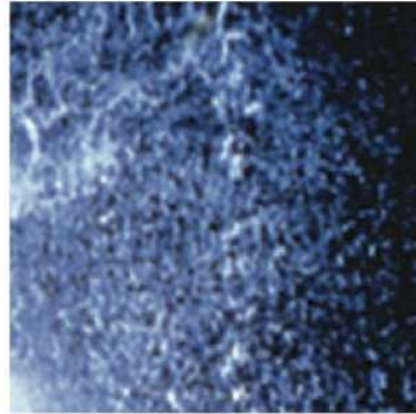


10

IMAGING: PHOTOGRAPHY, FILM, VIDEO, AND DIGITAL ARTS

Look at the things around you, the immediate world around you. If you are alive, it will mean something to you, and if you care enough about photography, and if you know how to use it, you will want to photograph that meaning.

— EDWARD WESTON



TECHNOLOGY HAS revolutionized the visual arts. For thousands of years, one of the central goals of art was to imitate nature as exactly as possible. Today, any one of us can point a camera at a person or an object and capture a realistic image. Point-and-shoot cameras no longer even require that we place the subject in proper focus or that we regulate the amount of light so as not to overexpose or underexpose the subject. Technology can do all of these things for us.

Similarly, the art of the stage was once available only to those who lived in the great urban centers. Now and then a traveling troupe of actors might come by, or local groups might put on a show of sorts, but most people had little or no idea of the ways in which drama, opera, dance, and other performing arts could affect their lives. The advent of motion pictures, or cinematography, suddenly brought a flood of new imagery into new local theaters, and a new form of communal activity was born. People from every station of life could flock to the movie theater on the weekend. Over time, cinematography evolved into an art form independent of its beginnings as a mirror of the stage.

More recently, television has brought this imagery into the home, where people can watch everything from the performing arts to sporting events in privacy and from the multiple vantage points that several cameras, rather than a single set of eyes, can provide. Fine artists have also appropriated television—or, more precisely, the technology that makes television possible—to produce **video art**. Technology has also given rise to the computer as a creative video-mediated tool. With the aid of

< **BILL VIOLA, *The Crossing*** (1996). Two-channel color video and stereo-sound installation, continuous loop; 192" × 330" × 684". Solomon R. Guggenheim Museum, New York.

149

Photography records the gamut of feelings written on the human face, the beauty of the earth and skies that man has inherited and the wealth and confusion man has created.

—EDWARD STEICHEN

artificial intelligence, we can instantly view models of objects from all sides. We can be led to feel as though we are sweeping in on our solar system from the black reaches of space, then flying down to the surface of our planet and landing where the programmer would set us down.

Millions of children spend hours playing video games, such as Tetris, which challenges them to rotate plummeting polygons to construct a solid wall, or Mario Brothers and Tomb Raider, which require them to evade or blast a host of enemies before their computer-drawn heroes and heroines plunge into an abyss. Computer technology and computer-generated images have likewise been appropriated by fine artists in the creation of digital art. In illustrations of blue jeans that rocket through space, snappy graphics that headline sporting events, and the web design that greets us every time we go online, computer-generated images punctuate our daily lives. DVDs, multimedia computers, and software that can blend or distort one shape or face into another are bringing a “virtual reality” into our lives that is in some ways more alluring than, well, “real reality.”

In this chapter, we discuss photography, film (cinematography), video, and digital arts. These mediums have given rise to unique possibilities for artistic expression.

PHOTOGRAPHY

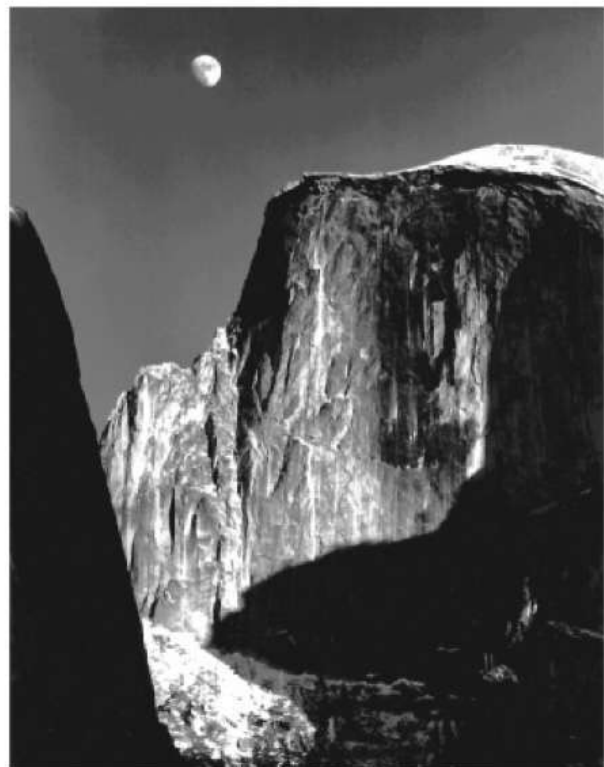
Photography is a science and an art. The word *photography* is derived from Greek roots meaning “to write with light.” The scientific aspects of photography concern the ways in which images of objects are made on a **photosensitive** surface, such as film, by light that passes through a **lens**. Chemical changes occur in the film so that the images are recorded. This much of the process—the creation of an objective image of the light that has passed through the lens—is mechanical.

It would be grossly inaccurate, however, to think of the *art* of photography as mechanical. Photographers make artistic choices, from the most mundane to the most sophisticated. They decide which films and lenses to use, and which photographs they will retain or discard. They manipulate lighting conditions or printing processes to

achieve dazzling or dreamy effects. Always, they are in search of subjects—ordinary, extraordinary, universal, personal.

Photography is truly an art of the hand, head, and heart. Before the advent of digital photography, the photographer had to understand films and grasp skills related to developing **prints**. The photographer must also have the intellect and the passion to search for and to see what is important in things—what is beautiful, harmonious, universal, and worth recording.

Photography is a matter of selection and interpretation. Similar subjects seen through the eyes of different photographers will yield wildly different results. In Ansel Adams’s *Moon and Half Dome*, *Yosemite National Park, California* (Fig. 10.1), majestic cliffs leap into a deep, cold sky. From our earthbound vantage point, the perfect order of the desolate, spherical moon contrasts with



▲ 10.1 ANSEL ADAMS, *Moon and Half Dome, Yosemite National Park, California* (1960).



< 10.2 NASA, *Earthrise* (1969).

the coarseness of the living rock. Yet we know that its geometric polish is an illusion wrought by distance—the moon’s surface is just as rough and chaotic. Adams’s composition is as much about design elements (shape, texture, value) as it is a visual document of the California landscape. Distance and scale come sharply into focus: This is a story of humans dwarfed by nature and nature dwarfed by the stars.

In the early nineteenth century, when photography was invented, the technology that made [Figure 10.2](#) possible would have been only fantasy. In this NASA photograph, taken during the first manned mission to the moon in July 1969, the crescent shape of sunlight blanketing a distant Earth is silhouetted against a velvet black sky. Its perfect geometry is a dramatic counterpoint to the irregular textured surface of the moon. Although only a sliver of Earth’s blue color is evident at the point where light turns abruptly to shadow, it is enough to suggest a sense of life in contrast to the barren, unforgiving lunar landscape.

Both the Adams photograph and the one taken from space have artful compositions, even though the

NASA photograph was not taken by an artist. Adams chose a specific moment, when shadows were deep, the sky was clear, and the position of the sun exaggerated the textures of the rock. The black shadows and the uniform steel gray sky have such precise contours that they read as flat puzzle pieces. The NASA photograph is striking for two reasons. First, the “composition” is dramatically simple: a field bisected into two zones by the sharp diagonal created by the contour of the moon. Second, the perspective is intriguing: we sense the fluid glide of the ship through the stillness of space.

The aesthetic aspect of both photographs is not all they have in common. The history of photography is full of evidence of the artist-photographer boldly going where no one has been before or challenging the viewer to see anew the familiar and ubiquitous. The mood, stylistic inclinations, cultural biases, and technical preferences influence the nature of the creative product. As observers, we are as enriched by the diversity of this medium as much as any other in the visual arts.

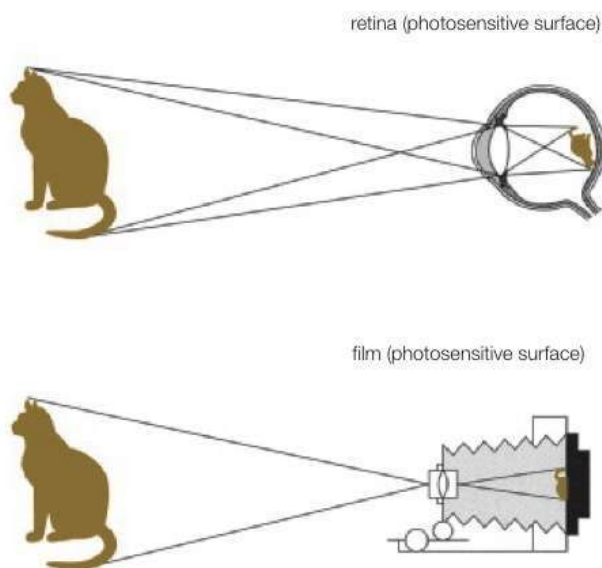
It gradually began to dawn on me that something must be wrong with the art of painting as practiced at that time. With my camera I could procure the same results as those attained by painters. . . . I could express the same moods. Artists who saw my earlier photographs began to tell me that they envied me; that they felt my photographs were superior to their paintings, but that, unfortunately, photography was not an art. . . . There and then I started my fight—or rather my conscious struggle for the recognition of photography as a new medium of expression, to be respected in its own right, on the same basis as any other art form.

—ALFRED STIEGLITZ

Cameras

Cameras may look very different from one another and boast a variety of equipment, but they all possess certain basic features. Figure 10.3 shows that the camera is similar to the human eye. In both cases, light enters a narrow opening and is projected onto a photosensitive surface.

