. In her left hand she holds a black African mask. Paired with the photograph is its negative, so that the African mask is now white and the woman’s face black. The paired photographs can be seen as a metaphor that we are all the same under the skin, that color is only skin deep.

Similarity

In *hendiadys*, two elements of a visual statement are connected to establish a similarity that expresses a more complex, abstract idea. The placement of two images next to or on top of each other, as in *diptychs*, is one way to create hendiadys.

An ad emphasizing the creative quality of Italian design shows a side view of a stylish new blue convertible automobile in the upper part of the ad. Below it is the side view of a fashionable woman's blue shoe. Both the car and the shoe are shown in complete isolation except for some puffy white clouds in the background. The headline reads, "Italian design on wheels, about \$96,000, Italian design on heels, about \$130."

Two images having the same meaning but different forms was evident in an ad for a cake mix. The first image shows the box partially open. To its right is another picture showing a delicious-looking, ready-to-eat cake. The form is different but the content similar.

A segment from a television show on sea animals shows a seal performing in the water. With his hands cocked to mimic the seal's flippers, the trainer is flapping his arms. The seal is doing the same with its flippers.

Difference

In the rhetoric of language, *asyndeton* is the omission of conjunctions that usually smooth over transitions between ideas. "I came, I saw, I conquered." It is a terse and staccato form of communication—at times confusing, startling, harsh, or punchy. In a visual asyndeton, one or more visual elements are disconnected or fragmented, which forces an abrupt exchange and comparison between those different elements.

In the early 1970s, Robert Heinecken at UCLA pieced together fragments of images and photographed them to make sociopolitical or sexual-erotic statements. His image titled "Cliché Vary/Fetishism, 1974" is one example. In a brochure for the book *Heinecken* he wrote, "I am interested in what I term *gestalts*, picture circumstances which bring together disparate images or ideas so as to form new meanings and new configurations . . . it is the incongruous, the ironic and the satirical which interests me."¹⁰

In the 1960s, Robert Rauschenberg began applying found images, not found objects, to his canvas using silkscreen. "With access to anything printed, Rauschenberg could draw on an unlimited bank of images for his new painting . . . rocket, eagle, Kennedy, crowd, street signs, dancer, oranges, box, mosquito—creates an inventory of modern life, the lyrical outpourings of the mind."¹¹

*I'm running on
instinct. I'm running
off my soul.*

Musiq Soulchild

*Change reality! If
you don't find it,
invent it.*

Pete Turner

Visible things can be invisible. When someone rides a horse in the forest, first you see them, then you don't, but you know they are there . . . the rider hides the trees and the trees hide her.

René Magritte

Opposition

In *anacoluton* the logical sequence of a statement does not proceed as expected. One predicts a particular outcome in the exchange of elements, but that expectation is not fulfilled. The statement breaks down, often resulting in a puzzling opposition or an impossible situation that nevertheless makes a statement. “To die, to sleep, no more.”

In René Magritte’s “Le Blanc-Seing, 1965” the setting is a forest of trees shown in perspective (see Figure 11.39 in Chapter 11). A horse and rider are shown in the middle of the grouping of trees independent of the fact that some of the trees are near and some far. The apparently segmented horse straddles both the near and far trees simultaneously. Parts are seen in front of, as well as behind, the trees. “Visible things can be invisible. When someone rides a horse in the forest, first you see them then you don’t, but you know they are there.”¹² The horse and rider hide the trees and the trees hide the horse and rider. We are thrust into a conflict between physical reality and image reality—between what is seen and what is hidden, a problem that fascinated Magritte.

The vodka ad in Figure 10.22 provides a similar visual conflict. Both the tilted glass and balanced vodka bottle defy gravity, but visually appear to be in perfect balance—on the “level.”

During the Palestinian–Israeli conflict of Christmas 2000, a television news segment showed children decorating a Christmas tree, not with



Figure 10.22
Perfect balance on the level.

traditional ornaments, but with empty bullet shells. In a photograph, an elderly lady with a wrinkled face sports a very colorful and youthful blond wig. In another photograph, a little girl is all dressed up in her mother's clothes, a long flowing dress, a fancy hat, high heels, and carrying a large purse. An advertisement for candles during the Easter season shows different colored egg-shaped candles in an egg carton.

False Homology: Ambiguity

In *antimetabole* something is repeated while also somehow reversed. "Ask not what your country can do for you, ask what you can do for your country."

An ad for a computer software company was based on the cliché "Don't put the cart before the horse." The photograph in the ad showed a horse and a cart but the cart was before the horse. The horse had his head turned to the viewer with a puzzled expression.

A cartoon appearing in *The New Yorker* shows one side of a pyramid in its triangular shape. Next to it is an imaginary road in perspective having a triangular shape. The road can be seen as a road in perspective or as a pyramid lying flat.

*I travel to take
pictures and take
pictures to travel.*

Rick Sammon

False Homology: Paradox

An *antilogy* is a contradiction in terms or ideas that are proposed as related, such as "jumbo shrimp" and "open secret." In a picture, it takes the form

*Is seeing believing or
is believing seeing?*



Figure 10.23 An advertisement for a men's fragrance based on the painting "Not to be Reproduced" by René Magritte.

of a contradiction in supposedly related visual elements, resulting in paradox.

In Magritte's "Dangerous Relationships," a nude woman facing the viewer holds a large mirror in front of part of her body. In the mirror, the back of her body is reflected. One sees part of the front and part of the back simultaneously.

In one of Magritte's classic visual enigmas, "La reproduction interdite" ("Not to be Reproduced," 1937), a well-dressed man stands in front of a mirror. His back is to the viewer as he looks into the mirror but the image in the mirror is not his face, as one would expect, but of his back. Figure 10.23 is an advertisement based on this painting.

WORDS, SOUNDS, AND RHETORIC

In photography so much emphasis is placed on the visual statement that we sometimes overlook the importance of the verbal statement. As discussed in the section about conceptual photography in Chapter 3 on memory and association, as well as in Chapter 12 on critiquing photographs, verbal skills play an important role in titling, captioning, and describing images. Being adept with words is also important when creating a website, preparing announcements for an exhibition, writing articles about photography, and discussing images in social media.

How you express yourself reflects on your photography. The choice of words and the way these words are spoken can enhance or detract from one's images, just as music can enhance or detract from the quality of films. Photographers have many opportunities to improve their verbal skills by wisely using rhetoric. It is the key to creating interesting and memorable verbal statements to accompany the visual statements.

In rhetoric, how words sound affects the attention they draw and therefore their impact. Especially when creating titles and captions for images, give careful consideration to the different methods for creating sounds with words.

For *alliteration*, the initial sound of words is similar, as in "tip toe through the tulips" and "once upon a midnight dreary while I pondered weak and weary." In *assonance*, the similarity occurs with vowels, as in "the rain in Spain falls mainly on the plain" and "red sky at night, sailor's delight." For *onomatopoeia*, words sound like what they represent, as in "buzz," "zap," and "thunk." *Cacophony* refers to words that feel harsh or discordant when placed together, such as "cantankerous clatter" and "a rotten, dirty, terrible, trudging, stupid fool." By contrast, *euphony* involves words that have a pleasing and harmonious sound, as in "season of mists and mellow fruitfulness" and "twinkle, twinkle, little star; how I wonder what you are." *Amplification* is a way to emphasize and expand a

Language is required to mediate pictorial representation, at least initially.

T. G. R. Bower

*Publish or perish.
Teach or terminate.*

*Garish colors can be
cacophonous.*

statement to call attention to its importance. For example, to emphasize that a person has good taste, you might write that he or she shows elegant taste for good photography, good music, good food, and good friends.

Poets pay careful attention to these devices. So too should image-makers, who are poets in their own way.

A SUMMARY OF RHETORICAL TECHNIQUES

Now that we've reached the end of this chapter, let's briefly review how the rhetorical techniques might be used in image-making and in creating captions or titles for images. Based on the rhetorical matrix, what are the kinds of questions and ideas you might consider to better understand a picture or to change its meaning?

Because the definitions of the terms within the matrix can be subtle, and sometimes overlap with each other, use them as a springboard for generating ideas rather than dwelling on the specifics of how their definitions compare.

As an exercise, apply these questions and ideas to Dick Zakia's photograph that appears at the beginning of this chapter. He found it a wonderful image to explore with the rhetorical method. Also keep these ideas in mind when you read the next and last chapter on critiquing photographs.

The Four Basic Rhetorical Operations

1. What elements should be added to or increased?
2. What elements should be suppressed or removed?
3. What elements can be substituted for other elements?
4. What elements can exchange or reciprocate with other elements?

The Five Relationships Between Elements

1. What are the identities of the elements?
2. How are elements similar?
3. How are elements different?
4. How do elements oppose each other?
5. How might there be a false similarity between elements?

Addition

Repetition: Repeat an element to emphasize persistence, sameness, progression, or duplication.

Rhyme: Create elements that are not identical but similar, as in variations on a theme.

Simile: Suggest how some element is like another element, even though they are not exactly the same thing.

Accumulation: Collect a variety of elements to show abundance and complexity.

Antithesis: Show an unexpected contrast between elements.

Antanacsis: Repeat an element but in a way that changes its meaning.

Paradox: Create a false similarity between elements, making a statement that seems contradictory but is true.

Suppression

Ellipsis: To make a statement, leave an element out that would otherwise be there.

Circumlocution: Refer to something but in roundabout or indirect way.

Suspension: To create suspense, hold back on something and then reveal it.

Dubitatio: Present an element in a way that creates doubt about its meaning.

Reticence: Present an element in a way that makes the viewer feel hesitate about interpreting its meaning.

Tautology: Drive home a point by repeating an element or identifying it with itself.

Preterition: Show something by not showing it.

Substitution

Hyperbole: Replace an element with an exaggerated version of itself.

Allusion: Make a reference to something else that is familiar or well known.

Metaphor: Show one element in terms of another, how one stands for the other.

Metonymy: Substitute one element to take the place of another, as in using the part to represent the whole, or vice versa.

Periphrasis: Express something in a roundabout way (similar to circumlocution).

Euphemism: Refer to something extreme or unpleasant in a subdued or benign way.

Pun: Play with semantics, as in things that sound alike (e.g., “bear” and “bare”).

Antiphrasis: Express an element in an ironic way, as in reversing its meaning.

Exchange

Inversion: Turn something upside down or inside out; reverse its color or tonalities.

Hendiadys: Connect two elements to express a more complex idea (e.g., diptychs).

Homology: Express the same meaning in successive images but in different forms.

Asyndeton: Break connections between elements to create a confusing, startling, punchy, or staccato effect.

Anacoluthon: Disrupt a logical sequence of elements so it does not proceed as expected.

Chiasmus: Invert the second of two parallel structures, as in reflections.

Antimetabole: Repeat but also somehow reverse an element.

Antilogy: Show a contradiction between two supposedly similar elements.

*Only morality in our
actions can give
beauty and dignity to
life.*

Albert Einstein



Figure 10.24

KEY WORDS

accumulation	assonance	hyperbole	repetition
alliteration	asyndeton	inversion	reticence
allusion	cacophony	litote	rhetoric
amplification	chiasmus	metaphor	rhyme
anacoluthon	circumlocution	metonymy	simile
antanaclasis	dubitation	onomatopoeia	suspension
antilogy	ellipsis	paradox	synecdoche
antimetabole	euphemism	periphrasis	tautology
antiphrasis	euphony	preterition	zeugma
antithesis	hendiadys	pun	

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Personality

I hold a beast, an angel and a madman in me, and my enquiry is as to their working, and my problem is their subjugation and victory, down-throw and upheaval, and my effort is their self-expression.

Dylan Thomas

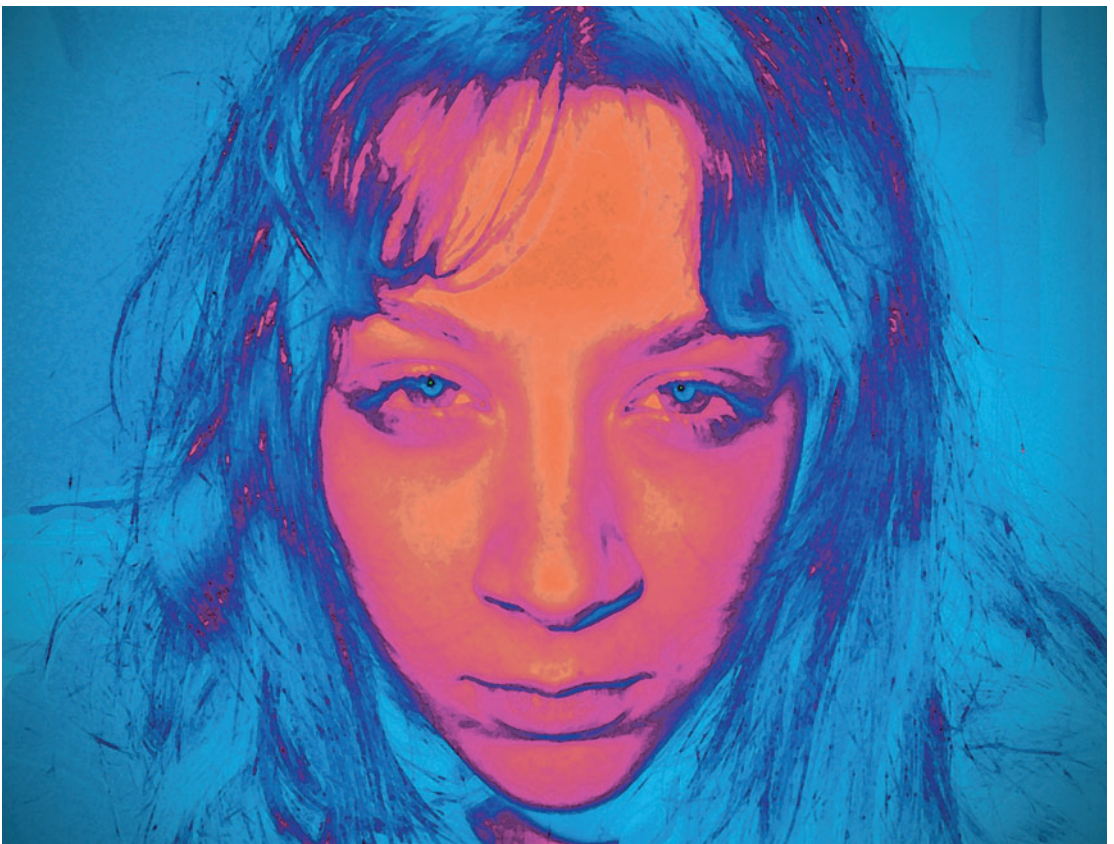


Figure 11.1 “Self Portrait” by Asia Suler.

*'Tain't what you do,
it's the way that you
do it.*

Fats Waller

Psychologists take various approaches in exploring personality that are very useful for understanding image-makers, their work, and how people react to pictures. We can focus on *cognitive abilities*, which are the mental abilities for perceiving, reasoning, and judging, as well as on *personality traits*, such as introversion and extraversion. We can consider how photographers have different *personality types* or *styles*, which are clusters of cognitive abilities and personality traits. We can also examine how the interaction of the conscious and unconscious forces within the mind—its *psychodynamics*—will influence the way people invent and experiences images. These are the topics we will explore in this chapter.

While some cognitive processes tend to be universal among people, as in the Gestalt laws of perception, others vary from person to person. Understanding personality means recognizing the *individual differences* in how people think, feel, and behave. Some elements of personality are inborn temperaments, some are learned within one's family, friendships, and culture, and many are the outcome of nature interacting with nurture. Important questions for any photographer are, "What kind of person am I? What abilities and traits was I born with? What ways of thinking and feeling can I learn—and, if necessary, unlearn."

LEVELING AND SHARPENING

*The aspects of things
that are most
important for us are
hidden because of
their simplicity and
familiarity.*

Ludwig
Wittgenstein

*Nobody really sees a
flower—it is so small
it takes time—we
haven't time—and to
see takes time like to
have a friend takes
time.*

Georgia O'Keeffe

The early Gestalt psychologists drew a distinction between the cognitive abilities of *sharpening* and *leveling*. People who sharpen tend to focus on and remember the detail, sequence, and differences among the things they see and hear, while those who level tend to simplify their experience. Sharpening highlights parts, variations, complexity, and obliqueness. Leveling involves unification, repetition, enhancing symmetry, streamlining structure, and the elimination of anomalous details. As with many cognitive abilities, sharpening and leveling tend to occur without our realizing it, subconsciously.

Dick Zakia told the story of a young couple describing how they first met. The man, a sharpener, recalled the sequence of events in minute detail, while the woman, a leveler, talked about how she experienced the entire event. Her description of their first meeting was somewhat poetic and romantic while his was analytical and detailed.

Photographers who are sharpeners study the subject in great detail: the geometry, the color, texture, lighting, relationships, and so on. Photographers who are levelers sense the holistic impression of a situation, the overall feeling or atmosphere. A photographer who meticulously works out the exposure of an image according to the zone system is probably a sharpener, while a photographer who loves minimalist images is probably a leveler.

In Figure 11.2 Rudolf Arnheim gave an example of early Gestalt research regarding leveling and sharpening. Illustrations A and B are not quite symmetrical. The two wings in A are a bit off-center as is the small rectangle in B. When asked to draw these patterns, some subjects created symmetry to increase the simplicity (leveling), while others exaggerated the asymmetry (sharpening). In this example, leveling reduces the tension created by asymmetry, whereas sharpening increases it. During leveling this reduction of tension could detract from the dynamic feeling of a photograph (Figure 11.3). In situations where stability, balance, and predictability are

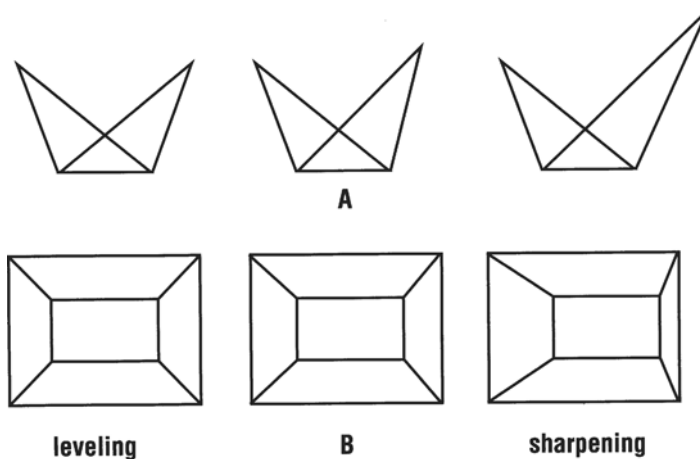


Figure 11.2 Leveling and sharpening. If illustrations A and B are adjusted to look more symmetrical, the person is leveling. If they are adjusted to exaggerate the asymmetry, the person is sharpening.



Figure 11.3 “East Farm Hill” by Steve Kurtz. If the camera had been positioned so that the shapes of the hole and the light patch in the background had been leveled off to form a perfect square and rectangle, the dynamic feeling created by the asymmetry of the oblique lines would disappear. Notice also the dynamic feeling of the rule of thirds placement of the worker, as well as the oblique angles created by the triangular shape of the wrought iron stand above the top shovel, the frame of the wheelbarrow, and the position of the two shovels.



Figure 11.4 Perspective distortion, especially in architectural photography, can result in images that require leveling in order to create a sense of balance and stability. The Department of Agriculture (shown in the photo) would most likely agree.

the primary message of the image, leveling would probably feel appropriate to both levelers and sharpeners (Figure 11.4).

Sharpening comes in handy when attempting to photograph familiar subjects. For example, it is difficult to get inspired about taking photos in your own home because you have grown so accustomed to it that everything seems uninteresting. Psychologists call this dulling of perception *habituation*. This is why photographers seek out exotic places to photograph: it's more exciting. However, by developing the ability to sharpen, you can notice interesting aspects of even the most familiar of places, details that you never noticed before. You will see the uniqueness in the seemingly mundane.

By contrast, leveling might help you appreciate the overall pattern or atmosphere of a scene that you otherwise did not notice. Leveling is especially useful when photographing complex scenes where it is difficult to detect global configurations of the “big picture.”

Dick once saw a cartoon in which bird watchers were standing on a ledge with their heads tilted upwards and holding binoculars over their eyes. He kept looking at the cartoon expecting to see something humorous, but it was just people watching birds, which was not very funny. Suddenly, he noticed one of them actually had his binoculars covering his mouth instead of his eyes, and they weren't actually binoculars. He was taking a little nip from a flask that resembled binoculars! Had Dick continued leveling rather than sharpening, he would have missed the visual prank. In fact, it was the shift from leveling to sharpening that made the joke work.

More visual information on the retina is filtered out than filtered in.

Richard Norman

Little of what we look at do we see.

Richard Fahey

FIELD DEPENDENCY

Whether a person has a *field-dependent* or *field-independent* cognitive style is determined by the extent to which they rely on the environment or their own inner cues for orienting themselves in space, as well as the extent to which they can separate details from the surrounding context. Herman Witkin pioneered the research on these personality differences.¹

In the *Embedded Figures Test* subjects were asked to detect a geometric shape hidden in a larger geometric pattern (Figure 11.5). People who can find the embedded figure are field independent. They can extract shapes

Make things simple, not simpler.

Albert Einstein

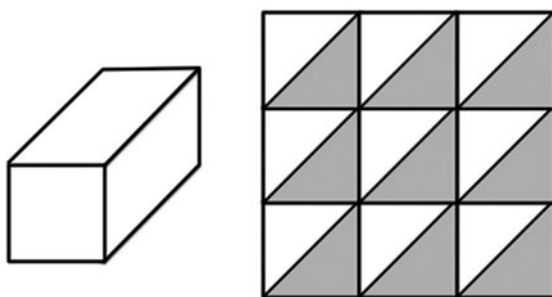
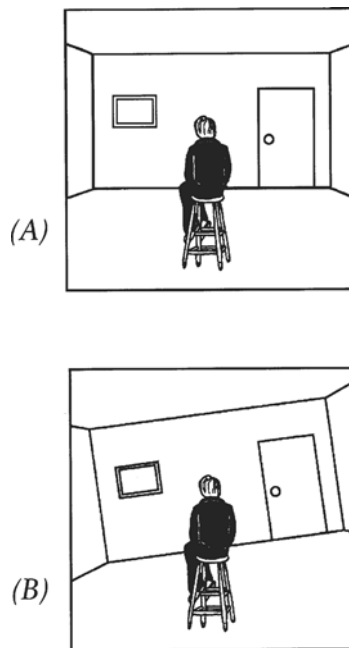


Figure 11.5 An example similar to the Embedded Figures Test. Can you see the figure on the left within the figure on the right, in four different locations? If so, you are field independent.

from their surrounding context. People who have difficulty doing this are field dependent. When creating images, field independence is a useful skill for noticing patterns within patterns, while field dependence helps one see “the big picture.”

Field dependency or independency helps explain how you determine whether your body is upright or tilted. Two different factors come into play. First, without having to think about it, you relate your body position to the vertical and horizontal lines in your surroundings, which tells you whether your body is upright or tilted. Second, the force of gravity acts on

**Figure 11.6**

The field-dependency room. In an experimental room the chair in the room or the room itself can be independently tilted without the subject's awareness. How the subject reacts to the tilted situation determines whether he or she is responding to the visual field or to the gravitational field for balance. (A) The room and the chair are shown in normal upright position. (B) The room (the visual field) has been tilted.

*We don't see things
as they are. We see
them as we are.*

Anaïs Nin

*Blessed are the hearts
that can bend; they
shall never be broken.*

Albert Camus

*Tell the truth, but
tell it slant.*

Emily Dickinson

the kinesthetic sense of your muscles, tendons, and joints as well as on the balance sense of your inner ear, so that you experience yourself as being upright or not. This is independent of the visual field and is easily experienced by tilting your body with eyes closed. Immediately you know you are not upright and can usually sense the direction and degree of tilt. People with no inner ear balance rely heavily on their visual surroundings to determine their body tilt.

In everyday experiences we usually find ourselves upright relative to both the gravitational and visual field. It is difficult, therefore, to determine whether people perceive their body position on the basis of gravitational forces, visual forces, or both. To separate and control both fields, Witkin built a tilting-room/tilting-chair apparatus (Figure 11.6).

In the experiment, both the chair and room could be tilted independently, to varying degrees. A person sitting in the chair is tested under various tilted-room/tilted-chair combinations. For each non-upright situation, the person is instructed to tell the experimenter to adjust either the room or the chair, and by how much, until an upright position is perceived. The results of Witkin's experiments showed that people differed considerably in how they attempted to

adjust to the situation. Some changed the visual field (tilted the room) and others the gravitational field (tilted the chair). The term field dependent was used to describe those who adjusted the tilted room (the visual field) and field independent for those who adjusted the tilted chair in which they were seated.

