With a focus on story as a guiding principle at each stage of the production process and an emphasis on collaboration as an essential skill for each member of a successful film crew in the digital age, *Filmmaking in Action* offers compelling conversation between Hollywood professionals and your class within a fully integrated print/media product. Adam Leipzig, former President of National Geographic Films, and Barry Weiss, former head of animation at Sony Pictures, are longtime insiders in the film community. Along with prominent journalist and industry expert Michael Goldman, they share invaluable experiences and easy-to-implement ideas—plus unparalleled access to the industry’s most accomplished and insightful professionals.

Whether they’re aiming for YouTube, the Clio’s, Sundance, or the Oscars, *Filmmaking in Action* helps you teach your students about all aspects of filmmaking, through every step of the production process. From script to camera, from production to distribution and marketing, and everything in between—it’s all here.
Michael Goldman
Michael Goldman is a veteran entertainment-industry journalist and author, who has penned seven books, including his work co-authoring Filmmaking in Action. Among these are the New York Times best-seller John Wayne: The Genuine Article; Clint Eastwood: Master Filmmaker at Work, an authorized look at the legendary director’s filmmaking techniques; and Reality Ends Here: 80 Years of USC Cinematic Arts, the definitive history of the world’s oldest and most famous film school. He is a frequent contributor to American Cinematographer magazine, and writes for a host of industry publications, newsletters, and websites, including CineMontage, SMPTE Newswatch, and Post magazine. Michael served for many years as senior editor of the famed industry trade journal Millimeter and, before that, as an editor at Daily Variety. In his work over the years, Michael has interviewed many of the world’s leading filmmakers across all disciplines. Learn more at his website, hollywood-scribe.com.

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Barry Weiss
After completing his MFA at the USC School of Cinematic Arts, Barry worked on some of the most profitable, award-winning projects of the last 20 years. In the roles of animation executive, producer, and collaborator with Sony Pictures, Warner Brothers, Nickelodeon, and Turner Pictures, he has achieved an unparalleled record of success. Barry was instrumental in the creation of two animation studios, leading the teams that created the animated characters for the Stuart Little and Spider-Man franchises, plus characters for 20 additional films, such as Open Season and Academy Award nominee Surf’s Up. He is credited on 62 films and shorts, two of which have won Academy Awards and eight additional nominations. Barry is also an Emmy Award winner and began his career as a tour guide at Universal Studios.

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How Do I? videos profile award-winning Hollywood professionals who have worked on movies like Star Wars, Titanic, The Hurt Locker, Pineapple Express, Man of Steel, Fight Club, The Great Gatsby, Argo, The LEGO Movie, and more, as they let students in on tricks of their trades: writing, directing, producing, editing, shooting, and more. A print box in the book corresponds to a video interview on LaunchPad, offering real advice that students can use. See page V for a complete listing of How Do I? interviews.

Many people think of production design as what’s on the surface: the design of various elements we see in movies. But as veteran production designer Alex McDowell notes, it’s more about the “connective tissue” that holds all those design elements—environments, objects, and characters—together. McDowell talks more about using production design to enhance a movie’s story in a video interview available only on the LaunchPad for Filmmaking in Action.

How Do I . . .
Use Design to Tell a Story?

Go to LaunchPad and find out: macmillanhighered.com/filmmaking

Many people think of production design as what’s on the surface: the design of various elements we see in movies. But as veteran production designer Alex McDowell notes, it’s more about the “connective tissue” that holds all those design elements—environments, objects, and characters—together. McDowell talks more about using production design to enhance a movie’s story in a video interview available only on the LaunchPad for Filmmaking in Action.

ACTION STEPS
Choosing a Color Palette

In Chapter 11, we discuss various aspects of manipulating color to achieve creative goals in postproduction, but it is important to remember that the more you get right in the design phase, the less digital color manipulations you will need to worry about later. As you design your film, keep in mind that color is one of the designer’s primary tools in helping to convey various aspects of a story’s time frame, location, character traits, emotions, moods, and motivations.

Also, remember cinematography as you choose a color scheme. Study what colors will look good when captured in the light you plan to use with the cameras you plan to use, and keep in mind that certain colors will render differently depending on the film stock or digital camera system you use, how you light the scene, and what format you are outputting the images to. For example, any form of water can take on any color based on how it is lit, time of day, or the filter choices by the cinematographer. The design choice of the water’s color will greatly influence the emotion of the shot. (Chapter 8 gives helpful insight into some of the strategic ways you can use various types of color gels on lights and filters on camera lenses to influence color tone, range, and saturation in-camera.)

Here are some tips for choosing and working with a color palette:

1. Select a general color palette. This is not a hard-and-fast conceptual rule, nor is it about executing perfect color coordination. Rather, it is a useful guideline—a way of making sure everything captured by the camera stays within your story’s world. When thinking about your palette, pay attention to colors used in photos, movies, magazine articles, and other materials. If they relate to the era and story themes you are putting together, evaluate if those color schemes would be applicable to your material.

2. Keep color choices consistent. Be sure that they support the characters and environments you are photographing. If your movie is based on comic
Tech Talk introduces the hardware students will encounter in the classroom and on the job.

Business Smarts explains the ins and outs of financing and dealmaking in the movies.

Producer Smarts provides big-picture examples of a producer’s role.
LaunchPad for Filmmaking in Action

Available packaged free with Filmmaking in Action or as a standalone resource purchased separately, LaunchPad brings together all of the media content for the textbook, curated and organized for easy assignability and assessment, and presented in a powerful, yet easy-to-use interface.

LaunchPad features

**All digital resources for the book in one location**—including an interactive e-Book, How Do I? videos (see next page), activities, quizzes, and more.

**Video Tools**—this innovative tool makes it easy for students to deliver film assignments and collaborate on the day’s shoot through commenting and rubric assessment functionality.

**Pre-built, ready-to-assign units**—LaunchPad organizes the book’s media content into pre-built, expertly curated units for each chapter that can be assigned as is or easily customized to suit the way you want to teach.

**Downloadable Instructor’s Resource Manual**—offering recommending teaching methods, ideas for class discussions, advice for encouraging critical and active viewing, a list of must-see movies, and sample syllabi.

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How Do I Videos in Filmmaking in Action

With these exclusive interviews, students hear directly from some of the most accomplished, award-winning professionals in the film industry — directors, writers, producers, editors, designers, and other industry insiders. Together, their advice forms an expert crash course in all facets of filmmaking.