The amount of light that enters the eye is determined by the size of the *pupil*, which is an opening in the muscle called the *iris*; the size of the pupil responds automatically to the amount of light that strikes the eye. The amount of light that enters a camera is determined by the size of the opening, or **aperture**, in the **shutter**. The aperture opening can be adjusted manually or, in advanced cameras, such as “point-and-shoots,” automatically. The size of the aperture, or opening, is the so-called **F-stop**. The smaller the F-stop, the larger the opening. The shutter can also be made to remain open to light for various amounts of time, ranging from a few thousandths of a second—in which case **candid** shots of fast action may be taken, stopping the action in its tracks—to a second or more.



▲ 10.3 The Camera and the Human Eye Compared.

When the light enters the eye, the *lens* keeps it in focus by responding automatically to its distance from the object. The light is then projected onto the retina, which consists of cells that are sensitive to light and dark and to color. Nerves transmit visual sensations of objects from the retina to the brain.

In the same way, the camera lens focuses light onto a photosensitive surface such as **film**. A camera lens can be focused manually or automatically. Many photographers purposely take pictures that are out of focus, for their soft, blurred effects. **Telephoto lenses** magnify faraway objects and tend to collapse the spaces between distant objects that recede from us. **Wide-angle lenses** allow a broad view of objects within a confined area.

In their early days, cameras tended to be large and heavy, and were placed on mounts. Today's cameras, including those that are housed in smartphones, are usually small and handheld. Many contemporary cameras contain angled mirrors that allow the photographer to see directly through the lens and thereby to be precisely aware of the image that is being projected onto the film.

The photographer Alfred Stieglitz, who recognized the medium as a fine art as well as a tool for recording events, shot *The Steerage* (Fig. 10.4) with an early handheld camera. He happened upon the striking composition of *The Steerage* on an Atlantic crossing aboard the *Kaiser Wilhelm II*. He rushed to his cabin for his camera, hoping that the upper and lower masses of humanity would maintain their balanced relationships to one another, to the drawbridge that divides the scene, to the stairway, the funnel, and the horizontal beam of the mast. The “steerage” of a ship was the least expensive accommodation. Here the “huddled masses” seem suspended in limbo by machinery and by symbolic as well as actual bridges. Yet the tenacious human spirit may best be symbolized by the jaunty patch of light that strikes the straw hat of one passenger on the upper deck. Stieglitz was utterly fascinated and moved by what he saw.

Film

When an image is “shot,” it is captured as film or recorded on an electronic memory device. Contemporary black-and-white films are very thin, yet they contain several



▲ 10.4 ALFRED STIEGLITZ, *The Steerage* (1907). Photograph, 12 11/16" × 10 3/16".

layers, most of which form a protective coating and backing for the photosensitive layer. The active layer contains an **emulsion** of small particles of a photosensitive silver salt (usually silver halide) suspended in gelatin.

After the film is exposed to light and treated chemically, it becomes a **negative**, in which metallic silver is formed from the crystals of silver halide. In this negative, areas of dark and light are reversed. Because the negatives are transparent, light passes through them to a print surface, which becomes the final photograph, or print. Here the areas of light and dark are reversed again, now matching the shading of the original subject. Prints are also usually made significantly larger than the negative.

Black-and-white films differ in color sensitivity (the ability to show colors such as red and green as different shades), in contrast (the tendency to show gradations of gray as well as black and white), in graininess (the textural quality, as reflective of the size of the silver halide crystals), and in speed (the amount of exposure time necessary to record an image). Photographers select films that will heighten the effects they seek to portray.

Color film is more complex than black-and-white film, but similar in principle. Color film also contains several layers, some of which are protective and provide backing. There are two basic kinds of color film: **color reversal film**

and **color negative film**. Both types of color film contain three light-sensitive layers.

Prints are made directly from *color reversal film*. Therefore, each of the photosensitive layers corresponds to one of the primary colors in additive color mixtures: blue, green, or red. When color reversal film is exposed to light and treated chemically, mixtures of the primary colors emerge, yielding a full-color image of the photographic subject.

Negatives are made from *color negative film*. Therefore, each photosensitive layer corresponds to the complement of the primary color it represents. (Additive color mixtures and primary and complementary colors are explained in Chapter 3.)

Color films, as black-and-white films, differ in color sensitivity, contrast, graininess, and speed. But color films also differ in their appropriateness for natural (daylight) or artificial (indoor) lighting conditions.

Digital Photography

Today, **digital photography** accounts for most professional photography and upward of 90 percent of amateur photography. Millions take digital photos with their smartphones—including selfies—every day. Digital cameras translate the visual images that pass through the lens into bits of digital information, which are recorded onto an electronic storage device rather than film. High-quality (translation: expensive) digital cameras take photos whose **resolution**—that is, sharpness—rivals that of film images. The stored information can either be shown on a display screen or printed, or both. Rather than have several prints made, the photographer can copy the digital information endlessly. Digital images can also be transmitted instantly over the Internet, as with Instagram and a host of other Apps. Printed images can also be scanned, converting them into digital formats, and then stored electronically or transmitted over the Internet.

Digital photography has some advantages. One is that the photographer need not deal with film—loading and unloading it and having it developed. The images can be displayed immediately on a display built into the camera or on a computer monitor. Software then permits you to manipulate the images as desired. You can also print them out as you would print out any other image or text.

The disadvantages are that (most) digital images do not have the sharpness of film images. High res images (and videos) can consume a tremendous amount of storage space, which is why so many are spending extra for more gigabytes of storage for their computers. Also, your printer may not print images that approach the quality of film images, even if you have stored enough information to do so. To get professional-quality prints, you may have to invest in professional equipment or take your camera, disk, or flash drive elsewhere, just as you have to take

film to a lab or processor to be developed. But the price of this equipment is falling steadily, and with so-called retina displays, many users purchase digital equipment that rivals the resolution of more traditional photography.

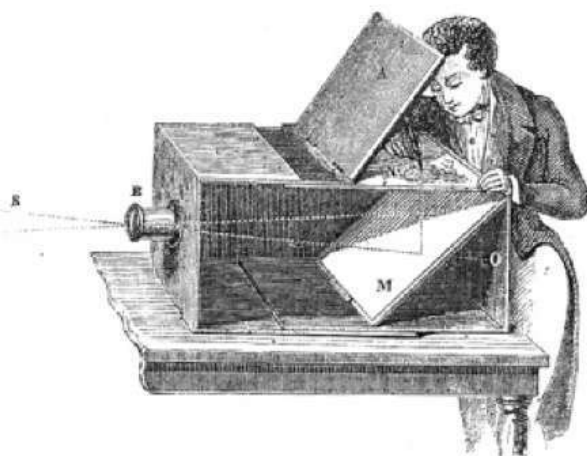
History of Photography

The cameras and films described previously are rather recent inventions. Photography has a long and fascinating history. Although true photography does not appear much before the mid-nineteenth century, some of its principles can be traced back another 300 years, to the camera obscura.

THE CAMERA OBSCURA The **camera obscura**—literally, the covered-over or darkened room—was used by Renaissance artists to help them accurately portray depth, or perspective, on two-dimensional surfaces. The camera obscura could be a box, as shown in Figure 10.5, or an actual room with a small hole that admits light through one wall. The beam of light projects the outside scene upside down on a surface within the box. The artist then simply traces the scene, as shown, to achieve a proper perspective—to truly imitate nature.

DEVELOPMENT OF PHOTSENSITIVE SURFACES The camera obscura could only temporarily focus an image on a surface while a person labored to copy it by tracing. The next developments in photography concerned the search for photosensitive surfaces that could permanently affix images. These developments came by bits and pieces.

In 1727, the German physicist Heinrich Schulze discovered that silver salts had light-sensitive qualities, but he never tried to record natural images. In 1802, Thomas Wedgwood, son of the well-known English potter, reported his discovery that paper soaked in silver nitrate



▲ 10.5 The Camera Obscura.



▲ 10.6 LOUIS-JACQUES-MANDÉ DAGUERRE, *The Artist's Studio* (1837).

did take on projected images as a chemical reaction to light. However, the images were not permanent.

HELIOGRAPHY In 1826, the Frenchman Joseph-Nicéphore Niepce invented **heliography**. **Bitumen**, or asphalt residue, was placed on a pewter plate to create a photosensitive surface. The bitumen was soluble in **lavender oil** if kept in the dark, but insoluble if struck by light. Niepce used a kind of camera obscura to expose the plate for several hours, and then he washed the plate in lavender oil. The pewter showed through where there had been little or no light, creating the image of the darker areas of the scene. The bitumen remained where the light had struck, however, leaving lighter values.

THE DAGUERRETYPE The **daguerreotype** resulted from a partnership formed in 1829 between Niepce and another Frenchman, Louis-Jacques-Mandé Daguerre. The daguerreotype used a thin sheet of silver-plated copper. The plate was chemically treated, placed in a camera obscura, and exposed to a narrow beam of light. After exposure, the plate was treated chemically once more.

Figure 10.6 shows the first successful daguerreotype, taken in 1837. Remarkably clear images could be recorded by this process. In this work, called *The Artist's Studio*, Daguerre, a landscape painter, sensitively assembled deeply textured objects and sculptures. The contrasting light and dark values help create an illusion of depth.

There were drawbacks to the daguerreotype. It had to be exposed from five to forty minutes, requiring long sittings. The recorded image was reversed, left to right, and was so delicate that it had to be sealed behind glass to remain fixed. Also, the plate that was exposed to light became the actual daguerreotype. There was no negative,



▲ 10.7 WILLIAM HENRY FOX TALBOT, *Botanical Specimen* (1839). Photogenic drawing.

and consequently, copies could not be made. However, some refinements of the process did come rapidly. Within ten years, the exposure time had been reduced to about thirty to sixty seconds, and the process had become so inexpensive that families could purchase two portraits for a quarter (although a quarter was actually a noticeable bit of money back then). Daguerreotype studios opened all across Europe and the United States, and families began to collect the rigid, stylized pictures that now seem to speak nostalgia and reflect days gone by.

