



# cinematography

theory and practice



for cinematographers and directors  
blain brown

fourth edition

A Focal Press Book

COMPANION  
WEBSITE  


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## INTRODUCTION

The technology of filmmaking has changed radically in the last 20 years since George Lucas shot the first all digital HD movie. Using the new technology as a DP, director, editor, and postproduction artist is still evolving, and exciting new developments emerge regularly. The changes create new opportunities and possibilities. A bonus is that cameras have become smaller and lighter; they can be moved in new ways and fit in to smaller places—a fact beautifully utilized by cinematographer Roger Deakins on the magnificent film *1917*.

At the same time, most of the traditional skills are still critical to success in the camera department. For the DP, a deep understanding of the tools, techniques, and artistry of lighting is still essential. For the camera crew, the protocols of ensuring that everything is good and proper with the equipment is still critical. Focus and optics remain much the same and, of course, elements of visual storytelling such as composition, camera movement, color, and staging are as important to the overall success of a project as they have ever been.

New challenges, new technology, and new tools to learn—these are things the camera department has loved and embraced since the days of Thomas Edison.

## THE WEBSITE

Please be sure to visit the companion website for *Cinematography: Theory and Practice*. On the website, you will find instructional videos, and examples of techniques discussed in this book, including camera essentials, setting up shots, scene shooting methods, lighting techniques, a day on set, and much more.

**[www.routledge.com/cw/brown](http://www.routledge.com/cw/brown)**

To view the instructional and demonstration videos, go to the website to request an Access Token. If you have purchased an e-book version of the book, please visit the website for further instructions. During the registration process, you will be prompted to create your own username and password for access to the site. Please record this for future reference.

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01

writing with motion



**Figure 1.1.** Cinematography is composed of many different techniques. In this frame from *Blade Runner 2049*, lighting from the upstage side, shallow, selective focus, and warm tone light create a powerful frame that is more than just the sum of its parts.

### WRITING WITH MOTION

Filmmaking is about telling stories visually. The cinematography of a film is central to this. The word cinematography is from the Greek roots *kinema* “movement” and, *graphein* “to write.” Cinematography is more than just photography—more than just recording what is in front of the camera; it is the process of taking ideas, words, actions, emotional subtext, tone, and all other forms of nonverbal communication and rendering them in visual terms. *Cinematic technique* is the entire range of methods and crafts that we use to add layers of meaning and subtext to the “content” of the film—the actors, sets, dialog, and action. Figure 1.1 illustrates this—it could have been just a shot of a guy holding a skull, but a skillful combination of lighting, focus, depth-of-field, and composition makes it so much more than that.

### BUILDING A WORLD

A film just creates a visual world for the characters to inhabit. This world is an important part of how the audience will perceive the story; how they will understand the characters and their motivations.

Think of great films like *Blade Runner*, *Casablanca*, *Fight Club*, *O Brother, Where Art Thou?*, or *The Grand Budapest Hotel*. They all have a definite, identifiable universe in which they exist: it consists of the locations, the sets, the wardrobe, even the sounds, but to a large extent these visual worlds are created through the cinematography. All these elements work together, of course—everything in visual storytelling is interrelated: the sets might be fantastic, but if the lighting is terrible, then the end result will be substandard.

Let’s look at this shot from early in *High Noon* (Figures 1.4). Gary Cooper, the sheriff of the town, has been abandoned by the frightened citizens as the outlaw kingpin is set to return on the noon train. He is alone. The shot starts tight on his face, then the camera pulls back and up to show just how alone he is. It is a powerful, graphic representation of his vulnerable situation.

### THE VISUAL LANGUAGE OF CINEMATOGRAPHY

What we’re talking about here is not the physical tools of filmmaking: the camera, dolly, the lights, cranes, and camera mounts, we will get to those later. We are talking about the conceptual tools of the trade. So what are the conceptual tools of visual storytelling that we employ? There are many, but we can roughly classify them into some general categories.

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Cinematography is writing with images in movement.

Robert Bresson  
(*The Trial of Joan of Arc*)

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- The frame.
- Light and color.
- The lens.
- Focus.
- Perspective.
- Movement.
- Texture.
- Information.
- POV.
- Visual Metaphor.

**Figure 1.2.** (top) Sometimes the simplest inflection can change meaning of the shot entirely. In this scene from *Dunkirk*, it's just a shot of men waiting on the mole.

**Figure 1.3.** (above) When the main character turns his head to look up, it becomes about the struggle of a single individual to survive, and about the terror of being unable to run when under air attack.