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How Do I…? Get My First Movie Made
Cherien Dabis, writer/director (Amreeka; May in the Summer)

Chapter 2 Concept and Preparation
How Do I…? Respond to Script Notes
Julia Camara, screenwriter (Open Road; Area Q)

Chapter 3 Directing
How Do I…? Set the Tone On-Set
David Gordon Green, director (Pineapple Express; Prince Avalanche; Joe)

Chapter 4 Start with a Script
How Do I…? Use Design to Tell a Story
Alex McDowell, production designer (Man of Steel; Charlie and the Chocolate Factory; Fight Club)

Chapter 5 Production Planning and Management
How Do I…? Manage My Production’s Details
Lulu Zezza, production manager (Nine; The Reader; The Nanny Diaries)

Chapter 6 Camera Skills
How Do I…? Prepare the Camera
Jacob Pinger, camera operator (The LEGO Movie; Brooklyn Nine-Nine)

Chapter 7 Telling the Story with the Camera
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Mandy Walker, Cinematographer (Jane Got a Gun; Tracks; Australia)

Chapter 8 Lighting Skills
How Do I…? Light with Minimal Tools
Willie Dawkins, gaffer and lighting technician (Parks & Recreation; Brothers and Sisters; The Rock)

Chapter 9 Telling the Story through Lighting
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Russell Carpenter, cinematographer (Ant-Man; Charlie’s Angels; Titanic)

Chapter 10 Sound
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“There is no such thing as a paint- and construction- and decoration-free narrative film. If you do that, it’s a documentary.”


Conceptualization and Design

When Jeannine Oppewall discussed production design concepts with Steven Spielberg for his 2002 film Catch Me If You Can, it didn’t take long to realize her principal challenge would involve designing what she calls “a color arc” to help Spielberg tell the story of a con man’s rise and fall through the film’s narrative sections.

“Steven talked a lot about how the character Frank [Leonardo DiCaprio] started off ignorant and inexperienced, and then through a series of events, he learned how to practice his craft of passing false checks, got better at it, and then his life got more lively,” says Oppewall, a Hollywood production designer with over 35 major feature films to her credit. “Then, he was caught, and his life became dull again. To interpret that visually, I decided to have him start out in a relatively monochromatic world, without many wild colors. Slowly, we would build up color and put more life into his environments, and then when he is at the top of his game, having the most fun of his life, that is where we would have the brightest colors in the movie. Later, when he is caught and in prison or in FBI custody, the colors become...
monochromatic and predictable again. It was a particularly controlled color arc to match what was going on in the story."

In production designer Jack Taylor’s case, an initial examination of the script for the low-budget, independent film Atlas Shrugged: Who Is John Galt? quickly made clear that his principal challenge would be the issue of how to balance ambitious locations described in the script—the final movie in a trilogy based on the controversial Ayn Rand novel—and an extremely limited budget. Among the complex locations that the script required, for example, were an airplane crash site in a mountain forest, a mining cave, a mysterious energy-generating motor that lies at the heart of the plot, and a helicopter pad overlooking a glittering nighttime cityscape.

Taylor—a protégé of legendary production designer Henry Bumstead, who has worked for Clint Eastwood and Martin Scorsese, among others—says budget and logistics required the production to film on 71 location sets in just 18 grueling days, exclusively in the Los Angeles area. After some calculations, he quickly concluded that he would need to find an average of four workable location settings per day that could be transformed into different places, while also accommodating equipment and catering trucks, base camp, and crew. Thanks to his experience and exhaustive hours of research, Taylor eventually decided he could group the aforementioned four illusions together in a single location to be shot on a single day—at the Griffith Park forest area in the middle of Greater Los Angeles. "I realized Griffith Park could be made to look like it was anywhere in the Colorado Rockies, so it became the area we made into the crash site,"1 Taylor explains.

A few steps away, under some cedar branches along a hiking trail, we were able to place the "Motor Generator Monolith Temple" as described in the script [and Ayn Rand’s novel], and just up the nearby Park Service access road was the Forestry Department’s Helipad that they use to land water-dropping helicopters. Wouldn’t you know it, the helipad overlooks the sprawling Los Angeles basin for the night shot we needed with the towering buildings of downtown Los Angeles as a backdrop. And not far away, within company shuttling distance, were the Bronson Canyon caves, which were a perfect location for laying railroad tracks for mining carts, as the script also required. [The same caves can be seen in the final sequence of John Ford’s The Searchers and were used as the entrance to the Batcave on TV’s Batman.]

The point of these examples is that both designers, above all else, dedicated themselves to meticulous analysis of their respective scripts, detailed research, location scouting, and a keen understanding of the role physical space and color play in telling cinematic stories. Taylor emphasizes that the production designer typically must, in low-budget filmmaking, "wear many hats. I had to be deeply involved in location selection and be responsible not only for the look and world environment that the characters of the picture inhabited, but also for the physical ability of the production company to be able to make the product on time, and within reasonable budget parameters."

In other words, it is not enough to be an accomplished artist, as Oppewall and Taylor are. You also need to emulate their considerable skill at pounding the pavement, strategically examining nooks and crannies of all sizes and descriptions, and constantly seeking out ways to balance what is aesthetically pleasing with what is efficient and both logistically and financially feasible.

Though your individual circumstances and skill level may be different, design will prove crucial for your first student film and your wider film education. Author Vincent LoBrutto describes production design as a discipline that “renders the screenplay in visual metaphors, a color palette, architectural and period specifics, locations, designs, and sets.”2 More simply, we might say that production design is about creating the environments necessary to tell your story.
In truth, however, production conceptualization and design is the most collaborative of the crafts. It involves, to one degree or another, the need to incorporate construction, props, locations, costumes, cinematography, lighting, sound, visual effects, graphic design, and even hair and makeup—or at least it interrelates with these departments over time. Learning the fundamentals of design will also help you understand what it takes for different craftspeople to do their jobs successfully, and how to think creatively and logistically at the same time. If you take the basic principles and strategies we will now discuss, and combine them with a proactive effort to widen your own education about art and design, train yourself to become more research oriented, and dedicate yourself to serving your story’s advancement with every visual decision you make, you will achieve viable sets and locales for your films.

The Principles of Design

This is not an art class, and you are not reading an art textbook; why, then, is it useful to pause and learn some of the basic, art-related principles of production design, many of which emanate from the theatrical world?

Primarily, it’s because a baseline goal when producing a movie is to ensure that all the things you want to be seen by viewers will, in fact, be seen as you intended, and anything you want hidden will be invisible. At the foundational level, then, you are attempting to figure out three things: how to use the physical space you have available to you, how to design sets for that space, and how to arrange elements on those sets to maximize creative success. Even when you are making a 3D movie, you are essentially conceptualizing and composing a 3D image on a two-dimensional surface. Where you place people and elements, where you want to draw the viewer’s eye, where you want light and where you want darkness—these are all directly related to how you want the viewer to react, and the mood you want to evoke. These goals seem fairly simple and straightforward, but in fact, the more fundamentals of design you can master, complicated though they may be, the more success you will have in reaching such goals. Indeed, understanding these principles will help make you a better filmmaker in the long run, even if you have no desire to go into production design specifically, simply because you will have a better sense of how to use space and collaborate with other artists.

To be sure, you will need to do some exploration in other disciplines to get this education. Art, photography, theater, and literature are all areas in which you will learn about proportion, scale, composition, depth, color, and so on. But the basic fundamentals we will now discuss will serve you well as a solid foundation for those ongoing lessons.