Field-dependent people will feel uncomfortable when something within their visual field is tilted. The tilt creates a visual tension, a feeling of imbalance. Dick Zakia talked about how he was such a person. If he was sitting in a room with a tilted picture on a wall, he would either get up and straighten it or look away to avoid feeling off balance. Aboard ship in the navy, sailing was like Witkin's tilted-room experiment. Every time the ship

tilted it would cause Dick to feel off balance, sometimes causing sea sickness, a common problem for field-dependent sailors. Some architecture is deliberately designed to arouse feelings of disorientation and imbalance, such as the Jewish Museum in Berlin that contains walls at strange angles and a tilted floor to simulate the atmosphere of the Holocaust.

Field dependency affects how people create and experience images. Often photographers find themselves in situations where their body posture is not upright relative to the gravitational field or visual field, as in leaning out of a car window. They must somehow make adjustments, which might be difficult for the field-dependent person. Field-dependent people will also be uncomfortable with tilted horizons in landscape photographs and with mounted prints in which the subject matter is not vertical relative to the mount board. Such a person would never want to hang this type of photograph in their home or office. Like other photographers, I usually find a photo with slight tilt—often overlooked by the photographer who took it—more unsettling than those with obvious tilts created for an intended visual effect (Figure 11.8).

Field-independent people can adapt to and even enjoy the sense of imbalance and visual tension created by tilt. In cinematography, such effects

FOLIO

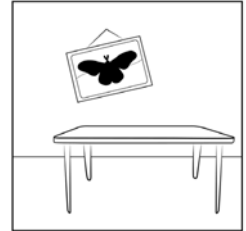


Figure 11.7 If the tilt in this word and picture bother you, you might be field dependent.



Figure 11.8 “Texas Pickle, San Antonio, 1995” by Richard D. Zakia. A field-dependent person will experience more imbalance and visual tension when a photograph is tilted within a vertical and horizontal frame. Field-independent people experience less imbalance and might enjoy the tension of the tilt. Like other photographers, I find obvious tilt, as in Dick’s original photo on the left, more interesting than slight tilt that usually feels vaguely “off,” as with the version on the right.

*What lies behind us
and what lies before
us are tiny matters
compared with what
lies within us.*

Ralph Waldo
Emerson

*Sometimes trees strike
me as laughing or
crying and
occasionally as
nurturing or even
threatening.*

John Sexton

have been called *Dutch angles* because they originated in German (“Deutsch”) cinema during the 1930s and 1940s. The technique quickly spread throughout the world of cinematography and photography, becoming particularly popular during the 1960s as an avant-garde rebuffing of conventional right-angle orientations, as well as a celebration of the topsy-turvy atmosphere of the counterculture movement.

PROJECTION

As originally defined by Freud, projection is a defense mechanism used for protection against anxiety-provoking thoughts, memories, and feelings. People project what is inside them onto something external to them. Although the process of projection is a widespread phenomenon, what a person projects will vary from one individual to another. As an example, if people feel anxious because they dislike someone without cause, projection enables them to convert “I hate him” into “He hates me.” This allows them to express their impulses under the guise of defending themselves against an enemy.

A broader concept of projection suggests that people find expression for any thought or feeling—not necessarily those arising from anxiety—by projecting them onto the environment, including people, animals, music, objects, and pictures. We use our own internal frame of reference to structure what we experience around us.

A more complex type of projection is *transference*, in which we transfer patterns of thinking and feeling from our past, typically concerning family relationships, into current social situations in our lives or into situations we see in photographs (Figure 11.9). When examining photos, especially those of people interacting with one another, consider how your perceptions relate to your feelings about the significant others in your past. Consider too how such transference reactions can reverse who is feeling what toward whom in the picture, as well as reverse the feeling itself (e.g., turning hate into love). Any strong emotional reaction to a photograph tends to be a sign of projection or transference.

Projective techniques can be useful in triggering ideas for creating photographs. During the Renaissance Sandro Botticelli remarked to Leonardo da Vinci that “by merely throwing a sponge full of paint at the wall it leaves a blot where one sees a fine landscape.”² Leonardo agreed and added that in such a blot of paint you may see whatever you wish to see in it. In his “Treatise on Painting,” Leonardo da Vinci speaks of this method of “quickening the spirit of invention”:

You should look at certain walls stained with damp, or at stones of uneven colour. If you have to invent some backgrounds you will be able to see in these the likeness of divine landscapes, adorned with



Figure 11.9 Transference involves projecting ideas about past relationships into current relationships. Is the man truly disappointed? Is she disappointed with herself? Original image by George Hodan.

mountains, ruins, rocks, woods, great plains, hills and valleys in great variety; and then again you will see there battles and strange figures in violent action, expressions of faces and clothes and an infinity of things which you will be able to reduce to their complete and proper forms. In such walls the same thing happens as in the sound of bells, in whose stroke you may find every named word that you can imagine.³

This idea about quickening the spirit was not just a European one. Chinese artists used projective techniques long before the Renaissance painters. An eleventh-century artist, Sung Ti, is reported to have criticized the landscape paintings of a fellow artist:

The technique in this is very good but there is a want of natural effect. You should choose an old tumbledown wall and throw over it a piece of white silk. Then, morning and evening you should gaze at it until, at length, you can see the ruins through the silk, its prominences, its levels, its zigzags, and its cleavages, storing them up in your mind and fixing them in your eyes. Make the prominences your mountains, the lower part your water; the hollows your ravines, the cracks your streams, the lighter parts your nearest points, the darker parts your more distant points. Get all these thoroughly into you, and soon you will see men, birds, plants, and trees, flying and moving among them. You may then apply your brush according to your fancy, and the result will be of heaven, not men.⁴

*I am unable to make
any distinction
between the feeling I
get from life and the
way I translate that
feeling into painting.*

Henri Matisse

Projective techniques used in a superficial way will lead to superficial images. When applied with concentration and imagination—when the heart, mind, and memory unite—the technique quickens the spirit and serves as a launching pad to creativity. Projection can be used as a mirror

reflecting only the personal concerns of the photographer, or as a window to the archetypal mysteries of the world and universe. Minor White alluded to this in *Mirrors, Messages and Manifestations*.⁵

New Orleans photographer Clarence John Laughlin (1905–1985) used projection to give life to what he photographed.

I attempt, through much of my work, to animate all things—even so-called “inanimate objects”—with the spirit of man. I have come, by degrees, to realize that this extremely animistic projection rises, ultimately, from my profound fear and disquiet over the accelerating mechanization of man’s life; and all the resultant attempts to stamp out individuality in all spheres of man’s activities.⁶

*For me form is never
abstract. It is always
a sign for something.
It is always a man, a
bird, or something
else.*

Joan Miró

*Follow your vision,
do not adhere to any
theory, school, or
preconceived notion.*

Hans Richter

The art critic Michael Brenson called attention to the primal energy he found in van Gogh’s paintings:

The foliage in van Gogh’s paintings is so alive, so much a cauldron of primal energy, darkness and light, that it shoots us back to the ages of animism and tree worship . . . It is in the trees that we see most clearly the degree to which van Gogh personified and projected himself into the natural world.⁷

These examples from Laughlin and Brenson drive home an important lesson about the role of projection. We must consider how the photographer projected into the creation of the image, how we might be projecting when we look at it, and where those projections overlap and diverge.

The Word Association Test

The *Associationism School* of psychology, which systematically studied the laws of mental associations, invented research techniques for studying projection—one of them being the word-association or free-association test. A word is presented and the subject responds quickly with the first word that comes to mind. In similar tests, subjects might produce a short phrase in response to either a word or a fill-in-the-blank idea presented to them, such as “Work makes me feel . . .” (fill in the blank).

These kinds of word-to-word association techniques are an important aspect of the “clustering” method for critiquing photographs that will be discussed in the Chapter 12. They are also useful when exploring how people react to the titles of photographs—a technique I used in a photography exhibition also described in Chapter 12 (see Figures 12.12 and 12.13).

Some associations are generic, without indicating much about the person, while others are revealingly idiosyncratic. For example, if someone says “mother” in response to the word “father,” that’s a very conventional

association. But if someone says “elitist” that paints a very different picture. The longer it takes someone to come up with an association, the more they are thinking about their response, usually consciously modifying it rather than allowing a spontaneous reaction. If you ask a group of people to associate to a word or idea, you will be surprised as to how many different responses there will be, especially when the word or idea is abstract. Here is how the students in one of my undergraduate classes anonymously responded to “My mother . . .”

is all alone
works too hard
is lost and unstable
lies to me
is cool enough to hang out with me and my friends
is a pain in the neck
has a big heart and is full of love
has been through a lot of shit, but remains strong
cares a little too much and smothers me
lives on the edge
is afraid
makes great fried chicken
eats too much
loves me

The Thematic Apperception Test

The *Thematic Apperception Test (TAT)*, invented by Henry Murray and his colleagues, is another well-known projective instrument. It requires the subject to interpret somewhat ambiguous pictures, usually of people, by telling a story (Figure 11.10). Each picture pulls for a particular idea, such as mother/daughter relationships, father/son relationships, couples, family, sexuality, death, and personal achievement. Because the test was designed to assess psychological problems, many of the pictures depict psychological scenarios that are vaguely or obviously negative.

The subject is asked to describe the thoughts and feelings of the characters in each picture, the events leading up to the situation, and the events that follow. Unconsciously, subjects tend to project themselves into what they see by identifying with one of the characters, while perceiving the other characters as significant others in their lives. Based on transference, the story they create is really a story about themselves and their interpersonal relationships. Elements of the story might reflect the reality of their lives, the way they wish things could be, or what they fear even though it may not actually be true. Forgetting to mention the thoughts and feelings of the characters, the events leading up to the scene, or the events that follow might also say something important about the subject’s personality.



Figure 11.10 An ambiguous interpersonal picture that is similar to those in the TAT. What story does it bring to your mind? Image by Piotr Siedlecki.

Any image or photograph can function like a TAT picture. Those that work particularly well are story-telling images that include people, are somewhat ambiguous, and contain suggestions of something happening before and after the scene depicted.

The Rorschach

The most famous of the projective tests is the *Rorschach*, which consists of ten inkblots in black-and-white or color (Figure 11.11). It was named after Hermann Rorschach, a Swiss psychoanalyst who invented the blots. The test was actually adapted from an early 1900s parlor game called “blotto” in which the host and guests would sprinkle ink onto paper to form interestingly ambiguous patterns, and then free associate as to what those patterns might be. Researchers like Rorschach became fascinated by this idea as a way to study creativity and personality. It’s not unlike lying on one’s back, looking up at clouds floating by in the sky, and imagining what they could be. One of Dick Zakia’s favorite examples of imaginative cloud watching was an early Peanuts cartoon:

Lucy: Aren’t the clouds beautiful? They look like balls of cotton. I could just lie here all day and watch them drift by. If you use your imagination, you can see lots of things in the cloud’s formations. What do you think you see Linus?

Linus: Well, those clouds up there look to me like the map of the British Honduras on the Caribbean . . . That cloud over there looks a little like the profile of Thomas Eakins, the famous painter and sculptor . . . And that group of clouds over there gives me the impression of the stoning of Stephen. I can see the apostle Paul standing there to one side.

Lucy: Uh huh, that's very good. What do you see in the clouds Charlie Brown?

Charlie Brown: Well, I was going to say I saw a duckie and a horsie, but I changed my mind.

As with the other projective tests, what people perceive in the inkblots reflects their cognitive abilities and personality. In his collection of books about the test, the psychologist John Exner described how a person's *response style* indicates something about them. A response style is a tendency to focus on particular aspects of the blots or to perceive them in a particular manner. These response styles would also apply to how people react to any image, including photographs. Here are some simplified examples:

- noticing small details = vigilance, a focus on details, obsessiveness;
- creating an idea for the whole inkblot = the ability to see the "big picture";
- perceiving humans moving = mature thinking, creativity, intelligence;
- perceiving animals moving = unfulfilled needs and drives;



Figure 11.11 An inkblot similar to those in the Rorschach. What do you notice? Compare your reactions to the bullet point items.

- mentioning color = the ability to experience and express emotions;
- never mentioning color = the suppression of emotions;
- a focus on shading and blackness = stress, anxiety;
- a focus on texture = stress from loneliness and a lack of physical comforting;
- focusing on white space = rebelliousness, stubbornness, the ability to see the unusual;
- seeing things that few people tend to see = poor reality testing, imagination.

It's interesting to note that the instructions for taking the Rorschach typically involve asking the person "What might this be?" rather than "What does this look like?" A visual response is not emphasized because the person's conscious or subconscious associations may not be purely visual, but perhaps tactile as in the focus on texture in the blots, or kinesthetic as in perceptions of movement.

The Walker Visuals

Joel Walker, a Canadian psychiatrist and photographer, developed a series of ambiguous photographs that he used in his psychotherapy practice (Figure 11.12). The *Walker Visuals* are unique in their dream-like quality that stimulates a client's ability to free-associate, express imagination and fantasy, and discover previously unconscious thoughts and feelings. The themes evoked are often very primal ones about death, sexuality, and power. In describing their reactions to the images, clients come to realize that they are actually describing aspects of themselves. The psychotherapist serves as a trusted partner in this process of self-exploration. Working with the Walker Visuals is similar to *phototherapy*, which we will discuss in more depth in Chapter 12.

At various venues throughout the world, Walker held two interactive photography exhibits using ambiguous pictures similar to those in the Visuals. In "See and Tell" attendees were invited to write down the thoughts, feelings, and fantasies they experienced in reaction to ten abstract images and to share those reactions with others. In "We May Never Die" they were encouraged to choose one among 18 abstract photographs as a springboard to explore their ideas about leaving this life. Venues for the exhibit included the main lobby of the National Cancer Institute of Mexico, where it was attended by patients and staff members. Both "See and Tell" and "We May Never Die" revealed the power of ambiguous visuals in understanding how people experience themselves, their lives, and death.

Both the Walker Visuals and the Rorschach inkblots are dependent on the individual's projection into the image. However, they differ in some important ways. The curvy lines and subtly shaded colors of the Visuals



Figure 11.12 An example of the © Walker Visuals (www.joelwalker.com).

suggest movement, energy, and change, while the inkblots are more stark and static. The photographs are derived from living forms, while the inkblots are not. The Visuals are used as a therapeutic tool to facilitate self-awareness, while the Rorschach is used exclusively as a diagnostic test, administered in a predetermined format and evaluated according to established criteria.

MINDFULNESS

Mindfulness is a way of experiencing the world quite different than projection. Ideas about it have their origin in ancient Eastern philosophies. Half a century ago, these philosophies began to seep into the West, taking root among avant-garde thinkers and artists in Europe and America, eventually making their way into the photography of the 1960s. During my early career I explored in *Contemporary Psychoanalysis and Eastern Thought* how mindfulness influenced psychotherapy. It is a psychological, emotional, and spiritual state of awareness that has had a powerful effect on many disciplines, including philosophy, psychology, medicine, art, and photography.

What Mindfulness Is Not

To consider what mindfulness is in photography, let's first consider what it is not. You've set out to take photographs. You're scanning the environment, looking for a good capture and trying to avoid bad ones. In the back of your mind you're thinking about all those great photos you've taken in the past, or about great images by others. You consider ways to recreate your prior success or emulate those outstanding pictures by your heroes. You're reminding yourself of the techniques and strategies for shooting. You're thinking about the people who will see your work. You anticipate their reactions. Some recognition and praise would surely feel nice. Maybe these pictures will turn out to be really bad. How disappointing would that be? You're wanting and hoping that this will be a successful shoot. You expect at least a few good photos.



Figure 11.13 Do you “think” too much about photography? Illustration based on a concept from Henck van Bilsen.

Simply and Truly Seeing

I'm sure all photographers have found themselves living out at least some aspects of this scenario. But what's wrong with this picture? What's wrong is that we're not really seeing or experiencing. Our awareness is constricted by what we're thinking, expecting, and wanting. The internal chatter and emotional desires act like smoke that clouds our vision. We're experiencing all the stuff going on inside our heads and not much of what's going on around us.

Even though they may not specifically use the word “mindfulness”—but perhaps terms like “confluence” or “contemplative photography”—

many of the great masters talk about photography as awareness of the present moment in which we forget or surrender ourselves. We step out of our goals, desires, expectations, techniques, and anxieties so we can more fully immerse ourselves into the experience of seeing. We open up our receptive awareness to what the world offers us. Rather than being some objective observer trying to capture something, we become the being that is in communion with the world around us. We're not looking for anything in particular. We're not going anywhere in particular. We're not expecting or trying to control anything in particular. Instead, we're wandering, perhaps rather aimlessly, without a goal or purpose. We're fully and naively receptive to the possibility of the unexpected, the unique, the moment when things come together . . . to the flow of life.

Under these conditions, when we let go of the self, "it" appears to us. We don't find and take the picture. The photograph finds us. It takes itself with us inside it. We unite with the scene not so we can see a photo we want, but rather what the scene offers. The experience comes to us with the photograph being the icing on the cake. Stéphane Barbéry, a French photographer living in Kyoto, described it as a "welcoming" of soul, world, and beauty.

The title John Sexton chose for his book *Listen to the Trees* indicates a way for photographers to approach any subject they may wish to photograph. Look and listen. Let the object look at and speak to you so it

*To see we must forget
the name of the thing
we are looking at.*

Claude Monet

*Go not to the object;
let the object come to
you.*

Henry Thoreau

*I am no longer trying
to "express myself" to
impose my own
personality on nature,
but without
falsification, to
become identified
with nature.*

Edward Weston

*Too often we
attempt to force a
photograph out of a
situation rather than
allow the situation to
speak to us.*

John Sexton



Figure 11.14

may reveal its presence. In the introduction to the book, Stewart L. Udall wrote, “The truth is, trees are shy; they reveal their essence rarely. To capture these moments on film takes endless perseverance and prodigious labor.”⁸ Viewing Sexton’s photographs or any artist’s work similarly requires quiet patience and perseverance. Be still, listen, and let the photographs of the trees speak to you.

The Beginner’s Mind

In Buddhism, mindfulness is associated with the word “sati,” one translation of which is “remembering.” We recover the pure, simple, bare awareness we once knew as a child. Have you ever seen an infant staring, with fascination and delight, at a simple object, like a spoon? The baby isn’t thinking about or expecting anything from the spoon. She’s simply immersed in the joyful experience of it, without any of the psychological and emotional filters that distort our adult perceptions of the world. She doesn’t even yet have the word nor the concept of “spoon” to get in the way (Figure 11.14). Photographers will similarly talk about the childlike excitement of wandering through a forest, a marketplace, or an old abandoned house, witnessing visual enchantment everywhere.

When mindfulness blossoms, we release ourselves from the routine mental mechanisms that automatically screen out stimulation irrelevant to our tasks. We release ourselves from all the concepts we learned as we grew up—concepts that become a substitute for reality. Now we see things we would otherwise ignore. We see things not in terms of their utility or practical, abstract, or even personal meaning. We don’t even see them according to concepts about color, tones, shapes, or textures. We simply see them for what they are—a seeing that is more than seeing: we experience them. Shunryu Suzuki, a famous Zen teacher, spoke of the expert’s mind that fails to recognize anything beyond its learned theories. It is the “beginner’s mind”—the fresh, uncluttered child’s mind—that realizes the possibilities the expert cannot. It is pure, simple, bare awareness with nothing else added to it.

In photography, mindfulness is like observing something for the first time, even though you may have looked at it a thousand times before. It is similar to when you return home after having been away for a long period. You find yourself noticing things to which you had become so accustomed that your mind failed to even register them any more—the decorations on the walls, the color of the rug, the view out the window. This is a return to mindfulness. It is similar to those moments when you look at a family member or close friend and suddenly realize that you are truly seeing them, as if for the first time, and not just looking numbly at them, as you usually do.

A reflection in water, such as a lake, serves as a useful metaphor for mindfulness. When the water is disturbed resulting in waves, we cannot

The purest form of listening is without memory, desire, or understanding.

Wilfred Bion

Color possesses me. I don't have to pursue it. It will always possess me, I know it. That is the meaning of this happy hour; color and I are one.

Paul Klee

Be still with yourself until the object of your attention affirms your presence.

Minor White



Figure 11.15 The metaphor of reflections in water, such as a lake, helps us understand mindful awareness. Meditating on a mountain also encourages us to develop a still, calm mind. Photograph by John Suler.

see the reflection clearly, as when thinking disrupts our mind's ability to see reality clearly. When the waters of the mind are still, we can experience things as they truly are. So too the metaphor of the mirror helps us understand mindfulness. It simply reflects what stands before it, without any need to analyze or change it.

Letting Go

Cultivating mindfulness involves letting go. Let go of expectations, straining, and rushing. Let go of blocked emotions, because receptiveness to all feelings and sensations allows the eyes to open. Let go of forcing a shot if it's simply not working out—just move on. Let go of thinking, trying to figure things out, clinging to or rejecting anything. Accept whatever comes, good or bad. Let go of perfectionism, evaluating yourself, and comparing yourself to others. Be patient with and accept who you are, regardless of your photographic or personal shortcomings. Let go of things that seem to be problems. Resisting only adds energy to them. Instead, embrace them as an opportunity. There is no such thing as “bad” light,



Figure 11.16

subjects, weather, or photography techniques. Investigate, explore, experiment with what you see around you. Mindful photography is a “yes” experience in which all aspects of life are affirmed as potential subjects. And after you’ve taken that great photograph, linger on the scene for a moment, to appreciate it fully for what it is. Let go of treating the world as visual fodder for your photographic trophies.

*Great understanding
is broad and
unhurried; little
understanding is
cramped and busy.*

Chuang-Tzu

*A man has not seen a
thing who has not
felt it.*

Henry Thoreau

The Balance of Concentration and Noticing

In his book *Mindfulness in Plain English*, the Buddhist monk Bhante Henepola Gunaratana describes how it is a balance between noticing and concentration. Noticing is an opening up of awareness to detect something that is happening around you, like highly sensitive peripheral vision. Concentration is a one-pointed awareness that zooms into focus on a subject, like a laser, penetrating to the depths of its being. Noticing is inclusive, concentration is exclusive.

In photography as well as meditation, noticing and concentration work as partners that complement each other. You open up to notice something in the field of view that is your consciousness. Then, using the powers of concentration, you intentionally direct your awareness to the subject, sink into and explore it, and finally, when doing photography, record it without memory or desire—not unlike the archer who selflessly lets loose the arrow in that fully focused moment of Zen awareness. Once the photo is taken, your mindfulness opens up again to notice something different.

During photography, the process repeats itself over and over again, with noticing providing receptivity to the big picture of new visual possibilities, while concentration guides the immersion into the selected subject,

culminating in the photograph. If you find yourself being overwhelmed by visual sensations—that is, too much noticing, which can happen to people with acute visual sensitivities—try boosting concentration. If you find yourself slipping into a stupor-like focus on one thing, open up to noticing. It is this balance of noticing and concentration that culminates in the decisive moment photograph that we discussed in Chapter 4.

Photographers who practice mindfulness sometimes say that simply holding a camera can induce this state of awareness. It is a conditioning effect: your mind associates doing photography with mindfulness. I might add that when we are mindfully aware of our surroundings, we are doing photography even if we don't have a camera with us.

The Qualities of Mindfulness

Meditation teachers have outlined some of the qualities of mindfulness to help meditators recognize it when it happens. The list is very useful for photographers as well, when we're doing photography or simply cultivating that state of awareness during everyday activities. In his book *Mindfulness in Plain English*, Gunaratana describes how mindful awareness is:

- light, clear, easy, energetic (rather than heavy, ponderous, narrow, picky);
- quietly and calmly reflective, like a mirror;
- accepting, without judgment, evaluation, or criticism;
- non-conceptual, without categorizing, labeling, comparing, contrasting;
- pre-verbal, because words and talking distract;
- present-time, “here and now,” not about the future or past;
- sensitive to the flow of life and how everything changes;
- non-egotistic, not about I, me, or mine, not “I see a flower” but simply “flower!”

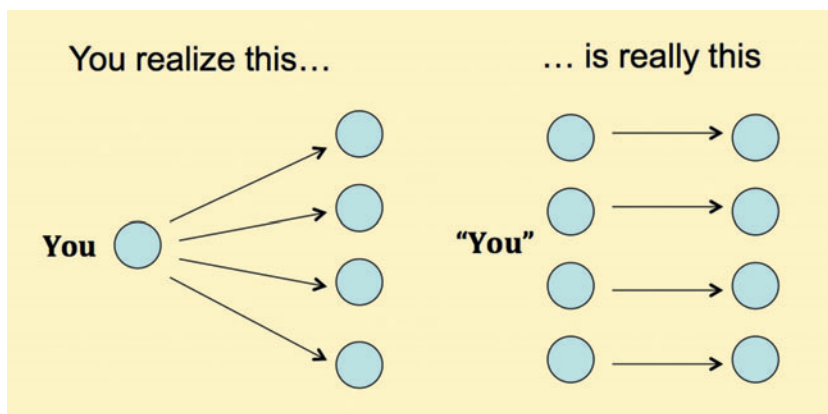


Figure 11.17

Mindfulness leads to the realization that you are not a separate being who is aware of things around you, but that “you” and the things coexist together.

How to Cultivate Mindfulness

There is a tendency among some photographers, myself included, to wax poetic about mindfulness—but philosophical and mystical discourses can become counterproductive. So let's get more practical. How exactly can we cultivate this state of awareness?

