By deliberately permitting too much light to enter the aperture of the camera, a film-maker can overexpose an image—producing a glaring flood of light over the entire surface of the picture. **Overexposure** has been most effectively used in nightmare and fantasy sequences. Sometimes this technique can suggest a kind of horrible publicity, a sense of emotional exaggeration.

Color

Color in film didn't become commercially widespread until the 1940s. There were many experiments in color before this period, however. Some of Méliès's movies, for example, were painted by hand in assembly line fashion, with each painter responsible for coloring a minute area of the filmstrip. The original version of *The Birth of a Nation* (1915) was printed on various tinted stocks to suggest different moods: The burning of Atlanta was tinted red, the night scenes blue, and the exterior love scenes pale yellow.

Sophisticated film color was developed in the 1930s, but for many years a major problem was its tendency to prettify everything. If color enhanced a sense of beauty—in a musical or a historical extravaganza—the effects were often appropriate. Thus, the best feature films of the early years of color were usually those with artificial or exotic settings. Realistic dramas were thought to be unsuitable vehicles for color. The earliest color processes tended also to emphasize garishness, and often special consultants had to be called in to tone down the color schemes of costumes, makeup, and decor.

Furthermore, each color process tended to specialize in a certain base hue—red, blue, or yellow, usually—whereas other colors of the spectrum were somewhat distorted. It was well into the 1950s before these problems were resolved. Compared with the subtle color perceptions of the human eye, however, and despite the apparent precision of most present-day color processing, cinematic color is still a relatively crude approximation.

Color tends to be a subconscious element in film. It's strongly emotional in its appeal, expressive and atmospheric rather than intellectual. Psychologists have discovered that most people actively attempt to interpret the lines of a composition, but they tend to accept color passively, permitting it to suggest moods rather than objects. Lines are associated with nouns; color with adjectives. Line is sometimes thought to be masculine; color feminine. Both lines and colors suggest meanings, then, but in somewhat different ways.

Since earliest times, visual artists have used color for symbolic purposes. Color symbolism is probably culturally acquired, though its implications are surprisingly similar in otherwise differing societies. In general, cool colors (blue, green, violet) tend to suggest tranquility, aloofness, and serenity. Cool colors also have a tendency to recede in an image. Warm colors (red, yellow, orange) suggest aggressiveness, violence, and stimulation. They tend to come forward in most images.

Black-and-white photography in a color film is sometimes used for symbolic purposes. Some filmmakers alternate whole episodes in black and white with entire sequences in color. The problem with this technique is its corny symbolism. The jolting black-and-white sequences are too obviously "significant" in the most arty sense. A more effective variation is simply not to use too much color, to let black and white predominate. In De Sica's *The Garden of the Finzi-Continis*, which is set in Fascist Italy, the early portions of the movie are richly resplendent in shimmering golds, reds, and almost every shade of green. As political repression becomes more brutal, these colors almost imperceptibly begin to wash out, until near the end of the film the images are dominated by whites, blacks, and blue-grays. A similar technique is used in *Life Is Beautiful* (**1–22c**).
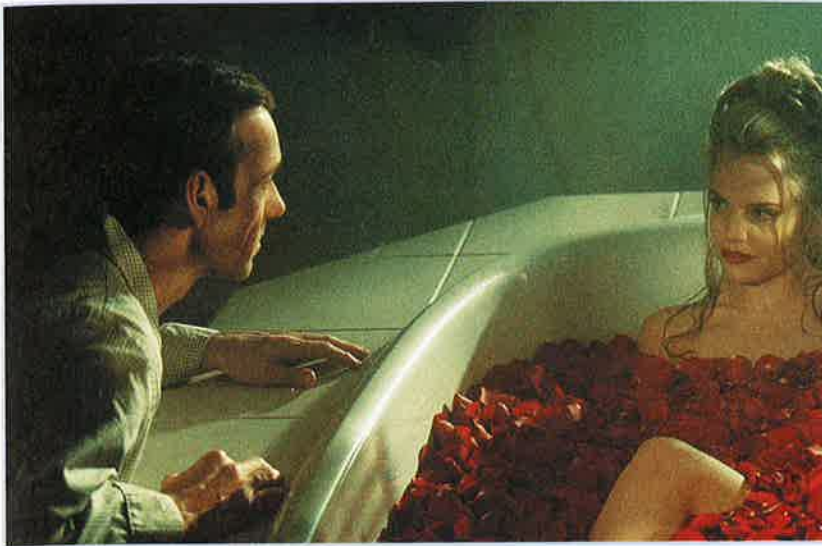
1–21a *American Beauty* **(U.S.A., 1999),** with Kevin Spacey and Mena Suvari, directed by Sam Mendes.

Red is a color that's often linked with sex, but the dramatic context determines whether the red (and the sex) is seductive or repellent. In this film, the unhappily married protagonist (Spacey) escapes the banality of his suburban hell by fantasizing about a flirtatious teenager (Suvari), a friend of his daughter. He often imagines her nude, covered with red rose petals—a startling metaphor of his fiercely aroused sexuality, his reawakening manhood. *(DreamWorks Pictures)*

1–21b *Savage Nights* **(France, 1993),** with Cyril Collard and Romane Bohringer, directed by Collard.

But red is also the color of danger. Of violence. Of blood. Blood is a major transmitter of HIV, a precursor of AIDS. This movie explores the sadomasochistic behavior of an HIV-positive bisexual (Collard) who has unprotected sex with two lovers, including Bohringer. Maybe she's color blind. *(Gramercy Pictures)*

1-22a *The Age of Innocence* (U.S.A., 1993), with Michelle Pfeiffer and Daniel Day-Lewis, directed by Martin Scorsese.

Bright colors tend to be cheerful, so directors often desaturate them, especially if the subject matter is sober or grim. Based on the great American novel by Edith Wharton, this movie explores a forbidden love among New York's upper crust in the 1870s. The film's images seem almost washed in sepia, like faded photos. The colors are tastefully subdued, correct, almost repressed, reflecting the conservative values of the society itself.   *(Columbia Pictures)*

1-22b *The Godfather* (U.S.A., 1972), with Marlon Brando (red rose), directed by Francis Ford Coppola.

