Cinematography 6

Still from Sin City *(2005). ©Dimension Films/courtesy Everett Collection*

We are affected and defined by light. Light is the most important tool we have to work with, not only as cinematographers, but as people.

—Laszlo Kovacs

Learning Objectives

After reading this chapter, you should be able to do the following:

- Have a working knowledge of the cinematographer's job.
- Describe how camera placement and use affects the way we interpret a film.
- Discuss the difference between cinematography and mise en scène and recognize the importance of each.
- Explain the importance of lighting design and how it affects the tone and feel of a film.
- Give examples of how filmmakers use and manipulate color to reinforce the mood of a film.
- Demonstrate how different focal length lenses affect the look of a shot.
- Define terms such as deep focus, panning, tilting, tracking shots, and aspect ratios, as well as explain certain special effects.

6.1 The "Look" of a Scene

When we are first introduced to Don Vito Corleone in *The Godfather*, played by Marlon Brando, the Mafia boss is sitting in the study of his home. Along with his consigliore, or adviser, Tom Hagen (Robert Duvall), Corleone is listening to a line of people requesting favors on the day of his daughter's wedding. Corleone is immensely powerful, as we learn by the scope of the favors he is asked to grant, which in one case includes the desire of a singer to be cast in a film to revive his musical career, and Corleone's ability to grant them. However, it is not just what Corleone says in the scene, which introduces us to all that will follow, that makes us aware of his power. It is also how the scene looks, how it is shot, and how color and light are combined that give *The Godfather* such an immediately distinctive feel. The rich hues, the closed blinds, the placing of Corleone behind the desk, a traditional seat of power, tell us that this is a man in charge, a man who is both wise and dangerous. The tone of the film is established from the opening frames. As we discussed in Chapter 5, all of these things we see are elements of the mise en scène. They are *what* is in the scene.

▲ Scene from the movie *The Godfather*. Cinematographer Gordon Willis, overcoming studio reservations, insisted on creating an extremely dark look for *The Godfather*.

Director Francis Ford Coppola had much to do with this, of course, as did the actors Brando and Duvall. But an equal, if lesser-heralded, partner in the establishment of Corleone as the head of the crime family is cinematographer Gordon Willis, who served in the same capacity for the two *Godfather* sequels and such films as *All the President's Men*, as well as for many Woody Allen films, including *Annie Hall* and *Manhattan*. Willis's use of dark tones and lighting, one of his trademarks, gives the film a serious feel, one that not only echoes the mood of the film but also serves to make the actors stand out amid the backgrounds. We know from the start that Don Corleone may be able to grant you a favor, but you are better off not being in the position of having to ask for one.

6.2 What Is Cinematography?

If the director is responsible for the film overall, in a general way, the cinematographer is responsible for its look, in very specific, shot-by-shot terms. He or she is responsible for the images that the camera sees, and by extension the images that the audience will see in the finished film. Cinematographer is the name applied to a movie's director of photography, but it's more than that. The word "photography" means literally writing with light in its ancient Greek roots. **Cinematography**, on the other hand, means "writing with movement." Movies move. Cinematography is a true movie art form, to be sure, but it is also a highly technical exercise.

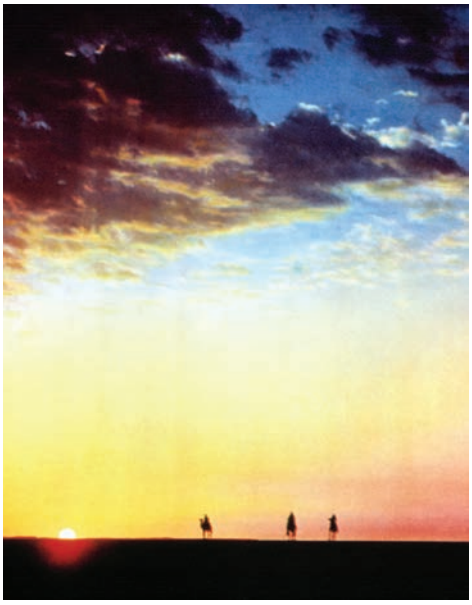
Whereas mise en scène is *what* we see in a scene, the cinematography determines exactly *how* we see it. Editing, which we'll discuss further in Chapter 7, determines *when* and *how long* we see the individual views of the mise en scène that the cinematographer has composed. Elements of cinematography go far beyond the mise en scène element of lighting. When we discuss elements of cinematography, we will often use the word **shot**, which is the camera's view from a single position. For example, if the camera is far away, we see a *long shot* that shows us all or most of what is in the scene. If it's closer to the actors or objects, we see a *medium shot* that leaves some things out of the scene but draws our attention to one portion of it. If the camera is very close, we see a *close-up*, which shows us one character or an extreme close-up showing only specific details the director wants us to notice (see Table 6.1 for descriptions of standard shot distances). The camera may also be placed at eye level, at a high angle looking down, or at a low angle looking up. The camera may be stationary or moving.

Additionally, certain characters or props may be in sharp focus, whereas others may be blurred; focus can change during a shot (a technique called *racking focus*), or everything may be in focus at once. The choice of lens can make things appear normal or distorted in some way. The type of film stock or camera sensor (and chemical or digital processing) that is used will force the viewer to see things in a specific way through the cinematography—sharp and crisp or soft and "grainy" on film (or "pixelated" with digital video); in natural colors, artificial colors, or black and white. Even the shape of the screen is a function of the cinematography.

Table 6.1 Types of camera shots (by relative distance to subject)*

ELS (XLS)	LS	MLS	MS	MCU	CU	ECU (XCU)
Extreme long shot	**Long shot**	**Medium long shot**	**Medium shot**	**Medium close-up**	**Close-up**	**Extreme close-up**
Camera a very long distance away and/or using a wide-angle lens; human figures appear tiny	Camera a moderately long distance away; human figures are recognizable in setting and visible head to toe	Human figures are visible between head to toe and head to knee in the frame	Human figures are visible from about the mid-thigh to waist up	Human figures are visible head to chest	Human figures are visible head to neck	Camera close enough to show only part of face (from eyes to mouth, or eyes only, mouth only, etc.)

*All distances are relative to each other and may overlap or be variable from film to film or shot to shot (e.g., an MLS may be considered an LS in some situations or an MS in others, and an MS may be relatively close up compared with the rest of the scene).



Courtesy Everett Collection

▲ Scene from the movie *Lawrence of Arabia*. Cinematographer Freddie Young had a long and productive partnership with director David Lean. Together they created *Lawrence of Arabia* (1962), *Doctor Zhivago* (1965), and *Ryan's Daughter* (1970). Young won a Best Cinematography Oscar for each one.

The cinematographer's job is to translate the director's vision for the film, to capture what the director wants to see and to say, and to physically make that happen. Obviously, this requires a great deal of collaboration, though, as we will discuss, different directors offer more freedom than others. Some directors use the same cinematographer on every film; this plays a large part in a director's film having a certain look. Other directors change cinematographers routinely. Whichever route a director takes, cinematographers are enormously influential in how a film is seen. Think of the contrasting yet wholly original look of films such as *Blade Runner*, *The White Ribbon*, *Sin City*, *Lawrence of Arabia*, and *Apocalypse Now*. Yes, their directors shaped their look, but cinematographers actually created it.

When we discuss editing, we will be referring to the process of both constructing and refining a film after it has been *shot*, or recorded, by the cinematographer. Most directors use several takes and different camera setups or versions of the same scene. This allows them to pick and choose the best of what they've shot and to put scenes together in the way that most effectively tells the story they are trying to tell. In order to have a variety of shots to edit together, however, all those different types of shots must be photographed in the first place. The director and cinematographer must have an understanding of the editing process so they can arrange the mise en scène and compose the shots in ways that will make the editing easier as well as effective. A good cinematographer knows to provide the director and editor with several options, to cover each scene from a variety of viewpoints that may or may not be used in the final film. This is called **coverage**. Likewise, camera placement must be consistent to maintain the illusion of continuity (the "180-degree rule"), as we'll discuss in the editing chapter.

In this chapter, we will look at the various tools at the cinematographer's disposal and how they're used. In previous chapters, we have discussed storytelling and uses of mise en scène to tell the story, including actors; here we will delve more deeply into the physical makeup of a film and how it is achieved—the nuts and bolts, as it were, of filmmaking.

6.3 How Does Mise en Scène Relate to Cinematography?

Often thought of as the responsibility of the director, the mise en scène is interpreted and intensified by the cinematographer, and one key element—the lighting—is designed by the cinematographer. Thus, it is included here, along with a recap of its basic elements. As noted in the last chapter, mise en scène includes the props, the background, the blocking (or placing of actors), the costumes, the makeup, and the lighting (or lack thereof). Because film is a visual medium, what is shown—and, just as importantly, what is left out—is essential to our understanding of what we're watching. Effective **framing** of the mise en scène is one of the cinematographer's most important tasks. Framing is done by aiming the camera in a certain way so that only a specific portion of the scene appears within the frame that will appear on screen. But first, let's look back at how the mise en scène itself can help tell the story.

An example of an exceptional mise en scène can be seen in *The Cabinet of Dr. Caligari*, a silent 1920 German Expressionist film in which director Robert Wiene and cinematographer Willy Hameister create a disturbing, surreal world where images are distorted, props and backgrounds are at odd angles, and shadows and light play off each other (often painted directly onto the set). In the film, a man named Francis starts to tell the story of his friend Alan and his fiancée Jane, and an evil magician named Dr. Caligari who hypnotizes a man named Cesare to kill them. After he begins to tell the story, we see it dramatized on screen. At the end, however, we learn that he, Cesare, and Jane are all patients in the asylum, and that Caligari is actually the director; what we've seen is Francis's delusional fantasy.