Here's one way: practice mindfulness meditation. Some people might immediately balk at that suggestion, because Westerners have all sorts of misconceptions about meditation. They think it's just a "new age" relaxation technique, some kind of mindless trance, an escape from reality, a fuzzy-brained person's folly, or a mysterious spiritual endeavor reserved for philosophers and mystics. In fact, mindfulness meditation is a very learnable, useful skill with applications to everything in life because you are mastering the ability to concentrate as well as notice. You'll find many how-to books and information online about cultivating mindfulness. The basic instructions are deceptively simple:

Focus on your breathing.
If your mind wanders, notice where it went,
then gently return your awareness to breathing.

It sounds so easy, and yet once you set foot on this path you'll run headfirst into all the important challenges to tackle: such as the "monkey-mind" that won't stop grabbing onto thoughts, the tendency to fall asleep, physical discomfort, unusual sensations in your body, and dreamlike images in your mind. Gunaratana's *Mindfulness in Plain English* offers many techniques to cope with these distractions. As you work your way through them, your mind will become still, calm, and aware (but deliberately striving for that goal will only get in the way!).

The practice of mindfulness meditation reveals your personality, including your flaws—flaws that no doubt affect your photography: impatience, thinking too much, expecting too much, perfectionism, comparing yourself to others, doubt, worry, self-criticism. If you stick with it, the reward will be a big improvement not just in your photography but also in your mental and physical wellbeing. When I introduce mindfulness meditation to my students, their very first reaction is often, "I don't have time for this." That is the first challenge—a challenge that also gets in the way of contemplative photography, which is not a task or a job to accomplish, but simply being.

You don't have to plunge into sitting meditation to develop mindfulness. You can cultivate this state of awareness during almost any activity that you might not have thought of as contemplative, as Jon Kabat-Zinn explains in his well-known book *Wherever You Go There You Are: Mindfulness in Everyday Life*. When you are eating, walking, driving, showering, dancing, listening to music, playing music, looking at photographs, or

*There is something
Zen-like about the
way I work—it's like
raking gravel in a
Zen Buddhist garden.*

Chuck Close

washing dishes. You can welcome anything as the focus of mindfulness, with the rest of your surroundings as the panorama of peripheral awareness that holds the focus like a jewel in a setting.

Practice being aware of your environment. Spend time simply looking at something—patiently, with curiosity, with a welcoming attitude. Notice the light, shadows, colors, textures, and patterns, even if and especially if you don't have your camera. Seemingly boring, mundane things will appear new and fascinating. Taking a photo doesn't matter right now. It could get in the way of mindfulness, especially if you tend to hide behind the camera rather than immerse yourself into the scene, or if you think of the camera as a tool for power, control, purpose, and accomplishment. During everyday activities, just notice and appreciate how light works, without any other thought or expectation that might get in the way of that clear perception. Developing mindfulness can be that simple.

In his unpublished manuscript ("Visualization Manual," 1975), Minor White suggested exercises to assist the photographer in capturing the essence of what is to be photographed. One exercise directs you to sit quietly in front of the subject, close your eyes, listen, and let the subject speak. When you hear what it is ready to reveal, then and only then, open your eyes to create the photograph.

Sometimes one's first insight into mindfulness happens suddenly, spontaneously. Pure awareness has a reputation for popping up expectedly on people. It is an "Aha!" experience. George DeWolfe, a well-known contemplative photographer, describes how his study of awareness started with a single photograph in 1970 that broke through the surface boundaries of reality (see www.georgedewolfe.com). "The White Rock" was an introduction to his own authenticity for seeing beyond the boundaries of the real (Figure 11.18). It encompassed both the awareness of what he was feeling and seeing about the rock, as well as the technical skills he had learned to develop the negative and print the final photograph.

This experience was so intriguing that he searched for more information about it, which led him to Carl Jung, Thoreau, and Minor White. He began to understand that photographs can be felt, intuited, and sensed—as well as seen. He realized we can trust our feelings and intuition about creating images.

In the spring of 1986, while in a library preparing notes for a lecture, he discovered at the other end of the long table where he was sitting a large tattered book. It was *The Tao of Painting*, the story of artists 2000 years ago who were attempting the same thing he was, only with black ink, water, a brush, and paper. He saw their work as possessing the amazing resiliency to transcend the arbitrary movements that have plagued Western art and photography. It was the paradigm shift he needed to accomplish the synthesis of surface visual perception and a deeper expression of the mysteries in nature accessed through pure, silent awareness.

*A day spent without
the sight or sound of
beauty, the
contemplation of
mystery, or the search
of truth or perfection
is a poverty-stricken
day.*

Lewis Mumford

Somewhere along the road to adulthood, the mind accepts the conceptual world as the real one. It is the purpose of contemplation to return us to the world of the real, and the role of contemplative photography is to express it.

George DeWolfe

Contemplative photography is where a calm and aware mind unites with the primary elements of human vision. It is the clear visual expression of reality.

George DeWolfe

Contemplative photography is different from other types of photography in that it demands nothing from us and nothing from the object. It is an expression of the pure visual nature of reality as it unfolds in front of us in the moment.

George DeWolfe



Figure 11.18 “The White Rock” by George DeWolfe (www.georgedewolfe.com).

PERSONALITY TYPES

Psychology has proposed a variety of systems for categorizing *personality types* or *styles*. They all share the assumption that personality is a constellation of character traits, with *trait theory* asserting that a “trait” is an attribute of a person that remains relatively stable over time. Many of these theories align personality types and traits along a continuum. One pole of the continuum represents a type or trait that is in many respects the opposite of the type or trait at the other pole—for example, the traits known as introversion and extraversion.

An alternative to trait theory is the *person-situation theory*. It states that people have certain personality traits, but how and when those traits are expressed depends on the situation at hand. As we all know, people can be very different depending on the circumstances. Psychodynamic theory adds the idea that personality style consists of traits that interact with each other on conscious and unconscious levels, sometimes as polarities, sometimes in seeming contradictory and paradoxical ways.

A knowledge of personality types will enrich the work of photographers who enjoy doing portraits or any type of people photography. The wider the range of personality styles you understand, the wider the range of meaning you can capture in your images of people. That wider

understanding will also help photographers avoid the problem of their own projections determining what they see in others rather than seeing others for who they are. A wedding photographer who assumes women are submissive to and adoring of men will tend to focus on capturing images of an acquiescent bride.

Applying these personality theories to oneself can be a very enlightening experience. For the photographer and any image-maker, it helps a great deal to realize that one's personality style will determine how you perceive images, what kind of images you like, how you create them, and why you create them.

Jung's Psychological Types

Carl Jung was a Swiss psychiatrist and contemporary of Sigmund Freud. Some of the highlights of his brilliant career included ideas about the collective unconscious and archetypes that we explored in Chapter 9. In 1921 he published *Psychological Types* in which he proposed a classification of personalities. There are four primary personality types based on the *four functions of consciousness*, which he divided into two pairs of opposites, sensation/intuition and thinking/feeling:

sensation: perceiving the world concretely using the five senses, focusing on detail and facts revealed by seeing, hearing, smelling, tasting, and touching;

intuition: perceiving meaning in the world based on impressions, hunches, and guesses about the overall atmosphere and the hidden potentials of the situation, without objective evidence or proof;

thinking: perceiving the world based on the truth or falsity of the situation, using rational and intellectual analysis;

feeling: perceiving the world based on one's likes and dislikes, sentiments, and subjective estimations of good or bad, pleasant or unpleasant, acceptable or unacceptable.

We can think of these four functions as poles on a compass. People at one pole tend not to express functions belonging to the opposite pole (which is usually repressed and unconscious), but they might express the functions on the poles adjacent to them. This results in eight different personality types (Figure 11.19). In the personality types that combine two poles, one of the functions tends to be dominant while the other is an *auxiliary* or *secondary* function.

Consider Figure 11.19 as a map containing X and Y coordinates, where you can plot the strengths of a person's traits according to the axes of sensation/intuition and thinking/feeling. In the very center of the map, where all four functions intersect, is a well-rounded person who combines thinking, feeling, intuiting, and sensing. This is a "self-actualized"

It is impossible for the same person to see things from the poet's point of view and that of a man of science.

Henry Thoreau

The meeting of two personalities is like the contact between two chemical substances, if there is any reaction both are transformed.

Carl Jung

The mark of a first-rate intelligence is the capacity to entertain two contradictory propositions in one's mind simultaneously without going crazy.

F. Scott Fitzgerald

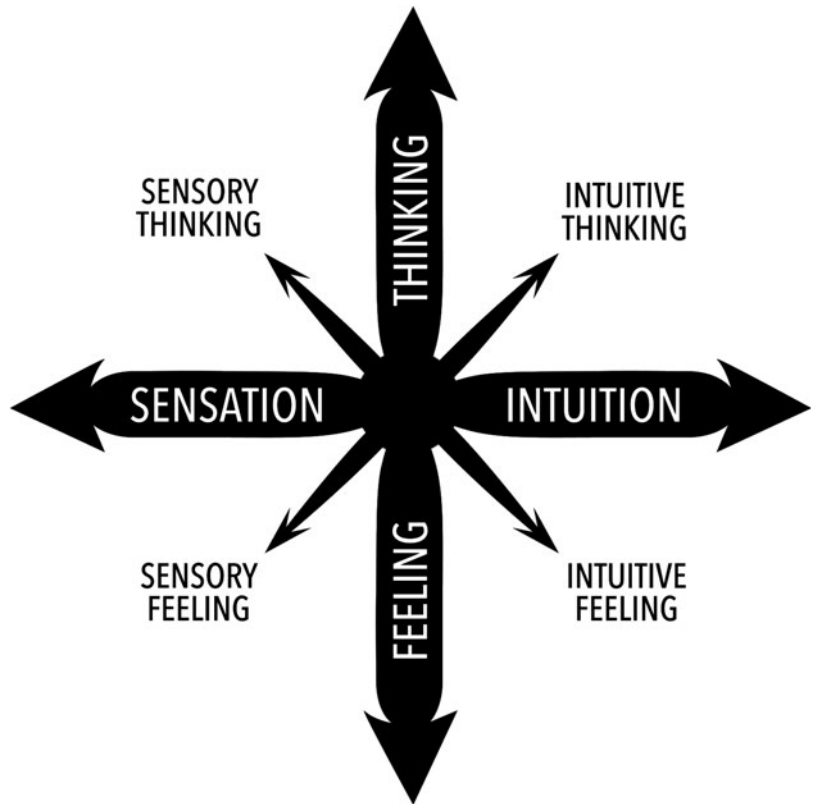
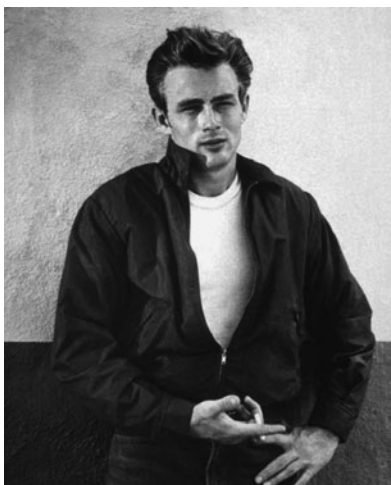


Figure 11.19 Jung's personality types.

individual who has all the personality traits they need to be a well-rounded photographer.

Jung added one more dimension to this classification system: *introversion* and *extraversion*. These two *attitudes of consciousness* indicate the direction in which a person's interests and energies will flow—either inward to subjective experience or outward to the world of things and people (with the opposite attitude being unconscious, as with the functions). All of the eight different personality types entail either introversion or extraversion, which results in a total of 16 different personality types. Using the map analogy, we can envision introversion/extraversion as the Z coordinate, making the map a three-dimensional space for plotting personality type. At the very center of the space is, once again, the fully self-actualized individual.

If you are curious as to which of the 16 personality types you are, visit one of the websites that offers a version of the Myers–Briggs Type Indicator, which is a well-known test based on Jung's system. When you consider the four basic functions, is your tendency to be more thinking, feeling, sensing, or intuiting?

**Figure 11.20**

Iconic movie stars portray a variety of personality types that we admire, fear, and perhaps identify with. Warner Brothers publicity still for the film *Rebel Without a Cause*.

In the world of photography, thinking photographers are highly analytical and logical in their approach, with a focus on technical concerns. Sensing photographers experience things visually as they are, without giving it much thought. Feeling photographers are concerned about the potential value of a photograph, particularly whether it suits their subjective needs and opinions. Intuitive photographers hope to capture the invisible essence and meaning of the subject, or something that even transcends it. Introverted photographers like being by themselves when they are photographing and avoid photographing strangers, while extroverted photographers enjoy photographing strangers and attending social events that provide such opportunities.

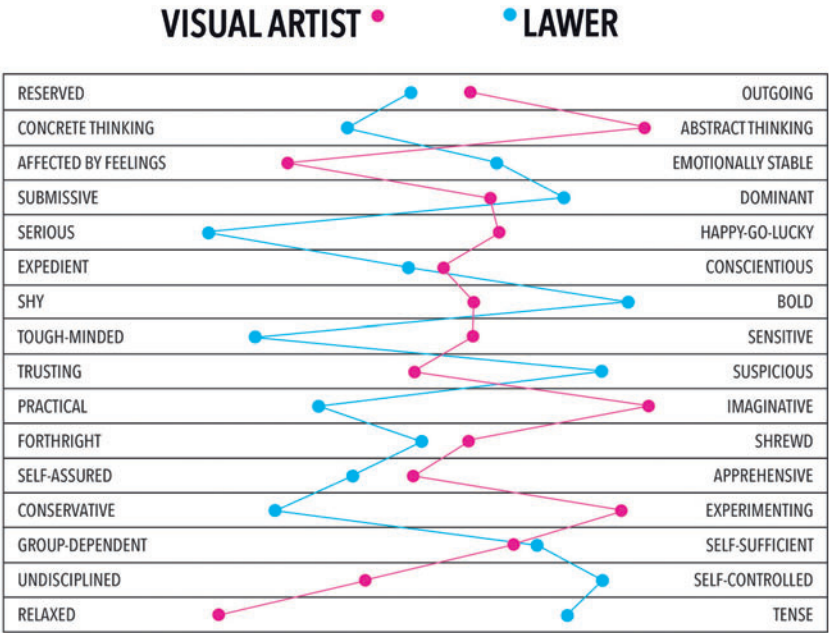
Dick Zakia believed that Edward Weston tended toward the sensing type; Minor White, intuiting; Harold Edgerton, thinking; and Ansel Adams, feeling. Ansel Adams and Harold Edgerton also tended to be extroverts; Edward Weston and Minor White, introverts.

How Many Traits Are There?

Since Jung, several other trait theories have been proposed. Gordon Allport talked about *cardinal traits* that dominate one's personality; *central traits* that exist to some degree in many people; *secondary traits* that appear only during certain circumstances and therefore add complexity to one's personality; and *common traits* that are prevalent within the culture but perhaps not so in other cultures. In cross-cultural photography, pay particular attention to those common traits.

Other researchers have tried to identify the most basic traits by using the statistical technique called *factor analysis* in the evaluation of subjects' responses to self-report questionnaires that inquired about their personalities. Raymond Cattell found 16 traits that he incorporated into

Figure 11.21
Cattell's 16 PF creates a profile of a person's traits according to 16 dimensions. These two examples are profiles of a lawyer and a visual artist. How are they similar and different?



the 16 PF, a personality test that generates a profile for a person across those sixteen traits (Figure 11.21). By contrast, Hans Eysenck stated that there were just three traits: extraversion, neuroticism, and psychoticism. Currently, the most popular theory is that proposed by Lewis Goldberg who identified five factors, often simply referred to as *The Big Five* (with “OCEAN” as the acronym):

1. *Openness*
high: creative, unconventional, emotional, curious
low: practical, conventional, rational, conservative
2. *Conscientiousness*
high: disciplined, careful, organized, responsible
low: impulsive, careless, disorganized, irresponsible
3. *Extraversion*
high: outgoing, social, energetic, assertive
low: quiet, solitary, reserved, passive
4. *Agreeableness*
high: friendly, trusting, empathic, cooperative
low: critical, uncooperative, analytical, detached
5. *Neuroticism*
high: sensitive, anxious, unstable, negative, insecure
low: secure, confident, calm, stable, positive



Figure 11.22 Bhutan monks with Rick Sammon. “One of the methods I use to get people to like or accept me before I start taking pictures is to do magic tricks. Here I am doing a simple coin trick. Check out the monks’ faces. They are intently looking at me and really enjoying the moment, as I was.” Photograph by Susan Sammon.

Although there is no clear consensus as to what are the most basic personality traits and types, you can see in this very short summary of personality theory that some of the same ideas keep surfacing. For example, almost all of the theories include extraversion and neuroticism, ideas that date back to Hippocrates’ thoughts about personality.

Photographers will probably feel OK about assessing themselves as extraverts or introverts, but they may hesitate about admitting to any kind of neuroticism. However, many photographers and other visual artists draw on their neuroticism to express emotions in their work. Their work can even become a method for better understanding and overcoming psychological difficulties, as we will discuss in the section about therapeutic photography in Chapter 12.

Types Based on Body and Brain

Throughout history psychological thinkers have proposed that personality styles are somehow linked to attributes of the physical body.

Hippocrates, the father of Western medicine, believed that a preponderance of different bodily fluids called *humors* lead to one of four temperaments: the restless, aggressive, and impulsive *choleric* personality



Figure 11.23 The four temperaments according to Hippocrates. Preparatory drawing for the sculptors of the Grande Commande for the Palace of Versailles, designed by Charles Le Brun from Cesare Ripa's *Iconologia*, commissioned by Louis XIV.

caused by excess yellow bile; the social, carefree, and outgoing *sanguine* personality caused by excess blood; the thoughtful, introverted, and reserved *melancholic* personality caused by excess black bile; and the quiet, relaxed, and stable *phlegmatic* personality caused by excess phlegm (Figure 11.23).

Based on ideas proposed by the Viennese physician Franz Joseph Gall, the *phrenology* of the early 1800s stated that because there are different mental faculties residing in different parts of the brain (a new idea at that time), these faculties could be assessed by examining the contours of the skull (Figure 11.24).

In his 1940s *somatotype theory*, the American psychologist William Sheldon classified people according to three body types (Figure 11.25). The wide-hipped and physically round *endomorph* is a tolerant, sociable, good-humored, “barrel of fun” person who loves comfort and needs affection. The tall, thin, large-headed *ectomorph* is self-conscious, introverted, artistic, and emotionally restrained. The muscular, broad-shouldered, and athletic *mesomorph* is adventurous, competitive, and indifferent to what others think.

Falling short of enough scientific evidence to validate them, these theories have faded in contemporary psychology, even though the idea that the physical body reflects personality is still considered valid. In Chapter 9, we discussed how body language and facial expressions indicate thoughts and feelings. Many clinical psychologists also believe that the different types of physical problems in the *somatoform disorders* are associated with personality styles, such as heart disease in the *Type A personality*.

*The human body is
the best picture of the
human soul.*

Ludwig
Wittgenstein

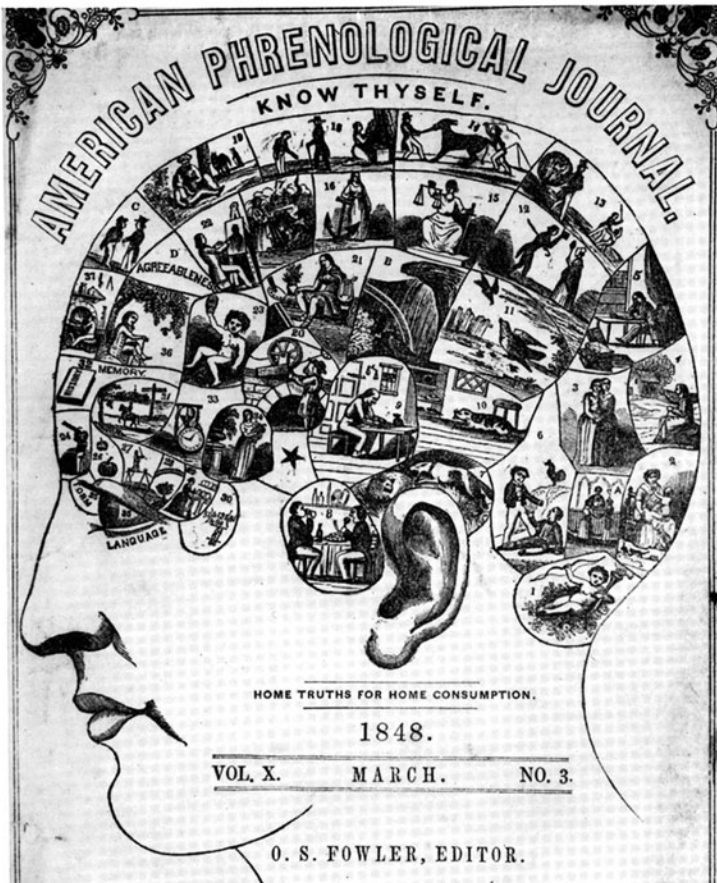


Figure 11.24 The 1848 edition of the *American Phrenological Journal* published by Fowlers & Wells, New York City.



Figure 11.25 Images of the endomorph, ectomorph, and mesomorph personalities are not that difficult to find online, which suggests they are cultural ideas. Images by ClkerFreeVectorImages at pixabay: <https://pixabay.com/en/magician-magic-wand-show-people-416771>.

As evident in Figures 11.23, 11.24, and 11.25, past theories about humors, phrenology, and somatotypes have led to some interesting images depicting the body. When I looked online for illustrations to create Figure 11.25, I discovered that it's not very difficult to find pictures that portray the personalities of the endomorph, mesomorph, and ectomorph. When they create their images, photographers might keep in mind the visual ideas from these theories about the link between the body and personality style.

Left- and Right-Brain Personalities

One theory that persists in contemporary popular psychology is that some people are *left-brained* while others are *right-brained*. This notion comes from research in the 1960s by Nobel Prize winner Richard Sperry, who concluded that the left and right hemispheres of the cerebral cortex specialize in different cognitive functions, resulting in a “split brain” (Figure 11.26). As a generalization, the left brain is a thinking/feeling personality while the right brain is sensing/intuiting. Other researchers in cognitive psychology similarly drew a distinction between people who are *verbalizers*, who rely on the language centers of the left brain to process information and store memories, as opposed to people who are *visualizers*, who rely on the imagistic functioning of the right brain.

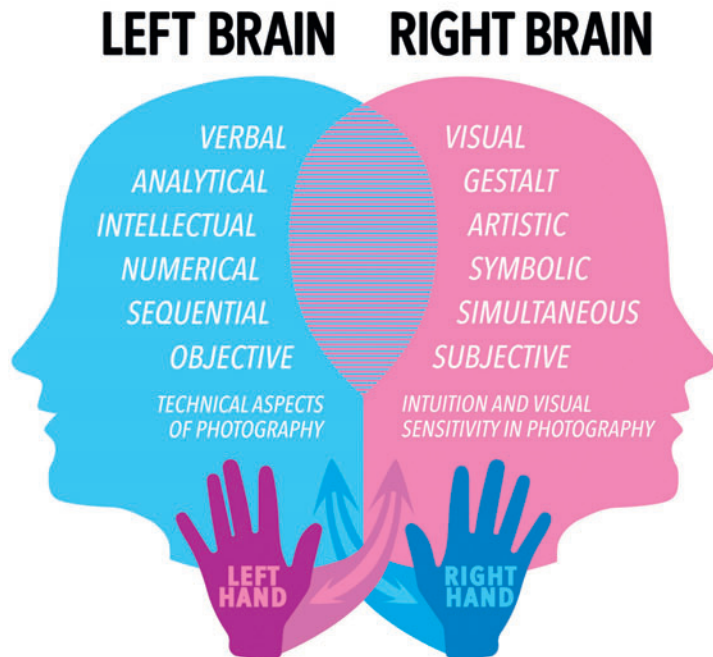


Figure 11.26 The functions associated with the left and right hemispheres of the brain, with their intersection being a photographer who has very well-rounded skills.

We might therefore conclude that a visual artist is a right-hemisphere person, while the lawyer, a left-hemisphere person. The artist depends heavily on pictorial experience, the lawyer on logic and language. A photographer who has underdeveloped abilities associated with the right hemisphere may be unsuccessful in making highly aesthetic photographs, but may excel in the technical aspects of photography. Some photographers have been able to combine both abilities, such as Edward Weston, who wrote, "There seemed to be two forces warring for supremacy, for even as I made the soft, artistic, work with poetic titles, I would secretly admire sharp, clean technically perfect photographs."⁹

The truth is that even though people may possess or lack skills that we associate with left- and right-brain functioning, contemporary brain-scan studies have found no evidence that one side of the brain is more active or highly developed than the other, or even that the functions of the two sides of the brain are as distinct as once thought. Instead, they interact with each other in complex ways.