The Godfather was photographed by the great Gordon Willis, who is famous for his low-key lighting magic. The colors are not only subdued, they're suffocating in airless dark rooms. In this shadowy world, only an occasional wisp of color is allowed to escape—a vibrant red rose, pale yellow light filtering discreetly through the blinds, a few splotches of mottled flesh tones. The rest is darkness. *(Paramount Pictures)*

1–22c *Life Is Beautiful* (Italy, 1998), with Roberto Benigni, directed by Benigni.

This movie begins as a slapstick comedy, and the colors are warm and sunny, typical of Mediterranean settings. But as the Nazi Holocaust spreads southward, our hero, an Italian Jew (Benigni), is arrested and shipped to a German concentration camp by rail (pictured). The colors begin to pale. Once inside the death camp, virtually all the color is drained from the images. Only a few faded flickers of skin tones occasionally punctuate the ashen pallor of the camp and its prisoners. *(Miramax Films)*

1–22d *Letters from Iwo Jima* (U.S.A., 2006), with Ken Watanabe, directed by Clint Eastwood.

This movie, a companion film to Eastwood's *Flags of Our Fathers* (see 9–19a), also centers on the brutal 36-day battle for a tiny Japanese island near the end of Wolrd War II. Over 7,000 Americans lost their lives in that battle, but the Japanese force of over 20,000 was virtually wiped out. Watanabe plays a stoic general who knows full well that without backup to help them, his troops are doomed. Note how the color is drained from the image. The two Japanese flags, ordinarily vibrant with their bright red sunburst motifs, look as though they have been bled of their vitality, sickly remnants of their former glory. *(Warner Bros.)*

In the 1980s, a new computer technology was developed, allowing black-and-white movies to be "colorized"—a process that provoked a howl of protest from most film artists and critics. The colorized versions of some genres, like period films, musicals, and other forms of light entertainment, are not damaged too seriously by this process, but the technique is a disaster in carefully photographed black-and-white films, like *Citizen Kane*, with its **film noir** lighting style and brilliant deep-focus photography (see Chapter 12, "Synthesis: *Citizen Kane*").

Colorization also throws off the compositional balance of some shots, creating new **dominants.** In the shot from *Dark Victory* (**1–23c**), for example, the dominant is Brent's blue suit, which is irrelevant to the dramatic context. In the original black-and-white version, Davis is the dominant, her dark outfit contrasting with the white fireplace that frames her figure. Distracting visual dominants undercut the dramatic impact of such scenes. We keep thinking Brent's suit *must* be important. It is, but only to the computer.

1–23a *johns* **(U.S.A., 1996),** with David Arquette and Lukas Haas, directed by Scott Silver.

Color clichés. In order to avoid being predictable, imaginative filmmakers often torpedo popular stereotypes by using color antiromantically. Movies set in Hollywood usually emphasize its lush glamour, but *johns* explores the world of two street prostitutes (pictured) as they crisscross the dusty side streets of an unfamiliar Hollywood, bleached under the scorching sun. This is not the Tinseltown of tourist brochures but the real-life boulevard of broken dreams. In this photo, the predominant color is white—hot, glaring, pitiless. Note the almost total absence of green vegetation. *(First Look Pictures)*

1–23b *Four Weddings and a Funeral* **(Britain, 1994),** with Andie MacDowell and Hugh Grant, directed by Mike Newell.

This romantic comedy goes to extreme lengths to avoid being sappy and sentimental. Hence this weird concluding scene of love triumphant at last, which takes place in a cold London downpour, blue with shivers and shudders and chill. *(Gramercy Pictures)*

1-23c *Dark Victory* **(U.S.A., 1939),** with Bette Davis and George Brent, directed by Edmund Goulding, "colorized" by Turner Entertainment.

"Tell me the truth now. Do you think this suit is *too* blue? Not blue enough?" *(Warner Bros./Turner Entertainment)*

1-24 *Starman* **(U.S.A., 1984),** with Karen Allen and Jeff Bridges, directed by John Carpenter.

Not every shot in a movie is photographed in the same style. Many of the earlier portions of this sci-fi film are photographed in a plain, functional style. After the earthling protagonist (Allen) falls in love with an appealing and hunky alien (Bridges), the photographic style becomes more romantic. The city's lights are etherealized by the shimmering **soft-focus** photography. The halo effect around the lovers' heads reinforces the air of enchantment. The gently falling snowflakes conspire to enhance the magical moment. These aren't just lovers, these are soul mates. *(Columbia Pictures)*

Lenses, Filters, and Stocks

Because the camera's lens is a crude mechanism compared to the human eye, some of the most striking effects in a movie image can be achieved through the distortions of the photographic process itself. Especially with regard to size and distance, the camera lens doesn't make mental adjustments but records things literally. For example, whatever is placed closest to the camera's lens will appear larger than an object at a greater distance. Hence, a coffee cup can totally obliterate a human being if the cup is in front of the lens and the human is standing at long-shot range.

Realist filmmakers tend to use normal, or standard, lenses to produce a minimum of distortion. These lenses photograph subjects more or less as they are perceived by the human eye. Formalist filmmakers often prefer lenses and **filters** that intensify given qualities and suppress others. Cloud formations, for example, can be exaggerated threateningly or softly diffused, depending on what kind of lens or filter is used. Different shapes, colors, and light-

ing intensities can be radically altered through the use of specific optical modifiers. There are literally dozens of different lenses, but most of them are subsumed under three major categories: those in the standard (nondistorted) range, the telephoto lenses, and the wide angles.

The *telephoto lens* is often used to get close-ups of objects from extreme distances. For example, no cinematographer is likely to want to get close enough to a wolf to photograph a close-up with a standard lens (**1–11a**). In cases such as these, the telephoto is used, thus guaranteeing the safety of the cinematographer while still producing the necessary close-up. Telephotos also allow cinematographers to work discreetly. In crowded city locations, for example, passersby are likely to stare at a movie camera. The telephoto permits the cinematographer to remain hidden—in a truck, for example—while he or she shoots close shots through a windshield or window. In effect, the lens works like a telescope, and because of its long focal length, it is sometimes called a *long lens*.

Telephoto lenses produce a number of side effects that are sometimes exploited by directors for symbolic use. Most long lenses are in sharp focus on one distance plane only. Objects placed before or beyond that distance blur, go out of focus—an expressive technique, especially to the formalist filmmaker (**1–26a**). The longer the lens, the more sensitive it is to distances; in the case of extremely long lenses, objects placed a mere few inches away from the selected focal plane can be out of focus. This deliberate blurring of planes in the background, foreground, or both can produce some striking photographic and atmospheric effects.