Mary Evans/Decla-Bioscop AG/Ronald Grant/Everett Collection

▲ Scene from the movie *The Cabinet of Dr. Caligari*. A high angle frames the subject by looking down on him. This makes the character smaller, less powerful, and often less significant.

The heavily stylized, unrealistic look of *Dr. Caligari* tells much about the story and influenced countless later films. For instance, when Francis begins and ends his tale, the surroundings and background are relatively normal looking. But the story within the story has wild distortions among props and backgrounds, both giving the film a creepy, unnatural feel and, as we later learn, signaling Francis's insanity. The stylized mise en scène (done in a style called "Expressionism") does not just enhance the story, then; it helps to tell it, expressing mood and content through physical distortions. Most later films do not go to such extremes in set design, but rather combine harsh patterns of diagonal light and shadows with unusual camera angles to suggest a similar atmosphere within an otherwise more realistic setting.

In the 1982 film *Blade Runner*, director Ridley Scott and cinematographer Jordan Cronenweth crowd the Los Angeles of 2019 with people, machines, and more, giving the city a claustrophobic feel intensified further by the **low-key lighting** (high-contrast lighting dominated by deep shadows with a few bright highlights) that pervades the film; things have clearly spun out of control. Not only does this make it more difficult for someone like Decker (Harrison Ford) to find replicants, or artificial humans; it also contributes to a dehumanizing effect, which is the point of the movie overall.

Perhaps the most famous example of mise en scène appears in the 1941 film *Citizen Kane*. Director, co-writer, and star Orson Welles and cinematographer Gregg Toland, upon whom Welles relied heavily, created a scene early in the film set in the boardinghouse where the young Charles Foster Kane lives with his parents. They live in poverty until a gold mine is discovered on the property. Charles's mother (Agnes Moorehead) signs the necessary papers to send Charles away with the banker Walter Thatcher (George Coulouris) so that the boy can get an education. Yet while we see them in the foreground, in the background we see Charles playing in the snow outside the window, joyous (he is unaware that he is about to be sent away), riding on his sled. He, too, is in perfect focus, so that the audience is forced to consider both the adults and the boy with equal weight. Viewers may subconsciously note throughout this shot that the child is literally as well as figuratively separating his parents. The staging of the actors within the set demonstrates Welles's control of the mise en scène, carefully accentuated through the use of the camera—its position, movements, and choice of lenses. Toland (the cinematographer) was

Courtesy Everett Collection

▲ Scene from the movie *Citizen Kane*. Greg Toland and Orson Welles worked closely together on the deep focus approach to *Citizen Kane*. Welles shared his title card in the credits with Toland, recognizing the importance of their collaboration. This celebratory dinner, like so many other scenes, is composed in great depth.

able to use **deep focus**, in which everything in the foreground and background is clear and precise, more expertly than anyone had done at the time.

In *Citizen Kane*, the cinematographer and director work together to choreograph camera movements along with the movements of the actors, their shifting positions reflecting changes in character dynamics as the actors determine the rhythm of the scene through their performances. Welles (the director) allows the entire scene to play out in only two very long, uninterrupted takes, plus three shorter takes, two to introduce and one to close the scene. And what Welles and Toland have chosen to include in the shot is equally important, though we do not know it at the time. Not until the last scene of the film do we learn the explanation for "Rosebud," Kane's famous last words that have set the movie in motion. It is the name of the sled he rode as a boy, playing in the snow. At the end of the film, it is tossed into an incinerator with countless other artifacts from Kane's life, symbolizing his loss of innocence and joy as he grew older and attained power, often by disreputable means.

6.4 Lighting

Technically, lighting is a part of the mise en scène, whether or not a camera is on the set (such as with live theater). However, it is the focusing of light onto a photosensitive emulsion on film, or electronic sensor in a video camera, that makes possible the recording of a photographic image. Thus, the cinematographer is responsible for ensuring there is enough light and typically designs the lighting "look" of a movie. A **high-key lighting** design has very bright light over everything, with few shadows and relatively low contrast between the lightest and darkest parts of the scene. This style of lighting is typical of comedies, happy scenes, institutional and office scenes, and the like. A low-key lighting design looks dark overall by comparison. It is marked by extreme use of deep shadows, with very high contrast between the brightest parts of the scene and the darkest parts, which are obscured in shadows. Often there may be only a single source

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▲ In Sophia Coppola's *Marie Antoinette*, high-key lighting underscores the effervescent, dream-like feeling of living an over-the-top life as queen.

of light, coming from the back or the side of the main characters. Low-key lighting is often used for intense dramatic scenes, horror films, mystery thrillers, and the like. However, most scenes of most movies fall somewhere in between these extremes of high-key and low-key lighting.

Part of the so-called "film look" that people shooting on digital (or analog) video strive to achieve comes from the use of lighting in ways traditionally associated with film. The style of lighting that has differentiated professional photographic portraits from personal snapshots and has made Hollywood films stand out from newsreels, home movies, and amateur productions for over a century is some variation on what is called **three-point lighting** (see Figure 6.1). This style of lighting is based upon careful control of shadows by using three main light sources. Two are in front of the subject, but on opposite sides of the camera aimed at roughly 45-degree angles (about 90 degrees from each other). A bright *key light* provides the most light from one angle. Using only a key light, however, creates harsh shadows across an actor's face. A slightly dimmer *fill light* also coming from the front but on the other side of the camera fills in the shadows, but not so much that it eliminates them. This provides a three-dimensional but not-too-harsh modeling to the actor's face that is absent with very diffused light, which seems to come from everywhere (as on a cloudy day), or the "flat" shadowless lighting that happens when a single light is shining directly from the camera position (as with the flashbulb used for snapshots or light attached to a TV news camera). The third light in the three-point system is a very bright *backlight* positioned behind the actor and shining at the back of his or her head and shoulders. Now why would a cinematographer want to light up the backs of the actors if the camera is in front of them? The reason is that the bright rim of light visible from the camera position (sometimes called *rimlight*) makes the actors "pop out" from the background, making it much easier for the audience to find those particular characters in the scene and to draw attention more to the characters than to the background. An example of this is a TV news broadcast—the news anchors and people being interviewed in the studio are usually lit with perfect three-point lighting, although in those cases the fill light may be nearly equal to the key light (giving a high-key effect).

Courtesy Everett Collection

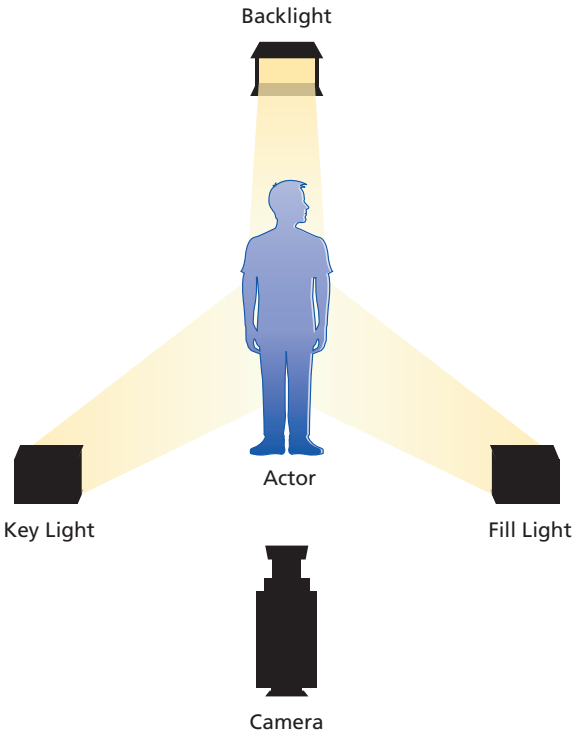
▲ Scene from the movie *Breakfast at Tiffany's*. Cinematographer Franz Planer used the three-point lighting technique to give believable dimension to his subjects while simultaneously setting them apart from the background. Note the rim of light around Audrey Hepburn's hair, face, and shoulders that is created by the use of backlight.

Dramatic scenes in films will vary the intensity and positions of the fill and back lights to suit the mood or to simulate the sources of light visible in the scene (table lamps, street lights, etc.). Shadows can be made sharper or softer by aiming lights directly at the subject, through diffusion screens, or at reflective surfaces. Moving the camera to a new position, of course, changes the relative position of which lights are "front" and which are "back." Because of this, in commercial films, the lighting positions may be readjusted with each close-up and camera setup for aesthetic and artistic reasons, rather than to create the appearance of "natural" lighting.

Sometimes *flat lighting* (using a soft light source placed close to the camera to minimize surface detail) is used intentionally, because its lack of shadows enhances a mood the director is looking

Figure 6.1: Three-point lighting

Three-way lighting reduces the appearance of harsh shadows and creates the fuller, more three-dimensional "film look" we associate with professionally shot films and photographs.



for. Natural light usually comes from above—the sun or moon in outdoor scenes, ceiling lights in typical indoor scenes. Lighting that comes from below an actor may be natural if it's from, say, a campfire; but *underlighting*, sometimes called "Halloween" lighting because it is so often used for spooky, unnatural situations, creates an unsettling mood for viewers because we're not used to seeing light come from below the subject. Makers of documentaries and fiction films shot in a documentary style, however, usually prefer a natural look over these other options. They often intentionally try to avoid the artificial three-point system, using whatever type of light is available in the environment they're shooting in, although they may try to position people to take advantage of natural lighting that looks similar to a traditional three-point setup. Interviews conducted in a studio rather than on location, however, typically use the more controlled three-point studio lighting, varying from high-key to low-key depending upon the documentary's subject material.