One finding does seem clear: highly creative effort requires the use of both hemispheres of the brain. A truly excellent photographer has mastered the thinking, feeling, sensing, and intuiting aspects of image-making.

Cultural attitudes about "right" versus "left" might have reinforced the idea of a split brain. Our right and left hands (in fact, the right and left sides of the body) connect to the two brain hemispheres in reverse order: the right side to the left brain and the left side to the right brain (Figure 11.26). The word *left* in Latin is *sinister*, implying evil, while in French it is *gauche*, anyone who is awkward. By contrast, *right* in Latin is *dexter* (dexterous), while in French it is *adroit*, meaning nimble or quick-witted. Literature and images throughout history have contained metaphors for how the right and left hand represent good and evil. We also live in a culture that values logic, rationality, and science, so for some people the left brain seems "better" than the right brain.

The left versus right hemisphere distinction is perhaps not so much about a split brain but rather, metaphorically, a split mind, a mind divided into two opposites—an idea we see in the ancient Greek myths about Apollo and Dionysius, both sons of Zeus. The god Apollo stood for reason, logic, restraint, and order—while his brother Dionysius symbolized irrationality, instinct, emotionality, and chaos. The Apollonian and Dionysian dichotomy has been a popular one in literature, philosophy, and the arts.

For me, the intellect is always the guide but not the goal of performance. Three things have to be coordinated and not one must stick out. Not too much intellect because it can become too scholastic. Not too much heart because it can become schmaltz. Not too much technique because you become a mechanic.

Vladimir Horowitz

Since childhood I have been enchanted by the fact of the symbolism of the right hand and the left hand—one the doer, and the other the dreamer.

Jerome Bruner

PSYCHODYNAMICS

Many of the theories discussed so far either implicitly or explicitly indicate that the human personality contains polarities, an interaction of two opposing forces, sometimes balanced, sometimes not. Jung was very clear about this, while the trait theories often implied it. The interaction of



Figure 11.27
The ancient Taoist symbol of yin and yang visually illustrates how opposites interact, waxing and waning with inverse strength—blending, creating, and existing within each other.

opposites is an ancient idea, elegantly symbolized by the now very familiar yin/yang symbol from Taoism that Jung used to explain the interaction of the anima (female) and animus (male) forces within the psyche (Figure 11.27). It explains not only how the human personality works, but everything about humans, nature, and even the interaction of light and dark that photography strives to capture. So too the *mandala* originating in Middle Eastern cultures represents the intricate synergies among the many facets of self, and of the universe itself (Figure 11.28).

The idea that personality embodies a *psychodynamics* of interacting forces played an important role in the theories of both Freud and Jung. They emphasized how we think, feel, and behave is the result of an interaction between the conscious and unconscious mind, with the hidden realm of the unconscious seeking to express itself in subtle or indirect ways, while the conscious mind either ignores or suppresses it. Jung talked about the *shadow*, the repressed and undesired part of our personality, which is usually the opposite of how we consciously perceive ourselves and that we project into our perceptions of other people whom we dislike.



Figure 11.28 Kalachakra particulate mandala constructed by Losang Samten in El Paso, Texas, U.S.A. in 2012 (C.E.).

Psychoanalysts like Freud described how different personality styles are driven by a psychological conflict between conscious and unconscious needs. These conflicts can detract from one's ability to function as effectively as possible, which includes photographers in their work. The list below describes several of these personality styles. Can you think of any people in portraits or photographers who might fit these descriptions? What about yourself?

narcissistic: acting privileged, superior, and self-centered as a way to cope with unconscious low self-esteem;

obsessive-compulsive: trying to control everything and everyone according to perfectionistic standards as a way to cope with unconscious feelings of helplessness;

schizoid: avoiding other people and retreating to a life inside one's head as a way to cope with unconscious anxieties about intimacy;

manic: being energetic, impulsive, and elated as a way to cope with unconscious depression;

masochistic: subjecting oneself to suffering and pain as a way to cope with the unconscious need to prove oneself morally superior;

histrionic: being highly social, dramatic, attention-seeking, and emotional as a way to cope with the unconscious need for dependency and love;

depressive: grappling with feelings about being bad, with tendencies toward gloominess, guilt, and self-criticism;

paranoid: avoiding feelings of vulnerability and helplessness, while being suspicious, guarded, cold, humorless, and blaming or criticizing others;

psychopathic: needing to control and manipulate others, while being self-centered, unreliable, irresponsible, and feeling little or no compassion or sense of conscience.

Primary Process and Secondary Process

The conscious and unconscious minds work in very different ways. The unconscious operates according to *primary process*—an inborn, primal style of thinking. It is powered by emotions, one's subjective inner experience, and the drive to satisfy instinctual needs. It lacks concern about logic, rationality, and the demands of the external world. Instead, it relies on sense impressions, images, loose associations, symbolism, archetypes, and sometimes bizarre distortions of reality. The conventional rules of time and space are discarded. Even the psychological boundary between oneself and other people as distinct beings can dissolve, resulting in a merging of self and other. Primary process surfaces in altered states of consciousness—including dreams, meditation, mystical experiences, and drug-induced states, particularly those stimulated by psychedelic substances. Surrealism in art and photography draws on primary process.

*Dreams are often
most profound when
they seem the most
crazy.*

Sigmund Freud

*I dream my painting
and I paint my
dream.*

Vincent van Gogh

*Genius is one percent
inspiration and
ninety-nine percent
perspiration.*

Thomas Edison

By contrast, secondary process thinking is more conscious, focused, goal-directed, logical, and geared to solving the practical problems of the real world. Thinking relies on words and concepts. Time is linear and regular. The self and others are experienced as separate, distinct entities. We develop secondary process thinking as we grow up, receiving an education about the world, learning how to adapt to others and society. As we do so, we often leave behind the primary process thinking of our child self.

In his book *Psychoanalytic Explorations in Art*, Ernst Kris proposed that creativity relies on an *adaptive regression* to primary process. During what he called the *inspirational stage*, a person working on some artistic or scientific project dips—perhaps unexpectedly—into the unconscious realm of primary process where they attain a sudden, surprising insight into their work. That insight often appears in a primitive, unpolished form. In the *elaborational stage*, the person must then withdraw from primary process in order to refine the insight using secondary process, so it can be meaningfully applied and communicated to the external world.

An interesting example is August Kekulé, a chemist in the 1800s who was trying to figure out the molecular structure of benzene, to no avail. One night after falling asleep, he dreamt of the *ouroboros*—a snake that took its own tail into its mouth. He jumped out of bed, ran to his desk, and worked out the details of the benzene ring (Figure 11.29).

So too visual artists have relied on their dreams for primary process inspirations to express in their work, including such photographers as Ronen Goldman, Manuel Arcain, and Nicolas Bruno. Suffering from sleep

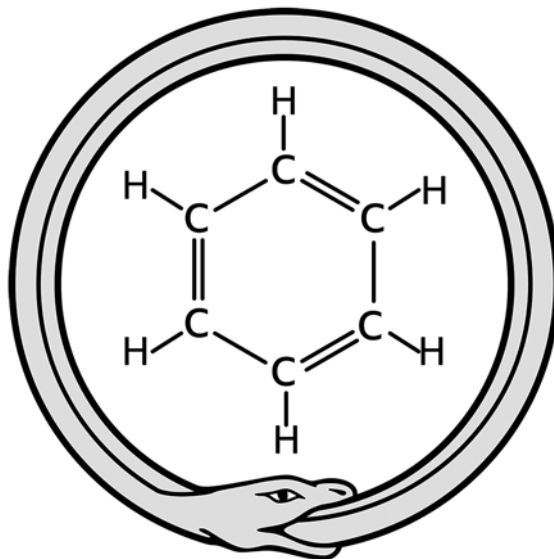


Figure 11.29 The ouroboros and benzene ring. Image by Haltopub.



Figure 11.30
“Circondat_O” by
Nicolas Bruno, a
photographer who
draws on frightening
dream images from
his sleep paralysis
condition
(nicolasbrunophotogra-
phy.com/).

paralysis, a terrifying experience in which you are half asleep and half awake, but unable to move, Bruno learned to cope with his disorder by using it as an inspiration for his photography (Figure 11.30).

A more common example of primary process assistance in solving artistic or practical problems is *subconscious incubation*. It often occurs when you set aside a challenging task to do something else, then minutes or even hours later a very helpful insight “pops” into your head. Sometimes letting go of conscious concentration on a task allows the unconscious mind to continue its work behind the scenes. After taking many photographs, I often find that later in the day one of them unexpectedly springs back into my mind. More often than not, it’s the “keeper,” even though it requires some post-processing to bring out its full potential.

Multiplicity (Clone) Images

Psychodynamic theory emphasizes how personality is not a homogenously unified entity, but instead consists of multiple parts, sometimes cooperating with each other, sometimes not. In Figure 11.31, I intended to illustrate Freud’s famous *tripartite model* that proposed three different personalities

*The ego is not master
of its own house.*

Sigmund Freud



Figure 11.31 “Inside the Psyche: Id, Ego, Superego” by John Suler.

within us: the instinctual sexual and aggressive drives of the *id* that demand immediate gratification; the morality and civilized rules of society that constitute the *superego*; and the ego that attempts to mediate between the two.

Because the id, ego, and superego are all parts of an individual’s personality, it made sense to have the same person (me) portray each one. I struck a tense and angry pose for the id, an upright and preachy posture for the superego, and placed the ego in between the two as it attempts to assuage its competing companions. Clutching a red pillow of emotion, the id wears black to represent how its primitive drives reside with the unconscious. A white shirt captures the superego’s quest for what is good and pure according to the conventions of society. Wearing a gray shirt along with eyeglasses, the ego attempts a rational compromise between the two. To create some visual continuity, to capture the fact that id, ego, and superego all belong to the same intrapsychic fabric, and to avoid excessive wardrobe changes, I had all three wear the same pair of jeans. Although I didn’t plan this aspect of the photo, I like how the ego seems to sink into the couch, as if exhausted by its efforts as peacemaker.

This image falls into the category of *clone photography*, which has become very popular in the age of digital editing. Also known as a *multiplicity photo*, these images can be comical, intriguing, and even disturbing. As highly self-aware creatures, we humans are fascinated by mirrors and reflections of ourselves, as well as with the idea of having a twin, alter ego, doppelganger, or multiple personality. Clone photographs

express this fascination by exploring the various ways these different parts of the psyche manifest themselves. You will often see these themes in multiplicity images:

- the parts that operate behind our backs, without our awareness of them;
- the hidden self that appears unexpectedly, much to our surprise or shock;
- the person that we wish for or fear to be;
- the contradictions or opposing forces within our psyche;
- the evil parts within that we usually suppress;
- the inner trickster who creates unpredictability in our lives;
- the internal wise self that wants to help us;
- the chaos created by feelings and needs that are at odds with each other;
- the potential for self-acceptance, self-love, or narcissism;
- the selves working in unison or parallel to each other, but unaware of each other;
- the self that is simply aware of itself, without any judgment or evaluation.

Every human being has hundreds of separate people living under his skin. The talent of a writer is his ability to give them their separate names, identities, personalities and have them relate to other characters living with him.

Mel Brooks

In Figure 11.32, I playfully commented on this clone image trend in photography. Admittedly, I myself went merrily through a clone phase early in my online photo-sharing lifestyle. The busyness of the scene in the composite image—with all the me's looking in various directions with different body language and cameras—represents the busyness within our psyches, along with the difficulty in trying to capture all the selves inside us.



Figure 11.32
“Capturing Clones”
by John Suler.

As suggested by the invisible me taking the photo of all the other me's, we might become aware of our various selves, but how do we become aware of the self that is aware of those selves? Even though intentionally playful, the image points to some perplexing philosophical questions about the nature of self-awareness—questions that lie at the heart of contemplative photography.

Multiplicity images are most convincing and intriguing when the clones demonstrate an awareness of and interaction with each other. That's what "psychodynamics" is all about. Otherwise the clones come across as disconnected, somewhat uninteresting duplications of each other—what psychologists call *dissociation*. Body language and line of sight can suggest a tangible relationship among them, although direct eye-to-eye contact can be difficult to mimic when creating the image (you have to know exactly where to look when posing for the photo). Humans are exquisitely sensitive to the eyes, so if the eye connection among clones is off, even just a little, the viewer will notice it and feel that the simulation is false. The most convincing clones are those that overlap, touch, or engage each other physically, although this effect requires careful planning when staging the photos and careful editing of the composite image.

FROM SELF-PORTRAITS TO SELFIES

What could be more intrinsically human than self-portraits? They reveal what makes us unique among all creatures on this planet: our highly developed self-awareness along with the desire to capture that awareness in a work of art. At a deep philosophical and psychological level of analysis, the phenomenon is wondrously introspective, paradoxical, and even mystical, which is why photographers have been enamored with this genre ever since the invention of the camera, not to mention the tradition of self-portraits among the most famous artists of all time. From Rembrandt to Frida Kahlo, from Nadar to Chuck Close, self-portraits show us the self-reflective human attempting to understand one's own personality.

My fascination for self-portraits grew as I immersed myself into the psychology of online photo sharing. Because our brain innately rivets to the human face, seeing yours will make you seem more real to others online, more so than your simply typing text. Self-portraits are a very effective way to get one's visual identity out there, while maintaining control over that image of oneself. You deliberately create an objective representation of the subjective you because the self-portrait allows you to see yourself as others might see you. It allows others to see you as you see yourself, or as you wish to be seen.

*The portrait I do best
is the person I know
best.*

Felix Nadar



Figure 11.33 In one of the first photographic self-portraits, taken in 1865, the French photographer Felix Nadar posed in a swivel chair, turning it 30 degrees after each photo was taken. The image shows us the self-aware personality in movement, time, multiplicity, and circularity. Bibliothèque Nationale de France.

Objective and Subjective Self-Portraits

The *objective self-portrait* creates the illusion that someone else might have taken the photograph, as if saying “This is how someone else saw me.” That illusion is enhanced by placing the camera on a surface or tripod to take the photo from a distance, or when using a “selfie stick.” The further away from the camera, the less likely the viewer will assume that the subject in the picture is the photographer. If people have their eyes closed, look away from the lens, and eliminate any subtle self-conscious expression on their faces, it might appear as if they do not know they are being photographed, which also leads the viewer to assume someone else took the shot (Figure 11.34). By creating the illusion of someone else’s presence, these photos

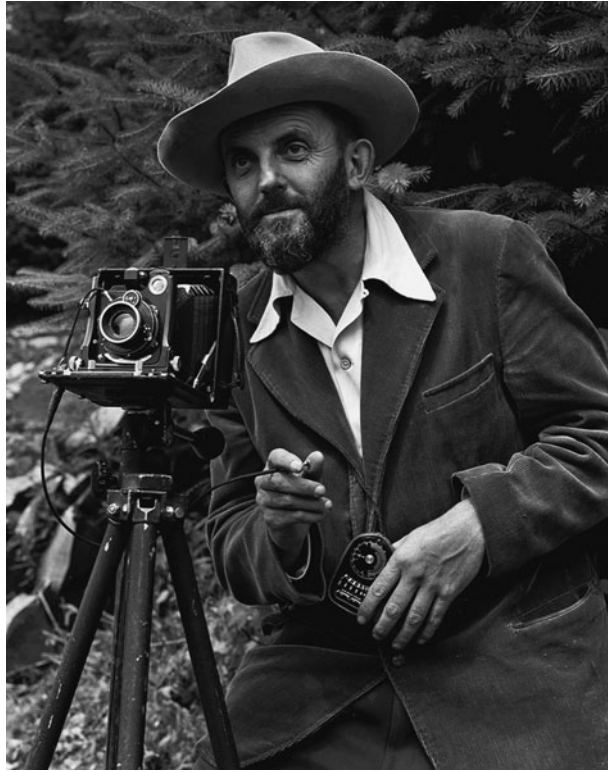


Figure 11.34 An online search for famous self-portraits often leads to this photo of Ansel Adams, which first appeared in the 1950 Yosemite Field School yearbook. It would be a perfect example of an objective self-portrait because it appears as if someone else took the photo, due to the distance from the subject and Adams looking away in pursuit of his own photograph, as if not aware that a photo is being taken of him (except for that somewhat self-conscious expression on his face). Despite the fact that some websites refer to this picture as a self-portrait, someone else actually did take it—J. Malcolm Greany, Adams’ assistant. If Adams had placed the camera on a tripod with a self-timer, which is a common technique in contemporary photography, it really would be a self-portrait. Invented as early as 1918, self-timers have made many an objective self-portrait possible, although not in this case.

also suggest a relationship between the person-as-subject and that imaginary photographer who took the shot.

In the *subjective self-portrait*, we know photographers took the photo of themselves, as when they shoot into a mirror or reflective surface, or when we see or sense their outstretched arm pointing the camera at themselves. The photo makes us aware of the presence of the camera. When the photographer also looks into the lens, this sensation of self-capturing-self is magnified (Figure 11.35).



Figure 11.35 In subjective self-portraits the viewer is aware of photographers having taken the photo of themselves. Even when using selfie sticks, the “amputated or missing arm” is a telltale sign of the image being a self-portrait (original image by InspiredImages at pixabay).

Subjective self-portraits tend to be much more common in social media than the objective types, mostly because they are easier to take on-the-go with phone cameras as a way to report on one’s ongoing life story, which is how many people use social media. You will see more objective self-portraits in online groups devoted specifically to photography as a form of artistic expression. Well-executed objective self-portraits ease impressions people might have of the photographer as self-absorbed, whereas subjective ones, especially obvious poses of oneself in a mirror, tend to amplify that sense of self-preoccupation.

The Bigger Picture of Identity

Self-portraits differ in how much photographers reveal about themselves. Some shots focus on a particular part of the person’s body, usually the face and especially the eyes, but also legs, hands, feet, and hair. These types of self-portraits are common in social media due to the limitations of a hand-held phone camera. In wider-angle photos, when the camera is further away, the person expands the field of view, showing all of themselves, objects in their hands, and their surroundings, what photographers call *environmental self-portraits*. Body language, clothing, nearby objects, and one’s location always reveal something important about one’s personality and lifestyle. What people include or exclude indicates the aspects of themselves they wish to reveal or hide, as well as determines the complexity of the story they tell. Turning a photo into a self-portrait by cropping someone out of it shows how the photographer wants to eliminate that person from the “me” being shared.

Self-Portrait as Self-Awareness

When people post self-portraits to social media, they are commenting on and seeking feedback about something in particular about themselves and their lifestyles. Often they are not consciously aware of everything their self-portraits reveal about them. Placing the photo online can stimulate *the observing self*, that part of us that steps back to look at ourselves in a more detached way, as if through the eyes of others. It might serve as an experiment in understanding how others see you, or as a bridge between their perceptions of you as compared to your own self-concept. Photographers sometimes talk about a self-portrait as if the subject is someone else. They might even talk about and experience that subject as another person. People find it easier to discuss the person in their self-portraits as a transition to talking directly about themselves.

Other People's Perceptions

Some photographers say they feel freed up when the audience for their online self-portraits consists of strangers. They enjoy showing their true colors or experimenting with their identity without worrying about approval from others. In part due to the anonymity that cyberspace offers, some of these photographers are incredibly candid in their self-portraits. They bare their souls, so much so that visitors might feel uncomfortable leaving a comment that intrudes on the photographer's seemingly vulnerable self-reflective space.

Other photographers cannot help being influenced by the comments strangers make, by whether they "like" the self-portraits or not. The photographer might dwell on posting specific kinds of photos due to the acclaim they receive from them, while ignoring or avoiding other expressions of their identity. Some photographers think, "My audience seems to like me best when I am the loving parent, the jokester, the athlete, the lonely sensitive introvert, etc . . . so that's what I'll keep posting."

Often subconsciously, photographers post a self-portrait with particular people in mind, like a romantic partner, family members, or friends. Awkward, embarrassing, and annoying situations arise when someone for whom they did not intend the photo sees it or comments on it. Photo-sharing communities do offer features for restricting access to selected images. Nevertheless, some photographers take the risk of posting their sensitive self-portraits for the whole world to see.

People take the opportunity to share self-portraits as a way to override the social impact of photographs taken by other people. Whenever a person takes a photo of you, it represents their perspective on your personality, their feelings about who you are, their commentary on their relationship with you. Whether the results are flattering or not, you have little control over how it affects people's opinions once the photo is uploaded. For this



Figure 11.36 “Selfies” have a long tradition in photography and the arts. The Byron Company via the Museum of the City of New York.

reason, it is not uncommon for displeased victims to ask a friend or relative to remove a photo they posted, or for people to post unpleasant or intimate photos of someone else as an act of hostility, as in *revenge porn*. On a widespread scale, our culture has grown more suspicious about what photographers might do with their images. Wary potential subjects dodge the camera at parties, while cautious street photographers only take shots of subjects with their faces concealed. By contrast, self-portraits put people in the driver’s seat of their social media reputation.

The Spontaneous or Carefully Composed Self

On the spur of the moment you hold the camera at arm’s length to quickly snap a shot of yourself. It was a split-second decision. You were not even sure why you did it. You like the photo, then immediately post it to social media. That is about as spontaneous as a self-portrait gets. Such impromptu photographs provide insights into one’s personality that might be difficult to achieve in a carefully staged picture.

Serious self-portrait photographers might take their time in setting up and composing the photo. They think about how they want to express themselves in that particular picture, how they want “to be” in that moment. By taking this opportunity to reflect on themselves, they might

attain a better understanding of their personality traits being depicted. The process of controlling the image might even help them manage problematic feelings rather than act them out. Deliberately exaggerating a feeling or attitude for a posed shot can enhance this feeling of mastery.

Spontaneity and planning are not necessarily antagonistic or mutually exclusive elements of self-portraits, or of any type of photography. Skilled photographers learn to balance the two. They realize that a thoughtfully designed stage provides a very good springboard for spontaneous actions.

The Superficially Narcissistic Selfie

Sharing self-portraits online has become so popular that we invented a name for it—the *selfie*. Why did it become so ubiquitous, so quickly? The invention of digital photography and the internet had already recruited millions of people to the joy of taking, editing, and sharing photos. Then the emphasis in social media on narrating one's life led to the self-portrait as an essential feature of that storytelling. When portable mobile phones included cameras with dual-view screens, the ongoing visual autobiographies catapulted to new heights. People could take selfies whenever and wherever they wanted, simply by aiming the camera at themselves and looking into the screen as if it were mirror, a feat much more difficult to accomplish with traditional cameras. Aficionados professing an expertise on creating selfies convinced so many people about the "right" way to take them that those styles proliferated like viruses, such as holding the camera slightly above one's head to shoot down toward the face.

Critics claimed that the blossoming of selfies unveiled an age of shallow exhibitionism. Yielding to the pressure of cultural ideals, people wanted to perform like stars in a reality show of their own making. It was pure narcissism, the critics claimed—an act of self-indulgence, a competitive comparing of oneself to others, a needy quest for attention, an obsession with validation, a product of social dependence, and a desperate crusade to counteract low self-esteem. Staring at oneself in the camera LCD screen, like the mythical Narcissus staring at his reflection in a pond, amplified the loop of self-absorption. Nude or otherwise sexually provocative selfies, a sure-fire way to attract an online audience, especially for females seeking male attention, sprouted as a source of empowerment, even if people realized the superficial nature of what they were revealing about themselves.

The word "selfie," constructed in a diminutive form, suggests affectionate familiarity for a small bit of oneself expressed in an immediate, impermanent, and insignificant way. People are just playing with it, having fun, perhaps making light of themselves. It simply documents oneself at that moment in time, idle proof of having been in some situation, without offering anything of true substance. Ironically, when people are more concerned with presenting to the world how they looked at that moment in that location, making multiple attempts to get the shot perfect, they

Everyone posts the same types of selfies to the point where the only thing different is the actual face in the photo.

Anonymous
college student

Social media is a shared delusion of grandeur.

Michael Naughton

These days we spend more time taking selfies than learning about the self.

Joseph Rain



Figure 11.37 Detail of “Echo and Narcissus” by John William Waterhouse, Walker Art Gallery. In Greek mythology, the unusually beautiful and proud Narcissus fell in love with his reflection in a pool, not realizing it was his own image. He stared at himself until he died. A lesson for contemporary selfie addicts?

actually take themselves out of that moment, thus experiencing the situation only superficially and simply as a stage for performing.

Many people are tempted to post only idealized versions of themselves in social media. They take many versions of the same picture in a careful attempt to capture the idealized self, the Perfect Me. When Instagram introduced post-processing filters for phones that made it easy to cover up flaws and otherwise glamorize a self-portrait, people adopted them with great gusto, especially those who used photo sharing as a way to invite romantic partners. Because everyone was doing it, everyone recognized that highly attractive self-portraits were not very realistic. Enlightened people began to see that friends and family responded as favorably, or even more favorably, when you upload photos that show the real you, flaws and all.