The focal distance of long lenses can usually be adjusted while shooting, and thus, the director is able to neutralize planes and guide the viewer's eye to various distances in a sequence—a technique called **rack focusing,** or **selective focusing.** In *The Graduate,* director Mike Nichols used a slight focus shift instead of a cut when he wanted the viewer to look first at the young heroine, who then blurs out of focus, then at her mother, who is standing a few feet off in a doorway. The focus-shifting technique suggests a cause–effect relationship and parallels the heroine's sudden realization that her boyfriend's secret mistress is her own mother. In *The French Connection,* William Friedkin used selective focus in a sequence showing a criminal under surveillance. He remains in sharp focus while the city crowds of his environment are an undifferentiated blur. At strategic moments in the sequence, Friedkin shifts the focal plane from the criminal to the dogged detective who is tailing him in the crowd.

Long lenses also flatten images, decreasing the sense of distance between depth planes. Two people standing yards apart might look inches away when photographed with a telephoto lens. With very long lenses, distance planes are so compressed that the image can resemble a flat surface of abstract patterns. When anything moves toward or away from the camera in such shots, the mobile object doesn't seem to be moving at all.

The *wide-angle lenses,* also called **short lenses,** have short focal lengths and wide angles of view. These are the lenses used in deep-focus shots, for they preserve a sharpness of focus on virtually all distance planes. The distortions involved in short lenses are both linear and spatial. The wider the angle, the more lines and shapes tend to warp, especially at the edges of the image. Distances between various depth planes are also exaggerated with these lenses: Two people standing a foot away from each other can appear yards apart in a wide-angle image, like the side rearview mirror of an auto.

Movement toward or away from the camera is exaggerated when photographed with a short lens. Two or three ordinary steps can seem like gigantically lengthy strides— an effective technique when a director wants to emphasize a character's strength, dominance, or ruthlessness. The fish-eye lens is the most extreme wide-angle modifier. It creates such severe distortions that the lateral portions of the screen seem warped into a sphere, as though we were looking through a crystal ball.

Lenses and filters can be used for purely cosmetic purposes—to make an actor or actress taller, slimmer, younger, or older. Josef von Sternberg sometimes covered his lens with a translucent silk stocking to give his images a gauzy, romantic aura. A few glamour actresses beyond a certain age even had clauses in their contracts stipulating that only

1–26 Six Degrees of Exaggeration.

The lens of each of these six shots provides a commentary on the relationship of the characters to their surroundings.

1–26a *Running Scared* (U.S.A./Canada/Germany, 2006), with Paul Walker, directed by Wayne Kramer.

Some telephoto lenses are so precise they can focus on a thin slice of action that's only a few inches deep. Note how the gun and Walker's hand are radically blurred, as is the background behind him. Our eyes are forced to concentrate on the face of the character during a decisive moment of his life.   *(New Line Home Entertainment)*

1–26b *Cinderella Man* (U.S.A., 2005), with Russell Crowe and Renée Zellweger, directed by Ron Howard.

Telephoto lenses are often used to enhance the lyrical potential of an image. In this shot, the blurry background renders it supremely irrelevant to what matters most to these characters—each other. The telephoto lens, in effect, is a silent declaration of their total devotion.   *(Universal Studios)*

1–26c *Dark Blue* (U.S.A., 2003), with Michael Michele and Ving Rhames, directed by Ron Shelton.

A high-ranking police officer must break off his adulterous affair with his lover, a policewoman who is his subordinate. The lens forces us to focus on his feelings, while she is nearly obliterated by the soft focus, hardly worthy of our notice. If Shelton wanted to emphasize her feelings, Rhames would be in soft focus, and she in sharp. If the director wanted to stress the equality of their emotions, he would have used a wide angle lens, thus rendering them both in sharp focus.   *(United Artists)*

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1–26d *Schindler's List* **(U.S.A., 1993),** with Liam Neeson (outstretched arms), directed by Steven Spielberg.

Wide-angle lenses are used whenever deep-focus photography is called for. Objects a few feet from the lens as well as those in the "depth" of the background are in equal focus, reinforcing the interconnectedness of the visual planes. This movie deals with a German industrialist (Neeson) who saved the lives of hundreds of Jews during the Nazi Holocaust. Because deep focus allows for the repetition of visual motifs into infinity, Spielberg is able to suggest that Jews all over Europe were being herded in a similar manner, but their fate was not so lucky as Schindler's Jews. *(Universal Pictures)*

1–26e **Publicity photo of *Rumble in the Bronx* (U.S.A., 1996),** with Jackie Chan, directed by Stanley Tong.

Extreme wide-angle lenses exaggerate distances between depth planes, a useful symbolic technique. As distorted by the wide-angle lens, Chan's fist is nearly as large as his head and his feet seem to be standing in another county. *(New Line Cinema)*
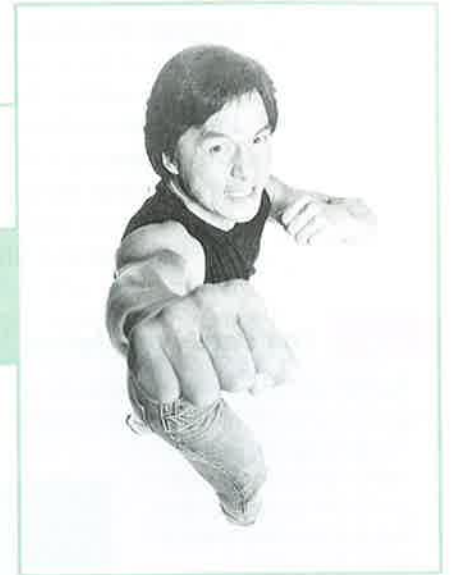
1–26f *A Cinderella Story* **(U.S.A., 2004),** with Hillary Duff and Chad Michael Murray, directed by Mark Rosman.

Check out the lights in the background. A shrewdly chosen filter makes them look blurry, floating dreamily like woozy fireflies. Do we need to hear the dialogue to know that these two are falling for each other? Do we need to be told that the movie is a romantic comedy? The filtered photography says it all. *(Warner Bros./Gaylord Films)*

beautifying soft-focus lenses could be used for their close-ups. These optical modifiers eliminate small facial wrinkles and skin blemishes.