**Figure 1.4.** This shot from *High Noon* uses a big but simple camera move to tell the story—the sheriff is alone, no one is going to help him fight off the outlaws who are coming to the town. It starts tight on his face, then the camera pulls back and cranes up to show how isolated he is. He turns and walks up the street to his fate. The camera move is eloquent and powerful—it tells the entire story.



### STORYTELLING WITH LIGHT

In visual storytelling, few elements are as effective and as powerful as light and color. They have the ability to reach viewers at a purely emotion gut level. This gives them the added advantage of being able to affect the audience on one level, while their conscious brain is interpreting the story at an entirely different plane of consciousness. We will talk about this more in the chapter *Lighting*. Of course the composition and use of the lens are crucial elements as well, the frame and composition is the subject of the next chapters; we will also talk about the use of the lens in the chapters *Language of the Lens* and *Optics and Focus*.

### DEFINING THE FRAME

Selecting the frame is the fundamental act of filmmaking. Choosing the frame serves many purposes, but a central one is to direct the audience's attention: "look here, it's important." Choosing the frame is a matter of conveying the story, but it is also a question of composition, rhythm, and perspective. These two frames from Christopher Nolan's *Dunkirk* illustrate the power of simplicity in composition (Figures 1.2. and 1.3). The top frame is just men on the mole. In the second frame, the main char-



acter, turns to look up as he hears the sound of an approaching bomber. This makes him stand out, our attention is drawn to him, he is no longer just part of the crowd—he is a lone soldier struggling to survive. Figure 1.5 from Bong Joon-ho's *Memories of Murder* uses a technique called *frame-within-a-frame*. The surrounding darkness emphasizes the isolation, the desperation at this moment in the story.

#### THE LENS AND SPACE

Again, we are not talking about the physical lens, what concerns us here is how various lenses render images in different ways. This is a powerful tool of visual storytelling—the ability of optics to alter our perception of the physical world. Every lens has a “personality”—a flavor and an inflection it adds to the image.

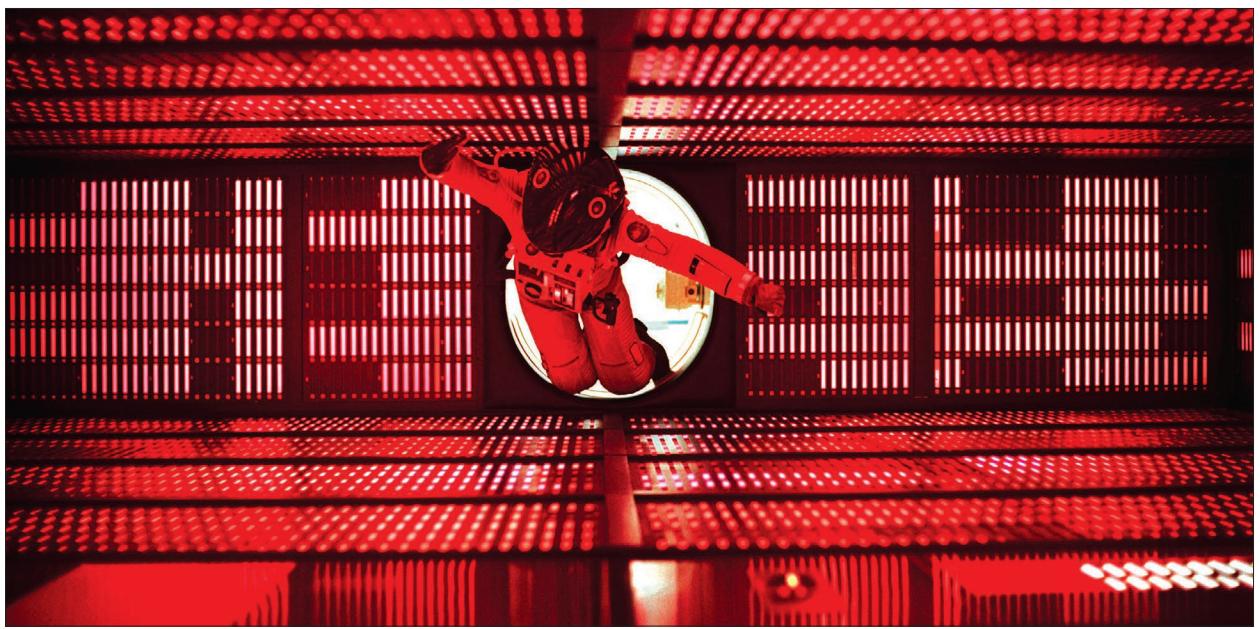
There are many factors involved: contrast and sharpness, for example, but by far the most influential aspect of a lens is the *focal length*: how wide or long it is. A short focal length lens has a wide field of view; a long focal length is like a telescope or binoculars, it has a narrow field of view. A long lens compresses space and a wide lens expands and distorts space—these can be very powerful storytelling tools. Look at this frame from *Lawrence*

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I can't think how anyone can become a director without learning the craft of cinematography.