The March of Selfies

When people first create and share a self-portrait, they often feel somewhat apprehensive. They worry about appearing narcissistic, feel uncomfortably self-conscious about their appearance, or fear negative feedback. If they receive positive reactions, or if they are not particularly concerned about

criticism, they might grow more confident, spontaneous, and creative in their self-portraiture. They take a closer look at what they like and dislike about their lives. In one self-portrait they might reveal a particular side of their personality, while in others they depict something quite the opposite, as if accepting their internal conflicts and dualities in their personality. Patterns surface that point to underlying, perhaps unconscious dimensions of personal identity that are not clearly evident in any one photo. The online collection of self-portraits eventually becomes a kaleidoscope of beliefs, emotions, and behaviors that reveal a more complete, multifaceted representation of who the photographer is. The more people do self-portraits, the more they think, “How much should I reveal about myself?”

For photographers who create self-portraits on a regular basis, such as those who participate in 365 groups where members post one photo every day for a year, the process becomes an ongoing visual journal that identifies transitions in moods, beliefs, and activities. Like a thermometer, the self-portrait takes one’s psychological temperature on a daily basis. It enhances one’s sense of self-continuity and cohesion over time. Some people say that it gives them a chance to decide who they want to be on a particular day, even if they cannot express that directly in their actual life. When asked about their motivations to undertake a 365 project, people always say that it is a big challenge—the challenge of asking oneself, everyday, “How am I feeling? Who am I? How will others react to me?” It is an ongoing quest in understanding what changes about oneself, as well as what stays the same.

In some respects self-portraits become easier the more people do them. Their skills in using the camera, posing, and editing the photos improve. In other respects they become more challenging. People hit creative blocks. They run out of ideas. They get stuck on particular types of self-portraits as they run into a psychological dead end. They are stuck on a certain kind of self-perception, perhaps because they need it or are conflicted about it. The stalemate might arise from an audience that applauds and therefore reinforces them for producing a particular type of self-portrait, which prevents photographers from expressing other things about themselves. At times like these, people might need to take a break, to allow other life experiences to rejuvenate their motivations and insights, to look past what other people want from their photos so they can concentrate on what they themselves want to express.

When pursuing the self-reflective process of creating self-portraits, people are not always sure where they are headed. They are not sure what they are becoming in their stream of photos. It can be a slow, complicated process with unexpected twists and turns. In that sense, it is a lot like life.

THE CREATIVE PERSONALITY

If we think of creativity as producing unique and effective solutions to the challenges of life, then everyone wants to be creative. Highly creative people—be they artists, scientists, photographers, or anyone—have learned to balance and integrate all aspects of personality discussed in this chapter: leveling and sharpening, field dependency and independency, visualizing and verbalizing, the concentration and noticing of mindfulness, left- and right-brain functions, primary and secondary process, the conscious and unconscious mind. They allow themselves to freely project onto the world, while recognizing how and why they do so. As in ongoing self-portraiture, they learn to identify, embrace, and apply the multiplicities within their personalities. Research has shown that the creative person:

- is open to new experiences;
- appreciates altered states of consciousness;
- enjoys ambiguity and complexity;
- is playful and explorative;
- has the ability to let go without fearing a loss of control.

One misconception is that the creative person rebels against authority. Deliberately doing the opposite of what authority dictates actually limits one's creative possibilities. Instead, the creative person is independent, choosing to go in whatever direction feels right, regardless of how it compares to the rules and regulations, without being concerned about how authorities might react. The creative mind recognizes the value of “unknowing”—entertaining how everything we hold as true could be wrong. Of course, authorities often do not respond well to that kind of unconventional thinking.

Synectics Is Seeing Connections

The creative personality develops a skill in *synectics*, the ability to recognize similarities and differences in order to create unique connections and arrangements. Works that appear to be different or original are usually related to other works in a network or web of associations.

As an example, the advertisement for Christian Dumas entitled “Violon de Dumas” is based on the famous photograph by Man Ray titled “Violon d’Ingres.” Man Ray in turn was influenced by the French painter Ingres’ 1808 work “The Valpinçon Bather.” The Christian Dumas photograph goes even further by discreetly incorporating the *Sabattier Effect*, a technique Man Ray often used in his photography. All three images are connected (Figure 11.38).

Other examples of synectics are an advertisement for Night Spice fragrance that references the painting “Not to be Reproduced” by the



Figure 11.38 Variations on a painting by Jean-Auguste-Dominique Ingres (1780–1867). A: “The Valpicon Bather” by Jean-Auguste-Dominique Ingres. B: “Violon d’Ingres” by Man Ray, 1924. C: “Violon de Dumas” for Christian Dumas in French *Vogue* magazine, 1992. D: Poster for a Man Ray exhibit at the Jewish Museum in New York City, 2010. Photograph © 2011 Man Ray Trust/Artists Rights Society (ARS), NY/ADAGP, Paris.



Figure 11.39 Many of René Magritte’s eye-challenging images have found their way into advertisements. His 1965 painting “Le Blanc-Seing (Carte Blanche)” inspired STYX’s *The Grand Illusion* album cover (A&M Records).

surrealist artist René Magritte (see Figure 10.23); the cover of the STYX album *The Grand Illusion* based on Magritte’s “Le Blanc-Seing” (Figure 11.39); and a Bassett-Walker ad that humorously points to Grant Wood’s famous painting “American Gothic” (Figure 10.16).

According to Christopher Bonanos, Apple founder Steve Jobs considered Edwin Land his hero.¹⁰ He modeled his career after Land, who invented instant photography as well as founded the Polaroid Corporation. Both men were college dropouts, self-taught, and perfectionist when it came to product design. In the early 1970s, the instant photography made possible by the folding SX-70 camera was the miraculous invention of its time—as unique as the instant music of the iPod some thirty years later. Inspiring the iPod, the SX-70 was beautifully simple in its design. It did not even look like a camera until it was unfolded and opened up (Figure 11.40).

Creativity is about connecting things.

Steve Jobs

One can learn a lot by just looking around.

Yogi Berra

*Life moves pretty fast.
If you don't stop and
look around once in
a while, you could
miss it.*

Ferris Bueller

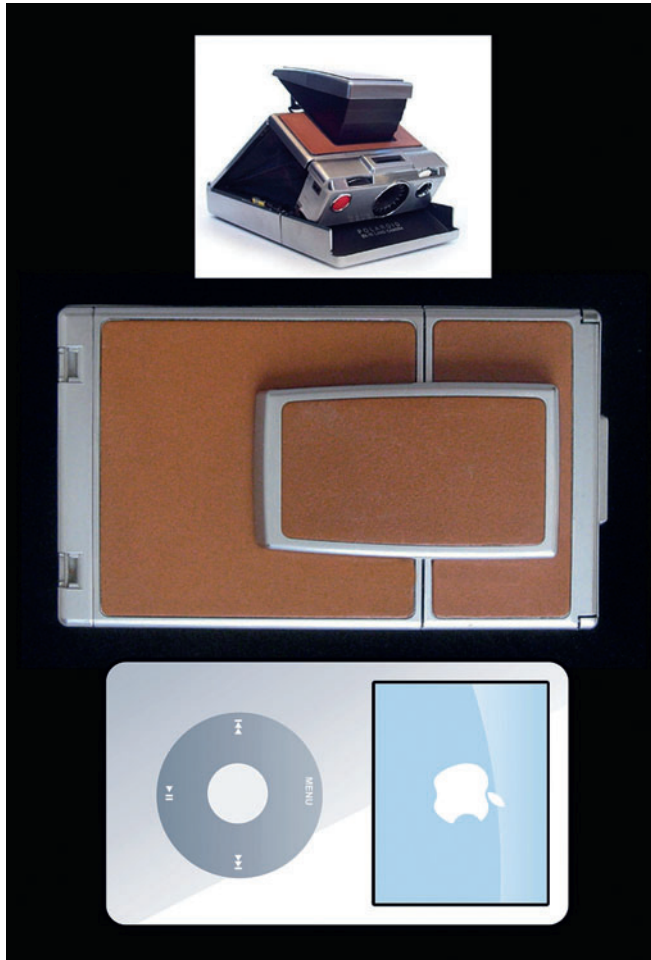


Figure 11.40 The Polaroid SX-70 camera and Apple's iPod resembled each other in that their design is simple but geometrically elegant. They were both thin, rectangular, compact, portable, unlike the design of devices with a similar function, and seemingly limitless in the possibilities of producing photographs or music.

Dick Zakia recalled when Frederic Sommer held a photography exhibit at the Eastman House in Rochester, New York. Puzzled by the images, one of Dick's students asked Sommer what the photographs were about. Sommer politely replied that they were images connected to other images, that understanding comes from opening up to the things around you.

Being Connected to All Things

A successful and creative image-maker strives to be an educated one, formally or informally. One should cultivate a broad background of knowledge, be open to new things as well as historical things, appreciate

the varied forms of art and communications, embrace other disciplines such as psychology, anthropology, and semiotics—while nurturing sensory, verbal, logical, and kinesthetic modes of understanding, and not just the visual.

All things are connected.



Figure 11.41 A renowned Zen master said that his greatest teaching was this: Buddha is your own mind. Impressed by this profound insight, one monk decided to leave the monastery and retreat to the wilderness to meditate on it. There he spent 20 years as a hermit probing the great teaching. One day he met another monk traveling through the forest. When the hermit monk learned that the traveler also had studied under the same Zen master, he said, “Please, tell me what you know of the master’s greatest teaching.” The traveler’s eyes lit up, “Ah, yes, the wondrous great teaching: Buddha is *not* your own mind.”

KEY WORDS

associationism	functions of	person-situation	subconscious
attitudes of	consciousness	theory	incubation
consciousness	habituation	phrenology	subjective self-
beginner's mind	introversion	primary process	portraits
cardinal traits	Jung's psychological	projection	synectics
common traits	types	psychodynamics	Thematic
confluence	leveling	right and left brain	Apperception
contemplative	mindfulness	Rorschach Test	Test (TAT)
photography	multiplicity (clone)	sati	trait theory
Embedded Figures	images	secondary process	tripartite model
Test	objective self-	secondary traits	Walker Visuals
extraversion	portraits	selfie	Word Association
field dependent	observing self	sharpening	Test
field independent	personality types	somatotype theory	

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12 Photo Sharing and Critique

Feedback is the breakfast of champions.

Ken Blanchard



Figure 12.1 An individual critique can provide a more intimate understanding of your work than a group critique.

Most photographers want people to see their work. Their reasons vary. Professionals hope to earn a living. Others want to convey an idea or experience, or to gain appreciation for their craft. Some share their images in search of personal growth. In all cases, they benefit from constructive feedback offered by others.

CRITIQUE AS EVALUATION

*Criticism of my
work . . . now means
something to me
whereas previously
my self-deception
admitted nothing.*

Paul Klee

The word *critique* refers to a critical review or commentary, written or spoken, regarding someone's work, usually artistic work but certainly not limited to that. Critiquing a photograph means evaluating it. For the evaluation to be fair and reasonable there must be some type of criteria or purpose. Photos that are artistic, journalistic, technical, commercial, and personal all require different types of critique. Remarks such as "I like it" or "It's not interesting" may come from the critic's unspoken criteria, but are of little help to the photographer. Someone once asked the writer James Thurber, "How's your wife?" His sharp reply was, "With respect to what?"

Validity

The criteria for photographic critique can be based on the intention of the photographer or on the stated purpose of the client or instructor, but it should be as specific and clear as possible. An assignment to go out and photograph a tree is quite loose and would be difficult to judge with any *validity* unless the photographer is asked what his or her intentions were and then judged on that basis. Students sometimes complain about a test question not being fair and their complaint is often justified. It is not valid to teach one thing (for example, how to use a 35-mm film camera), and then test for something else (how to use a 35-mm digital camera).

Variability

Critiquing a photograph is a subjective task. Even expert critics often have different opinions. This is easily demonstrated by showing the same photograph to several critics, independently telling each of them about the criteria, and then asking them to rate the photograph on a scale from 1 to 10, including a short statement supporting their rating. Even with such a specific procedure, they will rarely be in complete agreement. Photographers must accept this variability of response to their work, listen to what others have to say, but also believe in themselves and their work. If people critiquing a photograph do agree on their feedback, we would say that their critique has "reliability." The photographer should give such feedback careful consideration, although a consensus of opinion might nevertheless be wrong.

The Impressionist painters believed strongly in their style of painting regardless of the criticism they received from the French Academy and their inability to initially find one gallery or museum willing to display their work. “The first Impressionist exhibition was held in 1874, and for much of the ensuing century Impressionism—at first so disconcerting that cartoonists predicted it would cause pregnant women to miscarry—has been the most popular of all art movements.”¹ The importance of their work took time to be realized, as did the importance of the modern art paintings that Albert C. Barnes collected in the early 1900s. He was severely criticized by the art establishment of Philadelphia for wasting money on collecting questionable works by painters such as Cézanne, Matisse, Picasso, Degas, and Renoir. The photographer/painter Barbara Morgan, as a young art teacher at the University of California, realized the importance of his modern art collection and studied with him. She and her husband Willard were the first to photograph Barnes’s entire collection, which is now recognized as one of the largest and most important private collections of modern art.

*No individual
symbolic image can
be said to have a
dogmatically fixed
generalized meaning.*

Carl Jung

*Beauty, like truth, is
relative to the time
when one lives and
to the individual
who can grasp it.*

Gustave Courbet

THE ROLE OF CONTEXT

Photographs can be viewed as original prints, as reproductions in printed media such as magazines and books, or as images on device screens. The medium used to display the image and its surrounding context will affect how the picture is experienced and evaluated. A professionally matted and framed photograph displayed in a well-lit gallery will look more impressive than an unmounted one pinned to a cafeteria wall, as would a photo appearing in a quality magazine rather than a tabloid. Placement of a photograph with text, with other images, or with advertisements surrounding it, can have different meanings. If that placement is intentional, the impact will be very different than an image positioned somewhat randomly with text or other images, as often happens in social media. Also, size does matter, sometimes a great deal. When viewed on a tiny phone screen, an Ansel Adams’ landscape doesn’t look as majestic as it truly is.

Time is an important aspect of the context. Due to fluctuations in mood and energy, our perceptions can change throughout the day. Historical time is also a factor. Photographs that were considered unworthy of museum exhibits when they were made are now admired and collected, such as Weegee’s photographs of accidents taken in New York City in the early 1900s. The high-speed stroboscopic photographs pioneered by Harold Edgerton at MIT are another example.

Context is interpersonal. It is affected by the critic’s style, group versus individual critique, and in-person versus online critique. Different critics have different interpersonal styles and their critique behavior varies according to the situation. Sometimes critique is a specific instruction about

*I’m willing to be
judged by posterity,
it’s not important
what people think
now.*

Frederic Remington

*A photograph is
always seen in some
context; physical,
remembered,
imagined.*

Rashid Elisha



Figure 12.2 Ernst Haas (right) with professor John Head and students at a 1985 exhibit of his work in the RIT Photo Gallery. One of the freshman students, puzzled as to why his recent work was exclusively of flowers, asked him why he photographs them. After a quiet moment of silent reflection and student anticipation, he replied quite honestly, “I like flowers.” Photograph by Richard D. Zakia.

technique, sometimes an open-ended counseling session. A skillful individual critique can provide a more intimate understanding of your photography, while a group critique can reveal a wider range of perceptions of your work. As we will see later in this chapter, online critiques can be very different than those conducted in person.

Photographs are statements, but like all statements they must be read in context—in context with other photographs or information, and in historical context, for all photographs are historical. Realizing the importance of photographs as historical statements, disciplines such as sociology and anthropology now have offshoot groups specializing in visual sociology and anthropology.

JOHARI'S WINDOW

Johari's window is a concept used in psychology to explain knowledge in interpersonal relationships. It was named after its inventors, Joseph Luft



Figure 12.3 Johari's window.

and Harry Ingham. In photography, it can help us understand the critique process. Often portrayed as a diagram in a two-by-two square shape, the window depicts the four possible combinations of what is known and unknown to self and other (Figure 12.3). Let's start with the upper-left window pane.

Known to Self/Known to Other (Open)

Let's say when other people see your photo, they offer comments about it. Maybe they say something about its subject matter, its visual qualities, the techniques used to create it, or an idea being expressed. If you nod your head in agreement, because you're aware of these things and probably intended them, then this is the first pane of Johari's window: things about the image that are known to self and other. This is the "open" quadrant. Most of the time this will be a satisfying experience. You created the photo with specific intentions and people acknowledge them.

Known to Self/Unknown to Other (Hidden)

If we slide down to the pane on the lower left, we run into a situation that usually isn't so rewarding. It's the "hidden" quadrant. People aren't aware of what you're trying to do in the image. Unless you want to keep people guessing, you might end up feeling unappreciated, frustrated, and misunderstood. You could go back to the drawing board and try again. Or through "self-disclosure" you explain the photo. If that works and they now get it, you successfully managed to slide up to the open quadrant. Sometimes people actually may be aware of your intentions in creating the photo, but they just don't say anything about it. In that case a little bit of inquiry on your part will help you realize that you're really in the open quadrant.

Unknown to Self/Known to Other (Blind)

It is in this "blind" quadrant where things start to get interesting. Through "feedback" people articulate aspects of your photo that you hadn't noticed yourself. If the person points out a flaw, that might be a bit upsetting, as when you didn't notice the utility pole sticking out of the subject's head. It's a reminder of how your eye can develop blind spots. On the other hand, people may point out something admirable about the image that you hadn't considered. Light bulbs really start popping when psychologically astute people perceive something about your personality or lifestyle in the photo, even though you had not intended to reveal it. We don't always realize the subconscious forces that shape our photography. With that insight you have now moved to the open quadrant, while on the way feeling an empathic connection with the person offering feedback.

Unknown to Self/Unknown to Other (Unknown)

The last pane in Johari's window, on the bottom right, is the most elusive. It's the "unknown" quadrant. Is there something important about your photograph that both you and the other person fail to recognize? How do you tell the difference between a situation in which there's something important that's unknown to self and other, and a situation where there's nothing important to be known? You'll only find out by continuing to discuss the photo with others, through self-disclosure and feedback. That process might lead you to the blind quadrant, where the other person comes to realize something about the image that you still don't. It might lead to hidden quadrant, where you arrive at an insight into your work while the other person still does not. If the purpose of photography is successful communication with oneself as well as others, the process leads once again back to open quadrant, where both of you gain a new understanding of the image.

USE YOUR WORDS



Figure 12.4 In my inviting you to critique this photograph, should I let it stand on its own, or is it valuable for me to use words to say that these are my daughters on Christmas morning after they finished opening their presents?

One of the most difficult tasks in critiquing is having to use words to discuss the photograph, which itself is wordless. The same problem exists in critiquing music and other forms of nonverbal expression. Words can be inadequate, but they are the basis for our spoken and written language. As we discussed in the Chapter 11, some photographers are primarily visual people who feel uncomfortable talking about their work because they lack the words to express themselves. Other photographers enjoy verbalizing ideas about their work, which inevitably affects how people evaluate it.

If photographers include titles and captions for their photos, they influence the way people interpret those images. Some photographers have titled their photographs “Untitled” to allow the image to speak for itself. Jerry Uelsmann’s surreal images are an example. Others use a title to identify a location, as in Ansel Adams’ “In Glacier National Park”

*If I could tell the
story in words, I
wouldn’t need to lug
around a camera.*

Lewis Hines

*I have nothing to say,
and I have
said it.*

John Cage

*Language can become
a screen which stands
between the thinker
and reality. This is
the reason why true
creativity often starts
where language ends.*

Arthur Koestler

*Words can be like
X-rays if you use
them properly—
they’ll go through
anything. You read
and you’re pierced.*

Aldous Huxley

(Figure 5.31). Mary Ellen Mark identified person and place in her photograph “Tiny, in Seattle.” Sheila Metzner used a title to echo the sensuality of one of her photographs, “Jako Passion.” Duane Michals not only provided philosophical titles for his photographs such as “All Things Mellow in the Mind,” but also handwritten narratives: a contemporary “illuminated manuscript.”

When critiquing, listen to what photographers have to say about their work. For his photograph “Rock Wall,” Paul Caponigro writes:

In an unexpected moment the print spoke to me as if with a voice. The words were registered in my head or my heart, of course, but I was aware that my rational mind had not shaped that sequence of words which I now heard.²

Sally Mann writes, “My work appears to have turned irrevocably from the decorative to a commitment best described as humanistic. ‘Jessie at 6,’ however, is evidence that the documentary impulse I am yielding to need not be without occasional lyricism and grace.”³ Duane Michals’ photograph “All Things Mellow in the Mind” is, in his words, “a traditional memento



Figure 12.5 “Landscape of the Mind” by George DeWolfe.

mori, which illustrated my awareness of being and not being. It is about youth, our illusion of permanence, and our unawareness of the moment of now, which is all there is or ever will be.”⁴ George DeWolfe, well known for his contemplative photography, recalls his experience when taking the photograph in Figure 12.5:

Many years ago I stood calmly on a ridge of sandstone overlooking a plain in Arches National Park. It seemed ordinary to me, this landscape of pinion and juniper and red rocks. A storm passed in the distance over cliffs rising north on the Colorado River. I have been to this desert solitude many times, and it somehow represents to me a sacred place where I visit and can reflect and be calmed. Although the landscape appeared ordinary in every way, I had a feeling that it contained something of a mystery that I could not see, so I set up the large format camera and dutifully made an image or two of the scene before me. After the negative developed, I quickly made rough first print out of curiosity. The image that emerged from the developer was magical. It contained the ordinary scene surely, but it also included what I might call the “feeling” of the place more than any other image I had made of Arches.⁵

Regarding her most popular photograph, “In the Box,” Ruth Bernhard wrote:

I was photographing a friend and, briefly glancing out the window, saw a United Postal Service driver carrying a very large box over his shoulder. I immediately envisioned her in it . . . I obediently followed my intuition and posed the model in the box, precisely as I imagined. It was not until ten years later that it suddenly occurred to me that this image might have come to me from reading D. H. Lawrence’s book, *The Man Who Died*.⁶

Some photographers choose to say nothing at all about their work. In one of my online photo-sharing communities, I discovered a street photographer who was posting a very long series of images depicting all the small details of Los Angeles: signs, benches, graffiti, windows, fire hydrants, and so on. He never provided any titles or descriptions, nor did he ever respond to any of the comments visitors offered, which were few and far between. It was as if he was offering his visual free association to the particulars of the city he loved, and that’s all he wanted to offer.

Critique Without Words

A series of photographs, say about 20 or 30, can be critiqued without using words. Silently, the photographer and the person offering the critique look

One repents having written succinct and lapidary phrases upon art.

Pierre Bonnard

Work with the images, don’t talk about them. Let the photographs speak for themselves.

Nathan Lyons

The limits of my language means the limits of my world.

Ludwig
Wittgenstein

at the photographs, either by using prints or displaying them on a large computer screen. Considerable time is spent studying the photographs individually and moving them around to see how they relate to each other. As insight into the series is gained, the critic may remove some of the photographs that do not seem relevant and reposition others. What the critic is attempting to do, without using words, is to have the photographs speak for themselves—to reveal the latent information in the pictures waiting to be discovered. It is as if one were given a scrambled text and had to edit out some words and rearrange others in order to find the statement being made. Mindfulness—the reflective, flowing, non-judgmental, and selfless state of awareness as described in the Chapter 11—plays an important role in this silent critique, as it does in any critique strategy.

THE CLUSTERING TECHNIQUE

The technique of *clustering* is based on the open-ended use of words as pioneered by the *free-association* techniques of Freud and Jung. To bypass a conscious response that hides or disguises underlying associations, clients were asked to respond quickly to each word in a list of words presented to them. Their spontaneous responses provided insights into underlying thoughts and emotions.

With Freud and Jung, a spoken word was used to respond to a spoken word (*word–word association*). With the clustering technique in photography, words are used to first respond to a picture and then words are used to respond to those words (*picture–word–word association*). When a large enough cluster of words is gathered, they are studied, edited, and grouped in an attempt to find relationships that will provide insight into the photograph. One advantage of such a technique is that it encourages spontaneity. The words spoken are associated less with thinking and more with sensing and intuiting. Clustering is similar to brainstorming techniques.

How clustering can unveil the meanings in the photograph shown in Figure 12.7 will serve as an example. The procedure took place in one of Dick Zakia's classes. They began by using a word to literally identify the photograph. In this case it was "Boats." That word was written on the chalkboard and a circle drawn around it. "Boats" now served as springboard from which other word associations could be made. With the word "boats" in mind, students were then invited to look at the photograph in Figure 12.7 and quickly say or write whatever other words came to mind. The words most frequently given were "serenity," "tranquility," "quietness," "peacefulness," "idyllic."

The title of the photograph, "Eventide," conveys the same feeling. A number of other words were given by the students, the most significant

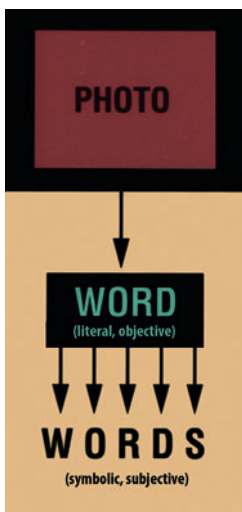


Figure 12.6



*And what is word
knowledge but a
shadow of wordless
knowledge?*

Kahil Gibran

*Everything we see is
a shadow cast by that
which we do not see.*

Martin Luther King

Figure 12.7 “Eventide.” © Tom McCartney. At a literal level this is a photograph of two boats tied to the shore by a rope, but at a connotative, poetic level it is much more. As Minor White would remind his students, “Yes, it is a photograph of two boats but what else is it?”

being “relationships,” “direction,” “serenity,” and “nostalgia.” As shown in Figure 12.8, these became key words that set off other word associations.