Design Composition Elements

In Chapter 7, we will analyze elements of good composition as they relate to cinematography—strategies and principles for positioning people and objects for the purpose of framing images through the lens for maximum balance and impact. This essentially involves how two-dimensional space will be organized in the frame. Before we get to that lesson, though, you need to think about composition as it relates to production design. Not surprisingly, the two areas in which composition is crucial—cinematography and production design—are interrelated. A key part of the production designer’s job is to make sure elements are designed and arranged in such a way that the director and cinematographer can position or reposition people, objects, crew, and equipment to execute their visual plan for
framing and executing shots. Without proper placement and spacing of elements on a set, filmmakers will have a hard time getting composition right.

Thus, from a design point of view, composition involves the proper design of spaces for filming, and the design and placement of elements on sets and locations behind—and all around—actors and other principal focal points. Keep in mind that the actor is typically the most important element in a frame—anything that competes with or dilutes the presence of your actors is usually to be avoided. The notion of designing a space to aid composition is subtly different from the notion of arranging elements in particular ways for particular shots—that is a subject we will discuss in the next section. Meanwhile, you may hear other terms that refer to the same concept as composition—form or ordering, for example. But whatever term you use, the point is, you need to get a plan together for how you want to structure spaces in every scene in your movie.

Remember that many important compositional concepts come out of the art and theatrical worlds, but their essential roles, in most cases, are similar or even identical when applied to moving-picture imagery. The most important concept of them all is the idea of space and how to use it. How you give the illusion of physical space or space between elements impacts how depth, size, and proportion are perceived by the viewer, and thus plays a direct role in the emotional impact of scenes. Cinematography and lighting are crucial to representing space in movies, but so is production design. In design, the term positive space refers to space that is filled with objects of some type. Negative space, as we will elaborate in Chapter 7, refers to wide, open space that remains empty until used by actors as they move from one position to another. There are also the concepts of shallow space and deep space in design. When two objects are placed on a set and photographed with very little depth, whereby elements or people occupy almost the same positions, it is called shallow space, resulting in a flatter image. When one element is in the foreground and the other is in the distance, it is called deep space because that juxtaposition gives the illusion of distance.

Beyond those basic definitions, however, you need to think about how your use of space is helping, or hurting, the story. Usually, if you have competing ideas or are undecided about how to use a space, your best bet is to simplify things—strip away clutter and only use colors that invoke the intended mood.

Other important compositional categories for you to understand as you strive to properly execute design include the following:

- **Center of interest.** This is sometimes called “point of emphasis.” As either name implies, the idea revolves around the notion that every frame in a motion picture has a specific area where the filmmaker wants your attention directed. In this sense, it’s the most important part of the frame. Therefore, your design must accommodate what you want to emphasize in each shot. This might mean adding certain elements, like color or contrast or props or set pieces (see p. 75), or avoiding things that would distract from an actor or some other non-design-related element. Every element must have a purpose in adding to the characters or the story.

- **Harmony and contrast.** Similarly, these concepts out of the art world involve composing frames with matching or similarly shaped elements to avoid a distracting contrast, unless, of course, such contrast is a creative choice. Thus, you would want pieces of furniture to match or be similarly shaped or textured to achieve harmony, and you would mismatch them if you wanted to achieve contrast.

- **Value.** This refers to the differences between light and dark in a design—that is, the contrast between black and white elements: the larger the value, the wider the contrast in shots.
**Balance.** This characteristic involves achieving some form of equality in terms of shapes, forms, colors, and so on, in a frame. Production design can be crucial in helping to achieve balance, so that the viewer’s attention is not unintentionally directed to one part of a shot over another.

**Line.** In frames, this term refers to shapes that essentially create a visual path for the eye to follow, usually toward the main focal point of a frame. Lines can therefore be patterns on walls, run in any number of directions, be of different thicknesses or textures, or not even be physical at all. Deliberately choreographed movement or blur can create lines, and visual illusions that mimic movement can also be incorporated.

**Shape.** In design, shape is exactly what you think it is—two-dimensional areas with specific edges to them, generally classified as either geometric shapes or organic shapes. In either case, with good design, shape can be used strategically. If a table is shaped like an oval or an octagon in a particular scene, it is because filmmakers decided that the shape would work best in terms of drawing the viewer’s eye to the primary element in the frame.

**Color.** The foundation for all color-related goals, even those finalized in post-production, begins on-set, because color is a major tool in implying or enhancing different moods and emotions in cinematic stories. Thus, for production design, the term color refers primarily to specific hues and other properties, such as temperature, brightness, and saturation. (See Action Steps: Choosing a Color Palette, p. 77, and Tech Talk: Color Theory in Design, p. 76, for more on choosing a color palette and understanding the properties of color.)

**Form.** In design, this term refers to three-dimensional objects that have a certain volume and thickness to them, and that can be lit or shaded in particular ways to create three-dimensional effects from certain angles.

**Texture.** Although viewers can’t physically enter movies and feel textures, they can subtly see them when elements are correctly designed. Texture is all about the quality or feel—smooth, rough, jagged—of object surfaces. Remember it only matters how the set looks on screen. If your set calls for granite floors, you don’t necessarily need real granite. Very often, expensive materials and textures can be replaced with paint.

**Size/Scale.** Different sizes or differences in scale can evoke moods and emotions in viewers; therefore, size variations among elements are frequently used in production design. Keeping with the theme of simplification, you should typically apply scale in accordance to the theme or mood of the scene or the character’s situation. If the character is lonely, lost, or overwhelmed, consider using a very large space to dwarf the actor. If the character feels trapped or claustrophobic or eager to escape a situation, think about including low ceilings to make the space feel more oppressive.

**Rhythm.** In design parlance, rhythm refers to making certain elements recur or show up in some kind of regular pattern.

**Mise-en-Scène**

The specific arrangement of elements on a set goes hand in hand with the overall design and use of the space itself. The French term *mise-en-scène* has been brought over from the theatrical world to express this concept. Mise-en-scène
Part 1  Concept and Preparation

refers to the display of every visible element in a frame—from the architectural structure to the paint on the walls down to the smallest props, and everything in between—with the notion being that everything visible has a purpose and is there to reinforce the point of the scene or aid viewers in figuring out, or contextualizing, the story’s details based on what they see and how it’s arranged.

In that regard, there are certain factors you need to think about in terms of how elements will be arranged. These include the following:

- What or who will be dominant in the shot?
- What type of shot and camera angle will be used—wide shot? close shot? (See Chapter 7).
- How will you be framing the shot?
- What should be the dominant color in the scene?
- Form—will the set be open or closed? Will actors or elements be framed within a window? a door? an archway?
- Where will characters be placed, and how will they be moving—in other words, how will you be blocking the scene? Will they be facing the camera? each other?
- Depth—what kind of space will you want between characters and major elements? Will you need to emphasize any particular background elements?

These and other factors are reasons why storyboarding or digital previsualization, as we discuss on page 88, can be valuable in helping filmmakers visualize elements in relationship to one another and in relationship to the camera and lights, even helping to block out basic camera moves and angles. But no matter

Tip  DO YOUR HOMEWORK

Watch movies and study film history. The best way to learn production design is to examine the work of leading directors and designers; the world of film is chock-full of this kind of work.

