

CHAPTER 1

Why Is Lighting Important for Television and Video?

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If you're fairly new to television, video, and digital movie production, you may not really have a sense of why lighting is so important. After all, today's cameras are so light sensitive you can often get away without any additional lighting. The only thing you don't understand is why sometimes your shots are overexposed or contrasty; and you may not be able to figure out why one shot will look like a Hollywood film and the next will look like a really bad YouTube video.

If, on the other hand, you're more experienced in television and event video production, you may understand a lot about the basic issues of controlling contrast and exposure—but would find it challenging to light a realistic night scene or simulate natural lighting in a living room for a dramatic movie. These situations are very different from flat studio lighting and a classic three-point interview setup.

Whether you're a rank beginner with a video camera or a moderately experienced video user who wants to get into the more advanced world of dramatic moviemaking, I hope this book will prove to be a helpful guide to understanding lighting and how it contributes to effective image making.

The real key to fine lighting is not only to simulate reality, but to communicate the proper mood and feeling to the viewer. You need to know more than just basic techniques or tricks; it's best to have an understanding of how certain looks will communicate to your viewers. You need to develop an artist's eye for light and shadow and color, and the techniques for reproducing them. Ultimately, great lighting is an ongoing learning experience that can graduate from craft and technique to the realm of art.

In this book, we're going to travel through the world of television, video, and digital movie lighting in a fairly methodical way, so that you build an understanding of the "why" behind the "how to." If you'll come along for the

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journey (rather than cheating and just flipping through to find a setup diagram or two), by the time we're finished you'll understand the principles behind the techniques. At that point, you'll be able to improvise, to create new techniques for unique situations, rather than having to fall back on some textbook diagrams; and it means you'll be able to do a better job at any lighting scenario.

Why is lighting so important to great video? There are a number of different reasons, some of which have to do with the camera itself and the way the imaging system translates light into an electrical signal, and others of which have to do with the fundamentals of human perception. But just as important is the fact that we're creating an illusion. Like a magician, we're trying to convince the viewer of something that isn't quite true. We're trying to make it seem as if colored plasma flickering across a flat glass screen are actually lions and tigers and bears and people, the great outdoors, the grandeur of space, and the depths of the sea. We're trying to create the illusion of depth and size in a tiny flat plane. And even more difficult, we're not really trying to capture what the eye sees. We're trying to capture the mind's *interpretation* of what the eye sees, which can be a wholly different thing. But more on that later!



FIGURE 1.1

Owen Stephens, Society of Operating Cameramen (SOC), lights an intimate lunch in Naples, Florida, with his Pampa portable fluorescent instruments.

Good lighting is important for quality video in three different ways:

- First, you have to have proper **exposure**, enough light to generate a signal from the CCDs and raise the signal to a proper level, but not exceed the limits.
- Second, you have to create the **illusion of depth** through use of highlights and shadows so that the viewers forget they are watching a 36" × 20" rectangle of glass with flickering plasma behind it.
- Third, you have to use tricks and illusions to create **mood and feeling** with the lighting, just as the music director will create mood and feeling with the music.

EXPOSURE AND CONTRAST

The most obvious way in which lighting is important for video is in basic **exposure**. Like the wag said, “without lighting all you have is a black picture!” You have to have enough light on your subject to excite the electrons in the camera’s imaging chips to a certain level. It doesn’t matter that *you* can see it—if the camera can’t see it, your video is toast. You’d think this would be obvious, but it’s amazing how many people will try to create a night scene by just shooting in the dark.

This is probably one of the most common “postmortems” that I do, when folks bring me their videos and ask what went wrong. The producer of an independent short brought me some raw camera footage to review a scene his crew had shot out in a field at night with a Sony VX-1000 (Figure 1.3), the first popular DV camcorder—and one that was notorious for its poor low-light performance. They had (almost) all the right equipment, but they really had no idea how to use it, and the result was dreadful. They’d shot in a field with no easily available power, so they brought a small generator and several lights. Unfortunately, they didn’t bring enough “stingers” (extension cords), so when they got the generator far away enough that it wouldn’t interfere with the audio, they couldn’t get the lights very close to the subjects. Then, rather than concentrating the light all on one side (which might have just barely worked), they distributed them around to create a flood of weak, flat lighting. Then they turned on the AUTO EXPOSURE control on the VX1000—a true beginner’s mistake. Since the VX1000 was very poor at low