Relationships

In Figure 12.8 the words associated with “Relationships” suggested two opposing interpretations. The first was that the two boats serve as a metaphor for an older couple who have journeyed through life in a loving relationship and have now reached shore to depart gracefully. The title of

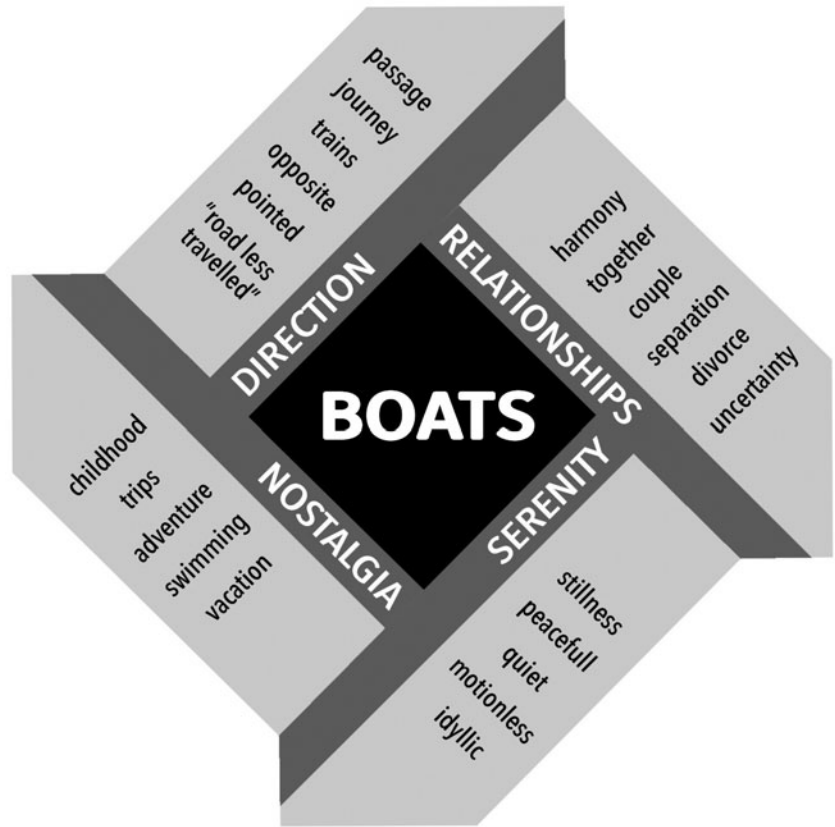


Figure 12.8 Word clustering. Word associations around a centering word ("Boats") serve to trigger a number of word relationships that provide insight into the meaning of a photograph.

the photograph supports this idea of the later years in life. Remember that a title given to a photograph becomes part of the photograph, and directly influences how it is experienced.

Another student offered an opposite interpretation about separation and divorce, perhaps because that student might have experienced such an event. The shape of the boat on the left suggested the woman and the boat on the right the man. When Dick later asked the basis for this interpretation, the response was that the boat on the left was more almond shaped.

Notice also that the dark shadows of the two boats could suggest a feeling of sadness, remorse, and the uncertainty of what the future holds.

Direction

The two boats point in different directions. This reminded one student of the poem by Robert Frost, "The Road Not Taken." Boats suggest a

journey. They have been used in various art forms as metaphors for our journey through life and into the afterlife.

Nostalgia

For other students the photograph was reminiscent of childhood. They recalled summer days rowing with friends and docking along the shore, taking their oars with them for security, and then walking into the darkness in search of new adventures. One student revealed a rather sad experience. His single mother would put him on a train each summer to go to camp so she could be free to work. He did not want to leave his mother, felt isolated and afraid, and was never sure where the train would take him. He also mentioned that whenever he heard a train whistle, he remembered that experience.

Paramount to the photograph “Eventide” is the feeling of serenity, tranquility, and peacefulness—which is archetypal, a collective experience based on a universal memory we all harbor.

“Eventide” is rich with meaning. Other interpretations are certainly possible depending on one’s personal experiences. The different associations people have to it are all valid. Accepting that people interpret a photograph in their own unique way is to accept the fact that people are different. We all see things from our own point of view and should not deny that interpretation to please someone else’s vision.

Composition

Some students who were deeply into design were attracted to the compositional features of the photograph. They free-associated with words such as “nice lines,” “symmetrical,” “hour-glass look,” “almond shapes,” “curvatures,” and “tonalities.”

The photographer, who was in the class during our clustering exercise, was asked what he saw in his photograph. He remarked that he certainly was not aware of all of these associations (the “unknown to self” quadrant in Johari’s window). Something had drawn him to the boats and compelled him to take the photo. When he first looked at the print he made he simply remarked, “Wow!” For him the photograph captured that experience and was one of his favorites.

Location

This clustering technique can be used in reverse, as in planning where to take photographs and what kind of photographs to take. For example, in arranging a photographic trip to Florida, begin with the word “Florida” and then free-associate to it with different words. Figure 12.9 illustrates some possibilities.

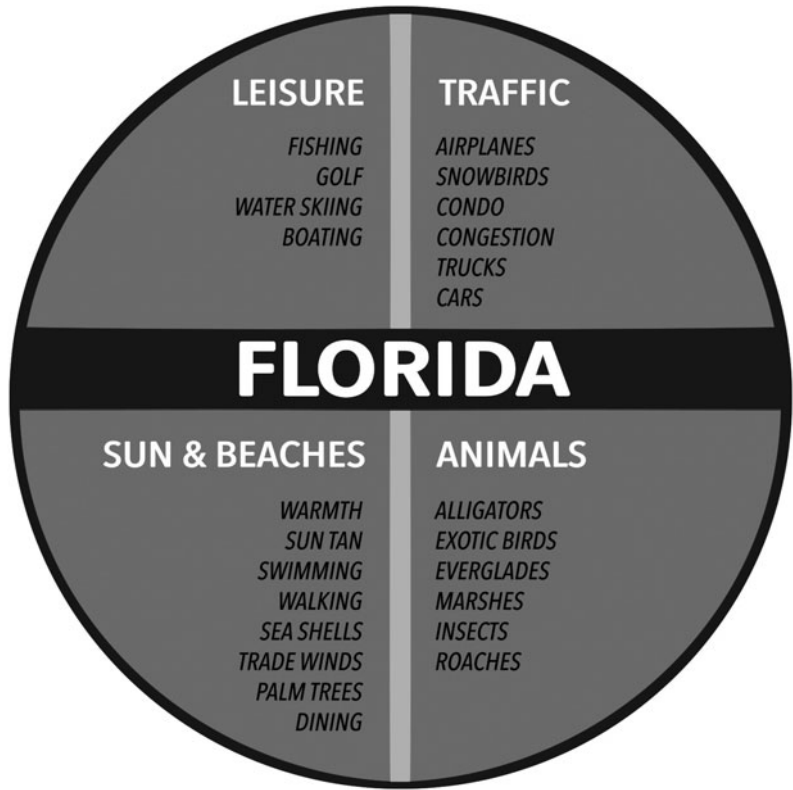


Figure 12.9 Location planning. Word clustering can be used to develop a theme for things to photograph when in a particular location.

*Get to the heart of
what's before you.*

Paul Cézanne

Some positive key words might be “sun,” “seashore,” “sports,” and “Everglades.” If a negative image is to be portrayed, then perhaps words such as “heat,” “humidity,” “crime,” “poverty,” “traffic,” or “insects” would be relevant. Pick out one or two of the key words that you find interesting, think about what they mean to you, and use those insights as a focus for your photographic journey. The result would be a series of images having a common theme. Such a series could serve as a portfolio of work.

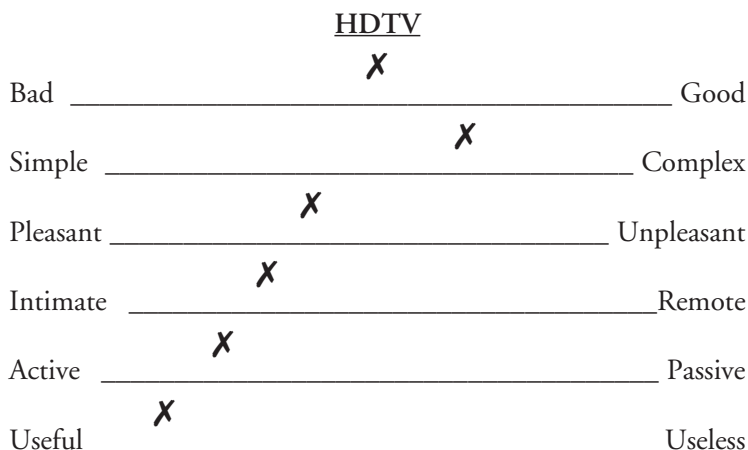
More information about the clustering technique appears in a book by Gabriele Lusser Rico called *Writing the Natural Way*.⁷ Dick Zakia found the technique very successful in helping students write papers for class assignments and even to compose poetry.

Word Clouds

Here’s an interesting exercise that you could add to the clustering technique, and actually to any discussion that takes place about a photograph.

1. *evaluation* (good or bad);
2. *potency* (strong or weak);
3. *activity* (active or passive).

In the example given below, the rater felt neutral about whether HDTV was bad or good, but felt that it was slightly complex, moderately pleasant and intimate, strongly active, and very useful.



It is not often that we use language correctly; usually we use it incorrectly, though we understand each other's meaning.

St. Augustine

When words become unclear, I shall focus on photographs. When images become inadequate, I shall be content with silence.

Ansel Adams

There are a number of ways to interpret the responses. Connecting the Xs with a line for each bipolar adjective will show a pattern of responses—a graph—that can be compared with other people's responses. According to differences in personality style, a thinking person might rate HDTV as complex and very good, while a sensing person might rate it complex and remote. In a group session it would be valuable to summarize the data to determine the average response of the group and how consistent or inconsistent the responses are for each bipolar adjective. Group responses that are quite inconsistent can be studied to determine the reason.

The semantic differential has also been used to determine the meanings associated with paintings and photographs. In a study to find out if there was a difference between the meanings that a group of artists and a group of non-artists gave paintings, it was found that meanings for representational paintings were similar for both groups but quite different for abstract paintings. This suggests that artists have worked out and agreed on a system of evaluation for abstract paintings.

A study of the effect of captions on photographs revealed that they could shift the meaning associated with a picture. For example, on a scale of happy to sad, a scene of a couple at an airline terminal captioned "Reunion" would be marked happy while the one captioned "Parting" would be marked sad. Captions that were the opposite of the pictorial content, however, did not alter the judgment of the photograph.

SEMANTIC DIFFERENTIAL															
pleasant	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	unpleasant
vibrant	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	still
repetitive	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	varied
happy	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	sad
chaotic	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	ordered
smooth	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	rough
superficial	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	profound
passive	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	active
simple	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	complex
relaxed	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	tense
obvious	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	subtle
serious	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	humorous
violent	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	gentle
static	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	dynamic
emotional	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	rational
bad	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	good

Figure 12.11 Semantic differential scale. This rating scale of bipolar adjectives can be used to measure the word meanings a person associates with a photograph or other type of image. An X in the middle of the scale designates a neutral position. This scale was originally constructed to clarify the meaning people assign to different words.

Figure 12.11 is a semantic differential scale with a number of bipolar adjectives. The scale can be edited to suit a particular photograph (portrait, landscape, scientific, architectural, fashion, nude, medical, forensic, etc.). Make a copy of the semantic differential scale in Figure 12.11 and use it to rate a photograph. Compare your assessment with that of others to see where you agree or disagree, and why.

CRITIQUE USING GROUP DYNAMICS

Group critiques, such as when a group is asked to discuss photographs arranged on a wall, usually begin with a dead silence. Everyone is a bit guarded, waiting for someone else to begin. The first person to speak can set the direction for the entire group, which can be useful or detrimental. Research studies have shown how easy it is for the first speaker to influence the response of the whole group. Leaders and other people with high status also tend to sway the group's opinion. *Open-ended critiques* that are

unstructured can be useful, but they present problems because the most talkative members control the direction of the discussion. Keep these tips in mind:

- Try to maintain a neutral position and not be influenced by the remarks of others.
- Take sufficient time to seriously study the photographs before making any remarks.
- Consider not just the content of the photograph but also the photographer's viewpoint in making the photograph.
- Identify issues that are being expressed and determine whether the issues deal with specifics or universals.
- Consider whether the approach is historical, political, sociological, or psychological, and whether it is unique or represents a cliché.

In his 1996 article for the Ilford Photo Instructor, Bruce Cline described a critique exercise using group dynamics, the interactions within a group that influence attitudes and behavior. Research in this area was conducted in the early 1900s by the Gestalt psychologist Kurt Lewin, who pioneered work in the field theory of behavior, a field being the total environment in which an event takes place.

Cline introduces the exercise by mentioning how it is a challenge for any instructor when asking an undergraduate class to critique each other's photographs. Students are reluctant to share their ideas in a group setting, unsure whether their reaction is valuable and the "correct" answer the instructor supposedly wants, or worried about offering negative judgments that might result in an intimidating retaliation against their own work. Young students simply don't have much experience in productive group critique.

To bypass or minimize these problems, Cline begins the exercise by breaking the class down into small groups of approximately four or five students. As an instructor who teaches group dynamics, I would advise against groups of three, because there is a strong tendency for two students to bond while the third feels left out. As the saying goes, "two's company and three's a crowd."

Each group gives its print to another group, so no group is critiquing the work of its own members, which helps ease evaluation anxiety. After choosing a spokesperson and secretary, the group members discuss each of the photographs as the secretary records their ideas.

Once all the groups complete their critiques, the whole class reconvenes. The spokespersons take turns describing what their group said about each photograph as it is shown to the class. The student who created the photograph is identified but asked not to participate until the spokesperson has finished. This strategy relieves the photographer of feeling that they have to explain or defend the image in a point-by-point fashion,

After three years of experimentation, "The Bathers," which I considered my masterwork, was finished. I sent it to an exhibition and what a trouncing I got.

Pierre Renoir

Quite a few photographers give their prints "body English." They talk up their prints and add value and meaning with words.

Ralph Steiner

as well as avoids their prematurely introducing information that is not in the photograph itself, which would influence how the class interprets it. All of the students are then encouraged to participate by building on the different ideas proposed by the groups and introducing new ones.

Facilitating the group dynamics of such discussions can be tricky for the instructor, requiring both subtle and obvious control over the class—but Cline says that with practice any teacher can develop the three necessary skills, to which I would add a fourth:

1. Encourage clear language so everyone understands exactly what the group means.
2. Clarify what elements in the photograph elicited the group's comments.
3. Point out anything the students might have overlooked about the photographs.
4. Support the class in discussing their reactions to using this group critique method.

Cline described several advantages of this group strategy over a teacher-dominated critique. It shifts the responsibility from the instructor to the students, promoting teamwork rather than individual achievement. The instructor has an opportunity to observe the group process, including who is participating and how. Students are usually less anxious about talking in small groups than in front of the entire class. Small groups tend to be more lively, humorous, and personal, with students relying on their own experiences and beliefs to discuss the photographs. The feedback from peers and the instructor provides everyone with multiple points of view. Some students are also given the opportunity to assume leadership roles within the groups.

Group Dynamics during an Exhibition

Several years ago I held a conceptual photography exhibition in the art gallery at Rider University, entitled *Photographic Psychology: Forces that Shape the Psyche*. The photographs portrayed a variety of these forces, such as family, emotions, childhood, evolution, secrets, and social media. I decided to use the opening night of the exhibition as an educational opportunity for people to understand the different forces that shape who we are, as well for exploring how their personal reactions to the images compared to other attendees. The interactive quality of the exhibition was similar to that created by Joel Walker in his exhibits using ambiguous abstract images, as described in Chapter 11.

For each photograph, I created a title along with a short description that conveyed my concept of the picture. However, the information sheet for the exhibit suggested to the attendees that they might see things differently, that they might experience the images as saying something else



Figure 12.12 Students attending a photography exhibition were instructed to record their personal reactions to the images and share them with others (truecenterpublishing.com/photopsy/forces_psyche.htm). Photograph by William Hock.

about the forces that shape who we are. The information sheet also stated that volunteer undergraduate students attending the exhibition were recording their own personal reactions to the photographs (Figure 12.12). The students were encouraged to share their reactions with other attendees, with the information sheet inviting everyone to talk with each other so they could compare their insights concerning these eight questions:

1. What thoughts and feelings immediately come to your mind about this image?
2. Describe to yourself or someone else exactly what you see.
3. Does this image remind you of anything in your life?
4. If you could go into this picture, what would you think, feel, and do?
5. What would you change about the image?
6. What message might this picture be giving you?
7. If you gave a title to this image, to capture what it means to you, what would it be?
8. How did being at this exhibition affect you and your reaction to the images?



Figure 12.13 “Create a Title.” People attending a photography exhibition were invited to create their own titles for the one image in the exhibition that was left untitled, and to compare their title with those created by others.

There was one large image that I left untitled. Everyone was invited to create a title of their own by writing on slips of papers and attaching them next to the picture (Figure 12.13; that image also appears at the beginning of Chapter 4). The instruction sheet encouraged them to free associate to the picture, with the end result of all the proposed titles being a cluster of people’s interpretations. What title would you create? As I asked the attenders in the information sheet, “How do the other titles compare to yours?”

sheppard’s view
techno blind
urban herders
days go by
burned spy in blue

a day just like any other day
pastoral nostalgia
warm perceptions
walk with me!
sit, ubu, sit

woman's best friend	the walk
infinity rogue dog walk	hustle and bustle
a well-trained composition	city living
the dog walker	leading the way
muddy city	5625N
lost	my own way
dog daze	crossroads
red light green light	city life
a day in the city	intersect
trust	STOP infinity
be free	why did the dog cross the road?
Post - I am Legend	woof
watch the car	Quade the watch dog
a pause in city action	don't watch out for cross roads
blind aware prepared	texting unaware lost
don't step on the crack	tackle winter
red lights	when time stops
Shelby	haze
dog day afternoon	city shepherd
shepard's crossing	a man's best friend
can you say New York?	just another walk in the park
strolling in the city	just an ordinary day
dance in the city	living just enough
same old city	sandy city
can you say?	small dog, big city
Selby Av	best friends
crosswalk	the ransom note
crossing	a dog's life
focus	attention to surroundings
untitled	the passage
city living	don't tell my secrets
down to town	dog's day
grainy day	city without consequence
stop light stop life	wandering Selby Ave.

ONLINE PHOTO SHARING

Social media has opened up a whole new world for discussing photography. In fact, it was the evolution of the Internet from text-only communication to text-plus-images that catapulted it from a place inhabited mostly by academics and technology experts to a world that encompasses almost everyone. Sharing images has become an everyday experience for all of us.

Online photo-sharing entails two basic types of people: those who do it casually as a way to share their lives with family and friends, and those

who are serious about learning the technological and artistic aspects of photography. Most of this discussion will focus on the latter, specifically the critique of photographs that takes place in photo-sharing groups devoted to aficionados and professionals. However, the ideas apply to everyone, because in this digital age when taking and sharing photographs is ubiquitous, even the “amateurs” have taken an interest in learning how to do better photography.

Settling into and Exploring a Community

The first step in online photo sharing is to select a community devoted to it and then tackle the learning curve of how its technical features work. What are the methods for posting, organizing, and providing titles and descriptions for images, as well as for connecting with other photographers and joining groups devoted to specific types of photography? Typically you will have to create your profile that summarizes who you are and what you’re interested in. That’s an important part of establishing your presence in the community. It often turns out to be people’s first impression of you, and we know how important first impressions can be.

With several million members, many millions of images, and thousands of groups devoted to all types of photography imaginable, online photo-sharing communities confront each member with an overwhelming ocean of visual stimulation and possibilities for interpersonal encounters. Although members, at least at first, may find these limitless possibilities exciting, they must at some point develop strategies for establishing their presence, clarifying the type of photography they do, and managing their interpersonal relationships. Trying to explore too many types of images and too many people can make a newcomer feel confused, overwhelmed, and lost. To maintain a rewarding experience, members need to carve out their particular niche with a balanced equilibrium between sticking with the familiar and exploring the new. Consider these questions:

- How do you define yourself and your photography in the community?
- Who and how many people do you want to connect to?
- What groups do you want to join?
- Do you hope to become a leader in the community?
- When, how, and why do you want to constrain or expand your activity?

In interviews I conducted with members of a very large photo-sharing community, people expressed quite different perceptions of it. Is it a place to express oneself with images and to socialize with others? Is it a place to critique photographs in order to improve one’s skills as a photographer? Or is it like a competitive game in which your fame in the community is

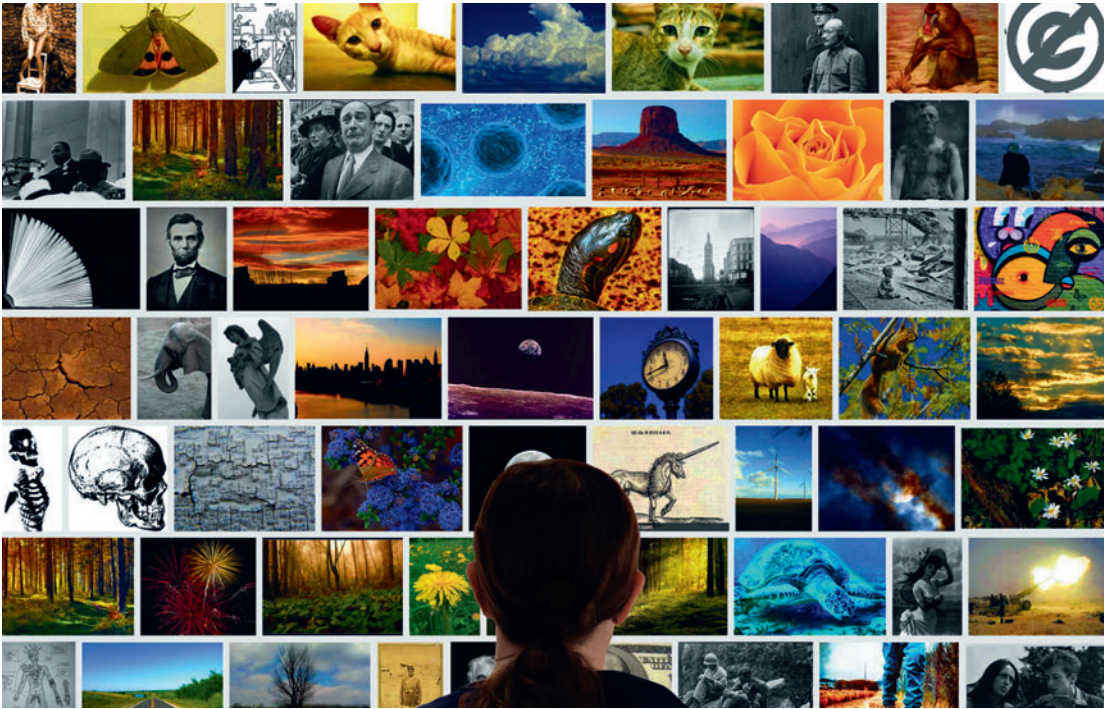


Figure 12.14 Online photo-sharing communities contain so many people, groups, and images that members must give thought to the kind of niche they establish for themselves in order to create a productive photo-sharing experience.

determined by how many people view your images, how many “likes” you get for your work, and whether your photographs are given special visibility status by the powers-that-be who run the community?

Any member’s participation will be affected by how they commit themselves to these social, educational, and competitive aspects of the community. Juggling these different agendas can become complex, time-consuming, and even awkward. For example, people who want to socialize via photo sharing or improve their photography skills may not care about competing. But if someone focuses on photo sharing as a contest for popularity or to increase monetary profit from their photography, they will have to devote considerable effort to the various strategies that boost their visibility. They may not be able to spend much time socializing or developing relationships with people. If they do not want to give away their photography “secrets,” they may hesitate in critiquing images. On the other hand, if someone completely neglects the competitive aspects of attaining visibility in the community, they run the risk of being ignored. I’ll get back to these points later in this chapter.

Getting to Know You

Participating in a photo-sharing community can help you evaluate yourself as a photographer. As you observe a wide range of photographic styles, techniques, and skill levels, you'll get a better sense of your own strengths and weaknesses. You'll have a better idea of where you want to go with your work. If you're like many members, you will also enjoy getting to know the people there. Research in the field known as cyberpsychology shows that online relationships and groups can be very meaningful additions to a person's life. Cyberpsychology has uncovered some fascinating questions that inhabitants of online photo-sharing communities encounter every day:

- What does it take to feel like I belong to this community?
- Why am I drawn to some people, photos, and groups, but not others?
- What do people's images say about their personalities and lifestyles?
- What should I disclose or not disclose about myself in my images and comments?
- How do I react when people critique my work?
- What does it mean if I get no response at all from people?
- What miscommunications and conflicts tend to occur between people?
- How do I know if I'm getting overly preoccupied with the community?