There are even more filters than there are lenses. Some trap light and refract it in such a way as to produce a diamondlike sparkle in the image. Many filters are used to suppress or heighten certain colors. Color filters can be especially striking in exterior scenes. Robert Altman's *McCabe and Mrs. Miller* (photographed by Vilmos Zsigmond) uses green and blue filters for many of the exterior scenes, yellow and orange for interiors. These filters emphasize the bitter cold of the winter setting and the communal warmth of the rooms inside the primitive buildings.

Though there are a number of different kinds of film stocks, most of them fall within the two basic categories: fast and slow. **Fast stock** is highly sensitive to light and in some cases can register images with no illumination except what's available on location, even in nighttime sequences. **Slow stock** is relatively insensitive to light and requires as much as ten times more illumination than fast stocks. Traditionally, slow stocks are capable of capturing colors precisely, without washing them out.

Fast stocks are commonly associated with documentary movies, for with their great sensitivity to light, these stocks can reproduce images of events while they're actually occurring. The documentarist is able to photograph people and places without having to set up cumbersome lights. Because of this light sensitivity, fast stocks produce a grainy image in which lines tend to be fuzzy and colors tend to wash out. In a black-and-white film, lights and darks contrast sharply and many variations of gray can be lost.

Ordinarily, technical considerations such as these would have no place in a book of this sort, but the choice of stock can produce considerable psychological and aesthetic differences in a movie. Since the early 1960s, many fiction filmmakers have switched to fast stocks to give their images a documentary sense of urgency (**1–27**).

1–27 *The Battle of Algiers* **(Italy/Algeria, 1967),** directed by Gillo Pontecorvo.

Fast film stocks are highly sensitive to light and can record images with no additional illumination except what's available on a set or location. These stocks tend to produce harsh light-dark contrasts, an absence of details, and images so grainy that they can appear more painterly than linear. Fast stocks are especially effective in fiction films that purport to be realistic and documentary-like, such as Pontecorvo's grueling account of Algeria's bloody war of liberation from its French colonial masters. Many of its original audiences thought that the movie was a documentary compilation of authentic footage, complete with torture scenes (pictured). Its grainy images and shaky camera work produce a gripping sense of realism. The film was totally re-created, with not an inch of documentary footage added.   *(Rizzoli Films)*
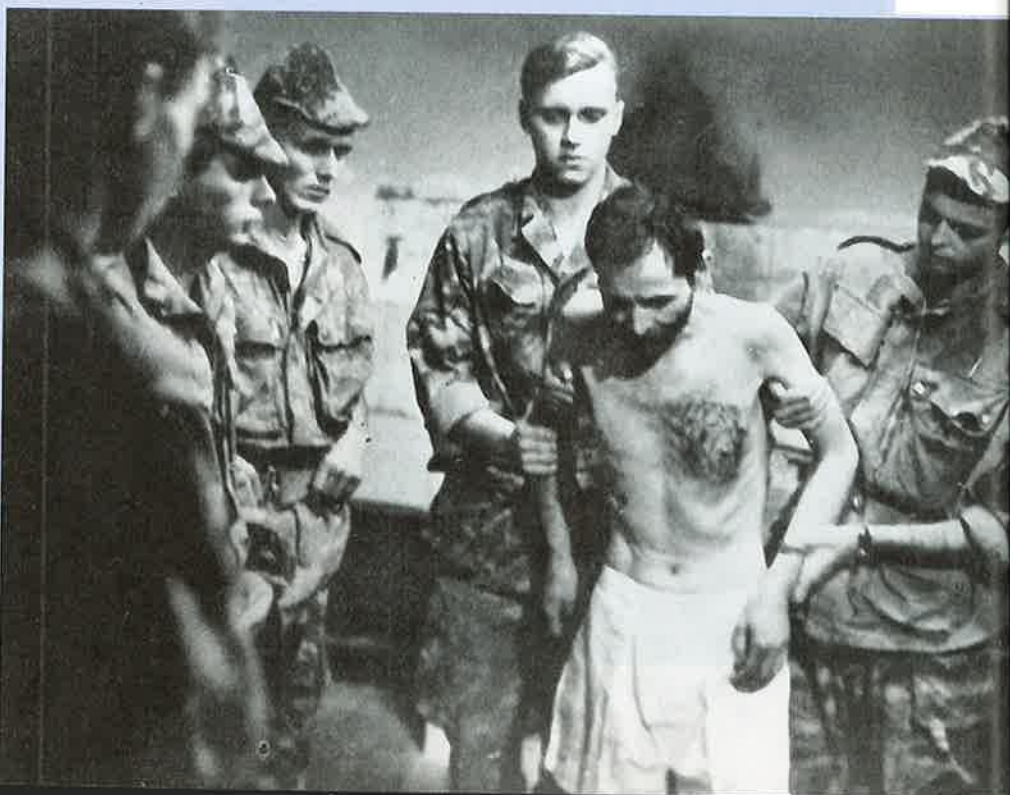
Special Effects

If William Shakespeare were alive today, he would be enthralled by the ability of computer-generated imagery (CGI) to create fantastic, brave new worlds, where the magical is commonplace. This digital technology, perfected in the 1990s, revolutionized special effects. Although it's very expensive, costing hundreds of thousands of dollars for only a few minutes of screen time, eventually CGI will save film producers millions.

In the past, whole scenes often had to be reshot because of technical glitches. For example, if a modern building or auto appeared in a period film, the scene had to be recut or even rephotographed. Today, such details can be removed digitally. So can a microphone that accidentally dips into the frame. Even sweat on an actor's face can be effaced by an F/X technician.

Computer-generated images can be stored for future use, when they can be digitally altered with new costumes, new backgrounds or foregrounds, or with a totally different atmosphere, as in the magical landscapes in *The Lord of the Rings* trilogy. In fact, physical sets don't even have to be constructed in some instances, since images containing the sets can be created on a computer.

Even realistic movies can benefit from this technology. In *Forrest Gump,* a handful of extras were digitally expanded into a cast of thousands. In the ultrarealistic Holocaust drama, *The Pianist,* the events take place during the World War II era, yet director Roman Polanski used CGI for several scenes—the bombed-out ruins of a city street, a character falling from a tall building, aircraft streaking across the skies.