THE NEGATIVE The negative was invented in 1839 by British scientist William Henry Fox Talbot. Talbot found that sensitized paper, coated with emulsions, could be substituted for the copper plate of the daguerreotype. He would place an object, such as a sprig of a plant, on the paper and expose the arrangement to light. The paper was darkened by the exposure in all areas except those covered by the object. Translucent areas, allowing some passage of light, resulted in a range of grays. Talbot's first so-called photogenic drawings (Fig. 10.7), created by this process, seem eerie, though lyrically beautiful. The delicacy of the image underscores the impracticality

of the process: How on earth would you “photograph” an elephant?

As with the daguerreotype, this process produced completed photographs in which the left and right of the image were reversed. In Talbot's photogenic drawings, the light and dark values of the image were also inverted. Talbot improved on his early experiments with his development of the **contact print**. He placed the negative in contact with a second sheet of sensitized paper and exposed them both to light. The resultant print was a “positive,” with left and right, and light and dark, again as in the original subject. Many prints could be made from the negative. Unfortunately, the prints were not as sharp as daguerreotypes because they incorporated the texture of the paper on which they were captured. Subsequent advances led to methods in which pictures with the clarity of daguerreotypes could be printed from black-and-white as well as color negatives.

Photography improved rapidly for the next fifty or sixty years—faster emulsions, glass-plate negatives, better camera lenses—and photographs became increasingly more available to the general public. The next major step in the history of photography came with the introduction by Louis Lumière of the autochrome color process in 1907. Autochromes were glass plates coated with three layers of dyed potato starch that served as color filters. A layer of silver bromide emulsion covered the starch. When the autochrome was developed, it yielded a positive color transparency. Lumière's autochrome photographs, such as *Young Lady with an Umbrella* (Fig. 10.8), emulated late-nineteenth-century French paintings (see Chapter 19) in subject, palette, and texture. Autochrome technology was not replaced until 1932, when Kodak began to produce color film that applied the same principles to more advanced materials.



▲ 10.8 Young lady with an umbrella (circa 1910), “Autochrome Lumière” glass plate 13 × 18 cm (5 × 7 inches)—Institut Lumière, Lyon, France.



▲ 10.9 NADAR, *Sarah Bernhardt* (1859). Bibliothèque Nationale, Paris, France.

Cameron's impressive portfolio included portraits of Charles Dickens; Alfred, Lord Tennyson; and Henry Wadsworth Longfellow. Nadar's 1859 portrait of the actress Sarah Bernhardt (Fig. 10.9) was printed from a glass plate, which could be used several times to create sharp copies. Early portrait photographers such as Nadar imitated both nature and the arts, using costumes and props that recalled Romantic paintings or sculpted busts caressed by flowing drapery. The photograph is soft and smoothly textured, with middle-range values predominating; Bernhardt is sensitively portrayed as pensive, intelligent, and delicate.

The American photographer Alfred Stieglitz expressed the view that portraits ought to be taken over the course of the subject's lifetime because that was only way to reveal personality. Over a period of two decades, he photographed artist Georgia O'Keeffe (see Fig. 20.13) extensively; this body of work contains some 500 negatives. Contemporary photographer Nicholas Nixon began his documentary-portrait series *The Brown Sisters* (Fig. 10.10) in 1975 and has taken a black-and-white photograph of the group each year since. The format never changes—the sisters are always in the same position from left to right—but the locations do. More than family snapshots, although not unlike them, the series reads like a private diary of sibling relationships and the subtlety of the aging process.

PORTRAITS By the 1850s, photographic technology and the demands of a growing middle class in the wake of the American and French Revolutions came together to create a burgeoning business in portrait photography. Having a likeness of oneself was formerly reserved for the wealthy, who could afford to commission painters. Photography became the democratic equalizer. The rich, the famous, and average bourgeois citizens could now be memorialized and trumpet their existence long after their flesh had rejoined the elements from which it was composed.

Photographic studios spread like wildfire, and many photographers, such as Julia Margaret Cameron and Gaspard Felix Tournachon—called “Nadar”—vied for famous clientele.



▲ 10.10 NICHOLAS NIXON, *The Brown Sisters* (2010). Gelatin silver print, 7 1/16" × 9 1/2". The Museum of Modern Art, New York, New York. The Family of Man Fund.



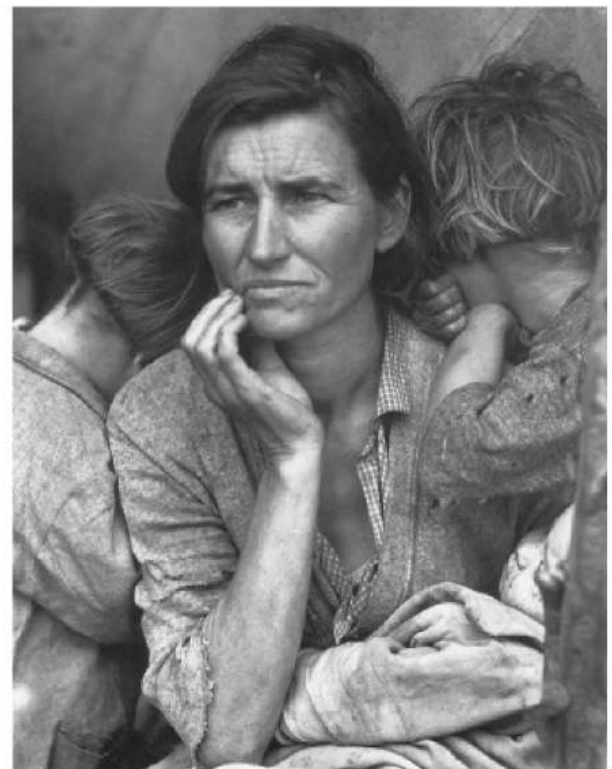
▲ 10.11 ALEXANDER GARDNER, *Home of a Rebel Sharpshooter, Gettysburg* (July 1863). Wet-plate photograph. Chicago History Museum, Chicago, Illinois.

PHOTOJOURNALISM Prior to the nineteenth century, there were few illustrations in newspapers and magazines. Those that did appear were usually in the form of engravings or drawings. Photography revolutionized the capacity of the news media to bring realistic representations of important events before the eyes of the public. Pioneers such as Mathew Brady and Alexander Gardner first used the camera to record major historical events such as the U.S. Civil War. The photographers and their crews trudged down the roads alongside the soldiers, horses drawing their equipment behind them in wagons referred to by the soldiers as “Whatsits.”

Equipment available to Brady and Gardner did not allow them to capture candid scenes, so there is no direct record of the bloody to-and-fro of the battle lines, no photographic record of each lunge and parry. Instead, they brought home photographs of officers and of life in the camps along the lines. Although battle scenes would not hold still for Gardner’s cameras, the litter of death and devastation caused by the war and pictured in Gardner’s *Home of a Rebel Sharpshooter, Gettysburg* (Fig. 10.11) most certainly did. Despite their novelty and their accuracy, not many works of such graphic nature were sold. There are at least three reasons for this tempered success. First, the state of the art of photography made the photographs high priced. Second, methods for reproducing photographs on newsprint were not invented until about 1900; therefore, the works of the photojournalists were usually rendered as drawings, and the drawings translated into woodcuts before they appeared in the papers. Third, the American public might not have been ready to face the brutal realities they portrayed. In a similar vein, social commentators have suggested that the will of many Americans to persist in the Vietnam War was sapped by the incessant barrage of televised war imagery.

During the Great Depression of the 1930s, the conscience of the nation was stirred by the work of many photographers hired by the Farm Security Administration. Dorothea Lange and Walker Evans, among others, portrayed the lifestyles of migrant farmworkers and sharecroppers. Lange’s *Migrant Mother, Nipomo, California* (Fig. 10.12) is a heartrending record of a 32-year-old woman who is out of work but cannot move on because the tires have been sold from the family car to purchase food for her seven children. The etching in her forehead is an eloquent expression of a mother’s thoughts; the lines at the outer edges of her eyes tell the story of a woman who has aged beyond her years. Lange crops her photograph close to her subjects; they fill the print from edge to edge, forcing us to confront them rather than allowing us to seek comfort in a corner of the print not consigned to such an overt display of human misery. The migrant mother and her children, who turn away from the camera and heighten the futility of their plight, are as much constrained by the camera’s viewfinder as they are by their circumstances.

During the early 1940s, photographers such as Margaret Bourke-White carried their handheld cameras into combat and captured tragic images of the butchery in Europe and in the Pacific. In 1929, Bourke-White



▲ 10.12 DOROTHEA LANGE, *Migrant Mother, Nipomo, California* (1936). Gelatin silver print, 12 1/2" × 9 7/8". The Oakland Museum of Art, Oakland, California.

Documentary photography records the social scene of our time. It mirrors the present and documents [it] for the future. Its focus is man in his relation to mankind. It records his customs at work, at war, at play. . . . It portrays his institutions. . . . It shows not merely their facades, but seeks to reveal the manner in which they function, absorb the life, hold the loyalty, and influence the behavior of human beings.

—DOROTHEA LANGE

became a staff photographer for *Fortune*, a new magazine published by Henry Luce. When Luce founded *Life* in 1936, Bourke-White became one of its original staff photographers. Like Dorothea Lange, she recorded the poverty of the Great Depression, but in the 1940s, she traveled abroad to become one of the first female war photojournalists. As World War II was drawing to an end in Europe, Bourke-White arrived at the Nazi concentration camp of Buchenwald in time for its liberation by Gen. George S. Patton. Her photograph *The Living Dead of Buchenwald*, April 1945 (Fig. 10.13), published in *Life* in 1945, has become a classic image of the Holocaust, the Nazi effort to annihilate the Jewish people. The indifferent countenance of each survivor expresses, paradoxically, all that he has witnessed and endured. In her

book *Dear Fatherland, Rest Quietly*, Bourke-White put into words her own reactions to Buchenwald. In doing so, she showed how artistic creation, an intensely emotional experience, can also have the effect of objectifying the subject of creation:

I kept telling myself that I would believe the indescribably horrible sight in the courtyard before me only when I had a chance to look at my own photographs. Using the camera was almost a relief; it interposed a slight barrier between myself and the white horror in front of me . . . it made me ashamed to be a member of the human race.¹

¹ Margaret Bourke-White, *Dear Fatherland, Rest Quietly* (New York: Simon and Schuster, 1946), 73.