Gus Van Sant  
(*Milk*, *Good Will Hunting*,  
*Drug Store Cowboy*)

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**Figure 1.5.** (top) A simple but effective frame-within-a-frame from *Memories of Murder* by director Bong Joon-ho (*Parasite*).

**Figure 1.6.** (above) Powerful primary color, contrast, and a camera angle that conveys the feel of being weightless in space combine to make this a memorable shot from Kubrick's *2001: A Space Odyssey*.

of Arabia (Figure 1.8). The extreme long focal length lens shows the desert mirage effect, and emphasizes the isolation of a lone figure in the desert—a menacing presence. In this frame from *City of Lost Children* (Figure 1.7) an extremely wide lens expands our perception of space and distorts the face—it has an effect that is both comedic and ominous. Learning the language of the lens, personality of each lens and how it can work for you is important not only for the cinematographer but equally for the director.

#### PERSPECTIVE

Another aspect of space in filmmaking is perspective. It can be important in establishing a sense of depth in the frame, as in this frame from *The Shining* (Figure 1.12). Kubrick uses strong perspective throughout the film to intensify the sense of menace. Focusing the viewer on a particular point makes us wonder if something will happen.



### LIGHT AND COLOR

Light and color are some of the most powerful and flexible tools in the cinematographer's arsenal. Lighting and controlling color are what takes up most of the director of photography's time on most sets and for good reason. They also have a special power that is shared only by a very few art forms such as music and dance: they have the ability to reach people at a gut, emotional level. Figure 1.9 is from *Black Rain*—the garish night lighting of an Osaka reflected in the wet pavement underscore how isolated the characters are in an environment that is foreign to them. Figure 1.11 is an especially powerful use of lighting, chiaroscuro lighting and the deep shadows reveal the madness of Col. Kurtz.

### MOVEMENT

Movement is a powerful tool of filmmaking; in fact, movies are one of the few art forms that employ motion and time, dance obviously being another one. This opening sequence from the Orson Welles masterpiece *Touch of Evil* (Figure 1.15) is an excellent example of motion that serves an important storytelling purpose. The 3-1/2 minute shot is often cited as a

**Figure 1.7.** (top) An extreme wide angle lens distorts the image and conveys the idea of an insane world in *The City of Lost Children*.

**Figure 1.8.** (above) An extreme long focal length lens enhances the desert mirage effect and the emptiness of the space in this famous shot from *Lawrence of Arabia*. The lens was made specially for the film by Panavision.



**Figure 1.9.** (top) The garish night lights of Osaka set the mood for this scene from *Black Rain*.

**Figure 1.10.** (above) A high camera angle shows the emptiness of the landscape at the infamous crossroads, in *O Brother, Where Art Thou?*

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Visual storytelling in film is the art of conveying a narrative journey with the images that are possible because of the amazing technology of this art form.

Ken Aguado

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bravura camera movement, but this misses the point. In a single extended shot, Welles shows us a bomb being planted, introduces the main characters, sets up their situation, where they are, and what they are doing. At the end, the bomb explodes, establishing the sense of danger and jeopardy in their situation.

#### CAMERA ANGLE

Camera angle is where the camera is placed in relation to the scene: it can be high angle (above), low angle (below, looking up), eye-level (the most frequently used), and a wide variety of others. It is a key ingredient in composition, but also very much affects our emotional reaction to a shot, when you want a character to seem powerful, vulnerable, or intimate, camera angles are a vital tool. This shot from *O Brother, Where Art Thou?*, (Figure 1.10) uses a high angle to show us the famous crossroads where Robert Johnson sold his soul in exchange for being a guitar genius. The emptiness of the landscape sets the mood for the scene.