Traditional animation, with its time-consuming, hand-drawn cel images, is being replaced by computers, which produce images that are created digitally, not *à mano.* CGI has produced a new "look" in animation, less detailed, more sculptural, more *plastique*—like the streamlined images of *Shrek* (**3–29b**), *The Polar Express* (**3–27b**), and *The Incredibles* (**3–28d**).

Acting has also been affected by this technology, though not usually in a positive way. In *Star Wars,* for example, actors often performed in front of F/X bluescreens rather than with other actors, who were later digitally added to the shot by computer
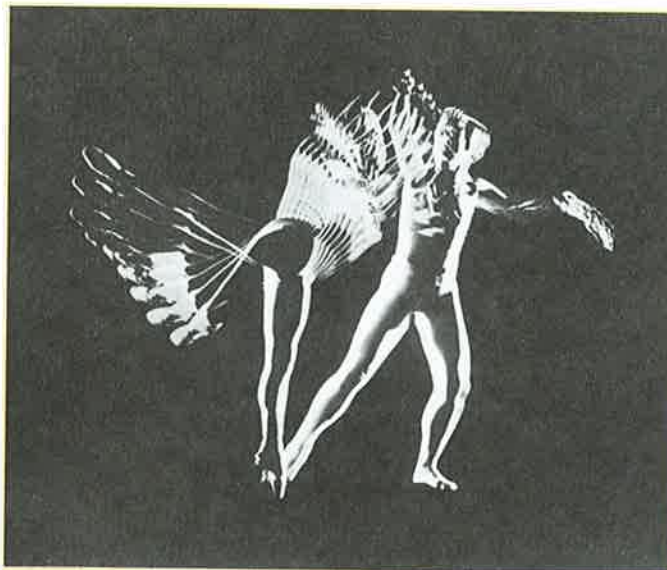
1–28 *Pas De Deux* **(Canada, 1968),** directed by Norman McLaren.

Prior to the perfection of computer-generated imagery, filmmakers relied primarily on a machine called the optical printer to create most special effects (or F/X, to use the industry lingo). For example, this film used a technique called chronophotography, in which the movements of two dancers are staggered and overlaid to produce a stroboscopic effect: As the dancers move, they leave a ghostly imprint on the screen, a haunting visual poetry. Today, the optical printer is virtually obsolete and has been replaced by digital and computer technologies. *(National Film Board of Canada)*

technicians. Some critics have complained that such acting is often cold and mechanical, with none of the human subtleties that can be found in scenes where performers are actually interacting.

Digital editing is also much easier than traditional methods. Instead of handling a physical filmstrip and making actual cuts, modern editors need only to press a button to cut from one shot to another.

In addition, CGI technology will eventually make film distribution and exhibition cheaper. Today, film prints can cost up to $2,000 apiece. A mainstream American movie can be shown simultaneously on 2,000 screens, costing $4 million just for the cost of prints. In the future, movies will be stored on digital disks, like a DVD, and will cost only a few dollars to manufacture. Distributors will also save on shipping fees. Instead of the heavy reels of traditional movies, costing thousands of dollars to ship by bus, plane, or rail, in the future, a lightweight disk will be sent to movie theaters for only a few dollars. Projection equipment will basically consist of a commercial DVD machine, not the cumbersome, expensive, mechanical projectors that have dominated film exhibition for over 100 years.

The biggest danger of this technology, of course, is that it will fall into the hands of moneygrubbing hacks with the artistic sensibilities of gnats. It's already happened. The

1-29 *The Matrix* **(U.S.A., 1999),** with Keanu Reeves and Hugo Weaving, written and directed by Andy and Larry Wachowski.

A winner of four Academy Awards for technical achievement, *The Matrix*, the first installment of a sci-fi trilogy (1999–2003), was choreographed by the Hong Kong martial arts maven, Yuen Wo Ping. The special effects supervisor was John Gaeta. The trilogy is profuse in gravity-defying stunts like people floating and hovering in the air, running up walls, moving in slow motion, and levitation fighting. In one scene, a battle is "frozen" while the camera swings around it. The F/X team also devised a technique called "bullet time," in which characters dodge gunfire in super-slow-motion vacuums. *The Matrix* trilogy is a veritable cornucopia of influences, including comic books, Hong Kong kung fu films, Western action films, Eastern mysticism, fairy tales, video games, Japanese *anime* (animation), cyberpunk, computer games, and traditional science fiction movies like *Blade Runner.* The entire enterprise was the brainchild of the Wachowski brothers, who maintained a remarkably unified vision of what they wanted the trilogy to look like. The cast and crew made frequent jokes that the brothers seem joined at the brain. Said actor Keanu Reeves: "They're one of the most sensitive people I've ever met." *(Warner Bros.)*

world's screens are dominated by soulless movies full of sound and fury, signifying nothing: pointless chases, explosions, gratuitous violence, explosions, lots of speed, explosions, and just for good measure, more explosions. The story is usually predictable, the acting bereft of nuance, the sentiments banal. But the special effects are impeccable. In short, film artists interested in F/X materials need to be just as talented as artists in any other style or genre or technology. It's what they do with the technology artistically that counts, not the technology per se.


1–30a *Multiplicity* **(U.S.A., 1996),** with (from left to right) Michael Keaton, Michael Keaton, Michael Keaton, and Michael Keaton; directed by Harold Ramis.