*Out of the Past* (1947) uses noir-style lighting as part of its mise-en-scène. Courtesy Everett Collection.
what method you use to “see” these elements coming together, you need to understand the function of each of these design-related elements:

- **Decor and props.** On a professional project, a separate art director, working for the production designer, will handle the creation of decorations, or set pieces (items that are not actually used but are part of the environment in which events take place), and props (items that characters will be physically interacting with and using). In this class, you will be figuring these things out for yourself. To accomplish your own mise-en-scène, move your thinking beyond simply “finding stuff that looks good” to thinking about each element’s significance and usefulness. Will a decorative item reflect a character’s lifestyle or beliefs, such as a crucifix on the wall if the character is religious? Will another decoration indicate the character’s economic status or environment he or she is confined in? Will it indicate conditions or events, such as bars on windows or bullet holes in walls?

- **Costumes and makeup.** Logically, the purpose of a costume is to clothe a character according to that character’s specific characteristics in order to enhance believability. In professional productions, costume design, makeup, and hair design are all separate disciplines, whereas you will have to handle these issues yourself. In either case, costumes, makeup, and hair eventually all need to be integrated with production design. Thus, the nature, color, patterns, texture, and placement of clothing on the actor are part of mise-en-scène—part of the larger arrangement of visual elements on your set. Therefore, you need to think about your overall design when considering costumes and makeup, rather than addressing them independently.

- **Lighting.** Lighting sits at the heart of successful cinematography because of how its skillful use can contribute to emotional reactions from the audience. This is why we have devoted two chapters to the discipline (Chapters 8 and 9). Lighting impacts numerous other disciplines—production design, in particular. Simply put, light and design need each other. Design can help enhance or obstruct or manipulate light on-set, and light can help display or enhance designs or, alternatively, hide flaws, among other things. Along these lines, veteran director and production designer Catherine Hardwicke strongly urges students to study lighting in paintings and photographs. “What direction does the light come from?” she suggests you contemplate. “Don’t forget, light can expand space—even small sources of light at the far end of a room, or deep in the distance, can add great depth and production value.” In Chapter 9, we discuss high-key light and low-key light—both of which are important complements to design. High-key lighting reduces shadow and thus reduces tension; therefore, it is used in environments that are designed for those moods. Low-key lighting, by contrast, is a strong-contrast lighting approach designed to heighten tension with darkness and shadows. Orson Welles’s Touch of Evil (1958) and Carol Reed’s 1949 The Third Man (which starred Welles) perfectly illustrate how light and design can be united in tense stories. Having a close synergy between design, lighting, and camera positioning can also help you save time and money in the design process by eliminating elements that will never be seen in the frame.

- **Human beings.** In Chapter 3, we had the larger discussion of how to direct and use actors for maximum effect, and we have already mentioned costuming and the impact that has on design. But the physical attributes of your actors and
how they are placed and moved in scenes is also part of the mise-en-scène paradigm. In this respect, the concepts of typoage and frontality come into play. Typage involves using actors based on facial or body features, almost a stereotype of sorts, but not only for purposes of story points. Typage can also be used to enhance design ideas—people with Asian features to enhance Asian environments, short or tall people to fit properly into certain fantasy environments, and so on. Frontality refers to the idea of staging an actor so that he or she faces the camera directly. This might be done if the actor is in a scene meant to make viewers feel they are part of the same world as the events they are seeing on the screen. If the actor is facing the camera, elements around him or her may need to be specially arranged.

Depth. Earlier, we defined the term space as it relates to production design. And we mentioned the notions of shallow space and deep space for how ele-

Color Theory in Design

We discuss various aspects of color’s role in cinematic presentations in Chapter 8, including such general notions as the idea that the more colorful an environment, the warmer it appears, and the less colorful, the colder or more sterile it appears. Color theory represents an entire academic discipline beyond this book’s scope, and you will benefit from educating yourself about it in more detail beyond this course. From a production design point of view, focus not only on how to create or select particular colors for particular elements but also on how other elements will impact or be impacted by those choices. What factors influence or change colors or cause them to clash, contrast, or match up nicely with one another?

The principles of color theory can assist you with these questions. Hues (predominant color attributes), luminance (brightness), and saturation (intensity) are terms you should familiarize yourself with, because you will be considering them as you make color selections. Colors you choose can grow brighter, duller, distracting, more appealing, or confusing to the eye depending on various factors. In terms of filmmaking considerations, here are a few areas that directly impact color on-set:

- Lighting, as noted here and in Chapter 8, directly affects how color and physical elements appear to the camera and recording medium you are using.
- Smooth surfaces tend to make colors more saturated, and dull surfaces tend to make them less saturated.
- Dark backgrounds make foreground colors appear lighter, white backgrounds make foreground colors appear darker, and background and foreground colors can have a visual impact on the intensity of one another on the big screen.
- Warmer colors (reds, oranges, and yellows) tend to translate to more upbeat emotional responses from viewers. They also tend to make objects appear smaller and thus are often used closer to the camera. Cooler colors (blues, greens, and purples) tend to evoke less empathetic emotional responses and make objects look larger; therefore, they are often used for objects meant to be perceived as being far away.
- Some colors can evoke specific emotions, such as sexuality or anger in the case of red. White often suggests calm and simplicity, black often suggests evil or fear or deep mystery, and so on.
ments can be staged. Those decisions connect directly to mise-en-scène considerations; the placement of elements will obviously be very different if your major points of focus are far away from one another in the frame rather than extremely close together.

**ACTION STEPS**

**Choosing a Color Palette**

In Chapter 11, we discuss various aspects of manipulating color to achieve creative goals in postproduction, but it is important to remember that the more you get right in the design phase, the less digital color manipulations you will need to worry about later. As you design your film, keep in mind that color is one of the designer's primary tools in helping to convey various aspects of a story's time frame, location, character traits, emotions, moods, and motivations.

Also, remember cinematography as you choose a color scheme. Study what colors will look good when captured in the light you plan to use with the cameras you plan to use, and keep in mind that certain colors will render differently depending on the film stock or digital camera system you use, how you light the scene, and what format you are outputting the images to. For example, any form of water can take on any color based on how it is lit, time of day, or the filter choices by the cinematographer. The design choice of the water's color will greatly influence the emotion of the shot. (Chapter 8 gives helpful insight into some of the strategic ways you can use various types of color gels on lights and filters on camera lenses to influence color tone, range, and saturation in-camera.)

Here are some tips for choosing and working with a color palette:

1. **Select a general color palette.** This is not a hard-and-fast conceptual rule, nor is it about executing perfect color coordination. Rather, it is a useful guideline—a way of making sure everything captured by the camera stays within your story's world. When thinking about your palette, pay attention to colors used in photos, movies, magazine articles, and other materials. If they relate to the era and story themes you are putting together, evaluate if those color schemes would be applicable to your material.