6.5 Color

Ask interior decorators the quickest, easiest, and best way to change the appearance and mood of a room, and they will tell you color. The same is often true with movies. The infusion of color into a scene immediately alters it, letting us know the intent of the director and cinematographer with a visual cue. The color may be part of the mise en scène, utilizing carefully planned color schemes in the set, props, costumes, and lighting, all simply recorded onto color film. It may

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▲ *The Last Emperor* (directed by Bernardo Bertolucci) uses color for both dramatic and symbolic effect. Red is the color of imperial rule. Green is knowledge, which is hidden and unseen until the arrival of the child emperor's tutor.

also be a function of the cinematography, as the cinematographer can put a colored filter over the lens, or instruct the photo lab to manipulate the colors in certain ways to create a specific "look." Over the past 20 years, colors have been increasingly manipulated digitally after the film is edited to intensify moods and create an overall look. Colors in the finished film do not need to be accurate or even realistic representations of what was on the set. For example, the flashback scenes in the *Godfather* films tend to have a yellowish cast, which was created in the printing process by using a color filter. Spike Lee's *Do the Right Thing* used many intense reds and other warm colors in the settings, but it also used color filters to give a yellowish-orange cast to scenes. Today, many directors of crime, science-fiction, and serious dramatic films prefer the "cool" mood suggested by using bluish-greenish colors throughout the scene design and cinematography. Tim Burton, in films such as *Sleepy Hollow* and *Sweeney Todd*, used not only a cool, bluish look, but also **desaturation** with the colors (in effect, "turned down" to look less intense) nearly to the point of being black and white at times. The film *Payback* with Mel Gibson had an overall bluish cast with pale, desaturated colors (obtained partly through set design but largely through printing techniques) when originally released, but for the DVD "director's cut" edition, the director decided to use more natural-looking colors, as they'd actually been recorded on the film.

History of Color

The earliest movies were black and white by necessity, because only black-and-white film was available. Filmmakers could still use color to suggest moods by tinting the black-and-white film with a dye that made the clear film base become a certain color (e.g., blue for night scenes, red for fire scenes) or chemically toning the image so that dark portions turned some other color, often a shade of brown called sepia. Tints and tones were sometimes used together, such as a blue tone with a pale yellow tint to suggest a moonlit night. Some films were even hand-painted or colored with stencils, a mechanical equivalent of computer colorization. When color photography became practical for movies, it obviously opened up a wider palette for filmmakers, but it still did not become the norm until the late 1960s. The color processes developed in the 1920s, 1930s, and 1940s were both technically very complex and economically very expensive. In the 1950s and 1960s, easier and cheaper color processes became available, and after all three television networks switched to color in 1965–1966, Hollywood films largely abandoned black and white. This is not to say that black-and-white films were not expressive of the emotion and feeling that color could make easier to display. In fact, iconic films such as *The Seventh Seal* and *Citizen Kane* could have been made in color—the technology existed—but were no less brilliant for being made in black and white. Directors such as Ingmar Bergman and Orson Welles were masterful in their use of light and shadow, allowing them to "color" their films in rich shades of gray without using

color. Later directors such as Steven Spielberg, Martin Scorsese, Woody Allen, the Coen brothers, Joss Whedon, and Alexander Payne have elected to use black and white instead of color for certain films. The Best Picture winner at the 2012 Academy Awards, *The Artist*, was shot not only in black and white but also as a "silent" film with no recorded dialogue, as was the 2012 Spanish variation on the Snow White fairy tale, *Blancanieves*.

Contrasting Color With Black and White

The introduction of color revolutionized filmmaking as much as the introduction of sound. For an early example, we need look no further than *The Wizard of Oz*, released in 1939, which uses black and white and color dramatically—to contrast Dorothy's real life with the one she experiences after a blow to the head during a tornado. In this movie, Dorothy (Judy Garland) is a schoolgirl in Kansas who runs away from home, but a visit to a fortune-teller (Frank Morgan) leads her back, just as a tornado strikes. A window hits her in the head, and she sees the house being carried into the sky by the tornado, landing in the magical land of Oz—and on top of the Wicked Witch of the East, who is killed. As Dorothy steps out of the house, the film, up to this point shot in black and white (and printed in a brown sepia tone), changes to vibrant color. Dorothy's friends will appear in Oz as the Scarecrow, the Tin Man, and the Cowardly Lion; there is now a Wicked Witch of the West, swearing revenge against Dorothy for the death of her sister. Color now becomes central to the story. The slippers worn by the Wicked Witch of the East, given to Dorothy, are ruby. Dorothy and her friends must follow the Yellow Brick Road to the Emerald City, where they will find the Wizard of Oz (also played by Morgan). The color scenes are shot in **Technicolor**, a technology that could produce rich, vivid, hyper-realistic colors.

Mary Evans/WARNER BROS MGM/Ronald Grant/Everett Collection

▲ Scene from the movie *The Wizard of Oz*. What could say more vividly that "we're not in Kansas anymore" than the yellow brick road to Oz?

When Dorothy clicks her heels three times and finally returns home to Kansas, vowing never to leave again, the film reverts to sepia-toned black and white. It is an interesting contrast. Her fantasy life, which she experiences while unconscious, is represented by vibrant color, which is still striking and might have seemed an almost miraculous effect to the 1939 audience. Yet Dorothy spends her time in Oz working out how she will get home. In Kansas, where she is surrounded by her family and friends, Dorothy's life is shown in black and white, considerably more drab than the segment in Oz. Yet while in Oz—where her life is shown in rich, vivid color—she longs only to return home. Whatever the intention of director Victor Fleming (and the other, uncredited directors the film had at various times), the effect of color could not be more striking, serving as a clear division between Kansas and Oz.

In the 1998 film *Pleasantville*, director Gary Ross and cinematographer John Lindley use color as a symbol of freedom in a repressive world. The film stars Tobey Maguire and Reese Witherspoon as David and Jennifer, twins with little in common. They are transported into *Pleasantville*, a

Leave It to Beaver-like black-and-white 1950s situation comedy David watches, by way of a magical remote. Once there, the film switches to black and white, as David and Jennifer must impersonate characters in the show.

However, they bring their contemporary 1990s views and values to the show in which they are now living. Jennifer in particular is much more sexually liberated than the women living in Pleasantville, and David becomes a civic leader, advocating more personal freedom. As the townspeople begin to rebel, their lives turn to color. The repressive town leaders, meanwhile, remain in black and white. The device is sometimes used to comic effect, other times more dramatically. While it may sound like a too-obvious conceit, the change from black and white to color is actually quite effective.

In *The Artist*, Michel Hazanavicius's 2011 film, black and white is used exclusively to chronicle the fall of a silent-film star juxtaposed with the rise of an actress during the transition from silent film to talkies. Obviously, this is used as a device to convey the look of films in the 1920s, but it was also considered something of a risk at a time when color and special effects dominated theatrical releases. That's because, in addition to being shot in black and white, the film is also largely silent, with title cards and music carrying the story. But Hazanavicius never wavers, using spoken dialogue only sparingly at the end of the film (and as a crucial part of the story).

The effect is to transport one back to the time of silent film, which makes the illustration of the sometimes painful transition to sound all the more powerful. Is it a gimmick? Probably. Yet the film managed, according to critics, to transcend this; it received 10 Academy Award nominations and won five, including Best Picture. Other films, like 2013's *Frances Ha*, *Nebraska*, and *Much Ado About Nothing*, would also use black and white, though not as such a significant part of the storytelling process.

Use of a Single Color

As color cinematography came to be the accepted form of filmmaking, directors and cinematographers began to explore its possibilities even further. The use of a single **hue**, or color, in the mise en scène could be used to heighten suspense or to enrich storytelling. In *Don't Look Now*, a horror film released in 1973, director Nicolas Roeg and cinematographer Anthony B. Richmond use the color red throughout the movie to great effect. Donald Sutherland stars as John Baxter, an architect married to Laura (Julie Christie). Their daughter drowns in a pond; as John pulls her lifeless body from the water, she is wearing a vivid red raincoat. The Baxters move to Venice, where John takes a job restoring a church. However, he repeatedly catches glimpses of a small figure in a red raincoat. Is it the ghost of his daughter? Or could it be something else? Red is used not just in these scenes, but also throughout the film as a sort of connective device. As Roger Ebert writes:

> The shiny red raincoat will be a connector all the way through. In Venice, Baxter will get glimpses of a little figure in red running away from him or hiding from him, and may wonder if this is the ghost of his daughter. We will see the red figure more often than he does, glimpsing it on a distant bridge, or as a boat passes behind two arches. And the precise tone of red will be a marker through the movie; Roeg's palette is entirely in dark earth tones, except when he introduces bright red splashes—with a shawl, a scarf, a poster on a wall, a house front painted with startling brilliance. The color is a link between death past and future. (Ebert, 2005)

Years later, in the 1993 movie *Schindler's List*, director Steven Spielberg and cinematographer Janusz Kaminski would use black and white to create stark depictions of concentration camps in World War II. The film tells the story of Oskar Schindler (Liam Neeson), a German industrialist who saves the lives of more than a thousand Jews by putting them to work in his factory, spending his entire fortune to bribe guards to allow for more humane treatment. The lack of color lends an almost documentary feel to the movie's exteriors and a classical Hollywood feeling to its interiors, giving it both a historical and a contemporary resonance. Yet Spielberg and Kaminski use the color red to haunting effect in two scenes. In the first, we see a little girl in the streets, wearing a red coat. Later we—and Schindler—see the girl, identifiable by the red coat, in a pile of dead bodies. She stands out in sharp relief to the black-and-white backgrounds around her, a sign of the hideous acts of which the Nazis were capable and a symbol of innocence sacrificed among the atrocities of war. In the television show *Imaginary Witness: Hollywood and the Holocaust*, Spielberg explains the use of red:

> America and Russia and England all knew about the Holocaust when it was happening, and yet we did nothing about it. We didn't assign any of our forces to stopping the march toward death, the inexorable march toward death. It was a large bloodstain, primary red color on everyone's radar, but no one did anything about it. And that's why I wanted to bring the color red in. (Anker, 2004)

The decision lends the scenes in which the girl appears a heartbreaking power, with the contrast between color and black and white all the more distinctive.