The American cinema has always been on the cutting edge of film technology, especially in the area of special effects. Computer-generated images have allowed filmmakers to create fantasy worlds of the utmost realism. In *Multiplicity,* for example, Keaton plays a man who has lost his wife and his job, and must clone himself in order to function effectively. Computer artist Dan Madsen created a film reality that obviously has no counterpart in the outside physical world. Critic Stephen Prince has observed that such technological advancements as computer-generated images have radically undermined the traditional distinctions between realism and formalism in film theory. See Stephen Prince, "True Lies: Perceptual Realism, Digital Images, and Film Theory," in *Film Quarterly* (Spring, 1996). *(Columbia Pictures)*

1–30b **Publicity photo of actress Naomi Watts and director Peter Jackson behind the scenes of *King Kong* (U.S.A., 2005).**

Naomi Watts's most important costar, a 25-foot-tall, 8,000-pound silverback gorilla, was nonexistent. He was created with special effects, yet seems extraordinarily lifelike, almost human. Kong was begotten by computers and bluescreen technology, produced by Weta Digital, Ltd. Joe Letteri, the visual effects supervisor, explained: "We created a system that's based on emotional states. It depends on us figuring out all the muscles of the face and understanding the correspondence between a human facial system and a gorilla facial system. What that allows us to do is to look at how muscles work together to create believable expressions." The results were both fantastic and startlingly real—see Figure 11–25b. *(Universal Studios)*
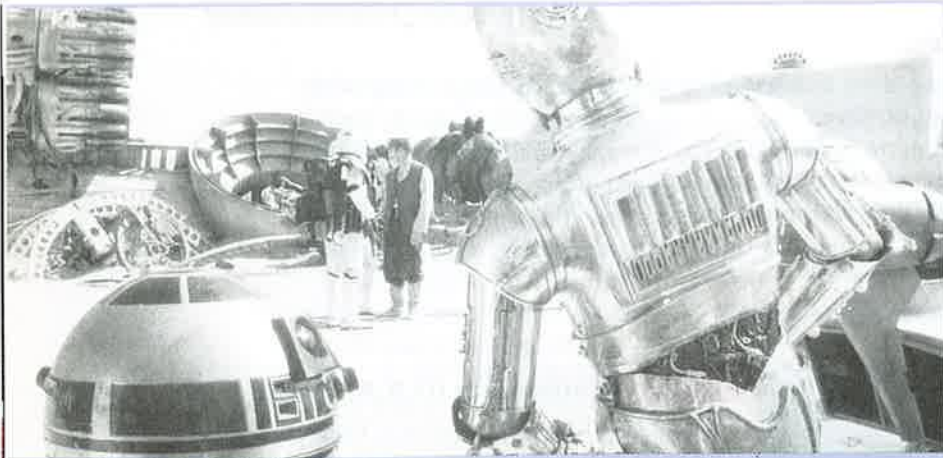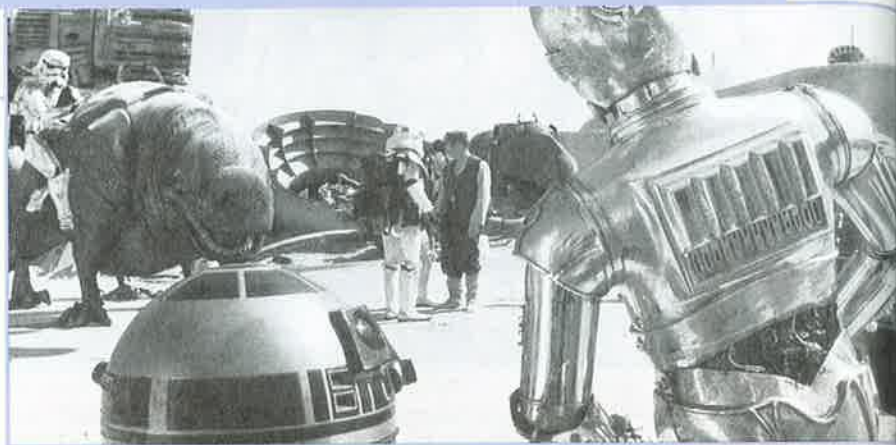
1–31a ***Star Wars*** **(U.S.A., 1977),** written and directed by George Lucas. *(Twentieth Century Fox)*

George Lucas's company, Industrial Light & Magic, is still the largest and boldest innovator in the special effects arena. For its 20th anniversary Special Edition, his *Star Wars Trilogy* was remastered digitally. For example, because his budget was limited and special effects were comparatively simple in the original film, the spaceport Mos Eisley was necessarily modest **(a)**. In the remastered version **(b)**, Mos Eisley is larger and more bustling. The F/X team added new creatures, droids, and characters, making the setting more crowded and dangerous than the original. *(Lucasfilm Ltd. and Twentieth Century Fox)*

1–31b ***Star Wars*** **Special Edition (U.S.A., 1997).**

1–31c ***Star Wars: Episode II Attack of the Clones*** **(U.S.A., 2002),** written and directed by George Lucas.

By the time Lucas made *Attack of the Clones,* he had gone totally digital. He is an enthusiastic champion of the new technology, believing that film will soon be obsolete: "Film has been around for 100 years," he has said, "and no matter what you do, you're going to run celluoid through a bunch of gears. It's gotten more sophisticated over the years, but it'll never get much more that what it is right now. With digital, we're at the very bottom of the medium. This is as bad as it's ever going to be. This is like 1895. In 25, 30 years, it's going to be amazing."

See also Stephen Prince, "The Emergence of Filmic Artifacts: Cinema and Cinematography in the Digital Era," in *Film Quarterly* (Spring 2004). *(Lucasfilm Ltd.)*

The Cinematographer

The cinema is a collaborative enterprise, the result of the combined efforts of many artists, technicians, and businesspeople. Because the contributions of these individuals vary from film to film, it's hard to determine who's responsible for what in a movie. Most sophisticated viewers agree that the director is generally the dominant artist in the best movies. The principal collaborators—actors, writers, cinematographers—perform according to the director's unifying sensibility. But directorial dominance is an act of faith. Many films are stamped by the personalities of others—a prestigious **star**, for example, or a skillful editor who manages to make sense out of a director's botched **footage**.

Cinematographers sometimes chuckle sardonically when a director's visual style is praised by critics. Some directors don't even bother looking through the viewfinder and leave such matters as composition, angles, and lenses up to the cinematographer. When directors ignore these important formal elements, they throw away some of their most expressive pictorial opportunities. They function more like stage directors, who are concerned with dramatic rather than visual values—that is, with the script and the acting rather than the photographic quality of the image itself.

On the other hand, a few cinematographers have been praised for their artistry when in fact the effectiveness of a film's images is largely due to the director's pictorial skills. Hitchcock provided individual frame drawings for most of the shots in his films, a technique called **storyboarding**. His cinematographers framed up according to Hitchcock's precise sketches. Hence, when Hitchcock claimed that he never looked through the viewfinder, he meant that he assumed his cinematographer had followed instructions.