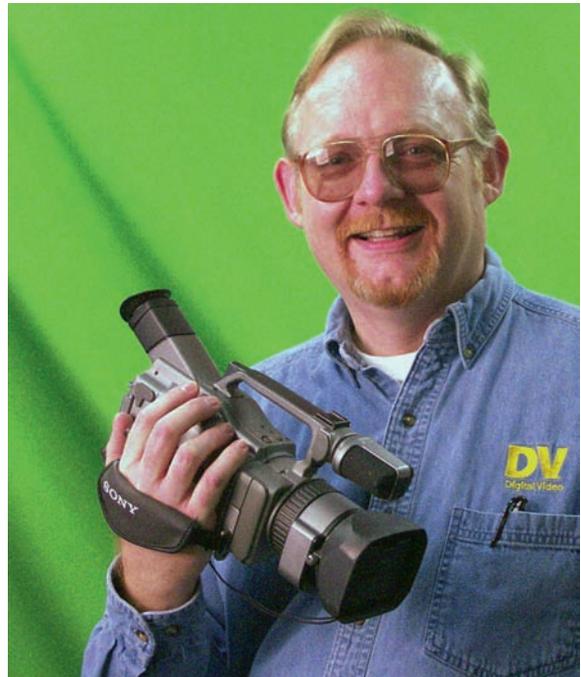


FIGURE 1.2

The Sony VX1000 revolutionized digital moviemaking, but had very poor low-light characteristics.

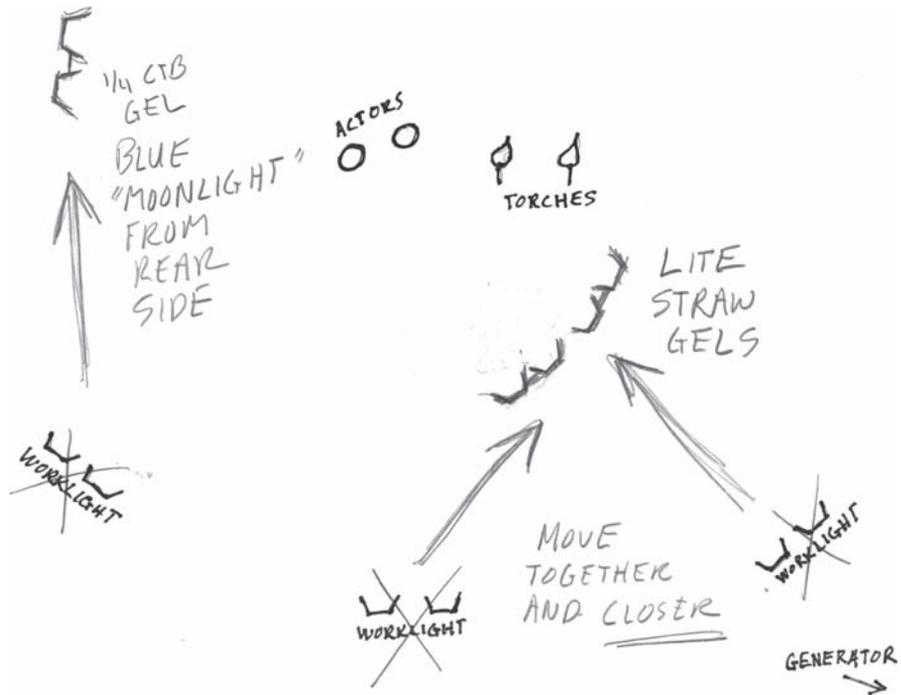


FIGURE 1.3
Lighting diagram for the VX1000 night shoot.

light situations to begin with, the AUTO circuits kicked in full gain to try and make the scene look like a fully lit room, rather than a dark night scene. With the gain all the way up to +18 db, the result was a flat, grainy picture that looked like surveillance video. The one thing it didn't look like was a night scene. "What can we *do*?" wailed the producer, who had now wasted a whole day on this scene.