©Paramount/courtesy Everett Collection

▲ Bright, saturated colors burnish the heroic image of a warrior of the air in *Top Gun*.

Saturation

Saturation is the deepness, vibrancy, of bright, pure color. Heavily saturated color is often used to express vibrant emotion or heightened reality. In the 1990 version of *Dick Tracy*, for instance, director Warren Beatty and cinematographer Vittorio Storaro limited themselves to the types of colors found in comic books and the newspaper funny pages, the source for the film. As Kathleen Beckett-Young writes in *The New York Times*:

> Just as the strip used a limited number of colors, so does the film. Although there is some fudging, everything is colored either red, yellow, orange, blue, green, purple, fuchsia, black, or white. And, just as in the funnies, every red is the same red, whether it's a dress or a chair or a building. . . . Glenne Headly's trusting Tess Trueheart first appears on screen wearing green, a color [costume designer Milena] Canonero finds soothing, then switches to red as she approaches danger. (Beckett-Young, 1990)

Desaturation

Desaturated colors, as discussed earlier, have been muted, appearing less intense, which some filmmakers feel contributes to a more realistic, often gritty look (even though technically it is just as artificial as using oversaturated colors). This technique was used to good effect in *Saving Private Ryan*, director Steven Spielberg's film about the invasion of Normandy during World War II and the subsequent search for a soldier whose brothers have been killed. In the *Saving Private Ryan* Online Encyclopedia, the filmmakers explain the technique:

Mary Evans/Ronald Grant/Everett Collection

▲ The desaturated look of *Saving Private Ryan* is reminiscent of classic World War II-era color home movies and black-and-white newsreel films such as John Huston's documentary *The Battle of San Pietro*.

> To achieve a tone and quality that not only were true to the story, but also reflected the period in which it is set, Spielberg once again collaborated with cinematographer Janusz Kaminski. Spielberg says: "Early on, we both knew that we did not want this to look like a Technicolor extravaganza about World War II, but more like color newsreel footage from the 1940s, which is very desaturated and low-tech. (*Saving Private Ryan:* Combat footage, 2010)

The Golden Hour

Mary Evans/PARAMOUNT PICTURES/Ronald Grant/Everett Collection

▲ Shooting *Days of Heaven* was prolonged by director Terrence Malick's insistence that the filming be done during the "magic hour."

The **golden hour**, also known as the magic hour (although it actually lasts only about 20 minutes), is the term used for the time of day just after sunrise and the time just before sunset, when colors appear more warm, almost glowing, and there are no shadows, because the sun is not in the sky. Filmmakers often schedule outdoor scenes to be shot during these times, to enrich the use of color. Terrence Malick wanted his film *Days of Heaven* shot entirely during that period, a long and painstaking process for a full-length feature.

6.6 The Camera, the Lens, and Their Uses

On one level, the camera is the basic element of making a movie. It's what the cinematographer uses to record the action, whether it be on film or, as is often the case in contemporary movies, digitally. A movie camera records numerous individual images, or **frames**, each second, and those frozen instants of time are then played back at the same speed they were shot at to reproduce the illusion of smooth, natural motion. The earliest movies might range from about 12 to perhaps 50 images per second, and during the "silent" era usually averaged somewhere between 16 and 30 frames per second, with theaters adjusting their projectors for proper playback. Since the late 1920s, the projection rate was locked at 24 frames per second, standardized when the film industry switched from silent to sound movies and needed one constant speed for compatibility. Movies shot at a slower frame rate will appear to be in fast motion when viewed at the standard rate, and movies shot at a faster frame rate will be in slow motion at the standard viewing rate. Slow motion and fast motion effects can be achieved by the cinematographer's camera settings. They can also be added artificially during post-production by duplicating or eliminating frames, although the results are often more jerky looking. The irregular duplication of frames to adjust the speed of the action to play at modern frame rates is why many silent-era films look jerky on modern equipment, even though they would have had smooth, natural motion when they were originally made and could be projected one frame at a time at any speed.

The camera itself requires a **lens** to focus an image onto the film. The types of lenses and focal lengths have an important bearing on exactly how that image appears. Through choice of lenses, framing, focus, and camera techniques, which we will discuss next, directors and cinematographers direct our eye—sometimes subtly, sometimes not—to what they want us to see in any given scene.

Camera Distance, Angle, and Level

▲ Scene from the movie *Pickup on South Street*. This Dutch angle adds to the overall menace and violence of this film noir about a pickpocket pursued by communist spies.

As noted earlier, the cinematographer photographs only a small portion of the overall mise en scène by deciding just where to place the camera. This decision determines whether a particular view is a long shot, medium shot, or close-up, and whether characters are viewed at eye level, from a low angle, or from a high angle (see Figure 6.2). A camera may also be tilted slightly off-axis so it doesn't look level, a so-called **Dutch angle** that might give an off-kilter, unsettling feel to a scene or may make action scenes more dynamic.

Most scenes of most movies are typically shot at a horizontal eye level. This puts the audience on the same level as the characters, and variations from eye level will convey certain psychological perceptions that

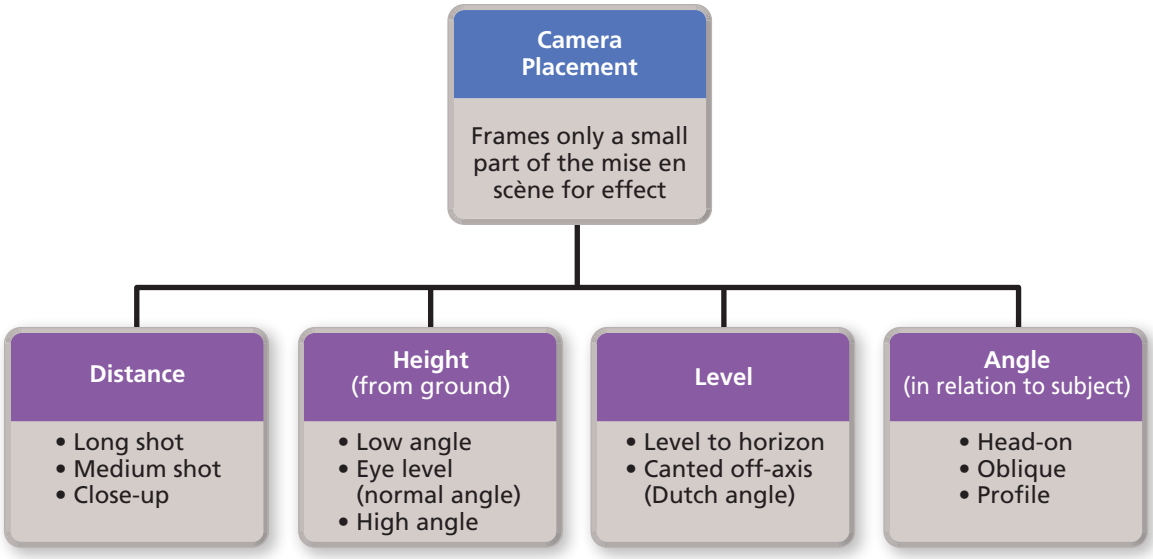
may not be inherent in the performances or the mise en scène by itself. When the camera looks up at a character, the audience may be meant to "look up" figuratively to that character as admirable or may be intended to find that character domineering and intimidating. When a camera looks down on a character, we may be intended to view that character as "below" us or inferior to another character in the film, in a submissive position, or simply from an objective distance. It all depends on the context of a particular scene. *Citizen Kane* makes frequent use of different camera angles, low and high, to imply the relative positions of power of Kane and other characters.