1–32 **Twentieth Century Fox publicity photo of Marilyn Monroe (1953).**

Cinematographers often comment that the camera "likes" certain individuals and "doesn't like" others, even though these others might be good-looking people in real life. Highly photogenic performers like Marilyn Monroe are rarely uncomfortable in front of the camera. Indeed, they often play to it, ensnaring our attention. Photographer Richard Avedon said of Marilyn, "She understood photography, and she also understood what makes a great photograph—not the technique, but the content. She was more comfortable in front of the camera than away from it." Philippe Halsman went even further, pointing out that her open mouth and frequently open decolletage were frankly invitational: "She would try to seduce the camera as if it were a human being. . . . She knew that the camera lens was not just a glass eye but a symbol of the eyes of millions of men, so the camera stimulated her strongly." *(Twentieth Century Fox)*

Sweeping statements about the role of the cinematographer are impossible to make, for it varies widely from film to film and from director to director. In actual practice, virtually all cinematographers agree that the style of the photography should be geared to the story, theme, and mood of the film. William Daniels had a prestigious reputation as a glamour photographer at MGM and for many years was known as "Greta Garbo's cameraman." Yet Daniels also shot Erich von Stroheim's harshly realistic *Greed,* and the cinematographer won an Academy Award for his work in Jules Dassin's *Naked City,* which is virtually a semidocumentary.

During the big-studio era, most cinematographers believed that the aesthetic elements of a film should be maximized—beautiful pictures with beautiful people was the goal. Today such views are considered rigid and doctrinaire. Sometimes images are even coarsened if such a technique is considered appropriate to the dramatic materials. For example, Vilmos Zsigmond, who photographed *Deliverance,* didn't want the rugged forest setting to appear too pretty because beautiful visuals would contradict the Darwinian theme of the film. He wanted to capture what Tennyson described as "nature red in tooth and claw." Accordingly, Zsigmond shot on overcast days as much as possible to eliminate the bright blue skies. He also avoided reflections in the water because they tend to make

1–34a *This Is Elvis* (U.S.A., 1981), with Elvis Presley, directed by Malcolm Leo and others.

Documentaries are often photographed on the run. Cinematographers don't usually have a chance to augment the lighting, but have to capture the images as best they can under conditions that are almost totally uncontrolled. Many documentaries are photographed with hand-held cameras for maximum portability and with fast film stocks, which can register images using only ambient light. The images are valued not for their formal beauty, which is usually negligible (or nonexistent), but for their authenticity and spontaneity. Such images offer us privileged moments of intimacy that are all the more powerful because they're not faked. They're the real thing. *(Warner Bros.)*

1–33 *The Emigrants* (Sweden, 1972), with Liv Ullmann and Max von Sydow, photographed and directed by Jan Troell.

If we were to view a scene similar to this in real life, we would probably concentrate most of our attention on the people in the wagon. But there are considerable differences between reality and cinematic realism. Realism is an artistic style. In selecting materials from the chaotic sprawl of reality, the realist filmmaker necessarily eliminates some details and emphasizes others into a structured hierarchy of visual significance. For example, the stone wall in the foreground of this shot occupies more space than the humans. Visually, this dominance suggests that the rocks are more important than the people. The unyielding stone wall symbolizes divisiveness and exclusion—ideas that are appropriate to the dramatic context. If the wall were irrelevant to the theme, Troell would have eliminated it and selected other details from the copiousness of reality—details that would be more pertinent to the dramatic context. *(Warner Bros.)*

nature look cheerful and inviting. "You don't make beautiful compositions just for the sake of making compositions," cinematographer Laszlo Kovacs has insisted. Content always determines form; form should be the embodiment of content.

"Many times, what you don't see is much more effective than what you do see," Gordon Willis has noted. Willis is arguably the most respected of all American cinematographers, a specialist in low-key lighting styles. He photographed all three of Francis Ford Coppola's *Godfather* films—which many traditionalists considered too dark. But Willis was aiming for poetry, not realism. Most of the interior scenes are very dark to suggest an atmosphere of evil and secrecy. A time-honored convention is to make sure an actor's eyes are always visible, but here too, Willis thought the mafia don (Marlon Brando) would seem more sinister if we *couldn't* see his eyes, at least while conducting "business" (1–22b).

Willis's preference for low levels of light has been enormously influential in the contemporary cinema. Unfortunately, many filmmakers today regard low-key lighting as intrinsically more "serious" and "artistic," whatever the subject matter. These needlessly dark movies are often impenetrably obscure when shown on the television screen in VCR or DVD formats. Conscientious filmmakers often supervise the transfer from film to video because each medium requires different lighting intensities. Generally, low-key images must be lightened for video and DVD.

Some film directors are totally ignorant of the technology of the camera and leave such matters entirely to the cinematographer. Other filmmakers are very sophisticated in the art of the camera. For example, Sidney Lumet, who is best known for directing such realistic New York City dramas as *12 Angry Men, The Pawnbroker, Dog Day Afternoon,* and *Serpico,* always makes what he calls a "lens chart" or a "lens plot." In Lumet's *Prince of the City,* for instance, the story centers on a Serpico-like undercover cop who is gathering information on police corruption. Lumet used no "normal" lenses in the movie, only extreme telephotos and wide-angle lenses, because he wanted to create an atmosphere of distrust and paranoia. He wanted the space to be distorted, untrustworthy. "The

1–34b *Traffic* **(U.S.A., 2000),** directed by Steven Soderbergh.

This movie was shot like a documentary. Director Soderbergh handled the handheld camera himself, using mostly available light and shooting quickly, as though he were a TV cameraman. The multiple narratives allow us to see the events from several perspectives: a state supreme court justice (Michael Douglas) is appointed to investigate the drug trade, only to discover that his own daughter (Erika Christensen) is an addict (**top**). A Mexican drug lord is imprisoned, and his pregnant suburban wife (Catherine Zeta-Jones) takes over the business, aided by a sleazy lawyer (Dennis Quaid) (**middle**). DEA law enforcement officials (Luis Guzman, left, and Don Cheadle, right) confront a high-level drug trafficker (Miguel Ferrer, center) and soon-to-be informer (**bottom**). Each story has a distinct "look"—a combination of color, filtration, saturation, and contrast, so that the viewer is able to know which story is now on screen. Said Soderbergh: "From the beginning, I wanted this film to feel like it was happening in front of you, which demands a certain aesthetic that doesn't feel slick and doesn't feel polished. There is a difference between something that looks caught and something that looks staged. I didn't want it to be self-consciously sloppy or unkempt, but I wanted it to feel like I was chasing it, that I was finding it as it happened." *(USA Films)*