▲ 10.13 MARGARET BOURKE-WHITE, *The Living Dead of Buchenwald*, April 1945 (1945).



▲ 10.14 RON BERARD, *Untitled* (2001).

Dorothea Lange traveled rural America to photograph the effects of the Depression, and Margaret Bourke-White followed the U.S. troops abroad during World War II. As Bourke-White discovered, one of the keys to photojournalism is being in the presence of history in the making. On September 11, 2001, when terrorists hijacked commercial aircraft and flew them into the World Trade Center towers, photographer Ron Berard was living on an upper floor of an apartment building directly across from the devastation. His photograph (Fig. 10.14) captures the hellish and almost surreal nature of the event in which almost 3,000 people lost their lives—the shard of the curtain wall that remained, the pile of rubble, the charred facade of a still-standing neighbor. The eerie smoke that rose from the pit would continue to rise for two months.

Photography as an Art Form

Photographers became aware of the potential of their medium as an art form more than 100 years ago. Edward Weston, Paul Strand, Edward Steichen, and others argued

that photographers must not attempt to imitate painting (as Lumière had) but must find modes of expression that are truer to their medium. Synergistically, painters moved toward abstraction because the obligation to faithfully record nature was now assumed by the photographer. Why, after all, do what a camera can do better? In 1902, Alfred Stieglitz founded the Photo-Secession, a group dedicated to advancing photography as a separate art form. Stieglitz enjoyed taking pictures under adverse weather conditions and at odd times of day to show the versatility of his medium and the potential for expressiveness.

Edward Steichen's *The Flatiron Building—Evening* (Fig. 10.15), photographed a century ago, is among the foremost early examples of the photograph as a work of art. It is an exquisitely sensitive nocturne of haunting shapes looming in a rain-soaked atmosphere. The branch in the foreground provides the viewer with a psychological vantage point as it cuts across the composition like a bolt of lightning or an artery pulsing with life. The values



▲ 10.15 EDWARD STEICHEN, *The Flatiron Building—Evening* (1906).
Library of Congress, Prints and Photographs Division.



▲ 10.16 SANDY SKOGLUND, *Radioactive Cats* (1980). Cibachrome, 30" × 40".

are predominantly middle grays, although here and there, beaconlike, streetlamps sparkle in the distance. The infinite gradations of gray in the cast-iron skyscraper after which the picture is named, and in the surrounding structures, yield an immeasurable softness. Although much is present that we cannot readily see, there is nothing gloomy or frightening about the scene. Rather, it seems pregnant with wonderful things that will happen as the rain stops and the twentieth century progresses.

It was not long before artists began to manipulate their medium so that they, too, could venture beyond imitation. The first steps were tentative, building on the familiar and the readily acceptable. Some portrait photographers, for example, experimented with double-exposed images and tableaus—elaborate painted backdrops against which people and objects were thoughtfully and deliberately arranged. The tableau form is also seen in the works of contemporary artists.

Sandy Skoglund's *Radioactive Cats* (Fig. 10.16) portrays a phlegmatic elderly couple living out their colorless lives amid an invasion of neon green cats. Skoglund sculpted the plaster cats herself and painted the room gray, controlling every aspect of the set before she photographed the scene.

Artist-photographer William Wegman happened upon his most famous subject when his Weimaraner puppy virtually insisted on performing before his lights. Man Ray, named by Wegman after the Surrealist photographer, posed willingly in hundreds of staged sets that range from the credible to the farcical. *Blue Period* (Fig. 10.17) is a riff on Pablo Picasso's painting *The Old Guitarist* (see Fig. 20.5), enframed in a souvenir-sized reproduction in the lower-left foreground. In both works, a guitar cuts diagonally across the composition, adding the only contrasting color to the otherwise monochromatic blue background. The heads of the old man and of Man Ray hang, melancholy, over the soulful instrument. As Picasso gave the old man's flesh a bluish cast, so did Wegman tint the Weimaraner's muzzle. In Wegman's photograph, however, we find the pièce de résistance—an object laden with profound meaning for the guitarist's stand-in: a blue rubber bone.

Cindy Sherman is her own exclusive subject, adopting diverse personae for her photographs. Sherman recalls a mundane, early inspiration for her approach: "I had all this makeup. I just wanted to see how transformed I could look. It was like painting in a way."² Soon she set herself before elaborate backdrops, costumed in a limitless wardrobe. Dress designers began to ask her to



▲ 10.17 WILLIAM WEGMAN, *Blue Period* (1981). Color Polaroid photograph, 24" × 22".

² Cindy Sherman, in Gerald Marzorati, "Imitation of Life," *Artnews* 82 (September 1983): 84–85.

I see my work as a pictorial excursus on the topic of feminism and contemporary Islam—a discussion that puts certain myths and realities under the microscope and comes to the conclusion that these are much more complex than many of us had thought.

—SHIRIN NESHAT



▲ 10.18 CINDY SHERMAN, *Untitled* (1984). Color photograph, 71" × 48 1/2".

use their haute couture in her photographs, and works such as *Untitled* (Fig. 10.18) were actually shot as part of an advertising assignment for *French Vogue*. The result is less a sales device than a harsh view of the fashion industry. Sherman appears as a disheveled model with a troubling expression. Something here is very wrong. Regimented stripes go awry as the fabric of her dress is stretched taut across her thighs and knees. Her hands rest oddly in her lap, fingertips red with what seems to be blood. And then there is the smile—an unsettling leer implying madness.

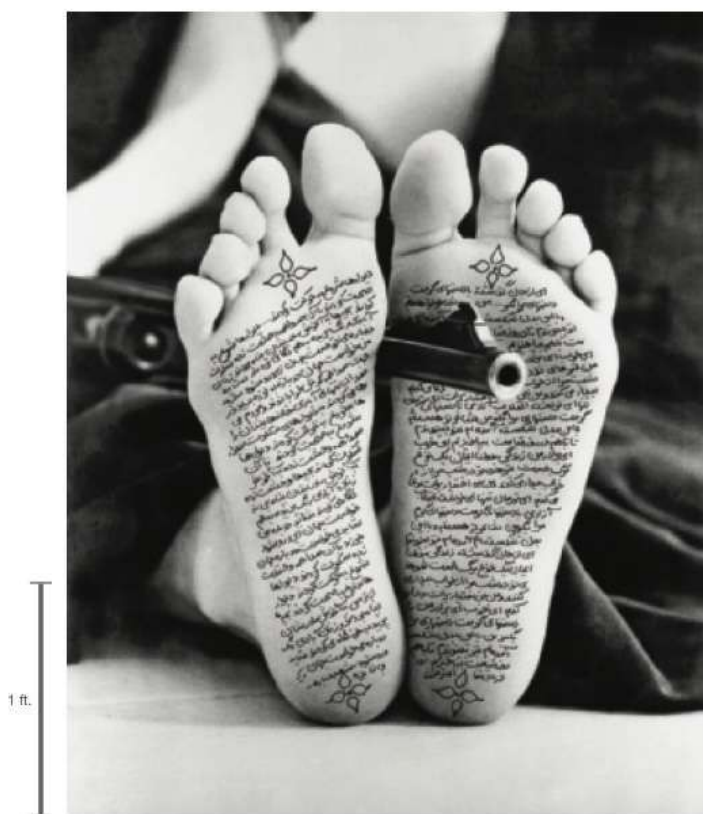
Johann Derflinger's self-portrait (Fig. 10.19) is sharply lit, exaggerating the highlighted area as well as the

shadows. Light is directed from the extreme right, harshly illuminating and revealing surfaces of the body. The blacked-out areas of the setting add a somber, melancholy tone to the subject.

Iranian American photographer and video artist Shirin Neshat came to the United States as a teenager, before the shah of Iran was removed from power, and returned in 1990 to witness a nation transformed by the rule of Islamic clergy. She was particularly concerned about how life had changed for Iranian women, who now had limited



▲ 10.19 JOHANN DERFLINGER, ASSISTED BY LIZ SWEZEY, *Performance Gender* (2013). Digital photograph, 20" × 30".



▲ 10.20 SHIRIN NESHAT, *Allegiance and Wakefulness (Women of Allah)* (1994). Offset print with ink calligraphy, 3' 5¼" × 2' 9". Israel Museum, Jerusalem (anonymous gift, New York, to American Friends of the Israel Museum).

opportunities outside the home and were veiled behind black *chadors*. Figure 10.20 is one of a series called *Women of Allah*, in which guns or flowers are frequently juxtaposed with vulnerable though rebellious faces, hands, and feet that emerge from beneath the veil. The exposed flesh is overwritten with sensual or political texts by Iranian women in the native tongue of Farsi. The calligraphic writing may first appear to be little more than a mélange of elegant and mysterious patterns and designs, but there is no mistaking its message of resistance. The photos are unlikely to be seen and “decoded” by the eyes of Iranians living in Iran, but the message of the artist to the world outside is clear.