Framing

A good cinematographer knows how to frame each shot for a combination of dramatic impact and aesthetic balance. The cinematographer and director first must agree upon an **aspect ratio**, which is a number describing the ratio of the frame's width to its height and may range from nearly square to almost three times wider than it is tall. When movies were first invented, every camera maker was free to use film and image shapes of any width. Within about 10 years or so, movies quickly standardized with 35 mm film that had a picture exactly one and a third times wider than it was tall (an aspect ratio of 4:3, usually called 1.33:1 or simply 1.33). Television adopted the same shape. Then Hollywood introduced a variety of widescreen processes in the early and mid-1950s to lure audiences away from television and back into theaters. Although some of these processes used bigger film and special projectors, most widescreen formats were

Figure 6.2: Framing

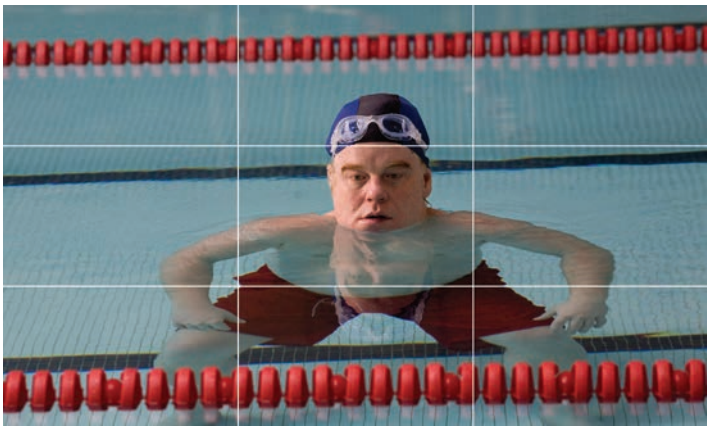
Camera position can create a variety of psychological perceptions that might not otherwise exist in an actor's performance or in the mise en scène. Think about how a low camera angle would make you feel about a character versus a high camera angle of that same character. Would your perception change along with the camera position?



NOTE: Major figures are usually framed slightly off-center, looking into or walking toward the empty space. Actors typically have heads near the top of the frame with a small amount of headroom.

designed to be compatible with the existing technical standards of film so theaters would have minimal financial investment to convert—buying only a larger screen and new set of lenses, instead of needing new projectors, and maintaining the ability to run films in the traditional format if desired.

By the late 1950s, theaters standardized two main ratios: 1.85 for "flat" films that used regular lenses but cropped off the top and bottom of the film frame, and 2.35 for "scope" films that used the entire area of the film frame with a special lens to stretch it out twice as wide. The so-called 16:9 ratio (1.78) was created for HDTV and is not normally used in theaters. Even when movies are shot digitally with 16:9 image sensors, they are normally composed for cropping to one of the three standard theatrical ratios used by film. See Figure 6.3 for aspect ratios in use today. Cinematographers usually compose the image to look properly balanced in one aspect ratio but will sometimes "protect" the image for later television broadcasts that may crop off the sides or show extra image above and below what was seen theatrically.



K. C. Bailey/© Overture Films/courtesy Everett Collection

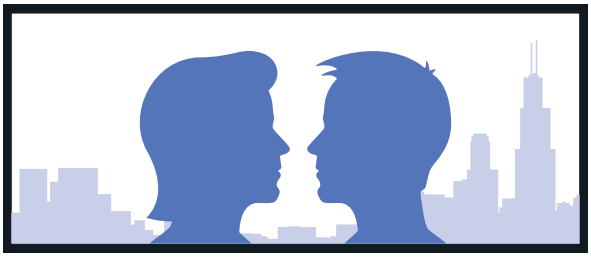
▲ Images are usually composed with elements of the scene broken into three approximately equal portions left to right, top to bottom, and foreground to background. They are also often approximately one-third dark to two-thirds light (or vice versa). This shot from *Jack Goes Boating* includes the graphic lines dividing the picture in thirds.

Sometimes the frame's balance is symmetrical and calls attention to itself by its equal division into two parts. Typically, however, a shot conforms to the **rule of thirds**. Briefly, this principle divides the screen into three equal parts, whether from side to side, top to bottom, or foreground of the scene to the background of the scene (or any combination). One-third of the image is balanced by the other two-thirds. This may be based on ratios of light to dark, distribution of characters or objects, or of subject(s) to background. Most often, a character's eyes are on the borderline between the top and middle third of the screen, giving a slight amount of "headroom" above, with the character placed on the left or right third of the screen looking into the two-thirds that shows other characters or scenery. If a character is placed looking off screen with two-thirds of empty scenery behind him instead of in front of him, the audience will expect that someone or something will soon be entering that empty space, and this type of image composition can thus increase dramatic tension.

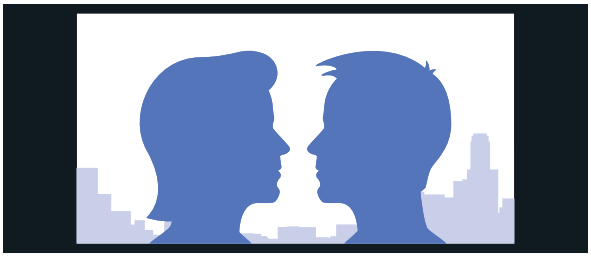
The framing of a shot also can reinforce, emphasize, or de-emphasize the relationships between characters or between a character and the setting or specific props. For example, a scene depicting a very religious character may take care to include some religious objects or symbols in the background every time that character is on the screen. A character expecting an important phone call by a certain time may be framed so that a telephone or a clock is always included in the shot. One character may always be seen on screen with another character in the shot, or may always be seen *without* a certain character in the shot (think of *The Sixth Sense*).

Figure 6.3: Film aspect ratios

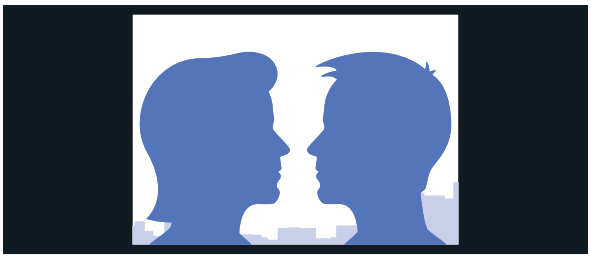
Of the numerous image dimensions used by filmmakers since the invention of movies, three have become standard. Commercial movie theaters today are normally equipped to project films at two aspect ratios: the 2.4:1 "scope" ratio and the 1.85:1 standard widescreen ratio. From the 1890s through 1953, films were shot in the 1.33:1 aspect ratio (sometimes known as 4:3), which continued to be used for television until the early 2000s and is still used by a few independent filmmakers. To fit onto a television screen, wider-aspect-ratio movies must have the sides cut off the image, or else be shrunk smaller, leaving blank screen space above and below. In certain cases, television may show extra image area that was intended to be masked off in theatrical screenings. Today's 16:9 widescreen televisions must show blank screen on both sides of the image (a process called "pillar-boxing") for films shot in any aspect ratio narrower than 1.78:1 to avoid cutting off the top and bottom of the original frame, yet they must still "letterbox" any films shot in wider aspect ratios to avoid cutting off the sides.



CinemaScope Screen
Side masking pulled out for 2.4:1 aspect ratio



Normal Widescreen (same height)
Side masking pulled in for 1.85:1 aspect ratio



Standard Screen (same height)
Side masking pulled in for 1.37:1 aspect ratio

Source: Illustration from "Basic Booth Operation" (Jacobs, 1988, 2006), courtesy Christopher P. Jacobs. Akbar Media Services/Midco Theatres.

Focus and Focal Lengths

To photograph a scene so that we see it from a normal perspective, as we would in real life, a cinematographer must use a lens that is considered within the "normal" or middle range of possible focal lengths. The **focal length** is the distance between the glass lens element and the surface of the film or imaging sensor; the "normal" distance for this will vary depending upon the size of the film or sensor. People and objects shot with a **normal lens** will look relatively larger when they're close to the camera and relatively smaller when they're far away, just as in real life. Using a lens with a significantly shorter or longer focal length will distort those apparent distances, so things will look either further apart than they actually are (with a short lens) or closer together (with a long lens). A short focal-length lens also takes in a wider field of view than a normal lens and is thus often called a **wide-angle lens**. A long focal-length lens takes in a much narrower field of view than a normal lens, making things look larger or closer, but instead of being referred to as a "narrow-angle" lens, it's usually called a **telephoto lens**. A wide-angle lens allows the cinematographer to get a long shot without moving the camera any farther away, and a telephoto makes close-ups possible without moving the camera any closer. See Table 6.2 for descriptions of different focal lengths.

Courtesy Everett Collection

▲ Scene from the movie *The Good, the Bad, and the Ugly*. A wide-angle lens shows a large perspective from a shorter distance away, exaggerating spatial distances to make things seem farther apart, and keeping both foreground and background in focus. Also, note how the rule of thirds is displayed in this shot.

Table 6.2 Lens focal lengths*

Lens type	Lens focal length	Depth of field	Perspective
Wide-angle	Short focal length (e.g., 28 mm)	Great depth of field (nearly everything in sharp focus)	Stretched perspective (things look larger and farther apart)
Normal	Standard focal length (e.g., 50 mm)	Moderate depth of field (main subject and a little more in sharp focus)	Normal perspective (things look like they do with the human eye)
Telephoto (narrow angle)	Long focal length (e.g., 120 mm)	Shallow depth of field (only one plane is sharp)	Compressed perspective (things look closer together)
Zoom (variable)	Infinite number of focal lengths from wide-angle to telephoto		

*Focal lengths for each type are relative according to size of photographed image (i.e., a "normal" lens length for 35 mm film will be a moderate telephoto for 16 mm film and a long telephoto for 8 mm film, but a wide-angle for 70 mm IMAX film).