2. **Keep color choices consistent.** Be sure that they support the characters and environments you are photographing. If your movie is based on comic book material, you might use a comic-strip-inspired color palette. If you are making a film noir piece, you will probably gravitate to blacks, browns, grays, and anything else that looks good in low light. If you are making a lighthearted romantic comedy, you will likely want to keep the movie within the confines of bright, cheery colors and how they will appear on-screen.

3. **Do color tests.** Use paint and fabric swatches, actual paint, or colored markers to experiment with combinations, examine options, and study various colors.

4. **Create a color script.** A color script is a series of color drawings that show the design arc of the story from the perspective of color. Simply by looking at where the “cool colors” and the “warm colors” are placed, you can see the ups and downs of the story arc as visualized by the production designer.
Many people think of production design as what’s on the surface: the design of various elements we see in movies. But as veteran production designer Alex McDowell notes, it’s more about the “connective tissue” that holds all those design elements—environments, objects, and characters—together. McDowell talks more about using production design to enhance a movie’s story in a video interview available only on the LaunchPad for Filmmaking in Action.

**Discover:**
- How designs for *Fight Club* became an extension of the screenplay
- How production design can offer solutions to narrative requirements
- Why what’s on-screen in a movie is not always as important as the reasoning behind what’s on-screen

Visit the LaunchPad for Filmmaking in Action to learn more—and to explore how you might use this advice.

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**How Do I . . . Use Design to Tell a Story?**

Go to LaunchPad and find out: macmillanhighered.com/filmmaking

**NAME:** Alex McDowell  
**TITLE:** Production designer  
**SELECTED CREDITS:** *Man of Steel* (2013); *Watchmen* (2009); *Charlie and the Chocolate Factory* (2005); *Fight Club* (1999); *The Crow* (1994)
With the aforementioned design principles in mind, formulate a workable plan for how you will go about designing your film's locations, sets, backgrounds, and other environments. Similar to other aspects of filmmaking, this starts with breaking down your script (see Action Steps: Design Analysis, below). During that process, you will reach conclusions about what scenes will require locations to shoot in, and which ones you will either need or want to build sets for. Then, you will dig deeper and decide what locations should be dressed up or altered in some way, and what set pieces and props you will need.

After you evaluate your story, think about which of these choices are realistic and which are not—what you can and can’t actually do—and how you can either tailor your resources for what is on the written page of your script or strategically write something that you know will fit your resources. For example, if you know you will have no crew, and you have no construction experience or funds for buying materials, then obviously you will need to focus on finding existing locations rather than building sets. On a professional production, you would make these types of decisions in partnership with a production manager—the person responsible for evaluating proposed locations from a logistical standpoint—as we will discuss in Chapter 5. For now, at the student level, you will likely be solely responsible for considering the balance of your creative needs with your logistical limitations while evaluating this delicate location versus sets paradigm.

In fact, because of resource limitations, student filmmakers most typically film on location, rather than trying to afford stages and build sets. However, even if that is the case, you will almost certainly still need to build, paint, or otherwise change something. Thus, the fundamentals of figuring out and allocating resources, scouting locations and dressing them, and building sets or set pieces are just as important for you to learn as are the principles of art and composition.

**Practice**

**ANALYZE A SCENE**

Watch William Wyler’s classic 1959 film, *Ben-Hur*, with special attention to the important four-minute “The Race Goes On...” scene, which takes place following the film’s famous chariot race, when the dying Messala meets his vanquisher, Judah, as he lies on his deathbed. (You may also be able to find the specific scene on YouTube or elsewhere online.)

In the scene, take note of the production design in general, and the concept of mise-en-scène in particular. Write an essay describing in as much detail as you can how production design concepts came together to advance the emotional impact of the scene, from the smallest props and decorations to the colors, use of light and shadow, and so on. Note that there is no perfect description for all of this, but the sequence exemplifies how a set can be physically designed and a space used and lit so that the grand total of all the elements is far greater than the sum of the individual parts, which is, of course, the whole point of the mise-en-scène concept.

**ACTION STEPS**

**Design Analysis**

The screenplay is the first indicator of what the foundation for your production design needs will be. Following is a rundown of basic factors in your screenplay that will directly impact your design plan. It’s important for you to develop an awareness of these factors within your story before you can properly move on to the research phase and then begin designing sequences, because some, if not all of them, will influence virtually every design decision you make:

1. **Time and Place.** These are probably the most obvious considerations when you first review your screenplay. If your story is a period piece or takes place in a unique locale, that will directly influence many design parameters, from costumes to architecture to colors to doorknobs. But keep in mind that the trick is in the details: you will need to make notations about the kind of details you must research for the era and locations your story requires.
Define Characters. A character's personality, lifestyle, and personal needs directly impact, as they would in real life, that character's living, working, or recreational space. Evaluate and make notations about each character's personality, economic situation, age, and so on. Think of what kind of residence that character could logically afford or have access to.

Light. When evaluating your script, think practically about what kind of lighting the story will require. We have already discussed the value light can have in aiding production design, both generally and creatively, but you also need to think about light with specificity, as it relates to your story. On page 88 we examine previsualization, which can include particular lighting setups when feasible, but before you get to that point, breaking down your screenplay can help you determine what your overall lighting needs will be. After all, every locale other than a pitch-black room needs to have some kind of illumination. Scenes can be lit naturally, by sunlight, moonlight, or ambient light through windows; by source lights built into the set; or by movie lights, as we discuss in Chapters 8 and 9. Movie lights can be expensive and are not always feasible, particularly for student productions. So examine the script to start understanding what kind of lighting each scene might require and how you might fulfill those requirements. Will you need rooms with big windows? Can you illuminate scenes with practical lamps that are part of the design, forgoing movie lights? These are things you can notate when you first evaluate your script, long before you get into detailed research and design work.

Color Palette. On page 77, we discussed issues related to choosing a color palette in detail. Keep that discussion in mind as you break down your script, and search for the mood of every scene to help your design plan along; the mood of the events in the story will help you determine colors, so make notations about those sorts of things as you analyze the script.

Dynamic Space. As you read the script and make general notes about locations and sets, consider specific ways that you could make them as dynamic, interesting, and logistically feasible as possible. A boxed-in, four-wall room limits possibilities and actor movement, and should therefore only be used if the story demands it. If your options are limited, consider whether a certain space would allow you to establish depth with windows or glass doors. (See pp. 73–76 for more on the arrangement of people and elements within a particular space.)

Feasibility Factors. As you break down the script, think about resources and what is—and is not—practical. Are the locations or sets described in the screenplay even feasible? Will some of the elements called for require permits or bring about other complications? Should you consider rewriting scenes to ease some of these limitations? We discuss some of these logistical matters in more detail shortly, but you should start thinking about their impact on your design agenda as you begin to break down your script.
Research and References

After you have broken down your script to determine your overall project needs, you will begin meticulous research to find elements and solutions for strategically executing the design. As we have urged, you can, and should, do constant general research, and labor always to train your eye to notice light, shadows, textures, shades, fabrics, and other subtle things in the world around you and in great art and photographs; this kind of training will inform your decision-making process when you begin to design a particular set or location.