Evolving technology has made it possible for photographers to achieve dazzling images such as the one in Harold Edgerton’s *Milk Drop Coronet* (Fig. 10.21), featured in the Museum of Modern Art’s first exhibition of photography in 1937. Edgerton, called the “father” of high-speed and stop-action photography, was an electrical engineer at MIT who pioneered the use of the stroboscope—a device that emits brief and brilliant flashes of light that seem to slow or stop the action of people or objects in motion—for photography. He would synchronize the flashes with

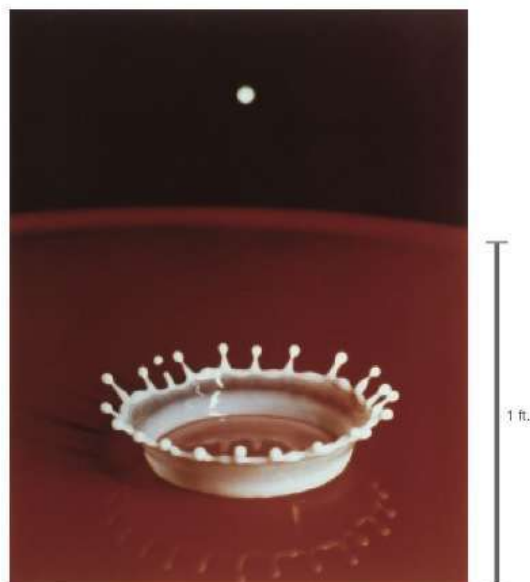
CONNECTIONS Use your smartphone, tablet computer, or digital camera to take a self-portrait—a “selfie.” Use the features of your electronic equipment to crop the photo, duplicate the photo, change the colors in the photo, stretch the photo, and otherwise play with it. Which results do you prefer? Why?

the movements of objects and capture them with an open shutter at many flashes per second. Edgerton applied the technology to capture ordinary and extraordinary events—water coming out of a faucet, a simple drop of milk splashing into a pool of the liquid, bullets penetrating helium balloons, and athletes in motion.

FILM

Film and video are so-called time-based mediums in which duration, or the passage of time, is a dimension. Just as some artists manipulate elements of art to create illusions of three dimensions, others use time-based mediums to create the illusion of movement and duration.

Harold Edgerton’s process (see Fig. 10.21) was the opposite of what photographer Eadweard Muybridge aimed to do in his early experiments in filmmaking. Edgerton froze each and every fraction of actual motion in a single image. Muybridge combined numerous individual photographs of a moving object into a sequence that, if viewed in rapid succession, gave the illusion of actual motion. The door to cinema was open.



▲ 10.21 HAROLD EDGERTON, *Milk Drop Coronet* (1957, printed later). Silver gelatin print, 16" × 20".

Muybridge's *Galloping Horse* (Fig. 10.22) sequence was shot in 1878 by twenty-four cameras placed alongside a racetrack and was made possible by new, fast-acting photosensitive plates. (If these plates had been developed fifteen years earlier, Brady could have bequeathed us a photographic record of Civil War battle scenes.) Muybridge had been commissioned to settle a bet as to whether racehorses ever had all four hooves off the ground at once. He found that they did, but also that they never assumed the rocking-horse position in which the front and back legs are simultaneously extended.

Muybridge is generally credited with performing the first successful experiments in making motion pictures. He fashioned a device that could photograph a rapid sequence of images, and he invented the **Zoopraxiscope**, which projected these images onto a screen. Muybridge's process was the opposite of Edgerton's, who, many decades later, froze each and every fraction of actual motion in a single image. Muybridge combined numerous individual photographs of a moving object into a sequence that, if viewed in rapid succession, gave the illusion of actual motion.

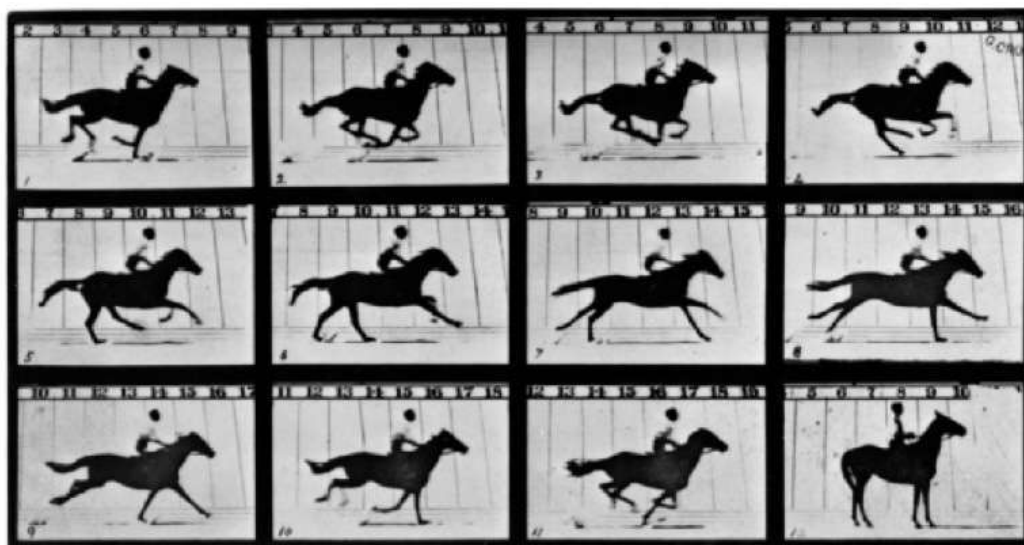
The birth of motion pictures, or cinema, was the result of specific inventions including *film* (in this usage, images printed on celluloid and cut into strips). In 1891 Thomas Alva Edison (who had met Muybridge in 1888) patented the **Kinetoscope**, a motion-picture viewing device. A sequence of images on film (something like Muybridge's galloping horse) was passed over a lamp, the light from which was broken into quick flashes by a revolving shutter placed between the film and the lamp. The light flashes illuminated each frame, and the rapidity of the progression of the frames, along with the phenomenon of persistence of vision, created the illusion of motion.

Edison's Kinetoscope was a box into which a viewer would peer to see a moving picture. The next step in the evolution of cinema was projection of the moving picture; this happened with the Cinematographe, a camera and projector in one piece of equipment, patented by the brothers August and Louis Lumière in France in 1895. Their first public motion-picture projection took place the same year, a twenty-minute program of ten short films. Among them was *The Demolition of a Wall*, a film that is known as the first to feature special effects: Lumière reversed the film to suggest that the wall was going up rather than going down. Soon after, the appearance of trick photography became the staple of Georges Méliès, who used stop-motion and superimposed images to create true special effects in films that included adaptations of two novels by Jules Verne—*A Trip to the Moon* and *Twenty Thousand Leagues under the Sea*.

Within a few short years of these inventions, commercial movie houses sprang up in France and in the United States, and motion pictures were distributed for public viewing. These were silent films accompanied by live orchestral music and stage shows. The next big step in moviemaking occurred with the first feature film that incorporated sound—*The Jazz Singer* (1927). From then on, sound on film recording shaped the future of cinema.

Varieties of Cinematographic Techniques

Cinematography is the art of making motion pictures. Motion pictures begin with the creation of the illusion of movement; this illusion is created via stroboscopic motion or the presentation of a rapid progression of images of stationary objects. An audience is shown 16 to



◀ 10.22 EADWEARD MUYBRIDGE, *Galloping Horse* (1878).



▲ 10.23 HUGH HUDSON, DIRECTOR. Film still from *Chariots of Fire* (1981).

24 pictures or frames per second (fps), and each picture or frame differs slightly from the one preceding it.

MANIPULATING TIME At a viewing rate of 24 fps, motion in a film appears smooth, natural, and realistic. Slow motion, on the other hand, creates the appearance that time has slowed down and directs or holds our focus. It

can be used to give us a strong impression of the personalities of characters, as in the famous opening scene of Hugh Hudson's *Chariots of Fire* (Fig. 10.23) or the opening credits of Quentin Tarantino's *Reservoir Dogs* (Fig. 10.24). It can also isolate specific details of actions that would otherwise be fleeting to our eyes. Achieving slow motion is not a matter of shooting fewer frames or slowing down



◀ 10.24 QUENTIN TARANTINO, DIRECTOR. Film still from *Reservoir Dogs* (1992).



▲ 10.25 ANDY WACHOWSKI AND LANA WACHOWSKI, DIRECTORS. Film still from *The Matrix* (1999).

the number of frames per second that we see; rather, slow motion is achieved by shooting at a frame rate *faster* than 24 fps (for example, 48, 60, or 120 fps). When the films are played back at 24 fps, movement appears to be slowed down. Slow-motion—and fast-motion—clips are sometimes juxtaposed with each other and with 24-fps sequences to disrupt the predictable pace of a scene.

Andy Wachowski and Lana Wachowski's film *The Matrix* includes groundbreaking slow-motion effects known as *bullet time* in which multiple cameras, arranged at multiple angles and vantage points (above, below, alongside of, in front of, and behind the action), capture the scene in many thousands of still images. The frames are then assembled with the aid of a computer to create the illusion of frozen time or slowly moving time, as when Neo, the main character in *The Matrix*, acrobatically dodges bullets and plucks them out of the air (Fig. 10.25).

EDITING The manipulation of time begins with camerawork and comes to fruition with editing—the process of selecting, assembling, and sequencing raw shots (filmed details of the action) and effects and combining them into an aesthetic, expressive whole.

Editing techniques are used to construct cohesive and coherent narratives and heighten dramatic impact. A few commonly used examples are *cutting on action*, *jump cut*, *match cut*, *parallel action*, and *montage*.

Cutting on action is a “continuity editing” technique that is used within

a scene to create the illusion of spatial and temporal continuity *through* an edit point (through the “cut” that joins the two shots together). Two different angles of the same action are both filmed, and the edit point (the cut) is placed midaction to connect the two shots, seemingly in *real time*.

Unlike *cutting on action*, which aims to make an edit seamless, the *jump cut* edit is intentionally jarring and can be used to condense time. Instead of using multiple shots that are taken from significantly different angles, this technique cuts from one angle to a similar angle (or even a later point within the same

shot), thereby disrupting the temporal or spatial continuity of a scene. This gives the viewer a sense of jumping forward in time, which can create tension and be unsettling. The car scene in Jean-Luc Godard's *Breathless* is a classic example of the jump cut ([www.youtube.com, “À bout de souffle \[Breathless\] Jean Luc Godard Car Scene” at 0:12](http://www.youtube.com, 'À bout de souffle [Breathless] Jean Luc Godard Car Scene' at 0:12)). The character Patricia (seen in another scene in Figure 10.26) is riding in a car and is filmed from the same camera position behind her to the left. We see her with her hands in her lap when, all of a sudden, the film cuts to her looking into a small mirror. The action of raising the mirror is missing; the scene jumps from one moment in the action to the other with an obvious gap.



▲ 10.26 JEAN-LUC GODARD, DIRECTOR. Film still from *Breathless* (1960).



a.



b.