Typically, though not exclusively, whatever the director and cinematographer bring into focus is what we are expected to pay attention to. If two characters are talking to each other, they might naturally be placed in focus so that we concentrate on them; the background behind them

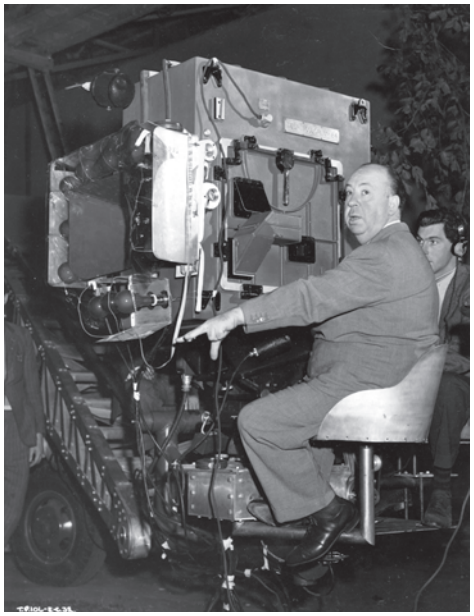
need not be in focus, unless it has bearing on the scene. This technique is called **shallow focus**. At other times, the director and cinematographer will use deep focus, as we have discussed at length with *Citizen Kane*. Everything in the frame is in clear focus, even what is seen in the background. This gives every element visible in the frame—the mise en scène—importance and value. As we watch films, this is an important visual clue that directs us to pay attention to everything going on in the scene, not just the characters or objects in the foreground.

▲ Scene from the movie *The American*. A telephoto lens has extremely limited depth of field. Note how the front of the rifle is out of focus in this shot.

Modern Camera Techniques

Technological developments have allowed modern photography to be flexible. From the earliest years of movies, tripods have given cameras stability to produce a steady image, and precision mounts were designed to allow them to pan and tilt smoothly. Soon, wheeled platforms or "dollies" permitted the entire camera to move around smoothly. Other advances have resulted in smaller cameras that allow for freedom and flexibility, so that in a film such as *Breaking the Waves*, by director Lars von Trier and cinematographer Robby Müller, following the action with a **hand-held camera** gives the film a documentary-style feel. Here the camera follows the characters, as our eyes would, instead of the characters having to be blocked, or placed, in a rigidly controlled space. Characters don't move out of the camera's range, as they would with more stable, traditional camera placements. Instead, the camera simply follows them when they move. This technique became especially popular in television series in the early part of the 21st century, as more comedies were shot like feature films.

Groundbreaking shows like *Malcolm in the Middle* and *Arrested Development* used what is called the **single camera** technique, following the characters rather than making frequent cuts to other angles. With this film-style technique, any changes in camera angle must be achieved by shooting the scene over again from a different position, providing opportunities for adjusting performances rather than shooting everything live and uninterrupted. Some directors and audiences found this particularly freeing for television, which for generations had worked almost solely with the **three camera** technique, with characters arranged on a static set, much like in a play, while three or more cameras shot them simultaneously. This gave the director reaction shots as well as the main action without having to repeat the scene for additional takes as required when using a single camera (the way most movies are shot). Theatrical films are more likely to shoot with multiple cameras for scenes requiring elaborate stunts or pyrotechnics so they'll only need to be done once. They may also use two or more cameras when actors are allowed to improvise, so that editing can remain consistent.



▲ Photo of director Alfred Hitchcock. Today's hand-held, portable, lightweight film and video cameras are a far cry from the behemoths that filmmakers used previously, especially, as seen here, when they had to be enclosed in soundproof "blimps."

Some filmmakers prefer to move the camera rather than to cut to a new angle, so that an uninterrupted take can keep the rhythm of the actors' original performances. When a camera is said to **pan**, it simply rotates horizontally to follow the movement of characters or objects; the camera swivels as our heads might as we follow the action. When the camera *tilts*, it twists up and down, vertically, again replicating the movement of the audience member's head and line of vision. These shots keep characters **in frame**, or within the camera's (and audience's) field of vision. See Table 6.3 for descriptions of types of shots.

Table 6.3 Shots with frame movement*

Type of shot	Changing field of view in the camera while it is running (e.g., to follow action, call attention to something, reveal more of the same)
Pan	Camera twists from side to side on a single axis
Tilt	Camera twists up and down on a single axis
Dolly/tracking/Steadicam	Camera itself moves smoothly forward, backward, or sideways (with a Steadicam, the camera is mounted to a mobile operator rather than to a piece of wheeled equipment)
Crane/jib/helicopter	Camera physically moves up and down (not just tilting); helicopter shots permit ascending all the way to or descending from aerial views, but are frequently limited to just aerial views
Zoom	LENS adjustment of focal length—*NOT a camera movement!*

*Camera may be on tripod or hand-held.

But what about scenes in which characters walk or run past, going beyond the limits of the frame? Often directors and cinematographers use dolly or **tracking shots**, in which a camera is mounted on a wheeled platform that is then rolled along tracks, similar to train tracks, keeping the characters or objects in front of the camera and audience. Tracking shots are also used for more complex shots as well. The development of the **Steadicam**, which helps stabilize the camera while its operator carries it, made more difficult shots possible, especially when used in conjunction with a crane. Director Martin Scorsese's *Raging Bull* (1980) has an elaborate Steadicam shot following Robert De Niro as Jake LaMotta as he walks from his dressing room up into the arena, and down through the crowd to the boxing ring, with the camera finally craning up and going back to a long shot, without a single *cut*, or a change from one shot to another shot, which we will cover in the next chapter on editing.

Takes and Montage

In the 2007 film *Atonement*, director Joe Wright and cinematographer Seamus McGarvey stage an incredible tracking shot, in which star James McAvoy comes upon the almost surreal scene along the beach in France, as troops await the evacuation of Dunkirk. The scene lasts five and a half minutes, as we—and McAvoy's character—see the exhausted, spent troops. It is a single take; that is, it was done in one continuous shot, with no cuts or edits. More often, a *take* (a single operation of the camera from turning it on until turning it off) is broken up by the editor into several shots on the screen, interrupted by cuts to other angles or scenes. The long take in *Atonement* is a remarkable feat, one that Wright says required the services of 1,000 extras and 300 crewmembers. In response to criticism that the shot is too overwhelming, too technically astounding, that it takes away from the rest of the film, Wright admits he's asked himself "'Am I just being flashy?' . . . I don't have an answer. But I do get a kick out of those shots" (Wloszczyna, 2007).

In most scenes, modern films seldom have shots last longer than 10 seconds on screen. The majority of shots in most movies tend to last between a few seconds and maybe half a minute before there is a cut to another shot. Nevertheless, the cinematographer has often filmed the entire scene all the way through from each different vantage point that is seen on the screen, only in short segments. The **long take** is a term applied to any shot lasting perhaps a full minute or longer on the screen (up to the maximum length a camera's capacity allows) without a cut to another shot. It is often used in combination with the tracking shot, but it can involve the use of cranes and other equipment to move the camera.

One of the most famous and influential long takes in film history occurs in the opening scene of the 1958 film *Touch of Evil*. Director Orson Welles and cinematographer Russell Metty begin the scene, which lasts three and a half minutes, by showing a man putting a bomb in the trunk of a car at the border between the United States and Mexico. A couple then gets in and drives across the border into the United States, the camera, mounted on a crane, following in real time. The car slowly passes Mike Vargas (Charlton Heston) and his new wife, Susie (Janet Leigh), as they walk across the border. The camera continues to follow both the car and Vargas and his wife, until the car finally drives on, leaving Mike and Susie in the frame. As they kiss, we hear the car explode, and Welles cuts to it. By doing the shot in one take, Welles ratchets up the intensity of the scene. We know that there is a timer on the bomb. When will it explode? Will it occur while the car is driving along the streets? Will we see it when the couple inside is talking to border police? Could it possibly happen while Mike and Susie are standing beside it?

Courtesy Everett Collection

▲ Scene from the movie *Touch of Evil*. A long-running single shot without a cut provides context and drama. According to film critic André Bazin, long takes are more "democratic," allowing viewers to find their own way through cinematic reality.

The long take requires no editing, which contrasts with the use of *montage*—when a director cuts between many related images to create a scene or even just a visual impression. Directors such as Sergei Eisenstein and Hollywood montage specialist Slavko Vorkapich relied upon editing numerous individual shots into relatively short sequences to convey information with a very different mood and pacing. Montage will also be discussed in Chapter 7, but essentially it is the opposite approach to using long takes, requiring many, many different shots for the same amount of screen time and stressing the use of editing to create new meaning, rather than upon cinematography as the main tool for interpreting the mise en scène.

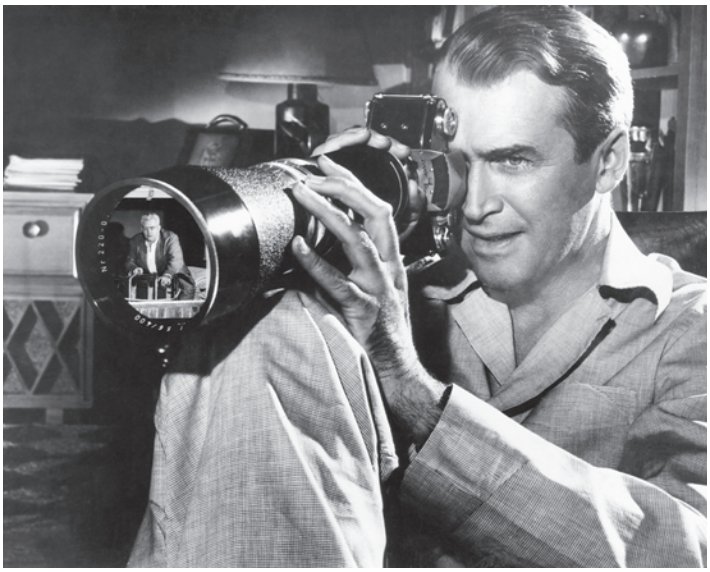
Objective and Subjective Camera

In addition to how the camera *records* the story, it is also crucial to think about how it *tells* the story. The cinematographer and director may decide to use the camera primarily as a medium for showing the key elements of the story for the audience to follow. On the other hand, the camera may be used to make the audience a more active participant in the story, identifying with one or more characters, or perhaps even shifting points of view at different times.