But general research isn’t enough. You need to get specific—we want you to research potential visual qualities of every scene, location, interior, and environment. By “researching” them, we mean going out into the world and attempting to find direct or indirect visual references that evoke the environment in question. If you are shooting a scene at a circus, head to a real circus. If you have a sequence in a parking garage, study parking garages.

And by “going out,” we mean exactly that—go out and study, and don’t default to relying exclusively on the Internet. The web is a valuable and free research tool that students of earlier eras did not have access to. Yet veteran production designers insist that if you rely too heavily on it, and do not go out and physically examine real-world colors, fabrics, materials, and textures yourself, you will not be nearly as informed as you should be in making quality design decisions (see Producer Smarts: Dumpster Diving, p. 82).

Therefore, strategically collect and organize reference photos, magazine and book clippings, drawings, paint and fabric swatches, and so on. You should also create sketches or take photographs that relate to the types of environments you will be featuring in your film. If you have locations picked out, walk those locations, and take photos and room measurements, and draw sketches to keep a fresh frame of reference about each space.

As you collect this material, you must organize it. Some designers organize it into alphabetized files, others into binders or reference books that apply to each scene or location in a movie. Catherine Hardwicke calls these “look books”—essentially organized files or binders of relevant visuals and data that apply to all the locations in your film. These become your template for figuring out a final design for each location.

Keep in mind, however, that your binder or files may consist of more than just photos and sketches. They could also contain color options, swatches, paint chips, diagrams, notes, comparison imagery from different eras and sites, close-up photos of props and furniture, pieces of wood or fabric, and so on. Once you get the hang of it, you will be able to boil things down even further and collect reference material with more specificity. For example, you could look for the following:

- Different versions of similar places (restaurants, office lobbies, kitchens, parks); perhaps later you will prefer one over the other, or perhaps you will mix and match elements from the different versions you have studied
- Different exteriors visible in windows, depending on whether your setting is urban, rural, domestic, or foreign
Reference materials of similar locations that are lit differently—with more or less exterior light or interior light only

Examples of different kinds of furniture—more modern or more vintage, in good or bad shape, in a wide range of colors, and so on

Comparisons or before/after imagery of the same place, or side-by-side comparisons between photos and drawings or paintings

Imagery of locations empty and with people in them, so that you can study how people will interact with props and set pieces and impact the configuration of the space

These are just a handful of examples. There is no limit to what you can collect or how you can organize it, as long as your organizational method is efficient. Remember, as a bonus, these types of look books will outlive your project and eventually join a personal research library that you will likely find useful if you pursue filmmaking in the future.

Locations

Detailed script analysis and extensive research should lead you to a general understanding of when and why you would be best served shooting on location, and when you would ideally want to build sets to achieve particular shots. When all factors are equal, for most movies, the notion of reality, or at least believability, is central to connecting with audiences. This is one reason location shooting is often ideal; a real location, when dressed and shot properly, almost always feels more realistic than a fabricated set. Of course, all factors are not always equal, particularly when it comes to resources. Regardless of what level on the filmmaking hierarchy you are on, location shooting can be, in many cases, more affordable than renting a stage and building elaborate sets, at least when extensive travel is not involved. The complications of building sets and working on sound stages are a high bar for you to clear with few resources as film students. Therefore, as you pursue a filmmaking education, you are likely to be shooting on lots of real locations over time. Keep in mind, however, that a “location” could be your backyard or classroom or driveway. Such everyday places close to home are sites you should seriously consider if they can be made to fit with your story. Don’t discount them—you can radically alter and highlight even the most mundane patch of grass if you need to.

To get started, you first need to know what to look for when scouting locations that will work practically and creatively. In the professional world, location managers take the lead in this effort, but they do so in close collaboration with the director, production manager, and production designer, who frequently join them on location scouts.

As student filmmakers, take extensive notes when you scout locations. One glaringly obvious factor does not need much elaboration: investigate from the outset whether it is even possible to get permission, or an official permit if required, to shoot there. Although it is true that many students and independent filmmakers shoot “guerrilla style” in public locations—simply showing up with camcorders, filming with minimal setup or crew, and departing as quickly as they came—understand that operating that way can be disrespectful to the general public frequenting that area at best, and downright illegal at worst. And creatively, shooting in that style may end up giving your narrative material a documentary feel that is not intended. Get permission or go somewhere else.
Many of the most important furnishings seen in the apartment of the Lynn Bracken character (played by Kim Basinger) in the 1997 noir classic *L.A. Confidential* were found in a consignment store in Palm Springs, according to Jeannine Oppewall, the film’s production designer. She likewise found the dining room table featured in certain scenes of *The Bridges of Madison County* (1995) “in the front window of a used furniture store maybe an hour from the set”—a table Oppewall used again for a particular set in *L.A. Confidential*. Over the years, Oppewall has even put her own furniture, and the furniture and possessions of friends and crewmates, into feature films she has designed.

In that respect, Oppenwall says, “production design is a shameless profession—we will beg, borrow, steal, and go anywhere to find something useful.” In other words, even professional productions severely limit resources and require ingenuity on the part of the production designer and his or her team to find appropriate set pieces. That’s good news for you, the film student, since you will likely have no budget of substance to work with, and yet, like professionals, you will need props and set pieces that fit your stories like a glove.

Therefore, as many designers suggest, go anywhere to find what you need, bargain hunt, and innovate. Think like a producer—you need not spend a sizable amount of money to furnish typical sets. This is an area in which you can most likely find what you need within the confines of your budget. Flea markets, garage sales, pawn shops, antique shops, estate auctions, consignment stores, junkyards, online sites like Craigslist where you can find used goods, neighbors’ houses, and even your own home most likely contain most, if not all, of what you need. Jack Taylor freely admits to having gone dumpster diving in his career, even loading discarded items on street corners into his vehicle if he felt they had cinematic use.

Additionally, you will find that many prop and costume shops that normally service the entertainment and theater industries will offer special deals, discounts, and even free items to student productions out of a desire to promote their businesses and lure the next generation of potential customers.
With that said, here are other fundamental factors to consider:

- **Tweak your script to match what's available.** If resources dictate that you will only be able to shoot on campus or at your home, then there is no sense searching for a medieval castle to shoot in. You will either have to create that element with *stock elements* (images you can purchase from somewhere else) or visual effects, or go without it. If you’re preparing your story and you learn that there is a gym on campus you think you can shoot in as well as a local public park, set scenes in similar locations, so you can use what you have at your disposal.

- **Consider large spaces.** For interior work, select large spaces with high ceilings and multiple doors or windows when you can, even if you are designing a small space. The advantages of shooting in a spacious environment are great, the cinematic tricks available to make the space look smaller on-screen are plentiful, and you will likely have opportunities to repurpose the space. Among its advantages: high ceilings and doors and windows you can maneuver through make it easier to fit people and equipment in and out of the space, and they enhance options for moving your camera.