#### INFORMATION

The camera can reveal or conceal information; think of it as a visual equivalent of exposition, which in verbal storytelling means conveying important information or background to the audience. It is really at the heart of telling a story visually—letting the camera show us information is usually



a more cinematic way of getting information across to the audience than is dialog or a voice-over narrator. In this frame from *Suspicion*, Cary Grant is seemingly going to poison his wife. As he climbs the stairs, Hitchcock wants to draw attention to the possible poisoned glass of milk—he had the crew place a small bulb inside the glass to make it glow. This telling detail greatly enhances the suspense of the scene. Establishing information can be done with a choice of the frame, or a camera move and the lens, but it can also be done with lighting that conceals or reveals certain details of the scene.

**Figure 1.11.** (top) The chiaroscuro (light and dark) and heavy shadows of this shot from *Apocalypse Now* powerfully underscore the madness of Col. Kurtz.

**Figure 1.12.** (above) Kubrick uses one point perspective throughout *The Shining* to increase the sense of supernatural menace.



**Figure 1.13.** (top) Polanski uses over-the-shoulder shots to employ *detective POV* in *Chinatown*.

**Figure 1.14.** (above) A simple detail makes this shot from *In Cold Blood* a masterpiece of visual storytelling. About to be executed, he tells a story about his life—the spray dripping on the window makes it look like the rain is crying for him.

#### POINT-OF-VIEW

Point-of-view (POV) is a key tool of visual storytelling. We use the term in many different ways on a film set, but the most often used meaning is to have the camera see something in much the same way as one of the characters would see it: to view the scene from that character's point-of-view.

The camera is the “eye” of the audience. To a great extent, cinematography consists of showing the audience what we want them to know about the story; POV shots tend to make the audience more involved in the story for the simple reason that what they see and what the character sees are momentarily the same thing—in a sense, the audience inhabits the character's brain and experiences the world as that character is experiencing it.

#### DETECTIVE POV

*Chinatown* employs another layer of POV as well—called *detective POV*. It simply means that the audience does not know something until the detective knows it—we only discover clues when he discovers them. This means that the viewer is even more involved in how the main character is experiencing the events of the story. Polanski is a master of this story technique, and he makes it truly visual. For example, in *Chinatown*, any time Jake Gittes is coming to a new location looking for clues, the opening shots are over-the-shoulders as in Figure 1.13.



### VISUAL TEXTURE

These days, we rarely shoot anything “straight”—meaning a scene where we merely record reality and attempt to reproduce it exactly as it appears in life. In most cases—particularly in feature films, commercials, and certainly in music videos—we manipulate the image in some way, we add some visual texture to it; this is not to be confused with the surface texture of objects. There are many devices we use to accomplish this: changing the color and contrast of the picture, desaturating the color of the image, filters, fog and smoke effects, rain, using unusual film stocks, various printing techniques, and of course, the whole range of image manipulation that can be accomplished with digital images on the computer—the list goes

**Figure 1.15.** (top) The 3-1/2 minute opening shot of Orson Welles *Touch of Evil* is famous as a bravura camera move, but what is important about it is that it sets up the entire story, the characters, the situation, and even the threat of violence. It is far more than just a “cool camera move.”

**Figure 1.16.** (above) To emphasize the possibly poisoned glass of milk, Hitchcock had the crew place a small light bulb inside, which increases the sense of menace as he climbs the stairs in *Suspicion*.

**Figure 1.17.** The story in *Memento* proceeds in two streams. Going forward in time, it is told in black-and-white. Going backwards, it is in color. At the moment the two time lines converge, Leonard takes a Polaroid. As it develops, it turns from black-and-white to color. We first see him in monochrome, but when we cut back to him, he is in color—an elegant transition device, and perfect visual metaphor.



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People say I pay too much attention to the look of a movie but for God's sake, I'm not producing a Radio 4 Play, I'm making a movie that people are going to look at.

Ridley Scott  
(*Alien*, *Gladiator*, *Blade Runner*)

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on and on. Some of these image manipulations are done with the camera, some are done with lighting (Figure 1.18), some are mechanical efx, and some are done in postproduction. Even though today's films tend to be shot in a more naturalist style, the actual images are nearly always manipulated in some way. As a general rule, the exception to this has always been comedy. Even in terms of framing, comedy tends to be filmed in the wide shot, with relatively few close-ups.

A particularly dramatic example is the film *City of Lost Children* (Figure 1.19). Although it looks like a street by the wharf, it is a studio set—the buildings in the background are just wood cutouts. The filmmakers use a heavy fog effect to sell the illusion and create atmospheric perspective. First observed by Leonardo da Vinci—the further away objects in the landscape are, the less distinct they appear. Although not shown here, in exterior landscapes distant objects also tend to be bluer.