I drew a diagram, using the same lights they had used but lots more stingers to bring the lights closer to the subjects. I put most of the lights in a group on one side with $\frac{1}{4}$ blue gels. I used one ungelled light as a kicker from the rear on the other side, leaving the camera side unlit. Then I showed their young shooter how to expose manually. The results were pretty good, giving a feeling of a moonlit night. I think they even gave me a credit in the roll!

But just as you must have *enough* light, *too much* light or *too much contrast* can be a problem as well. If a backlight is too intense compared to the key, the highlights will be "hot"—over the electronic definition for full white—and may "clip" so that there is no detail in that area of picture. If the camera operator

stops down to expose for the backlight, then the rest of the subject will be underexposed and the picture will seem too contrasty.

Overexposing causes worse problems than underexposure because sometimes the result can't be repaired. There's a local station where I live (whose call letters shall remain anonymous) where nearly all the location news footage is grossly overexposed. I don't mean a little bit, I mean *grossly*. Large portions of the picture are clipped white, and the dark areas are medium gray. When they interview a person of color, it's not uncommon for the person to look almost Caucasian. When they interview a Caucasian, the face is a white blob with little detail. The studio (though I don't like the lighting aesthetically) is at least properly exposed, accentuating the difference in the location footage.

But once you have a basic level of exposure, what do you do with it? It's fairly easy to blast several thousand watts on a scene so that it gets the electrons in the camera hopping, and then stop down until the viewfinder's zebra indicator goes away and you're not overexposed. But it's much harder to find the nuances that will really convince the viewer's eye and mind of texture, feeling, and mood. This is where the acceptable gets separated from the great.

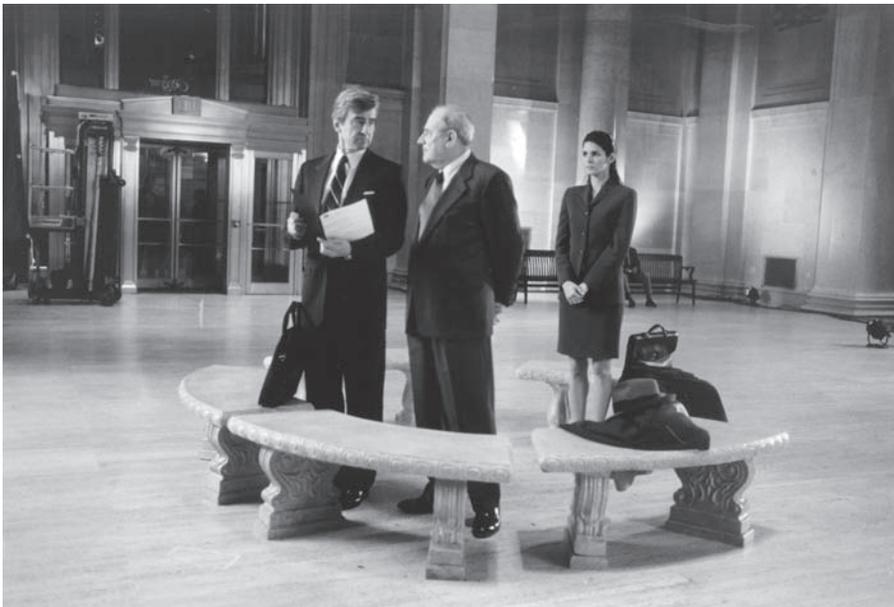


FIGURE 1.4

Sam Waterston, Steven Hill, and Angie Harmon in *Law and Order*, one of the best-lit dramas on television. Photo courtesy of Jessica Burstein.

BEYOND BASIC EXPOSURE

Great lighting begins with the creation of an **illusion of depth**. Keep in mind that no matter how much television is a part of our lives, the TV screen is still just a flat piece of glass with flickering colored lights. Although it has height and width, a television screen is fundamentally two-dimensional: it has no *depth*. No amount of great acting or wonderful music will create that illusion of the third dimension; it's entirely up to the lighting designer to create the feeling of depth. This is done through careful crafting of highlights and shadows, the visual cues that the brain uses to interpret depth. In fine art, the use of light and shadow to create a sense of depth is known as **chiaroscuro**. Together with the refinement of perspective, it is an essential element of great Renaissance art (Figure 1.5).