10.27 ALFRED HITCHCOCK, DIRECTOR. Film stills from *Psycho* (1960).

A *match cut*, also known as a *graphic match*, is an edit between two different objects that share similar visual qualities, such as shape. By cutting from a shot of one object to a shot of another similarly shaped object, a metaphorical connection can be made between them that wouldn't be obvious otherwise. An example of this is seen in the shower scene in Alfred Hitchcock's *Psycho* (<http://movieclips.com>,

"*Psycho* 'The Shower' " at 2:05), in which a close-up shot of the round shower drain is juxtaposed with a close-up shot of the dying woman's round eye. Two stills from the shower scene are featured in [Figure 10.27](#).

Parallel action editing employs the technique of *cross-cutting*, the act of cutting back and forth between two different scenes, thereby interweaving them and creating a



a.



b.



c.

meaningful connection between them. *Cross-cutting* can create the illusion that both scenes are happening simultaneously, even if they are in different locations.

The term *montage* refers to the technique of combining multiple, seemingly disparate shots into a cohesive sequence. The type of logic that is applied to montage editing exists outside the logic of temporal or spatial realism. Through *montage*, multiple spaces and time periods can be spliced together to create a new narrative connection between them. A montage sequence has a special opportunity to collapse time by jumping from moment to moment, allowing days, weeks, or years to take place within only a few seconds or minutes of screen time. Montage appeared first in Sergei Eisenstein's influential and critically acclaimed film *The Battleship Potemkin* (Fig. 10.28). The "Odessa Steps" sequence, in which Tsarist soldiers massacre Odessa civilians, is one of the most well-known scenes in the history of film.

ANIMATION Animation creates the illusion of movement through the manipulation and duplication of, for example, drawings, computer-generated images, or clay figures. In traditional animation, each drawing differs slightly from the one preceding it, just as with photographs in early cinematography. Today computer graphics techniques are generally used to take one image and then modify it from frame to frame to create the illusion of movement more efficiently. Images used in animation can be generated entirely by computer. Sometimes they are inserted into filmed or videotaped environments in such a way as to mix art with reality (Fig. 10.29).



▲ 10.29 SETH MACFARLANE, DIRECTOR. Film still from *Ted* (2012).

< 10.28 SERGEI EISENSTEIN, DIRECTOR. "Odessa Steps" sequence from *The Battleship Potemkin* (1925).



▲ 10.30 BRAD BIRD, DIRECTOR. Film still from *The Incredibles* (2004).

Many film studios use animation and computer graphics and styles vary widely, from Disney and Pixar's groundbreaking animated film *The Incredibles* (Fig. 10.30), to the more recent *Frozen* (Fig. 10.31). Tim Burton's *Corpse Bride* (Fig. 10.32) incorporated puppets constructed of stainless-steel armatures covered with foam latex or silicone. The puppets' movements were created using the tedious process of stop-motion animation. Photographs were taken with commercial digital still photography cameras and the editing was done using Apple's Final Cut Pro. According to *Corpse Bride* trivia, it took the ani-



▲ 10.31 Film still from *Frozen* (2013).



10.32 TIM BURTON, DIRECTOR. Film still from *The Corpse Bride* (2005).



a.



b.

10.33 WES ANDERSON, DIRECTOR. *Fantastic Mr. Fox* (2009). The director at work on the set (a), and film still (b).

mators twenty-eight separate shots just to make the bride blink. A very different effect was achieved using the same process of stop-motion animation in Wes Anderson's *Fantastic Mr. Fox* (Figs. 10.33A and 10.33B).

Varieties of Cinematographic Experience

No discussion of cinematography can hope to recount adequately the richness of the motion-picture experience. Broadly speaking, motion pictures are visual experiences that entertain or move us. For example, as in novels, we identify with characters and become wrapped up in plots. Like other artists, cinematographers make us laugh (consider the great films of the Marx Brothers and Laurel and Hardy); create propaganda, satire, social commentary, fantasy, and symbolism; express artistic theories; and reflect artistic styles. Let us consider some of these more closely.

PROPAGANDA Although there are some early (and choppy) film records of World War I, cinematography was ready for World War II. In fact, while many American actors were embattled in Europe and the Pacific, former president Ronald Reagan was making films for the United States that depicted the valor of the Allied soldiers and the malevolence of the enemy.

Our adversaries were active as well. Before the war, German director Leni Riefenstahl made what is considered one of the greatest (though also most



▲ 10.34 LENI RIEFENSTAHL, Film still from *Triumph of the Will* (1936).

pernicious) propaganda films of all time, *Triumph of the Will* (Fig. 10.34). Riefenstahl transformed the people and events of a historic event, the 1935 Nuremberg Congress, into abstract, symbolic patterns through the juxtaposition of longshots and close-ups, and aerial and ground-level views. Her montage of people, monuments, and flag-bedecked buildings unified flesh and stone into a hymn to Nazism. The United States, England, Canada, and some other nations paid a back-handed compliment to the power of *Triumph of the Will* by banning it.

SATIRE Satire is the flip side of propaganda. Although Riefenstahl glorified national socialism in Germany, American filmmakers derided it. In one cartoon, for example, Daffy Duck clubs a realistic-looking, speechifying Adolf Hitler over the head with a mallet. Hitler dissolves into tears and calls for his mommy. British American filmmaker Charlie Chaplin added to the derision of the Führer in *The Great Dictator* (Fig. 10.35). The film and television series *M*A*S*H* was set during the Korean War, but it satirized authoritarianism through the ages.

SOCIAL COMMENTARY Filmmakers, like documentary photographers, have made their social comments. *The Grapes of Wrath* (Fig. 10.36), based on the John Steinbeck novel, depicts one family's struggle for survival during the Great Depression, when the banks failed and the Midwest farm basket of the United States turned into



▲ 10.35 CHARLES CHAPLIN, Film still from *The Great Dictator*.



▲ 10.36 JOHN FORD, Film still from *The Grapes of Wrath*.



▲ 10.38 SALVADOR DALÍ AND LUIS BUÑUEL, Film still from *Un Chien Andalou* (1928).



▲ 10.37 ROBERT WIENE, Film still from *The Cabinet of Dr. Caligari* (1919).

the Dust Bowl. Like a Dorothea Lange photograph, the camera comes in to record hopelessness and despair. Cinematographers have commented on subjects as varied as divorce (*Divorce, American Style*); civil war in Southeast Asia (*The Killing Fields*); and the excesses of Wall Street (*Wall Street*).

FANTASY Fantasy and flights of fancy are not limited to paintings, drawings, and the written word. In the experimental films of Robert Wiene and Salvador Dalí and Luis Buñuel, events are not confined to the material world as it is; they occupy and express the innermost images of the cinematographer. The sets for Wiene's *The Cabinet of Dr. Caligari* (Fig. 10.37) were created by three painters who employed Expressionist devices such as angular, distorted planes and sheer perspectives. The hallucinatory backdrop removes the protagonist, a carnival hypnotist who causes a sleepwalker to murder

people who displease him, from the realm of reality. The muddy line between the authentic and the fantastic is further obscured by the film's ending, in which the hypnotist becomes a mental patient telling an imaginary tale. (It is akin to the ravings of the mad Salieri, who, through flashbacks, recounts his actual and fantasized interactions with Mozart in the film *Amadeus*.)

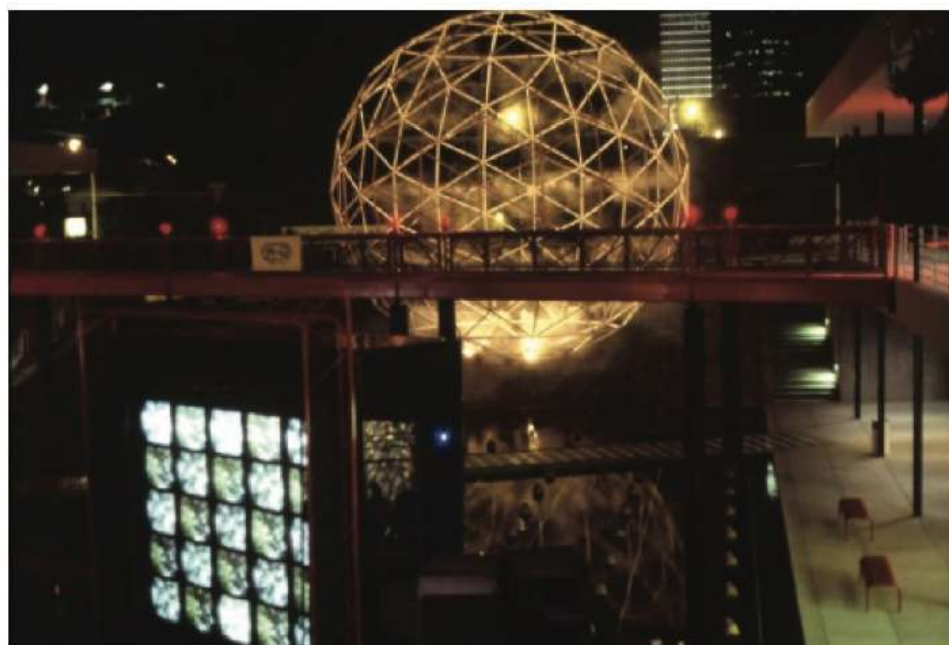
Caligari has a story, albeit an unusual one, but Dalí and Buñuel's surrealist *Un Chien Andalou* (Fig. 10.38) has a script (if you can call it a script) without order or meaning in the traditional sense. In the shocking opening scene, normal vision is annulled by the slicing of an eyeball. The audience is then propelled through a series of disconnected, dreamlike scenes.

SYMBOLISM In writing about *Un Chien Andalou*, Buñuel claimed that his aims were to evoke instinctive reactions of attraction and repulsion in the audience, but that nothing in the film *symbolized* anything.³ Fantastic cinematographers often portray their depths of mind literally. They create on the screen the images that dwell deep within their minds. Other cinematographers, such as Ingmar Bergman, frequently express aspects of their inner world through symbols.