**Figure 1.18.** (top) Texture in the lighting adds an extra dimension to this shot from *Gladiator*.

**Figure 1.19.** (above) Atmospheric perspective and texture in *City of Lost Children*.



**Figure 1.20.** (top) In a climactic scene from Christopher Nolan's *Dunkirk*, Farrier has set his Spitfire burning to prevent capture. As he watches it burn, it is a visual metaphor for the defeat Britain has just suffered.

**Figure 1.21.** (above) His seemingly blank stare tells us volumes about the resolution of the Brits to never surrender.

#### Visual Metaphor

One of our most important tools as filmmakers is visual metaphor, which is the ability of images to convey a meaning in addition to their straightforward reality. An example—in *Memento*, the extended flashback (which moves forward in time) is shown in black-and-white and the present (which moves backward in time) is told in color. Essentially, it is two parts of the same story with one part moving forward, and the other part told backward. At the point in time where they intersect, the black-and-white slowly changes to color. Director Christopher Nolan accomplishes this in a subtle, and elegant way by showing a Polaroid photo develop (Figure 1.17). At the precise moment when these two time lines intersect, we watch as the Polaroid turns from no color to full color—a simple, elegant and expressive visual metaphor. Figures 1.20 and 1.21 are an eloquent example of visual metaphor in a different Nolan film—*Dunkirk*.



### NATURALISM VS STYLIZED

A film's visual style may lie anywhere on a spectrum from highly stylized to very naturalistic. The *Cabinet of Dr. Caligari* has a very stylized look (Figure 1.22). Films from the Technicolor era, such as *The Wizard of Oz* or *Singing In the Rain*, are somewhere in the middle, the exaggerated color and over-lit "studio look" are not natural. Films since the 1960's have tended more and more toward naturalism. This is aided by modern cameras that can shoot in low light conditions and new ways of moving the camera that make it possible to shoot a film to look almost as if you are actually there, observing the action in person.

Director of photography M. David Mullen writes: "With modern tools, it is more possible than ever to shoot movies in available light. This approach, used appropriately, can enhance the drama of a scene or an entire movie. But it sometimes can be used as a crutch by some filmmakers to avoid actually doing the hard work of making the movie: taking the time to think about the appropriate use of light and shadow to tell this particular story, and then executing that creative idea. This desire by some to avoid thinking about controlling or creating light even extends into other issues like composition; they fall into the trap of seeing the camera merely as a passive recording tool that follows whatever action occurs in front of it."

**Figure 1.22.** *The Cabinet of Dr. Caligari* is one of the most highly stylized films ever made. Modern films have become progressively more naturalistic, partly because new cameras and lighting equipment have made it easier to shoot realistically.

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Most of the films I have shot have been based in reality, so it follows that much of what I do is founded in a naturalistic approach.

Roger Deakins  
(1917, *The Big Lebowski*,  
*Skyfall*, *Barton Fink*)

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**Figure 1.23.** Filmmaking is about making dreams come alive, even if they are nightmares.

### PUTTING IT ALL TOGETHER

Filmmaking is a strange and mysterious enterprise—it involves mixing and coordinating many different elements, some of them artistic, some of them technical. In particular, the cinematographer must be able to bridge that gap—to understand the practical side of dealing with the camera, lenses, lighting, file types, workflow, and so on, but also have their minds firmly planted in the artistic side of creating a visual world, visual metaphor, and storytelling. There is a third aspect as well: being an amateur psychologist. On a film set, there is no more fundamental collaboration than that of the cinematographer and the director.

Many directors are adept at conveying their vision of the project either verbally or with drawings, metaphors, or photographic references. Some directors are not as good at this—they have a visual idea, but they are not able to communicate it well to their collaborators. In other cases, the director does not have a particular visual concept and wants help in developing one. In these instances, it is really up to the cinematographer to reach into the director's head and try to understand what it is she or he is trying to accomplish; if there are missing pieces in the visual puzzle that is a film project, then it is up to the DP to fill in those blank spots with artistic inspiration, collaboration, and leadership. Sometimes this brings into play another role the cinematographer must play—diplomat, which may call for a great deal of delicacy and being careful about how one phrases a suggestion. In any case, it is up to the cinematographer to make the film's vision come alive. We are in the business of making things happen—taking artistic ideas and implementing them in the real world of the film set. Our job is to make dreams come alive; it is a challenging and satisfying undertaking.

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The photography is a very large contribution. It just can't seem like a large contribution.

Gordon Willis  
(*The Godfather*,  
*Annie Hall*)

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