Most local news studios, talk shows, and soap opera sets are *flat lit* with loads of light and almost complete elimination of shadows. This is done for convenience and economy. The result is a very flat, two-dimensional feeling. The eye doesn't find the cues that help the brain interpret depth, so it's hard to figure out how deep the set is and how far the anchors (or actors) are from one another. We're used to the look from seeing the evening news regularly, so it doesn't bother us, but boy does it telegraph "LOCAL NEWS" to the viewer. Use that lighting scheme for a drama, and it just won't work.

Contrast this to the realistic lighting used in many TV dramas of the last two decades, such as Dick Wolf's *Law and Order* or Aaron Sorkin's *West Wing*. These shows make very heavy use of light and shadow, often lighting close-up subjects heavily from one side with a large, diffused lighting source and leaving the other side in near darkness. The standards for television drama lighting have increased dramatically in recent years. Despite intense production schedules, the production teams on these shows work hard on their lighting to convey the feeling of depth and dimension. Light patterns on walls, mixed-color temperatures, and shadows all create a feeling of the depth of the scene—but also clearly cue the viewer as to an off-screen light source that is appropriate to the set.



FIGURE 1.5

This chiaroscuro woodcut of *The Virgin and Child* by Bartolomeo Coriolano, created between 1630 and 1655, uses light and dark lines to create the impression of dimension.

While some of these shows write new rules for lighting, most films and dramatic programs borrow heavily from what I call the **Hollywood visual vernacular**, the peculiar set of visual cheats and shortcuts that have developed

over the last hundred years of filmmaking. *Vernacular*, of course just refers to “common language.” These tricks are part and parcel of the common visual language of movies. Many of these aren’t very realistic at all, but are a type of visual shorthand that we have been indoctrinated to by years of watching Hollywood films. It’s important to have a sense of these cheats and what they are associated with in the minds of viewers. Why? Because they *work*. They are much like the tried-and-true cheats of the theatre, techniques that work, techniques that the audiences are *used to* and *accept* without question.

In the live theatre, there’s an expression that’s quite important: “suspension of disbelief.” The phrase, which originates with Coleridge* (he was talking about poetry), has come to mean the state in which the audience is fully engaged in the illusion of the drama. In practice, it is a balance whereby the actors, director, and crew use techniques and conventions to create a certain semblance of reality—and then the audience meets them halfway by “suspending disbelief” in the patent fakery. It’s a delicate balance, easily broken; the audience will only go so far. If an actor drops out of character or does something utterly incongruent, the spell will be broken. The audience’s attention will be focused on the fact that this is an actor *pretending* to be Romeo, not Romeo himself. If the tech crew makes a gross mistake (the phone rings long after it has been answered or the gunshot sounds before the policeman has gotten the pistol out of his holster), so too the spell will be broken. The audience will go so far, but no farther.

But those tried-and-true “cheats” that I mentioned above are, in a way, a part of the unconscious contract between audience and play actors. They are a set of conventions everyone accepts more or less willingly, cheats that the audience will accept, obvious artifices that still will not break the all-important suspension of disbelief. That’s what the Hollywood visual vernacular is about—artificial devices that work without interrupting or unduly jostling the audience’s suspension of disbelief.

A great example of “stock” Hollywood vernacular lighting occurs in one of Elvis’s films, *G. I. Blues*. It’s a bedroom scene where he sings a lullaby to Marla’s baby. This room was lit pretty much in Hollywood formula fashion, effective, but certainly not breaking any new ground in lighting design. The bed and Elvis are intensely lit with thousands of watts of studio lights, while the rest of the bedroom is broken into a pattern with several blue-gelled lights with cookies. I think I even recognize the pattern of the standard Mole-Richardson cookie! This broken pattern of blue light on the walls is Hollywood code for “this is nighttime.” The light level in the room is actually quite excessive for what the scene portrays, and it really doesn’t actually look like any dimly lit real bedroom I’ve ever seen. *But with the exception of directors of photography (DPs), lighting designers, and gaffers, no one notices!* Most viewers accept the scene without question, their “suspension of disbelief” fully engaged.