The **objective camera** is the term used for simply recording the action as it happens with the audience becoming a neutral observer. The camera rarely moves; characters and action take place within its range. This does not mean that the film is shot like a stage play. Different scenes take place in different places. However, the audience remains more of an observer than a participant. This is not necessarily a less effective way to make a film; *High Noon*, for example, an allegorical 1952 western, plays out in real time. Gary Cooper plays Marshal Will Kane, who has turned in his badge after marrying Amy (Grace Kelly), a Quaker and pacifist. But Kane learns that a criminal he arrested is on his way back to town, with friends in tow, swearing revenge on Kane. Kane decides to stay and fight, while one by one the townspeople cowardly refuse to help. As various clocks are shown ticking, with noon and the showdown approaching, tension builds to the climactic shootout. Director Fred Zinnemann and cinematographer Floyd Crosby use the real-time device, as well as a realistic, uncluttered mise en scène, to tell the story in a straightforward but effective way. Very few camera "tricks" are used, and Zinnemann doesn't use the camera to show us, for example, what Kane is seeing.

In *Citizen Kane*, we see the action as it unfolds simply as an observer would. This does not mean that we do not have a vested interest in the outcome; we certainly root for Kane to defeat his adversaries. But even though most of the film is related in flashbacks ostensibly told by different characters, we are simply observing, as we might a football game. In that case, we have a team we are rooting for, but we are simply watching the game take place. We cheer, we boo, we are excited and entertained. But we have no insight into what players and coaches are thinking before they act. In a film, of course, even objective action is carefully scripted and choreographed, but with the objective camera we remain more observer than participant.

The **subjective camera**, by contrast, uses the camera as an extension of the characters. We often see what they see, experience what they are experiencing. In director Alfred Hitchcock's 1954 film *Rear Window*, James Stewart plays Jeff Jeffries, a photographer who has broken his leg on assignment and is confined to a wheelchair in his apartment. Jeff Jeffries spends most of his time spying on the courtyard and other apartments of the complex in which he lives, often using a telephoto lens to get a closer look. One apartment he spies on contains Lars Thorwald, who cares for his invalid wife. However, when his wife doesn't show up for a few days and Thorwald acts suspiciously, Jeffries suspects that Thorwald has murdered his wife. Throughout the film, Hitchcock and cinematographer Robert Burks employ the subjective camera in different ways, though in all of them we see the action from Jeffries's point of view.



Courtesy Everett Collection

▲ *Rear Window* is all about L. B. "Jeff" Jefferies's (James Stewart) point of view. We see what he sees.

This is, first and foremost, a film about voyeurism, about watching other people. Yes, we watch Jeffries and his girlfriend, Lisa, but we also watch Jeffries watching others in a multitude of ways. There is, of course, the view through which he uses the telephoto lens to spy on one of the residents practicing her dancing in her underwear, for instance; that's the point of view Hitchcock adopts, and the one that we use as well.

The use of the subjective camera is terrifically effective here, allowing the audience to experience the action in the film in much the way that Jeffries does. It's not that it heightens the realism—this isn't a particularly realistic film to begin with. Instead, it greatly heightens the excitement, which, coupled with the outstanding performances, makes *Rear Window* one of the all-time great thrillers, telling the story in a way in which the objective camera could not.

When taken to its extreme, the subjective camera shows the audience exactly what one character is seeing through his or her eyes, and nothing else. When this is done throughout an entire film, as in Robert Montgomery's murder mystery *Lady in the Lake* (1947), it can be simultaneously intriguing, suspenseful, and frustrating for viewers, as we are so accustomed to seeing the actor playing the protagonist (as well as other points of view) and not just what the character is seeing. On the other hand, in films like Yasujiro Ozu's *Tokyo Story* (1953), the camera mostly observes the characters in their daily lives, but when they speak to each other they frequently look directly into the camera, as if the audience member is the one being addressed by each person in turn. Throughout the film, the camera is also usually positioned at a low level, at eye level for someone sitting on the floor according to Japanese custom, helping make the viewer a more intimate, subjective observer, almost another character.

Special Effects

Special effects have been used in films almost since the beginning of the medium. As early as the 1890s, director Georges Méliès exploited the camera's ability to show things that appeared magical. His 1902 film *A Trip to the Moon* employs various effects to depict a journey from Earth to the moon. In its most famous scene, the bullet-shaped rocket hits the man in the moon in the eye. Effects would grow more sophisticated over time, until, with James Cameron's 2009 film *Avatar*, computer images were blended seamlessly with real life, an astonishing leap forward.

Matte shots, often with paintings used as partial backgrounds, and miniature models of scenery, props, and even people, would figure heavily in creating effects throughout most of the 20th century. **Rear projection**, in which scenes play behind actors to create the illusion of movement or to make it appear as if actors on a studio soundstage were in different settings, would further enhance effects. (The more elaborate front projection would eventually all but replace rear projection.) **Stop-motion animation**, in which models are moved slightly and shot frame by frame so that they appear to move fluidly when the film is replayed continuously, became popular after the success of fantasies created by Willis O'Brien such as *The Lost World* (1925) and *King Kong* (1933). The foremost later practitioner of this technique was Ray Harryhausen, the effects master whose films include the groundbreaking *Jason and the Argonauts* (1963) and *The 7th Voyage of Sinbad* (1958).

▲ *Who Framed Roger Rabbit* uses the green screen technique, uniquely combining animation and live action.

Blue screen and green screen techniques allow for images to be shot for background use, and for actors to later be shot separately; the two images are then blended optically or digitally using a **traveling**

matte for a realistic effect. (This is often used for TV weather reports, in which the meteorologist appears to be standing in front of a map that moves, but is actually standing in front of a blue or green screen whose color can be removed either electronically or digitally and replaced with an image of the map or some other scene.)

Jurassic Park, Steven Spielberg's 1993 film about an amusement park with dinosaur clones, ushered in the era of the heavy use of **computer-generated imagery (CGI)**. By this time, anything seemed possible, and it probably was. In *Forrest Gump*, released in 1994, actor Gary Sinise's character is wounded in battle and loses his legs. The computer-generated footage of him in a wheelchair with his legs missing was so realistically portrayed that audiences believed he really had been injured and lost his legs (he hadn't). By 1995, *Toy Story*, an animated feature, would be created entirely on computer, at which point, the only real limitation on what could be depicted on screen was the director's imagination. Director James Cameron would be especially innovative in this regard, creating, among many other effects, underwater alien tentacles for his 1989 film *The Abyss*, which would serve as a sort of practice run for the new-model, shape-shifting Terminator in *Terminator 2: Judgment Day*, released in 1991. Cameron's *Avatar* would take effects further than even he had taken them before, using new technology, some of which he developed, to create incredibly realistic three-dimensional fantasy worlds in which actors and computer-generated and -enhanced characters interact. What's more, he created effects that allow a blending of human actors and computer effects to create digitally enhanced characters (the Na'vi) capable of showing emotion.

However, some critics complained that *Avatar* relied much more heavily on special effects than it did on plot development and story. This points out one of the inherent dangers of the use of special effects. Ideally, they are used to enhance a story, not to overwhelm it or even replace it. Effects, including three-dimensional photography (or conversion to 3D), can make a movie more realistic, more satisfying, more fun. However, they cannot, by themselves, make a movie *better*, no matter how advanced they are or become. As we discussed in Chapter 1, the essential aim of a film is to tell a story, and effects are simply tools to enhance that aim. Thus, a film like *Transformers: Revenge of the Fallen*, the 2009 sequel to the original *Transformers*, may have jaw-dropping special effects, in which cars and trucks transform themselves into robot-like aliens fighting their own battle, with Earth as the venue. They interact seamlessly with human characters. Yet in director Michael Bay's film, many reviewers believed that these human characters took a back seat to the often-chaotic action involving the enormously loud effects. It makes for a movie, they said, that is in some respects fun to watch, but ultimately unsatisfying and eventually exhausting, a reminder that effects are rarely effective when used simply for their own sake. The effects that are truly effective have always been those that the viewer doesn't even realize are special effects because they do not call attention to themselves by creating something that looks spectacularly dangerous or like obvious fantasy.

Summary and Resources

Chapter Summary

With all these specifics of cinematography and mise en scène in mind, we can pay more attention to what the director and cinematographer are trying to tell us in every scene. What is included? What is left out? How is it lit? How is it framed in the shot? Is the camera stationary or does it move? Why? Every choice made by the cinematographer has an effect on the final film. The cinematographer occupies one of the most essential roles in the making of movies. Working in

collaboration with the director, the cinematographer shapes the finished film in crucial ways. The cinematographer is responsible for the actual photography, for recording the action in various ways (providing adequate "coverage") that will be assembled by the editor. Whether it is in the setup of cameras, lens choices, or use of hand-held cameras or some other device, the cinematographer translates the director's idea of the mise en scène by deciding what is included in the frame in each shot and, just as importantly, how it is seen by the audience. While the director receives the lion's share of credit for the overall film, the cinematographer is intimately involved with the actual look of it, bringing his or her talents and expertise to create a distinctive work. Lighting design, color manipulation, and special effects are just three of the many tools a cinematographer has at his or her disposal. Yet for all of the technology currently available to help tell a story, it is essential that the story remain the most important element of the film, and that the effects and other devices remain just that—devices that help carry the story, and not the other way around.