VIDEO

The medium of **video** is in principle similar to that of film, but it records and plays back images differently. As with film cameras, video cameras capture and record a series of still images that are then constructed into a moving picture. With video, sights and sounds are *digitized*—that

³ Luis Buñuel, "Notes on the Making of *Un Chien Andalou*," in *Art in Cinema*, a symposium held at the San Francisco Museum of Art (repr., New York: Arno Press, 1968).



▲ 10.39 DARA BIRNBAUM, *Rio Videowall* (1989). Installation view of videowall in the public piazza at the Rio Shopping/Entertainment Complex, Atlanta, Georgia.

is, they are transformed into electronic messages in the form of lengthy codes (a pattern of ones and zeros). The information is stored (as on videotape or memory cards) or transmitted through the air (broadcast) or via cable. Ultimately, the digitized information is projected on a surface or received and displayed on a monitor that transforms it into visual images that consist of hundreds of lines of light and dark and color. The more lines there are, the higher the **resolution** or sharpness of the picture will be. As with film, the viewer is shown a series of still images in rapid succession—fleeting images that create the illusion of movement and the passage of time.

Video as a medium, distinguished from the commercial efforts of the television establishment, was introduced in the 1960s. Almost thirty years later, Dara Birnbaum addressed the relationship between television and video art, between the media and its mass-culture consumerism on the one hand and the discourse of contemporary art on the other. *Rio Videowall* (Fig. 10.39), an interactive public work of art commissioned by the developers of the Rio Shopping/Entertainment Complex in Atlanta, Georgia, consists of twenty-five monitors arranged in a five-by-five-foot grid, in which individual moving images are unified into a single, although shifting composition. Movement of the shoppers triggers a change of imagery on the screens that includes snippets of live news feeds juxtaposed with an almost nostalgic reflection on nature at its most pristine—the land before the onslaught of the shopping mall.



▲ 10.40 BILL VIOLA, *The Crossing* (1996). Two-channel color video and stereo-sound installation, continuous loop 192" × 330" × 684". Solomon R. Guggenheim Museum, New York, New York.

The role of the artist has to be different from what it was fifty or even twenty years ago. I am continually amazed at the number of artists who continue to work as if the camera were never invented, as if Andy Warhol never existed, as if airplanes, and computers, and videotape were never heard of.

— KEITH HARING

Just as the Lumière brothers used film primarily as a documentary medium, artists first used video to record and document performances that were site specific and of limited duration. And just as Melies favored fantasy over reality in his early artistic films, generations of contemporary artists have appropriated video as their medium in the creation of works of art—video art.

Bill Viola's *The Crossing* (Fig. 10.40) is a video/sound installation that engulfs the senses and attempts to transport the viewer into a spiritual realm. In this piece, the artist simultaneously projects two video channels onto separate 16-foot-high screens or on the back and front of the same screen. In each video, a man enveloped in darkness appears and approaches until he fills the screen. On one channel, a fire breaks out at his feet and grows until the man is apparently consumed in flames (the content is not what we would call graphic or disturbing, however). On the other channel, the one shown here, drops of water fall onto the man's head, develop into rivulets,

and then inundate him. The sound tracks accompany the screenings with audio of torrential rain and of a raging inferno. The dual videos wash over the viewer with their contrasts of cool and hot colors and their encompassing sound. Critics speak about the spiritual nature of Viola's work, but it is also about the here-and-now reality of the sensory experiences created by his art form.

By contrast, Gillian Wearing often incorporates a documentary style in her video art. In the multiscreen *Family History* (Fig. 10.41), she juxtaposes footage from a 1974 BBC documentary series called *The Family* with a present-day interview with an original cast/family member, along with a staged narrative in which someone posing as a young Gillian Wearing is watching the old TV show. The work invites reflection on the definition of reality and the limitations of the documentary genre. It also penetrates the relationship between the private and public realms, of intimate family dynamics with spectatorship.



▲ 10.41 GILLIAN WEARING, *Family History* (2006). Shown at Brindley House, Newhall Street, Birmingham, England.

Video and interactive systems became a means of following the trail of personal history.
That gave me the clue to my real place in the cultural context.

—LYNN HERSHMAN

DIGITAL ARTS

Most readers have toyed with applications (apps) such as Microsoft's Paint or Paintbrush or Apple's iPhoto or iMovie. Software such as this enables the user—artistic or otherwise—to create illustrations by manipulating shapes, drawing “freehand,” “spray painting” color fields, or enhancing images with a variety of textural patterns—all of which are selected by directing the mouse to a menu of techniques and design elements. The

CONNECTIONS Lynn

Hershman's *Digital Venus* appropriates Titian's Renaissance painting, *Venus of Urbino*.



▲ Titian's *Venus of Urbino*
(Fig. 17.24)

resultant shapes or drawings can be flipped and rotated or stretched in any direction. Other programs enable users to manipulate digital photographs and edit videos. One can do some photo editing even in Microsoft's *Word* program. And in today's computer-tech-savvy environment, it is no longer unusual even for teenagers to be familiar with Adobe Photoshop software. Artistic results are only a point-and-click away.

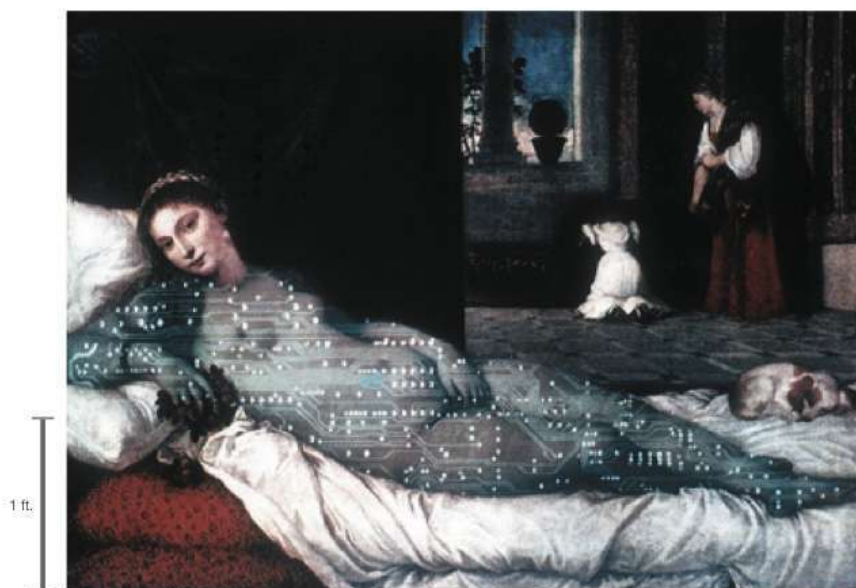
Computer graphics software programs offer palettes of millions of colors, which can be selected and produced on the monitor almost instantaneously. Compositions can be recolored in seconds. Effects of light and shade and simulated textured surfaces can be produced with the point and click of a mouse. Software programs enable artists to create three-dimensional representations with such astounding realism that they cannot be distinguished from photos or films of real objects in space. They can be viewed from any vantage point and in any perspective. Images can be saved or stored in any stage of their development, be brought back into the computer's memory at will, and modified as desired, without touching the original image. It is difficult to believe that these images are stored in computers as series of zeroes and ones, and not as pictures, but they are.

Broadly speaking, digital art is the production of images by artists with the assistance of the computer. Ruane Miller's *Blue Door* (Fig. 10.42) begins with a photograph taken by the artist that is then altered using Photoshop painterly manipulations and compositing techniques. She is “interested in creating a coherent image with a convincing reality, though, after all . . . a virtual reality.” Describing her work, Miller notes “harmony, tension, complexity and counterbalance in the use of color, detail, and form are basic to the structure of [her] images.”

Artists not only appropriate the technology of the day, but they also appropriate images that have special meaning within a culture. Lynn Hershman's *Digital Venus* (Fig. 10.43) starts with Titian's Renaissance painting *Venus of Urbino* (see Fig. 17.24) and substitutes digital imagery



▲ 10.42 RUANE MILLER, *Blue Door* (2008). Archival limited edition digital print, 38" × 22 1/4".



▲ 10.43 LYNN HERSHMAN, *Digital Venus* (1996). Iris print, 40 1/4" × 59 3/4".

for the sumptuous glazes that Titian used to define the body. Many of Hershman's works comment on the voyeurism we find in the video medium, and *Digital Venus* is a way of showing how frequently the images that affect us are actually composed of pixels—microscopic bits of digital information that fool our senses into believing we are connecting with a corporeal reality. And like the work of Dara Birnbaum, *Digital Venus* addresses feminist issues pertaining to the male gaze and the exploitation of women.

Artists are now only scratching the surface of digital art as a medium. Art courses in digital arts and interactive multimedia have never been more in demand. Just as photography was once termed a “democratizer” in the visual arts—enabling anyone with a camera to capture nearly anything he or she sees—so has the ubiquitousness of the digital camera and computer opened the door to limitless experimentation by artists and amateurs alike.

The relative accessibility to nonartists of technology and software that will yield “artistic results” has spawned any number of manipulated digital photographs and videos appearing on social media websites. Apple's iPhoto, for example, allows you to take a picture of yourself and then transform it with options such as “Color Pencil,” “Comic Book,” or even “Pop Art”—which renders a single

image into multiples in a grid that is a throwback to Andy Warhol. It is no surprise, then, that contemporary artists are creating works in mediums that narrow the gap, as it were, between them and the rest of us who are simply seeking some way of expressing ourselves. Portuguese-born artist Jorge Colombo creates his so-called fingerpaintings (Fig. 10.44) on an Apple iPad, using an App called “Brushes.” Because of the responsiveness of the App to quick, loose drawing, Colombo has used his device, on location, as an electronic sketchbook and diary of his impressions of New York City. Some of these drawings, which have garnered much attention and recognition as covers for *The New Yorker* magazine, are printed with special programs that allow for high-resolution large-format images.



➤ 10.44 JORGE COLOMBO, *42nd Street* (2009). Finger painting (using Brushes on Apple iPad), pixel dimensions: 1,024" × 768" (7.75" × 5.82"). Originally published as the June 2009 cover image in *The New Yorker*.