Becoming a Good Citizen

If you're looking for some good discussions, try not to be too disappointed if you don't succeed in finding them right away. There are a variety of reasons for a dearth of conversation within photo-sharing communities. In the buzzing confusion of social media, people tend to stop, look, drop a short comment or click a like button, and then move on. A whole lot of conversation isn't the norm. Keep in mind that some people might not speak your language or have good verbal skills. Or they might worry that their ideas will be ignored or criticized. Some photographers also tend to be visual rather than verbal people. Words just aren't their thing. Then there are those artists who simply believe that discussing an image is irrelevant or detracts from it.

Be patient. There are people within the community who will offer excellent discussions. You will have to cultivate those relationships. Keep in mind that what goes around comes around. Become a conscientious photography citizen who offers thoughtful feedback, is receptive to getting feedback, and shows support for others. If you do that, that's what you will get in return from people all around the world—an opportunity that will greatly enrich your photography.

Social media is not about the exploitation of technology, but service to community.

Simon Mainwaring

Titles for Images

The section about conceptual photography in Chapter 3 addressed the idea of providing titles and descriptions for images. Because most photo-sharing communities give you the option to do so, it's a skill worth developing. Although some artists are adamant about letting the visual work speak for itself, words and pictures can be a dynamic duo. Titles and descriptions can be built right into the image, as in advertisements, posters, and conceptual illustrations (Figure 12.15).

Creating a title for an image serves a practical purpose. Without one, how would you refer to one particular picture among many, some of which

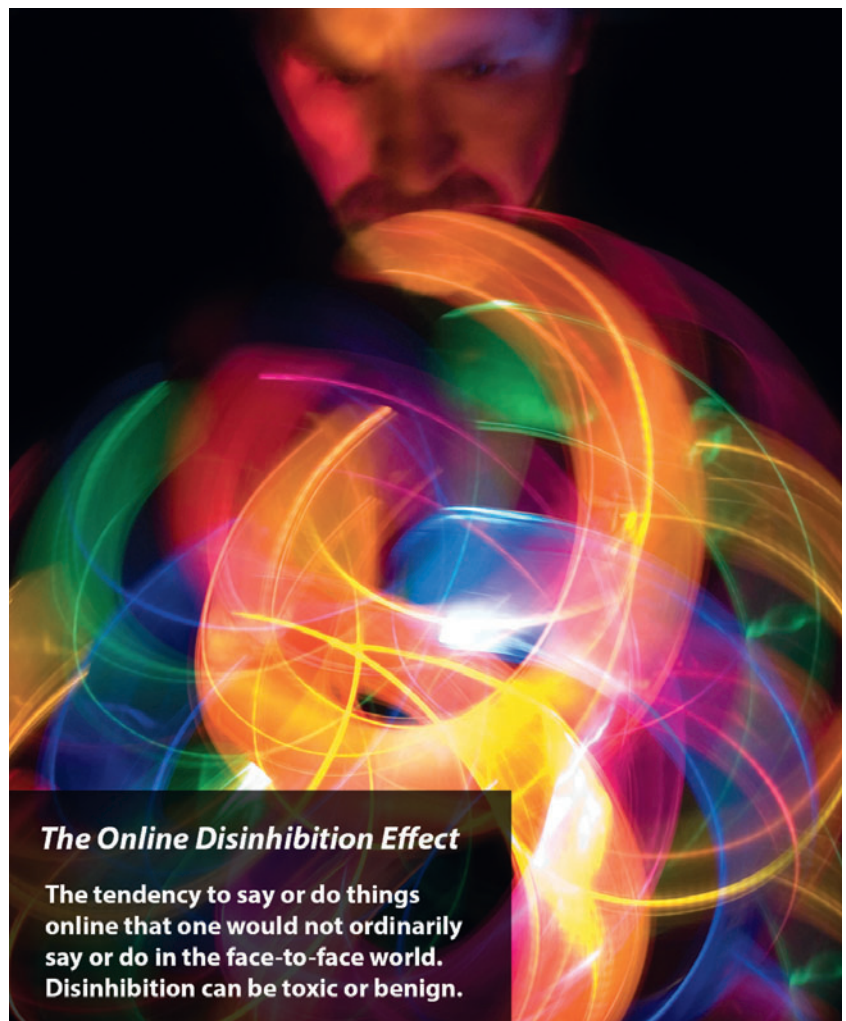


Figure 12.15 Titles and descriptions can be built into the image, as in this conceptual illustration I created for my cyberpsychology collection that is available online in my Google+ account.

are similar? You could say that it's the photo of the bicycle, not the bicycle in the playground, the other one, after it, the bicycle on the grass, taken from below, through the spokes up at the sky. Instead, you could simply mention the title "Spoked Sky." Although people usually do not create titles for their photos in generic social media, they frequently do so in groups devoted specifically to photography.

If a title helps people appreciate what you hope to express, then create one, but avoid blatantly humdrum or obvious titles, like "Sunset" or "A Car." Instead, the title might add a layer of meaning that is not immediately obvious in the photo, like "Long Day Done" or "Hell on Wheels." It can even be playful or provocative by contradicting something in the image, as in a photo of someone sitting alone at a large table, humorously entitled "Me and All My Friends." For these reasons, when browsing someone's collection of photographs, do not simply focus on the pictures. Pay attention to the titles too. They will help you better appreciate photos that you might otherwise overlook.

Some titles for your images will pop into mind right away. You know exactly what you want the image to express. In other cases you will need to reflect on the ideas you are trying to convey. That process can be very valuable. You know you like the photo, but are not entirely sure why. Searching your mind for a title might clarify that for you. It can help you uncover the subconscious feelings, memories, and fantasies that you associate with it, which might be why you took the photo in the first place, even though you were not fully aware of those motivations at the time. Coming up with a good title can also help you refine the photo. The title gives you a direction for editing the cropping, colors, focus, or contrast. It is an excellent exercise in bringing the qualities of the photo in line with what you are trying to portray.

Famous quotes and lyrics from songs serve well as titles. If you are examining one of your pictures, a word might come to mind—for example, "fishing." If you are intrigued by the idea of using a quote for a title, enter "quotes about fishing" into a search engine, then go to one of the websites that offers a list of famous quotes about that topic. As you read through the list, you will most likely find one that fits the picture perfectly. "Many men go fishing all their lives without knowing that it is not fish they are after," I entitled one of my photos, thanks to Thoreau.

Whatever method you use, you know when you have a good title. It feels right. It sticks. Weeks, months, even years later, you will remember it. It is a perfect wedding of words and image.

The photographs are not illustrative. They and the text are coequal, mutually independent, and fully collaborative.

Walker Evans

Descriptions for Images

When posting a photo to social media, we often find ourselves having to decide whether we want to say anything about it. Should we offer a description to help people understand what we intended? Whether or not

we provide that accompanying text, and what we say in it, undoubtedly affects the impact the image has on its viewers. Descriptions come in various styles and lengths (Figure 12.16):

- Offer an explanation of how you took or processed the photograph, what inspired you about it, or your critique of its composition.
- Clarify something about the photo, as when something is dark or blurry, when the viewer needs to know who the people are, or where the photo was taken. “Those legs sticking out of the barrel belong to my friend Bob, who was trying to grab something he thought was a dollar bill.”
- Explain how the picture illustrates something about yourself, as in “I thought raising kids would be a joy, until I had to deal with situations like this,” under a photo of a child with a food-smearred face, sitting in a room littered from wall to wall with toys.
- Use the description as a conversation starter: “That beer or that exercise bike? Your choice?”

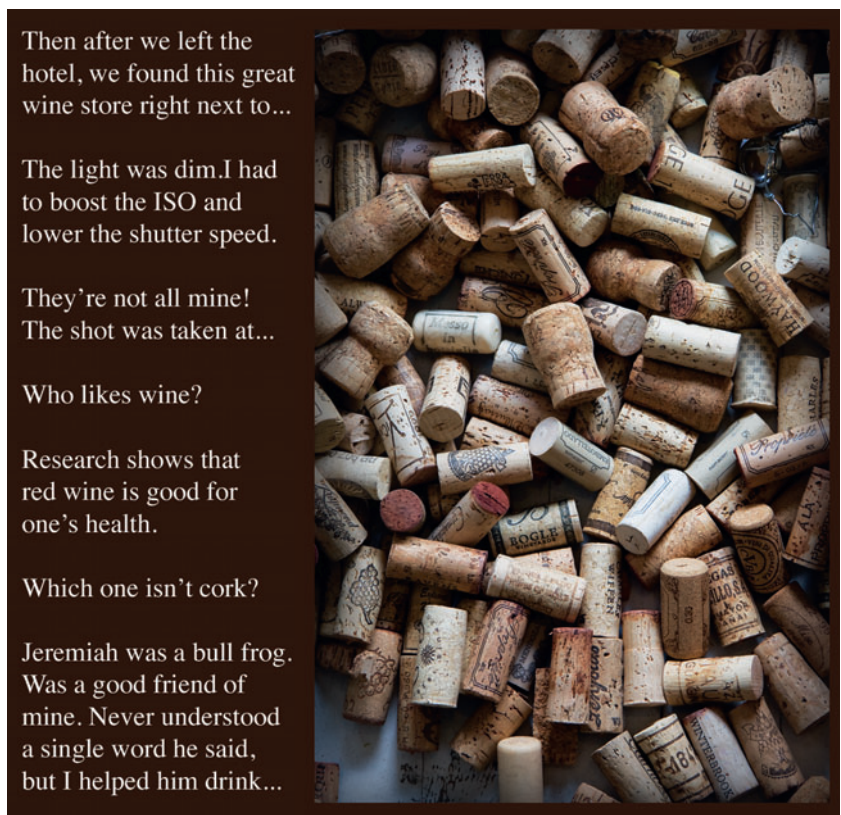


Figure 12.16 Descriptions for photographs can serve a variety of purposes for communicating with viewers.

- Provide a description as a springboard for a social, political, or philosophical statement. The photo and title might even be a “seeing is believing” reinforcement of your commentary. “Don’t you agree that angry public protests like this are counterproductive?”
- Present descriptions as jokes or puzzles that the viewer is challenged to figure out. “If you look closely enough, you’ll see three versions of me in this photo.”
- Create a description as a playful dialogue that gives voices to the subjects in the image, not unlike the script that would accompany a scene from a movie. “Wow, aren’t I great at hip-hop!” thinks a man awkwardly dancing at a party, while his female partner says to herself, “Maybe people don’t know he’s my boyfriend.”

Commenting on Images

Photographs all by themselves bring people together, helping them resonate with and inspire each other. But it’s not easy to fully develop a relationship with someone, or even to learn about photography, by only sharing images. Especially online, people need to talk to each other to become more real as people, with their presence more deeply felt. The photographer invites that discussion by offering titles and especially descriptions. For the relationship to progress, visitors must then respond with a comment. In my many years of participating in online photo-sharing communities, I’ve noticed that comments tend to fall into the following categories.

The Concisely Generic Compliment

These comments are terse, usually complimentary ones, like “Nice capture,” “Great colors,” or “Beautiful shot.” Such remarks are nice to hear, although they are a bit generic and sometimes unsatisfying, especially if you put a lot of work into an image and are hoping someone will notice the specifics. Earlier I mentioned the reasons why some people online don’t engage in much discussion. Short, positive comments might also be the norm in some areas of the community. It’s what most members do, so others follow suit. People’s status and sense of worth revolve around how many comments they receive for their images, so the terse, complimentary comment may become a form of social barter: I give you one, you give me one. Many of these kinds of comments tell you that the image is probably a good one, although you may not be exactly sure why people think so.

Comments about Composition and Technique

If you take your time in looking at and thinking about an image, something will come to mind to offer as feedback. After all, you are reading this book that is filled with ideas to mention. The more you learn about perception

and imaging, the more things you'll be able to say. People will appreciate this feedback, either because you noticed something they intended or pointed out something they overlooked (remember Johari's window). One precaution is to avoid going overboard with a heavy-duty analysis. It can feel overly intellectualized, burdensome, like beating a dead horse.

Describing What You Like

I think learning to talk about images is a task that you spend your entire life on. I don't expect verbal equivalence, but I think the point is that you need some kind of clues . . . Your career will benefit greatly if you can learn to articulate your visual and ideological concerns.

Jerry Uelsmann

It's not necessary to get into technical or deep analysis. Just comment on how you personally react to the image—something in particular you liked about the colors, shapes, or textures, the camera angle, the people or subjects in the photo, or the idea, feeling, or sensation that the image creates. There is no right or wrong in this. You simply describe your positive associations. What does it remind you of? What does the image say to you? How might it relate to your life? Photographers usually like to hear about the different ways people interpret their work. Learning how to articulate your reactions will also enhance your awareness of yourself and your own work.

Constructive Criticism and Things You Dislike

If there's something you really don't like about a photo, should you say so? People might feel offended, hurt, or react defensively, especially if you say you don't like it without explaining yourself. Their photo is like their child. On the other hand, they might appreciate your honesty, especially if it helps them improve their skills, or, at the very least, gain a better understanding of how people vary in their photography tastes. People appreciate constructive criticism as long as it's offered in a genuine spirit of helpfulness.

Avoid expressing your criticisms or suggestions for improving a photo as if they are an objective truth. There are very few carved-in-stone "facts" about what good photography is. It's just your opinion that reflects your taste in photography—simply different than theirs and not necessarily better. Rather than criticize, you can describe how you might have done the photo differently. Suggest alternatives. That way you're opening a dialogue with the person about how your photography compares, rather than proclaiming a dictum.

What if you don't like the image at all, if you really hate it? For your sake as well as theirs, always avoid being harshly critical. There's already too much of that online. Exploring your negative reaction could lead to some interesting insights into yourself (remember "projection" as discussed in Chapter 11)—as well insights into the personality of the image, which a mature, open-minded photographer might like to understand. I find that if I look at any photograph for a while, I always find something about it that I like. I keep in mind the fact that the person created and shared that image because something about the subject was important or interesting to them. That's what makes it interesting to me too.

Avoiding the Faux Pas

Before you offer a comment, make sure you take a good look at the photograph and what the person said about it. If you say “beautiful sunset” when the person explained that it was a sunrise, you will come across as hasty and inattentive. If you remark “Woof!” without reading the person’s story of a beloved dog that just died, you will sound insensitive. Unfortunately, some people do make these mistakes. In my interviews with members of Flickr, one woman told me about immediately clicking away from a friend’s photograph of a dead animal. Later she realized the photographer had explained in his comment that the image was his way of coming to grips with a bad accident he had recently suffered. Other viewers had offered condolences and support, but she lost that opportunity. “It may have cost me a friendship,” the woman said.

*He only profits from
praise who values
criticism.*

Henrich Heine



Figure 12.17 Comments in online photo-sharing communities run the range from tersely superficial to profound.

Articulating Subconscious Reactions

When you first look at photograph, you might notice a feeling, memory, or sensation that very quickly flashes through your mind at a subconscious level. It’s very easy to overlook that reaction, to let it slip away, or to dismiss it because your conscious mind does not immediately grasp its significance. But if you catch that fleeting response, reflect on it, explore the associations that come up, and then share these thoughts with the photographer, you’ll see that it’s often your subconscious mind communicating with the

photographer's subconscious mind. Because you might not fully understand your reaction, you could say to the other person, "I'm not sure what this means, but here's my immediate, gut-level impression of your photo." More often than not, once a dialogue gets going, light bulbs will start popping for you as well as the other person.

Keep in mind that your comment based on this kind of empathic attunement might unlock something personal for the photographer that they might not feel comfortable discussing. It's also possible your subconscious reaction to the photo does not accurately resonate with the person. Your comment based on a spontaneous impression might say more about you than it does about the photograph and the photographer.

Ask a Question

We often feel pressure to say something insightful or knowledgeable. But rather than offering a comment, ask a question. What did the photographer like about the image? How did they take and process it? What does it mean to them? People are usually happy to reply to these kinds of questions, especially when your inquiry is astute. To the photographer it shows that you are observant and inquisitive. It opens the door to discussion. Often photographers are as excited about the process of taking and editing the image as they are about the final product itself.

The Visual Design of a Comment

Just because a comment consists of words, don't let that stop you from applying your knowledge of visual design when constructing it, especially if the comment is long and complex. Visual design is not that different than good writing. For example, consider this feedback:

Wow a carnival! This shot feels so delightful to me. The colors, lines, and shapes are wonderful. Despite the complexity of the photo, it all seems organized well into a complete composition, especially with those lines leading the eye to child on the left. And the distinction between foreground and background adds such an intriguing sense of depth, almost like two layers of reality one on top of the other. The man in the background adds extra interest. This shot reminds me of my childhood, when I used to go to the local carnival with my dad, who made sure to take me on all the rides. Those were some of the happiest moments in my life.

It's a rich comment, one I'm sure a photographer would appreciate. But in terms of visual design, would you ever create a photo that looked like this—one solid block of things that are difficult to distinguish from each other? Instead, let's turn the first sentence into a leading line, add some

negative space to distinguish the different components of the comment, and also apply the rule of thirds by creating three parts:

Wow a carnival! This shot feels so delightful to me.

The colors, lines, and shapes are wonderful. Despite the complexity of the photo, it all seems organized well into a complete composition, especially with those lines leading the eye to child on the left. And the distinction between foreground and background adds such an intriguing sense of depth, almost like two layers of reality one on top of the other. The man in the background adds extra interest.

This shot reminds me of my childhood, when I used to go to the local carnival with my dad, who made sure to take me on all the rides. Those were some of the happiest moments in my life.

This version is easier to read because it is better organized. The first sentence is the person's immediate, personal reaction—which is in fact the dominant theme of the comment. That first sentence leads into the following paragraph, which is a technical analysis of the photograph, one that also helps explain the person's immediate reaction. The third paragraph returns to that subjective feeling about the photo, which has its roots in the person's memories about the past. Applying simple design rules like this can make a big difference between a good comment and an excellent one.

The Meaning of Likes

Whatever term the community uses—likes, favs, pluses—these buttonized types of nonverbal feedback often substitute for offering a comment. The total number of likes an image receives, as well as how many people viewed and commented on it, is a general indication of its popularity and quality (with a more accurate indicator being the percentage of the person's followers who viewed it and responded favorably). Some communities also allow you to like someone's comment, which is a useful feature because truly good comments are as rare as good images. Even though the like seems like a straightforward type of feedback, the "like" has acquired a variety of psychological and social functions, sometimes obvious, sometimes subtle.

Personal Impact

People like an image when it has a strong effect on them. It's the "wow factor." The emotional meaning of an image tends to have a more lasting personal impact than just captivating visual features, which some photographers pejoratively refer to as "eye candy." Offering this type of

like indicates how beautiful and inspiring the image is, how it made a person laugh, how it speaks to them, resonates with them, or touched them on a deep level. These likes help visitors express their appreciation for the image when they feel its effect but are not sure why, or cannot adequately verbalize why. While some people offer likes frequently, others reserve them for what they consider to be the very best images.

Technical or Artistic Merit

Viewers may click the like button as an acknowledgment of the technical or artistic skill demonstrated in the photo. The image is an excellent example of their own style of photography, or reveals technical and artistic ideas that are new to them. Some people offer this type of like to reward the photographer's best effort and not necessarily because they think the image is excellent.

Social Conformity

Conformity often emerges in social media. People give likes to someone because many others have already done so. They join the wave of venerating praise. Participating in the tidal wave of tributes buoys one's self-esteem by feeling connected to the celebrities of the hour and their band of idealizing followers. The like can simply be a way of saying "ditto."



Figure 12.18 Giving someone a "like" for a photograph in social media is a nonverbal type of feedback that could have a variety of different meanings.

Social Support

An experienced community member might offer likes to support and encourage other people who are new at photography, attempting something different in their work, or taking a risk of some kind. As a form of nonverbal behavior, the like serves as an acknowledging smile, a nod of the

head, a pat on the back, or applause. Beginners appreciate such reactions as a gesture of mentoring from more advanced photographers. Friendly people who offer likes as social support tend to do so liberally.

Feeling Good

Some people find themselves offering more likes when they're in a good mood at that particular moment. They want to spread their happiness. Others say giving likes helps lift their spirits when they're in a bad mood. Doing nice things for other people can make you feel good.

Friendship

The like can be a gesture of friendship. People give them to friends or in hopes of establishing an amiable relationship. As a type of social grooming, presenting a like shows enthusiasm about a friend's performance, mostly because it is the friendship that is important and not necessarily the image. Some members feel more inclined to reward the photos of friends than those of acquaintances and strangers, probably because they regard the like as a sign of camaraderie or intimacy. By contrast, other people leave a like, rather than a comment, as a way to acknowledge someone without inviting an unwanted exchange of words that could lead to more online relationships than they feel they can handle. Likes might even be a friendly yet indirect way of saying "I'm sorry" about some wrongdoing that has nothing to do with the photograph.

Social Barter

Similar to comments on a photograph, a like can function as an item for bartering. When you receive a like from a visitor, you give a like in return. When you offer a like, you hope or expect the other person will reciprocate. The value of these shared likes is not only their being a gesture of mutual admiration, but also the fact that increasing numbers of them boost each other's status in the community.

Efficient Communication

The like serves as a substitute for leaving a comment on a photo when people cannot find the words to describe why they liked it, when they do not endorse the idea of verbally analyzing art, when they don't have time to leave a comment, or when they lack facility in the photographer's language. It's a nonverbal way to show appreciation, or even just to say "I was here" or "thank you." Some people consider it rude when a friend leaves a like without an accompanying comment.

Remembrances

Some photographers enjoy looking back over the images they marked as likes. It helps them discover their interest patterns concerning the technical, artistic, and personal dimensions of photography. They can recapture some mood, idea, or inspiration that the image initially triggered, as in photos that cheered them up when they were depressed. One's collection of likes also maintains the person's connection to the photographers who inspire them.

Disapproval

Some people deliberately restrain from giving a like when a photographer has already received many of them, perhaps out of a sense of envy, not wanting to be just another person applauding, or because they feel the photographer has already received enough attention. Not offering a like can be a deliberate insult, withholding disapproval, competitive belittling, or an unconscious act of passive-aggressiveness.

Popularity and the Ratings Game

Given all the different intentions behind giving a like, it's hard to know exactly what it means if someone gets many or few. One thing is for sure: likes are a feature of the tendency in social media to count the countable, to estimate someone's popularity, status, and expertise according to their quantity of likes and followers, by how many people comment on and repost their images, and by how often the algorithms operating behind the scenes of the social media platform choose to publicize the person's work. Because it's so easy to be overlooked among the millions of people and billions of images in photo-sharing communities, people want to grab onto something tangible, like numbers, to find meaning and purpose, and to make themselves more visible.

Many photographers rely on likes as a source of self-esteem, which drives up the stakes to get more of them as a badge for feeling good about themselves or better than others. Similar to everyone else, they cannot help but compare themselves to other people using social media statistics as the standard of measurement. With the like or repost sounding like a handclap, people clamor for louder applause from their audience. Without their fully realizing it, they might end up posting only images that they think others will like, that the applause reinforces. In an attempt to micromanage their status in the community, some people even quietly remove photographs that received no clap. By playing to the crowd, they might undermine their self-expression and creative experimentations, often feeling misunderstood and frustrated in the process.

The unfortunate end result for the photo-sharing community can be a compare-and-compete ratings game with losers falling behind winners—

Learn the rules like a pro, so you can break them like an artist.

Pablo Picasso

winners who come out on top not necessarily because they posted truly excellent images, but because they succeeded at devising clever strategies to drive up their statistics. Modifying the saying popularized by Mark Twain, some disillusioned photographers conclude that there are three types of lies: lies, damned lies, and likes.

Despite the illusion of social media status, photographers can still benefit greatly from photo-sharing communities if they cultivate the right frame of mind. Don't take the ratings game too seriously. Seek out and develop particular groups of people who appreciate your work, support you, and are eager to share ideas. In the exceedingly complex world of social media where popularity is defined by statistics, remember these four types of photographers:

- talented and deservedly popular;
- talented but not popular, to their dismay or because they don't seek popularity;
- not talented but popular because they work at it;
- not talented, not popular, but nevertheless enjoying photography;
- developing their talents.

Image Categories, Streams, and Series

Given the blossoming of photography in the digital age, people have a lot of images to share. This abundance magnifies the prominence of two questions that have always been important in the history of photography: what types of photography does a person do and how is that person's photography changing over time? Although people tend to focus their critiques on particular photographs, one by one, offering comments about these two questions reveals a bigger picture of the photographer's work.

The way people organize their images in social media says a great deal about them as well as their photography. If you compare people's collections, you will quickly notice the differences. Their distinctive classification strategies indicate how they label the experiences in their lives, what life issues are important to them, and what photography they value. Critiques can examine how they broaden or narrow the range of photos they take over time. The kind of pictures photographers never take or take but never share also says something about them.