Questions to Ask Yourself About Cinematography When Viewing a Film

- What appears in the mise en scène and how much of it does the camera reveal at any given moment?
- What kind of lighting is used?
- What kind of color is used (color vs. black and white, single color tints/tones, saturated color, desaturated color)?
- What do the camera distance and angle look like?
- What kind of framing is used and how does it intensify the scene?
- What focal length is used?
- Is the camera objective or subjective?
- Are there special effects?

You Try It

1. Choose one film that you have available to watch. Rather than watch it in its entirety, select and watch three scenes from it, concentrating on the mise en scène. What are the director and cinematographer trying to say by what they include within the frame? And what are they saying by what they leave out? How do the lighting and the framing of the camera draw your attention to certain things? How often can you see the principle of the rule of thirds being used? What did you notice in the scenes after reading this chapter that you hadn't noticed before? Go to movieclips.com and search "There Will Be Blood" to view the following examples. For each clip, pay attention to what you are seeing within the frame, how the director holds us where he wants us and directs our eyes to what he wants us to see:

   "The Well Burns Up"
   "Daniel's Confession"
   "I Drink Your Milkshake!"

2. Using the same film you used in the previous question, but a different scene, concentrate on who and what are in focus—and who and what aren't. Does the director emphasize a character by placing him or her in focus, or de-emphasize another by placing him or her out of focus? Does focus shift from one character to another or to a prop in the setting during a shot? How does this change in focus (or lack of it) affect our understanding of each character or prop's importance in the scene? Go to movieclips.com and search "There Will Be Blood"

to view the following scene in which a young boy loses his hearing after an accident; pay particular attention to the well that has caught fire:

"Young H.W. Loses His Hearing"

3. Watch the opening sequence of *Raiders of the Lost Ark*, when Indiana Jones (Harrison Ford) snatches the golden idol and flees. Try to identify how many different types of camera setups were used. What camera positions and angles are used? Are there tracking shots? Crane shots? What makes each shot effective?
4. Watch *The Wizard of Oz* until Dorothy is taken by the tornado to Oz. How would you describe the look and feel of the film up until that point, when it is in black and white? How does the shift to color change the mood and feel of the movie? How does it change the way you feel about the movie? Go to movieclips.com and search "The Wizard of Oz" to view the following clips. The first clip shown here is of Dorothy in Kansas; the second is when she realizes, as she says, she is not in Kansas anymore:

   "Somewhere Over the Rainbow"
   "We're Not in Kansas Anymore"

5. Watch the scenes in *Forrest Gump* in which Forrest (Tom Hanks) is shown in video clips with famous people in history. Pay special attention to the quality of the effect that puts Forrest in the clips. Do you find that the insertion of Forrest into actual historical footage enhances or distracts from the telling of the story? Explain your point of view.

Key Terms

aspect ratio The ratio of a picture's width to its height, determining the shape of the rectangular screen; the most common aspect ratios for movies are 1.33 (4:3) for standard-definition television and pre-1953 films, 1.85 for post-1953 non-anamorphic widescreen films, and 2.35 to 2.4 for anamorphic CinemaScope widescreen films. A few other aspect ratios that have had significant usage by theatrical films at various times include 1.18, 1.66, 1.75, 2.0, 2.2, and 2.55. High-definition television uses a 1.78 (16:9) aspect ratio.

blue screen and green screen A special-effects technique, sometimes called a traveling matte, in which actors perform in front of a solid-colored background. That color is then removed optically or digitally to create a silhouette matte of the actors so that they can be superimposed onto another scene that was filmed separately.

cinematography The process of photographing motion; a movie's director of photography is called a cinematographer.

computer-generated imagery (CGI) Images that are created by means of a computer instead of—or possibly in conjunction with—paintings and miniatures; often blended with separately shot live-action footage or, in the case of digital animated cartoons, used by itself.

coverage The practice of shooting a scene from multiple angles and camera distances so there will be plenty of choices during the editing process and more options for covering up any inadvertent continuity errors.

deep focus The technique of shooting a scene with nearly everything in focus at the same time, from the extreme foreground to the background; easiest to achieve with a wide-angle or relatively short-focal-length lens and a small aperture.

desaturation The process of making colors less intense, through filters or chemical or electronic processes, so that they may appear nearly monochromatic.

Dutch angle A camera setup that is slightly off of a horizontal axis, making the horizon look tilted and often giving an unsettling mood to a scene.

focal length The distance between the lens and the film or image sensor; a short focal length takes in a wide-angle field of view, whereas a long-focal-length (telephoto) lens takes in a narrow field of view. A wide-angle picture, which refers to the field of view covered from the camera position, must not be confused with a widescreen picture, which simply refers to the shape of the image.

frames Numerous individual images that a movie camera records; those frozen instants of time are then played back at the same speed they were shot at to reproduce the illusion of smooth, natural motion. Also refers to the shape of the image and what appears on the screen "in the frame" at a given moment.

framing Aiming the camera in a certain way so that only a specific portion of the scene appears within the frame that will appear on screen.

golden hour The brief period just before the sun rises or after it sets while there is still enough light in the sky to shoot a scene but there are no visible shadows and there is often a golden cast to the light; sometimes called the magic hour.

hand-held camera A camera held by the operator instead of being mounted on a tripod, dolly, or crane, so movements tend to be jerkier, especially if the camera operator is walking.

high-key lighting A lighting style marked by high levels of light, low contrast, and few shadows.

hue The value of a color in the spectrum, such as red, green, or blue.

in frame Something that is visible on the screen due to the positioning of the camera.

lens The glass that focuses an image onto a piece of film or digital imaging sensor.

long take A relative term applied to shots lasting usually a full minute or longer without a cut to another shot, often including elaborate camera movements to avoid a long, static shot.

low-key lighting A lighting style marked by low levels of light, high contrast, and very deep shadows.

matte shot A special-effects shot in which part of the frame is "matted" or blocked out so that another scene can be inserted later from another piece of film, often of a painting or miniature set; created in-camera in the early 1900s, and through optical printing in a film laboratory by the 1930s. Today, matte shots are usually done digitally on a computer.

normal lens A lens with a medium focal length, showing things the way we see them with our eyes.

objective camera A style of shooting a scene objectively so the audience is mainly an outside observer.

pan Turning a camera from side to side, usually to follow a character or to provide a "panoramic" view of the scenery.

rear projection A special-effects technique in which actors (or stop-motion figures) are filmed in front of a screen showing film of the setting they're supposed to be in; most often used for scenes of characters driving somewhere.

rule of thirds A concept for aesthetic framing of a scene to create a balanced frame, based on dividing the picture into three areas from left to right and top to bottom.

saturation The intensity or vividness of a color.

shallow focus Keeping only one thing in sharp focus at a time; this is easiest to achieve with a longer-focal-length lens and a larger aperture.

shot The view a camera takes from a single position or setup (whether stationary or moving). The term also refers to the portion of a camera take that is used in the finished film. Most scenes are made up of several shots photographed from different angles and distances. A shot may range from a single frame (a 24th of a second) to several seconds or several minutes to the length of an entire scene or even an entire movie.

single camera A system of shooting a movie using only one camera, requiring scenes to be staged multiple times, at least once for each new camera setup.

Steadicam A gyroscopic body brace designed so that a camera operator can achieve hand-held shots with movements as smooth as those on a dolly.

stop-motion animation A process of photographing model figures one frame at a time while changing their position slightly each time, so that they appear to be in motion when played back.

subjective camera A style of shooting a scene so the audience sees something through the eyes of one or more of the characters in the story.

Technicolor A complex technology developed in the late 1910s, improved in the 1920s, and perfected in the 1930s for shooting motion pictures in color, but discontinued in the 1950s after color film became available. Technicolor employed a special camera using colored filters with panchromatic black-and-white film in a specially designed camera, and later mechanically superimposed vivid color dyes onto a clear strip of film, one for each of the two complementary or three primary colors recorded in the original photography.

telephoto lens A lens with a long focal length; it takes in a narrow field of view and is marked by a shallow depth of field, exaggerating distances to make things look closer together as well as closer to the camera.

three camera A system of shooting that allows actors to perform uninterrupted, as onstage; action is recorded on film or video from three or more cameras simultaneously.

three-point lighting A lighting style based upon three primary sources of light, a bright *key light* and slightly dimmer *fill light* to the upper right and left sides of the camera, aiming at the subject to create a three-dimensional appearance with soft shadows, and a *back light* placed behind the subject and aimed at its back to create a rim of light that separates it from the background.

tracking shots Shots made while the camera is moving on a dolly or on special tracks, usually to follow moving characters or to bring the audience closer to or further from the action.

traveling matte A silhouette of moving objects or characters, which may be painstakingly traced by artists onto clear film and sandwiched against the negative in bipack printing or created optically or digitally through the use of a blue screen or green screen process.

wide-angle lens A lens with a short focal length; it takes in a wide field of view and is marked by a great depth of field, exaggerating distances to look farther apart and farther from the camera (*not* to be confused with "widescreen," which merely refers to the aspect ratio of the image and applies to any picture wider than the original 1.33 standard).