- **Environments change.** As you examine locations, keep in mind season, time of day, weather, and that human or animal activity can change the look or structure of an exterior environment. Study the location at the approximate time of year and time of day when you would expect to be shooting. Find out if construction or seasonal events will change the environment in any way before you will be able to shoot there. Also, examine and measure natural or artificial light when scouting the environment, take pictures, and shoot test footage if you can. You must be certain that you will be able to do what you need to do when you return there days, weeks, or months later. In particular, for exteriors, spend enough time at the location to track the sun: take note of when the area is in full sunlight, part sunlight, and total shade. This will help you plan what time of day to use the location.

- **Hear the location.** Because you will likely be recording audio in the location, you need to study ambient noise there. Test levels and learn about local traffic patterns, whether animals or children frequent the area, and so on. Test echo patterns, as discussed in Chapter 10, and record test sound there with the same equipment you will be using when shooting. Also, if you are planning to use wireless microphones, make sure there is no signal interference in the area.

- **Logistics.** The first, most basic thing to check is whether enough power supplies are readily available in the area for you to use freely, or if you will need to bring generators or extra batteries to the site. While you are at it, test some potential setups of how you would like to position cameras and microphones. You should also determine whether an exterior location is too grueling for your equipment, since electronic cameras and audio technology can be sensitive to moisture, wind, dirt, sand, and heat. Other logistical issues include parking; walk-up accessibility; access to food, shelter, and bathroom facilities; Internet or cell-phone connectivity; cooperation of the neighbors; and security.
There is one other factor to consider in deciding whether or not to shoot on location and, if so, how to go about finding those locations: time. It can be time-consuming and laborious to drive or fly, even if resources permit it, to various locations for hours, days, even weeks on end, to find spots that work best for you. Once again, think like a producer: if what you are looking for is exceedingly rare or unusual, and you expect it won’t be easy to find, you will need to calculate the time and resource benefits of searching for that location versus coming up with a plan for building a set for it.

**Sets**

There are many reasons to build sets rather than shoot exclusively on location, particularly when there is no accessible location available to you. Another reason might be when complete control of lighting is needed for a visual effects scene. It can sometimes be more cost effective to shoot on a stage rather than risk the vagaries of a location shoot, as light control is a dominating factor for that kind of material. More generally, you typically have more control over light, weather, power, and other logistical issues on a set.

As noted earlier, one of the drawbacks is that you may have a hard time achieving the same level of realism that you would on location. Another obstacle revolves around resources. To build sets, you first need to find a place to build them—a sound stage usually, although you can creatively employ warehouses, basements, airline hangars, or garages for low-budget projects. Procuring permission and affording the cost of renting a sound stage can be difficult. Second, you need raw materials and proper equipment. Third, you must possess the design, construction, and paint skills necessary to build sets, as well as the ability to get the work done in a safe and efficient manner.

Still, one way or another, you will eventually have to build a set of some type. Let’s look at a handful of foundational issues you need to address when planning sets:

- **General design.** Using sketches, storyboards, or digital tools to previsualize your set (see p. 88), design not only what you generally want it to look like but
also how you want it to function—where cameras and lights will go, for example. Depending on your tools, skill level, and experience, your design may be a full-on blueprint. But even if your skills don’t permit that, be as specific as you can in terms of noting the size of the space you think you will need, remembering to include space for any important creative or logistical elements. Ideally, you will eventually create a floorplan—a map of the stage from above, so that you will be able to see all elements and their locations before you build anything.

Finding a stage. This can be tricky, because renting a stage or studio space is often expensive. However, your school may offer facilities in the cinema or theatrical departments that you can arrange to use. Likewise, community centers and religious institutions may have space you can “borrow” during off hours, as long as you sign liability waivers and clean up when you are done. Or, in some cases, depending on the size and scale of your movie and sets, you can build in a garage, on a porch, in a field, in a barn, on a blacktop, and so on.

Construction plan. On a professional project, a construction manager puts together a construction team and builds sets for major projects. Construction managers have reams of specialists to assist, ranging from carpenters, stagehands, painters, plasterers, grips, set decorators or dressers (tasked with procuring and placing all props and pieces that are not connected physically to a set), prop masters (in charge of finding and preparing all primary props), and greenspeople (who handle all plants on the set). You may need to head up
some or all of these tasks yourself, but unless you have a lot of time to prep or very little to build, you’ll need a crew of some type. Turn to classmates and friends for help building key elements (see Tech Talk: Common Set Structures, above). In addition, it’s a great idea to consult with a construction expert or professional at some point about the finer technical details of building sets. Obviously, keep safety in mind at all times, and understand that certain types of work in certain types of locations—and certain equipment—require permits and/or licensed experts to handle.

### Tech Talk

**Common Set Structures**

Certain structures are commonplace on film sets and actually derive from the theatrical world. It is useful to familiarize yourself with these basic elements and nomenclature:

- **Flats.** This term refers to two-dimensional pieces of scenery you will be painting. Often, flats are little more than a material, like canvas, stretched over wooden frames. They can be anchored to the floor, lashed together, and used in all sorts of combinations. Flats can be kept standing straight up with various methods, including those as simple and inexpensive as weighting them on the bottom of the outside portion of the wall with sandbags. Keep in mind that this form of construction likely won’t work for scenes in which people or objects need to interact directly with the wall, as the fabric on a flat may not be strong enough.

- **Platforms.** These are simple layers of wood used to add height to an area of the stage, such as when depicting one room being a few steps higher than another in a house or giving the illusion of having gone up steps.

- **Wagons.** These are platforms with wheels attached for purposes of moving them, as needed, around a stage. Wagons can be elaborate, even motorized, and run on tracks.

- **Turntables.** Sometimes called revolves, turntables consist of a circular platform designed to spin. Actors, entire sets, or portions of sets can be placed on them.

- **Cutouts.** These are thin pieces of material cut in such a way as to mimic a pattern or outline on an object, a wall, or a building. Often, cutouts are attached to flats to represent patterns of a design or element meant to be seen on a set.

- **Drops.** These are made from painted canvas or other material hung from above, and they are often used to create the illusion of a distant background element, such as a cityscape or night sky.

- **Scrims.** These are a form of a drop—large, typically unpainted, and often loosely woven or opaque so that they alter the properties of light when photographed from particular angles.

- **Cycloramas.** These are curved walls frequently built out of plaster but sometimes made of large pieces of fabric painted, hung, and lit in a particular way to give the illusion of a night sky or another wide, open space. “Cycs,” as they are often called, can also be giant green screens or blue screens for visual effects purposes.

- **Projections.** As the name suggests, still or moving images projected live onto a background, such as a cyclorama or a flat, can be used to conjure background or distance illusions on set.
Building only what’s necessary. Think economically when figuring out what sets you will need, and keep in mind that a wealth of cinematic tricks exist that may permit you to film on partial sets—a wall or door frame, for instance. If a scene is extremely brief, it doesn’t make sense to spend a lot of time or money on an elaborate set. For scenes in which you will be shooting in only one direction, you might be able to get away with not building a complete set, if portions of the set will not be captured on camera. If that is the case, only build or decorate the portion of the set from the direction you will be filming. For example, if you are using camera angles that never show the ceiling, then the ceiling does not need to be realistic—or even finished. Conversely, if a lengthy scene absolutely requires 360-degree coverage, apply what resources you have for set design and construction to those scenes above all others. Reuse sets when you can. You might be amazed how a few props and some paint can transform a hotel lobby into a business office.