Keep in mind that people differ significantly in their desire and the extent to which they organize their photos into collections. Meticulous photographers might create a very complex archive with nested categories. Free-wheeling people barely organize their images at all, which feels perfectly acceptable to them, although they might have a hard time finding things.

When scholars study the periods of great artists, they discover how the creative styles and lives of those artists changed as the years passed, as well

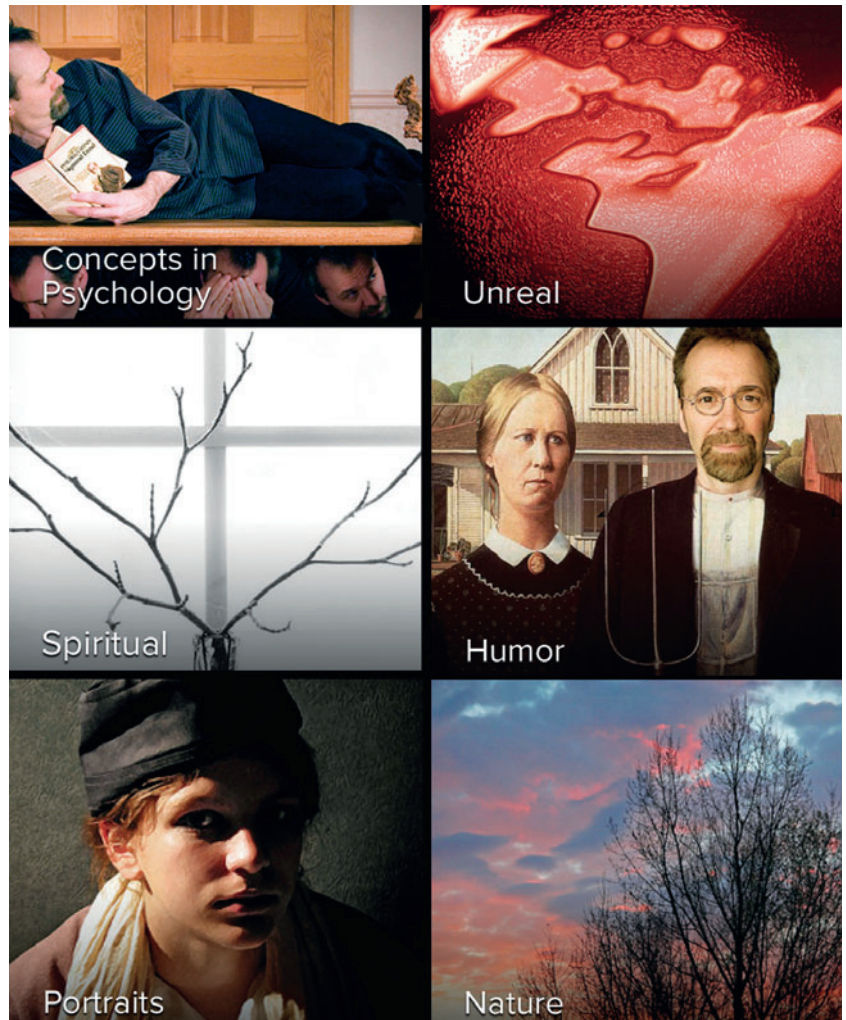


Figure 12.19 An examination of how photographers categorize their images reveals how they conceptualize their photography as well as what they value in life.

A sequence of photographs is like a cinema of stills. The time and space between the photographs is filled by the beholder.

Minor White

as what essential things about them remained constant. We can gain the same insights about people in social media by examining the photos they post over months or years. During a critique, any particular image is best understood when viewed in the context of the images that came before and after it. The meaning of a photo can be misinterpreted or overlooked when viewed out of its position in the temporal sequence.

An ongoing succession of pictures—what in Flickr we called a “photostream”—is a stream of consciousness. It can change direction, pick up speed, slow down, run shallow or deep. The stream is ongoing, with each image linked to those before and after it in psychological ways not visible in the individual pictures. The spaces between the photos hint at

the underlying thoughts and feelings that stimulated the transition from one photo to the next, or they indicate distractions of life that interfered with the effort to keep the flow going. The human psyche itself consists of memories, ideas, and emotions, all linked to each other in complex streams of associations. A person's photostream reflects this intrapsychic flow. When critiquing a photostream, consider these questions:

- How is the subject matter changing over time?
- How are the photographic techniques changing?
- How are the post-processing techniques changing?
- Where do these changes occur in the stream of images?
- What stands out in the succession of images, and why?
- What associations do I have to these changes over time?

Within their photostream, many photographers enjoy presenting a series of pictures in which some subject or visual theme is repeatedly explored (Figure 12.20). In a critique of the series you would evaluate how the images compare and contrast in their addressing that subject or visual theme, what kinds of progression occur in the series, whether all the images combined make some overall statement, and the role that series plays in



Figure 12.20

The store window mannequin is a popular subject for a photographic series. In a critique of the series, consider the treatment of the mannequins as symbolic representations of human experience.

*There's joy in
repetition.*

Prince

the photographer's entire photostream, including its relationship to other series.

Some series are what I like think of as “riffs.” In music a riff is a brief, catchy phrase that is repeated at strategic points in a piece, sometimes with a dash of improvisation. In classical music it is called “ostinato” from the Latin meaning “stubborn” (obstinate). As a persistent and clever musical remark, the effective riff hooks the listener's attention. An often cited example is the undeniably memorable guitar riff in “Smoke on the Water” by the British rock band Deep Purple.

In photography, the riff is an easily identifiable sequence of images within the larger ongoing stream of images, where the photographer is making a very deliberate attempt to repeat some obvious visual idea, with a dash of improvised variation. Hopefully eye-catching and clever, the riff has a clear beginning and ending. Its purpose is to catch the viewer's attention as a specific visual phrase that stands out from the rest of the photostream (Figure 12.21).

Several years ago, I decided to conduct a study of how people respond to a long stream of images. In my undergraduate classes, I presented a slide

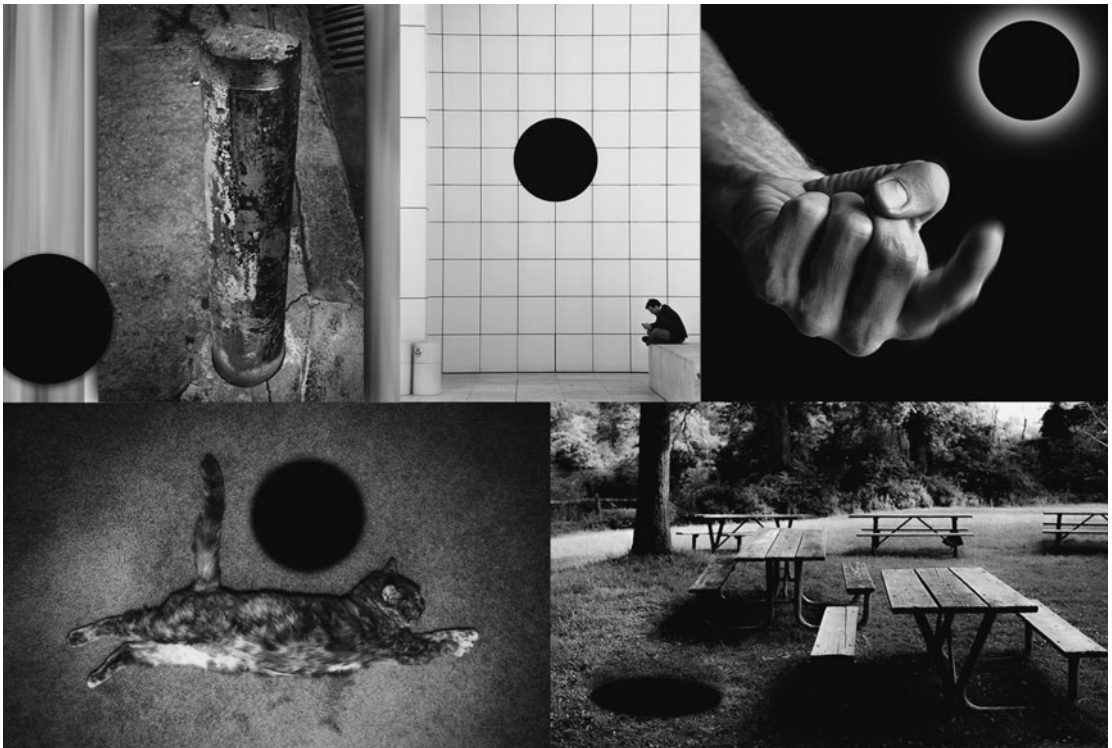


Figure 12.21 “Find Another Place” by John Suler. In this visual riff, I playfully experimented with an anomalous black hole that doggedly keeps appearing in photographs. I think of these holes as the last five musical notes of the famous guitar riff in “Smoke on the Water” by the band Deep Purple.

show of 200 photographs of all different types at a rather rapid pace of five seconds each. Afterwards, the students wrote about what images they recalled, and why. Some of the students remembered many images, while others only a few, what I called “high versus low responders.” A photograph they recalled was determined more by the personal meaning it held for them rather than its visual features—that is, images that visually “popped” were not necessarily the ones remembered. Even though the students’ responses slowed down as the slide show progressed, indicating their growing distracted and tired, the images they recalled were evenly distributed throughout the slide show. This suggested that their conscious mind went numb while their unconscious mind did not. Their most common associations were about longing for peacefulness, contentment, comfort, and tranquility—which says something important about this modern age of ours.

Sensory/Cognitive Overload

A downside to the massive amount of images and discussions in photo-sharing communities is what psychologists call *sensory and cognitive overload*. High levels of information generated by the environment, especially when it is not well organized, can overwhelm the brain’s ability to manage all that input. Some of the typical symptoms of overload include the following:

- *Irritable confusion*, including distractibility, short attention span, trouble focusing, disorientation, restlessness, fidgeting, and irritability. The images we see on our screens turn into an annoying mishmash of stuff.
- *Leveling*, which is the inability to pay attention to details. Our mind simplifies what we see and hear. Our attention is selective. Rather than embracing complexity, we notice only the most obvious or outstanding things about photographs, or things that have an immediate impact on our personal needs and interests. Everything looks about the same.
- *Indecision and regret* from having too many choices. When complexity gets high, when six of one looks like half a dozen of another, people second-guess their judgments. “Maybe that wasn’t the right photo to post, or the right comment to make.”
- *Shutdown*, when our minds simply cannot handle any more stimulation. Feeling indifferent, bored, tired, or burned-out, we simply withdraw from doing any kind of photography.

Obviously, these symptoms stand in the way of effective critique, of really taking the time to look at and comment on a photograph. People suffering from overload skim over images, overlook titles and descriptions, offer terse and generic comments, or rely on a mechanical pressing of the like button. If an entire community suffers from overload, the atmosphere



Figure 12.22 Some of the symptoms of sensory and cognitive overload that detract from an effective critique.

Getting information off the internet is like taking a drink from a fire hydrant.

Mitchell Kapor

Everybody gets so much information all day long that they lose their commonsense.

Gertrude Stein

feels globally lackluster, unresponsive, and superficial. Some photographers try to punch through that lassitude by pumping up the colors, contrast, or outlandishness of their images in order to generate the “pop” that will get noticed. Unfortunately, subtle or delicate images that are truly excellent tend to be overlooked.

The remedies for overload make intuitive sense. Avoid trying to do too much during online photo sharing. Cultivate mindfulness, as described in the Chapter 11. Take breaks, ideally by getting away from the screen to do something physical, which involves hearing, smelling, or tasting, something that isn’t primarily visual. Listen to or make music, cook, eat, go for a walk, clean the house. These alternative activities will not only give your overloaded visual mind a much needed break, they can actually enrich your experience of photographs by processing them in a very different non-visual way, in the back of your mind, subconsciously.

Keep in mind that your comrades in photo sharing might also be suffering from overload. Be patient if they aren’t offering the kind of feedback you hoped for. Gently ask them about the kind of critique you would like. Offer them what you hope to receive: calm, thoughtful, and appreciative comments about their work.

Computers and Critique

Although humans can be overwhelmed by the massive amount of information online, computers are not. Often referred to as *big data*, very large sets of digitized information can be tamed by computers for human interpretation through *data visualization* (Figure 12.23). All of the methods for critiquing images described in this chapter can be applied to such visualizations to improve their instructive as well as aesthetic qualities.

Computers are becoming increasingly more sophisticated in the visual analysis of a picture (such as facial recognition), generating realistic-looking scenes using CGI technology, and even producing new paintings in the style of famous artists, such as the portrait “The Next Rembrandt” created by a software system that analyzed 346 of Rembrandt’s paintings, including his brush techniques, composition, and painting materials (see www.nextrembrandt.com). Figures 12.24 and 12.25 provide examples of pictures produced by computers that integrate large numbers of images or that apply mathematical algorithms. By programming computers with our knowledge of perception and imaging, we can employ their help when we assess and critique any kind of picture. Someday we might even have “robot” critics.

Here’s a less exotic possibility already available to us. When critiquing a particular photograph, drop it into Google Images to see what other images resemble it. The similarities and discrepancies will be informative. When I did this for the “Eventide” photograph of the boats (Figure 12.7),

*It is solved by
walking.*

Latin proverb



Figure 12.23 Exploratory Visualization Environment for Research and Technology (EVEREST) is a 3D visualization room for the output data of the Oak Ridge National Laboratory’s supercomputers.



Figure 12.24 “Class of 1997” by Jim Bumgardner. A computer-generated composite image of 300 yearbook photos (jbum.com).

I got many black-and-white pictures of boats, at many different angles, moving at different speeds, some with or without people, and even a few airplanes that looked like boats. I was particularly curious about what the people were doing in the boats, as the anthropomorphizing of Eventide was a key feature of the critique.

Keep in mind that some image detection systems visually analyze the picture, while others examine the context of the picture on the web, such as words surrounding the image—a strategy that resembles the clustering technique discussed earlier in this chapter.

The Illusion of Digital Permanency

The culture of technology promotes the idea that digitized images can be preserved indefinitely for future viewing and sharing, without any loss of quality. Inspired by this idea, some people scan as many of their old photographic prints as possible to add to their digital collection, because they believe that’s the best way to save those pictures for posterity.



Figure 12.25 “Fractal Landscape.” Computer algorithms based on fractals can create realistic natural scenes, a fact that corroborates the idea that mathematics underlies the shapes of nature, including the Golden Ratio shapes that please the human eye, as discussed in Chapter 4. Image by The Ostrich, wikipedia.org/wiki/Computer-generated_imagery.

In reality, this promise of image immortality rests on some shaky assumptions. Image file formats along with the software to view them eventually become outdated and abandoned. Even the ubiquitous workhorse that is the jpeg could very well fall to the wayside. We cannot expect that the technology experts of the future will necessarily write the code to translate antiquated image formats into new ones. Nor can we assume that future generations will carefully save the digitized images of their ancestors and transfer them to the new media that will eventually be invented—whether such media are futuristic versions of the digital disk or “the cloud.” Especially in an age when sensory and cognitive overload fog the mind, digital files can be easily misplaced, damaged, vanquished by a finger that accidentally taps the delete key, or buried so deep in the massive archives of cyberspace that no search engine can find them.

Only time will tell us how well the digital age will fare in preserving images for future sharing, discussion, and critique. In the meanwhile, it’s probably a good idea to print your precious photos. Passed down to future generations in shoeboxes, portfolios, and albums that descendants can hold in their hands, our photos stand a much better chance of surviving, in a very tangible form—with their faded, dusty, and scratched surfaces enriching the appreciation of times past, while also reminding humans about the eventual decline of all things.

PHOTO SHARING AS THERAPEUTIC

Can photographs and photo critiques be therapeutic? Psychologists think so. They define something as therapeutic if it enhances insight into yourself, promotes the awareness of underlying feelings, and moves your identity into new, more rewarding directions.

All of these things are possible in photography by creating, viewing, and especially sharing images with others. Engaging in these activities with careful self-reflection will show you that images are a powerful vehicle for expressing yourself. By capturing something meaningful to you in a photograph, you can communicate an experience that is otherwise not easily expressed in words, or that might in fact be misunderstood or distorted by conscious attempts to verbalize it. Because a picture is worth a thousand words, many ideas can be condensed into a single image, making it a powerful way to represent your identity and lifestyle.

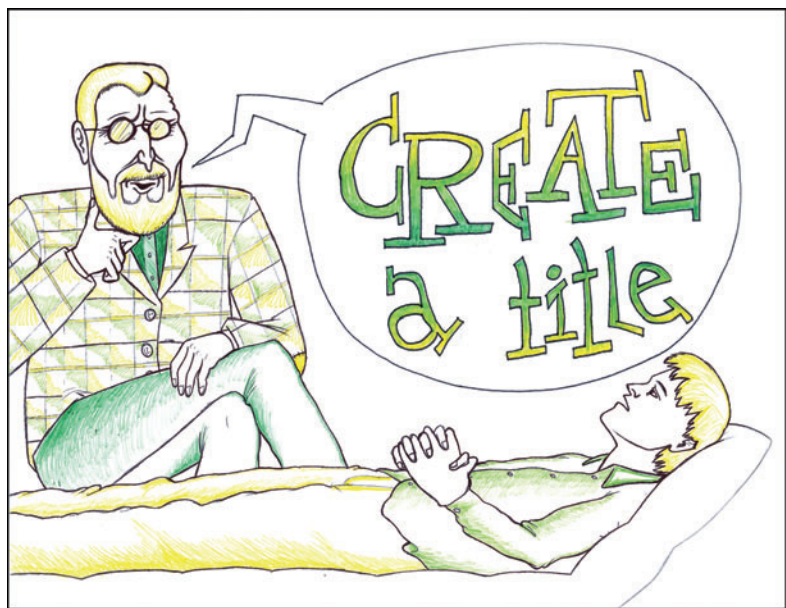


Figure 12.26 Taking, editing, discussing, critiquing, creating descriptions and titles for photographs—all of these activities can be therapeutic. Drawing by Alex Johnson.

A photograph can be a concrete, external representation of what you are, fear, or need to be. It offers a seemingly more real and tangible form for internal experiences that otherwise might elude you. By providing an identifiable representation of your inner life, a photograph can help you better understand and therefore master the problematic aspects of your personality.

As evident in the clustering technique discussed earlier in this chapter, images contain symbols that point to things unseen, to deeper layers of the mind. Like dreams, they are highly creative constructions that convey a wide range of emotions, memories, needs, and wishes. Often we are not even consciously aware of what we are depicting about ourselves in the photographs we create (the “blind” area of Johari’s window). Using the famous iceberg model proposed by Freud, we can think of the photograph as the tip of an iceberg that appears above the surface of the water, in the conscious mind, with the largest part of the iceberg—the unconscious mind—resting below.

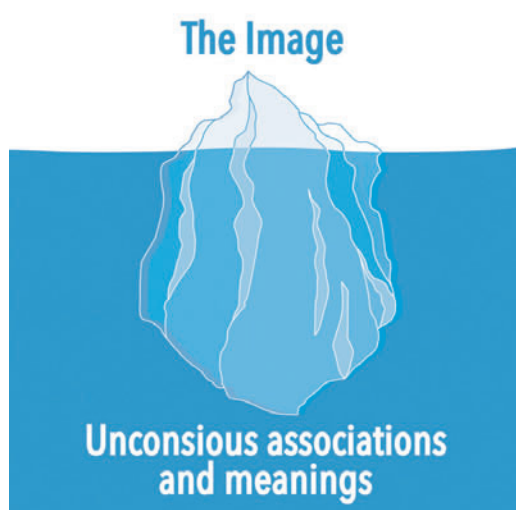


Figure 12.27

Drawing pictures and describing the images one sees inside one’s mind have been important components of psychotherapy for decades. In the form of psychotherapy known as *phototherapy*, people are encouraged to discuss their personal and family snapshots as a way to reveal their hidden thoughts, feelings, and memories. In many ways it is similar to art therapy. Judy Weiser (1993), one of the pioneers of phototherapy, identifies five different categories of photographs that can be explored:

1. Self-portraits, which clearly serve as representations of your identity that encourage you look at yourself from an objective viewpoint. When given the opportunity, how do you choose to create yourself in an image? Is it the real you, the idealized version of you, or the parts of you that you dislike and reject?
2. Photos taken of you by other people, which help you understand how others see you, what they value about you, and the nature of your

- relationship to them. How do their perceptions of you and their relationship with you compare to your own perceptions?
3. Photos taken or collected by you, which reveal what you think is important in life, as well as give you a sense of mastery over those things that you “capture.” In a sense, any photo you take or like is a self-portrait because it says something about you. Otherwise, you would not have taken or saved it.
 4. Your photo albums or collections, which reflect your attempt to organize your personal and family history. What do you include and exclude from your collection? What does this say about how you want to remember, as well as present to others, your perception of yourself, friends, and family?
 5. Your reaction to any photo, because no two people see the same photo in exactly the same way. Each of us project our own personal feelings, memories, and meanings into a picture. Everyone’s perspective is valid. Accepting this means accepting each other.

One of Dick Zakia’s friends, a psychiatrist, told the story of a client who had problems that seemed to stem from her childhood relationship with her father. Each time the psychiatrist inquired about her childhood she would defensively talk about their closely knit family and her closeness to her father. After weeks of no progress, the psychiatrist asked her to bring in a family photo album. As they looked through the series of photographs together, the psychiatrist edited out some and rearranged others. He noticed that in most of the group photographs, his client was at one end of the photograph near her mother while her sister was at the other end close to her father. Often her sister was smiling while her father had his arm around her. When the psychiatrist pointed out this visual evidence to her, she broke down in tears. She was then able to admit to herself and her psychiatrist the roots of her problem. This led to more productive therapy sessions and a resolution of her difficulties.

All Photography Can Be Therapeutic

Image therapeutics is by no means limited to the context of professional psychotherapy. Some people use the term *therapeutic photography* to refer to the growth-promoting process of creating and sharing pictures on one’s own, without the presence of a mental health professional. It can be a very important part of *personal photography*, which people do for their own pleasure rather than as a work project.

Many photographers will tell you how stress-reducing and personally enriching it can feel to simply do photography. Digital photography and the Internet have also made it easy to share those pictures and experiences with others, to reinforce each other in the effort to express, better

understand, and improve oneself. It provides people with a compelling vehicle for personal growth, what psychologists call *self-actualization*.

Online photo-sharing communities include special topic groups that are the newest manifestation of the support group or “mutual aid” movement that began in the 1960s. People who are experiencing the same type of problem in life learn about themselves and help each other by sharing and discussing their photographs, often photographs that relate somehow to the problem or its solution. In online photo-sharing communities you will find groups devoted to many types of mental health issues such as anxiety, depression, bipolar disorder, eating disorders, borderline personality disorders, dissociative identity disorders, obsessive-compulsive disorders, self-harm, suicide, stress, and ADHD. Such groups are grass roots illustrations of image therapeutics.

One doesn’t necessarily have to belong to these types of groups to experience the therapeutic aspects of image creation and sharing. Ask people who participate in any type of online photo-sharing group about how they personally benefit from it. Or join an online photo-sharing community to find out for yourself.

The blossoming of photography in contemporary times is more than simply the byproduct of digital technology making it easy for everyone to take, edit, and share images. It is a manifestation of the basic human need to create, to express something, to generate an understanding with others. All of the many forms of perception and imaging explored in this book can contribute to these therapeutics, because any image presents the opportunity for persuasion, revelation, education, and enlightenment.

*We know what we
are but not what we
may be.*

William
Shakespeare

KEY WORDS

activity	image categories	potency	therapeutic
bipolar adjectives	Johari’s window	projection	photography
buttonized feedback	leveling	self-disclosure	validity
clustering	online photo sharing	semantic differential	variability
context	open-ended critique	sensory/cognitive	visual riff
critique	personal	overload	word cloud
evaluation	photography	shutdown	word–word
feedback	phototherapy	social barter	association
free-association	photostream	social conformity	
group dynamics	picture–word–word	subconscious	
iceberg model	association	reactions	



Figure 12.28 “Critique.” Photograph by William Hock.

NOTES

- 1 Robert Hughes, *The Shock of the New*, New York: Alfred Knopf, 1981, p. 113.
- 2 Stephen Carothers and Gail Roberts, *Photographer's Dialogue*, Boca Raton, FL: Boca Raton Museum of Art, 1989, p. 106.
- 3 Ibid., p. 114.
- 4 Ibid., p. 119.
- 5 George DeWolfe, www.georgedewolfe.com/contemplative-landscape/.
- 6 Carothers and Roberts, *Photographer's Dialogue*, p. 105.
- 7 Gabriele Lusser Rico, *Writing the Natural Way*, Los Angeles: Jeremy P. Tarcher, 1983.
- 8 C. Osgood, G. Suci, and P. Tannenbaum, *The Measurement of Meaning*, Urbana, IL: University of Illinois Press, 1971.



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*What you are is
God's gift to you.
What you become is
your gift to God.*

An African-
American mother
to her son, long
before he became a
star athlete.

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