1–35a *Muriel's Wedding* **(Australia, 1995),** with Toni Collette (with flowers), directed by P. J. Hogan. *(Miramax Films)*

1–35b *Soldier* **(U.S.A., 1998),** with Jason Scott Lee and Kurt Russell, cinematography by David Tattersall, directed by Paul Anderson. *(Warner Bros. and Morgan Creek Productions)*

Cinematography is very important, but it usually can't make or break a movie—only make it better or worse. For example, the low-budget *Muriel's Wedding* was shot mostly on location using available lighting. The photography is adequate, but nothing more. In this shot, for instance, the protagonist (Collette) has the key light on her, but the background is too busy and the depth layers of the image are compressed into an undifferentiated messy blur. Nonetheless, the movie was an international hit and was widely praised by critics, thanks to Collette's endearing performance, a funny script, and Hogan's exuberant direction. No one complained about the lackluster photography.

On the other hand, the cinematography of *Soldier* is ravishing—bold, theatrical, richly textured. Note how the lighted rain (rain has to be illuminated or it won't show up on screen) provides the setting with a dreamlike fish-tank atmosphere. The stylized lighting heightens the outer rim of the men's torsos, emphasizing their sculptural eroticism. This shot alone must have taken many hours to set up. But the movie was a failure, both with the public and with most critics. In short, not all beautifully photographed movies are great. And not all great movies are beautifully photographed. Many of them—especially realistic films—are plain and straightforward. Realists often don't *want* you to notice the photography. They want you to concentrate on *what's* being photographed, not on *how* it's being photographed.
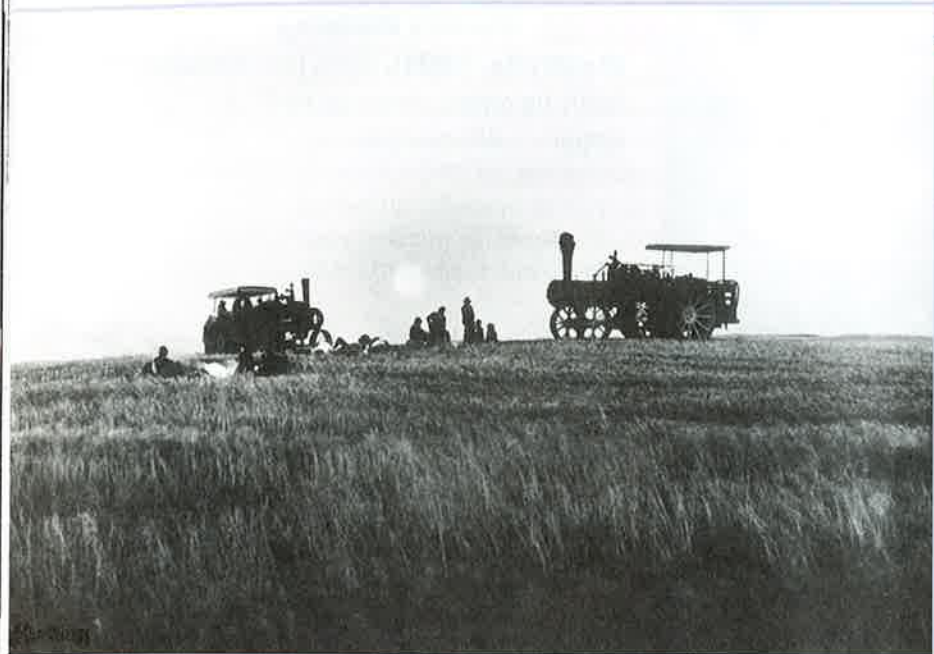
1-35c *Days of Heaven* **(U.S.A., 1978),** written and directed by Terrence Malick. *(A Paramount Picture)*

Perhaps an ideal synthesis is found in a movie like *Days of Heaven*. Malick's powerful allegory of human frailty and corruption is written in a spare, poetic idiom. The actors are also first-rate, playing people who are needy and touching in their doomed vulnerability. The film was photographed by Nestor Almendros, who won a well-deserved Oscar for his cinematography. The story is set in the early twentieth century in a lonely wheat-growing region of Texas. Malick wanted the setting to evoke a lush Garden of Eden, a lost paradise. Almendros suggested that virtually the entire movie could be shot during the "magic hour." This is a term used by photographers to denote dusk, roughly the last hour of the day before the sun yields to night. During this fleeting interlude, shadows are soft and elongated, people are lit from the side rather than from above, rimmed with a golden halo, and the entire landscape is bathed in a luminous glow. Naturally, shooting one hour a day was expensive and time consuming. But they got what they wanted: Whether focusing on a close-up of a locust munching on a stalk of wheat, or an extreme long shot of a rural sunset, the images are rapturous in their lyricism. We feel a sense of poignant loss when the characters must leave this land of milk and honey.

lens tells the story," Lumet explained, even though superficially the film's style is gritty and realistic.

There are some great movies that are photographed competently, but without distinction. Realist directors are especially likely to prefer an unobtrusive style. Many of the works of Luis Buñuel, for example, can only be described as "professional" in their cinematography. Buñuel was rarely interested in formal beauty—except occasionally to mock it. Rollie Totheroh, who photographed most of Chaplin's works, merely set up his camera and let Chaplin the actor take over. Photographically speaking, there are few memorable shots in his films. What makes the images compelling is the genius of Chaplin's acting. This photographic austerity—some would consider it poverty—is especially apparent in those rare scenes when Chaplin is off camera.

But there are far more films in which the *only* interesting or artistic quality is the cinematography. For every great work like Fritz Lang's *You Only Live Once*, Leon Shamroy had to photograph four or five bombs of the ilk of *Snow White and the Three Stooges*. Lee Garmes photographed several of von Sternberg's visually opulent films, but he also was required to shoot *My Friend Irma Goes West*, a piece of garbage.

In this chapter, we've been concerned with visual images largely as they relate to the art and technology of cinematography. But the camera must have materials to photograph—objects, people, settings. Through the manipulation of these materials, the director is able to convey a multitude of ideas and emotions spatially. This arrangement of objects in space is referred to as a director's *mise en scène*—the subject of the following chapter.

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