*Samuel Taylor Coleridge, *Biographia Literaria* (1817), Chapter 14.



FIGURE 1.6

Filmmaker Elyse Couvillion and DP Allen Daviau ASC used light to help convey the storyline to the viewer in the independent short *Sweet*. Photo courtesy of Bruce Coughran.

As unrealistic as some of these tricks are, they are effective. The viewer will watch the scene and accept the effect and the mood without question. While it may be exciting to rewrite the rule book and create new techniques that speak to the viewer, let's face it: it's not always going to work. Sometimes it will; other times, it will flop or call such self-conscious attention to itself that it disrupts the viewer's involvement in the story. But even more to the point, most of the time you don't have the luxuries of either time or budget to mess around and experiment. It's often more effective (and realistic) to simply use the old rule-book to convey the right effect.

The real key here is to communicate the proper **mood and feeling** to the viewer. I'm always a bit bothered by the folks who seem to feel that filmmaking is some kind of personal experience that they are allowing the audience to witness. As far as I'm concerned, the art is in *creating an experience that communicates to the viewer*. If you fail to connect to the viewer, if you are so completely about your own experience or vision that you don't consciously accommodate the perceptions of the viewer, your art will likely flop. Lighting that calls attention to itself, that sets the wrong mood, or focuses the eye on the wrong part of the picture is lighting that has failed. It's like a soundtrack that uses obviously artificial sound effects, or an actor that makes the viewer turn to their neighbor and say "What wonderful acting!" Truly wonderful acting immerses the viewer so much in the character and the story that the viewer would never think to make such a comment.

Whether you use a hackneyed Hollywood trick to create that mood or come up with a new and creative technique of your own, the important point is to create an illusion that will fool the eye—or rather the mind—of the viewer. Great lighting, like great music, will reinforce the emotional or psychological impact of what is happening onscreen.

Suppose for a minute a scene of tension in which the main character is hiding in a darkened room when suddenly the door slams open and a mysterious new player enters the scene. We don't know who he is or what his intentions are; he might be an axe murderer or he might be the good guy. It could be effective to use a strong dramatic backlight, silhouetting the new player in the doorway. A bit of mist floating around makes the light beams visible, creating a sort of nimbus around the silhouetted figure. Tie this in with a dramatic chord in the background music, possibly a dolly forward, and you've got a great scene that will have the audience on edge.

Now imagine a very different scene: the first kiss of a teenage couple. Unsure of themselves, that spark has crossed like an electric shock between them as their eyes met; both move tentatively toward one another, hesitant, sensitive to any cue of withdrawal or rejection. Now apply the same lighting, the same music, the same dolly move. Yuck.

While I suppose that I can stretch my imagination to find a spikey, edgy storyline with tense characters where it *might* work, it's really not too likely. You want soft lighting; you want the rest of the scene to fade away a bit to convey the way that the young lovers' attention has collapsed until only the two of them exist.

Now, these may seem to be extreme examples, and in fact they are. The extreme example is there to make a point. You need to decide what feeling you are trying to convey, and you also need to have an understanding of how certain looks will communicate to the viewers. We are all trained by a hundred years of movies into certain perceptions. You need to think out how to create that feeling, that sense of place, mood, or circumstance before you even set up the first light. With a little practice, some tricks and techniques, and an understanding of how all this works, you'll be able to set up the proper mood quickly and with only a few instruments.

Of course, there is room for experimentation, for new effects, for lighting that breaks the rules and makes the audience uncomfortable without understanding why—rather like Hitchcock's combination of zooming in and dollying out at the same time, which created a creepy feeling that most people couldn't put their fingers on. But my message to ambitious students especially is this: *you have to learn how to do it by the rules before you can know how to break the rules!*

In the next chapters, we're going to walk through the basics, the tricks, and the techniques so that we can get to the ultimate point of the book, the creative artistry of truly fine lighting. This will give you the foundation from which you can springboard—perhaps into new lighting visions that no one else has tried!