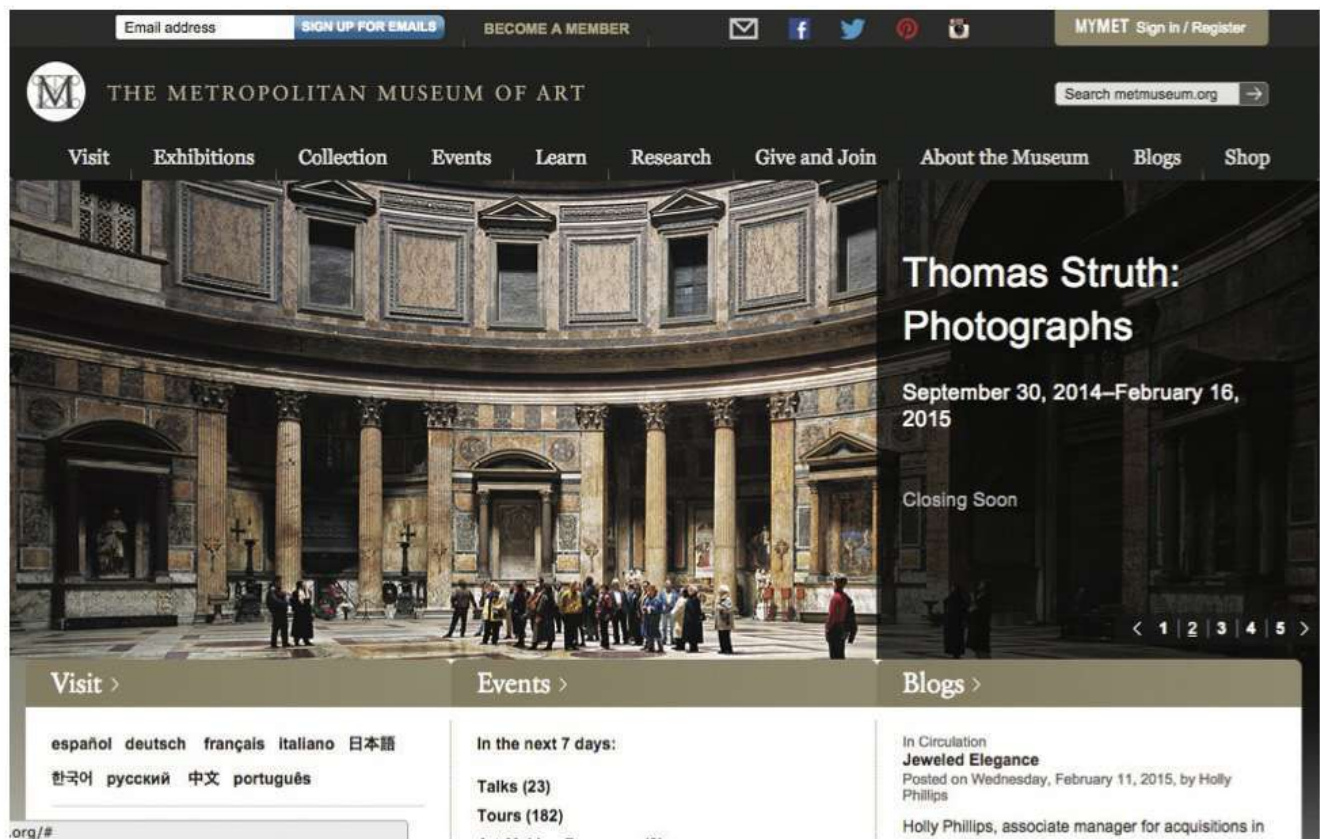
Web Design

Websites are an inextricable part of the information superhighway. Any of us cyberspace surfers can go online, access the website of a popular consumer magazine, and get the latest reviews on the new car we're drooling over. We can research without books, order books, book reservations, and bid on a special reserve wine. Part of what keeps us from surfing away from a website is the visual feedback we obtain when we click onto it. The better the website's design, the more tantalizing the product or service it offers; this is not lost on the millions of businesses, organizations, agencies, and individuals for whom the website is the electronic face perceived by the consumer, their first impression.

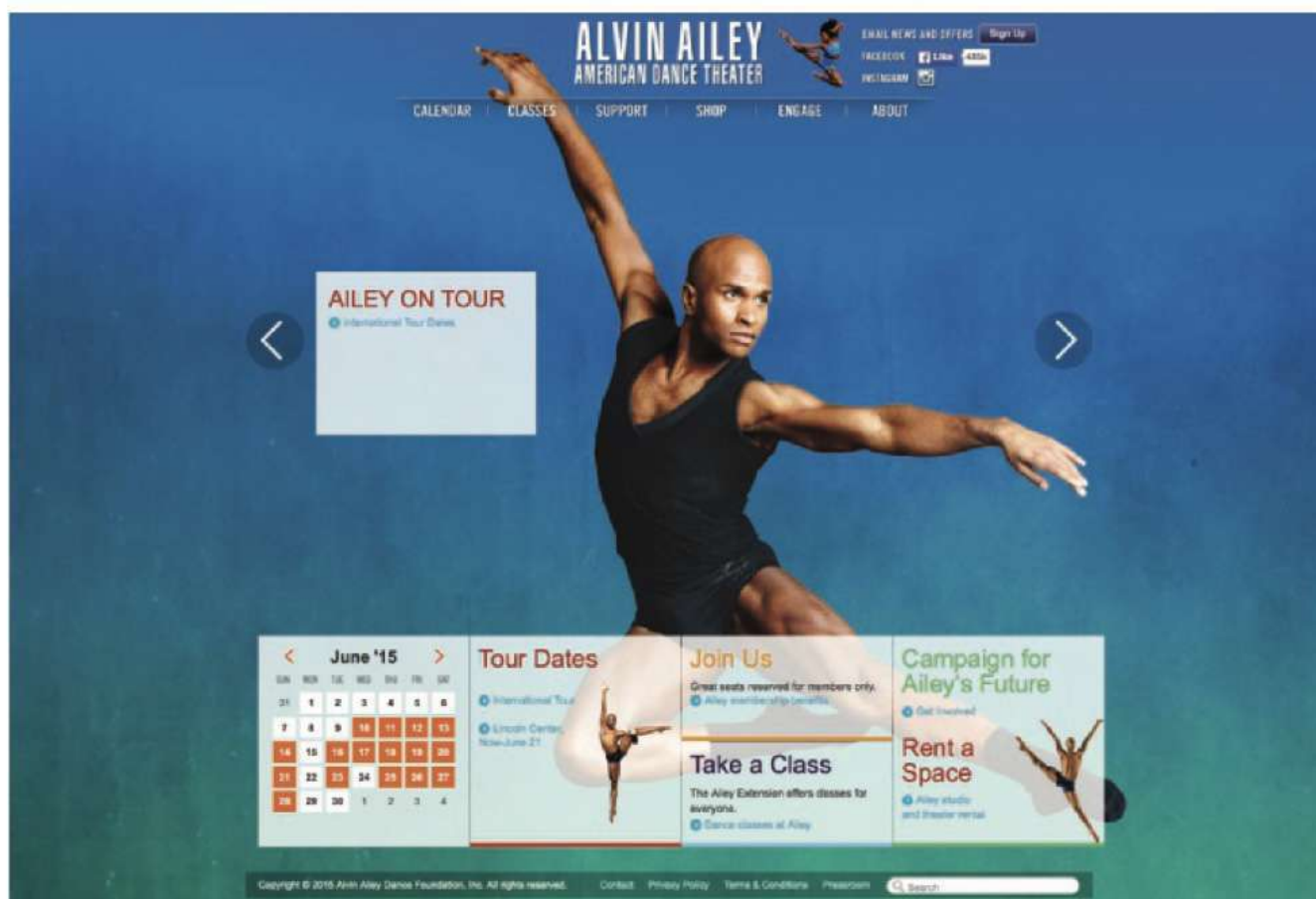
Web design has two key tasks. One is technical and involves programming—how users click their way around a web page, how links to other pages and sites are established, and how to insert still images or animated clips and sound. The other is aesthetic, encompassing art and design.

Art museums are among the organizations that can be accessed through websites. The home page of the website of the Metropolitan Museum of Art (Fig. 10.45) (www.metmuseum.org) includes a rotating group of appealing photographs of art or art exhibitions. The website informs you of current exhibitions, allows you to view many of the works in the collection, and includes links to pedagogical tools such as an invaluable timeline of art history. The more mundane but essential information about museum hours and current exhibits is reliably posted, but the functionality of the web design almost pales in comparison to its ability to transport virtual visitors to one of the world's great cultural centers from the comfort of their ergonomically designed computer chairs.

You can visit Google's Art Project (www.google.com/culturalinstitute/project/art-project) to view collections from various participating museums online and to create your own virtual galleries. Through Street View in Google Maps, you can enter participating museums and other cultural sites to navigate gallery spaces.



▲ 10.45 Website: Home page of the Metropolitan Museum of Art, www.metmuseum.org.



▲ 10.46 Website: Alvin Ailey American Dance Theater.

As you surf the web, you have no doubt been struck by the endless variety, quality, and quantity of web design—from sophisticated to tacky, from “high art” to “low art.” I, like you, come across interesting websites almost every day, so it was hard to settle for just one or two to highlight in this chapter among the wealth of riches and rags. Some current faves include the website for the Alvin Ailey American Dance Theater in New York City (known for its brilliant, mind-and-body-stretching choreography) (Fig. 10.46). This and other websites feature hot spots that the user can click on to go to related web pages and retrieve information.

Web design is a big business, and many graphic designers set up shop in this realm. Students can now take web design in their college courses, whereas the rest of us can learn about it in how-to books such as *Web Design for Dummies*. Many individuals, like organizations, upload their photos and videos to social media. Social and business media serve as anything from electronic business cards to ways for families to keep in touch. Cyberspace collapses the distance between us and the important people in our lives; it also connects us with the great art of the world.