Previsualization

We have discussed the principles of good design; how to make a design plan; your options for finding and using locations; and planning and building sets. However, at some point during all these stages—and even after them, as you enter production and are actively planning specific shots—you will benefit from doing some kind of previsualization, or previs, work. The term previsualization can refer to state-of-the-art 3D computer animation, hand-drawn storyboards, simple sketches, paintings, simple models, stick figures drawn on napkins, and just about any other kind of conceptual art you can manufacture to help visualize individual elements, designs, themes, shots, camera moves, camera angles, complex visual effects, and any other images you will eventually need to create. The idea is to give yourself and collaborators a clear guide, or template, for what those elements will look like in the end and if they will physically fit in the space you are using.

Thus, in filmmaking, we often use the term previs loosely—it is not a linear process that takes place at one particular point during a project’s life. Rather, it is a process that is used whenever it can be helpful. It helps production designers certainly, but it also helps directors, cinematographers, visual effects artists, and many others as they plan their work, while they do their work, and when they are trying to solve problems during those stages. In this sense, previs has become in recent years an important component of making big-budget films containing significant effects and stunts. Entire companies have emerged dedicated solely to the idea of helping filmmakers use computer animation and other visual effects’ techniques to conceptualize complicated sequences.

Student filmmakers will have a hard time hiring previsualization companies or doing complex computer graphics previs work in most cases, but with affordable
off-the-shelf tools available, even simple digital previs is within your grasp. You can use techniques such as storyboarding, sketching, and making concept art to help you design sets and elements, but over time, you will learn to use these digital tools throughout the entire filmmaking process. For production design, in particular, they will be most helpful to you only after you have a firm understanding of the basic design principles, planning, requirements, and options that we have examined earlier in this chapter. That is why we have saved the previs discussion for last.

** Sketches and Storyboards

Sketching shots and designs by hand is as old as motion pictures themselves, and the term *storyboards* has been around since at least the 1930s, when it was popularized at Walt Disney Studios as a tool for making animated films. For decades, studio artists there and elsewhere would draw comic-book style panels depicting various scenes in animated movies, and then film them “flipbook style,” creating so-called *story reels*, or *animatics*, and even adding music, dialogue, and effects in order to create templates for filmmakers to follow as projects moved along. Over time, the concept was adopted by live-action movies.

Today, previs options have branched out into numerous areas, including doing everything on a computer. However, one way or another, even if you later plan to digitally previsualize shots or sequences, you will need to incorporate the idea of manually sketching out at least some key ideas into your design approach once you have done meaningful research. There is no single right way to do it, nor is there a requirement to be particularly artistically talented or detailed in your sketches. In fact, some designers warn against overloading storyboards and sketches with minute detail to the point where you’ve added more than you can feasibly execute or

Tip: **Look to Comics**

You can make your storyboards effective by using simple comic-book techniques—speech or thought bubbles, wiggly lines for movement, pencil shading, ovals, coils, cylinders for bodies, and so on. As long as the meaning of your storyboard panels can be understood by merely looking at the pictures, you will have created useful storyboards.

stifled creativity regarding other possible options. Often, professional designers prefer to go with simple hand-drawn pencil or watercolor sketches.

At the prime level, there are two categories of sketches that you will need to concern yourself with. The first is concept art. Basically, these are relatively detailed drawings or diagrams that you create as reference templates for costumes or sets for yourself or other artists tasked with building those elements, frequently drawn in pencil, charcoal, or marker. When feasible, create concept art for all major characters, costumes, and sets to help you design the movie more efficiently.

Next, you will want to create storyboards. Storyboards are often used to visualize entire films or sequences as individual frames or shots, essentially as hand-drawn panels created to resemble comic books. Depending on your skill, time, and resources, they might be extremely detailed or little more than stick figures or shapes. But either way, their goal is to illustrate how you see characters, sets, and objects interacting in particular environments. This will help you design shots and camera angles and lighting setups later, and it will make it easier to move, solidify, and organize various design ideas along the way. Storyboards will also help you understand what you will and will not actually have to create, because they let you see what area of a set and what backgrounds will be in shots, and which will not.

Ideally, after you approve your storyboards, you will be able to make even more detailed drawings or blueprints of sets based on what you’ve come to understand from your research and your analysis of your storyboards. At that point, you have guides for building sets and set pieces, when necessary. Here is a list of the various storyboard approaches:
2D concept drawings. These are highly detailed hand drawings that specify particular elements in great detail.

2D storyboards. These are essentially hand-drawn, comic-book style panels, with as much detail as you need to plot out shots or sequences.

Animatics. This is the result of 2D storyboard panels being assembled in order and filmed; animatics provide a sense of movement and story order to your previs work.

Photomatics, or photo storyboards. Here, instead of drawings, you use photographs of your actors or people, places, and things that generally resemble your story ideas and assemble them together to give you an idea of designs and concepts you want to implement. You might even take friends or classmates to sets or locations and pose them in key places, photograph them, and use those rough templates as storyboards for some of your shots.

3D storyboards. As with 2D storyboards, these are panels created to plot out your shots and sequences, but they are created on a computer, rather than drawn by hand, and are combined with other panels on the computer.

3D animation. Here, you roughly animate shots or sequences with basic movements and other elements to help you better define how you might design and choreograph a scene. Some form of 3D animated previs is quite common for visual effects sequences.

In the next section, we will discuss some of these digital previsualization techniques in more detail. But for hand-drawn storyboards, even if you don’t have the artistic talent to produce compelling, professional-level sketches, the web is full of dozens of resources for learning basic drawing and storyboarding skills. Don’t let your lack of drawing skills inhibit you from eagerly pursuing concept art and storyboards. As Jack Taylor noted, even rudimentary drawings will “get your mind going” as the design process picks up steam, and that can only help your project.

Digital Previs

Digital previsualization of shots, sequences, even entire movies, has been growing in sophistication and popularity in Hollywood since it first evolved in the late 1980s out of computer-aided design (CAD) technology used in the architecture world and the then-nascent computer-generated imagery (CGI) industry. Today, many filmmakers are commissioning extensive 3D animation to plot out complex sequences down to the last detail. Although you won’t have the time, resources, or experience to do that kind of work at first, you will have access to affordable yet powerful 3D tools, as we discuss in Chapter 13, with which to do some fairly simple previs work if you put your mind to it (see Tech Talk: Digital Storyboard Tools, p. 95). In some situations, straightforward 3D imagery can give you a better perspective on what the shot’s design and technical requirements will be, and how it might work from different angles.

For production design, digital previs can be particularly helpful in allowing you to reach conclusions about what elements you will be able to build and shoot practically and what elements you will need to create on the computer. Particularly for action sequences, car chases and crashes, and explosions, filmmakers
have found that they can more safely and affordably create those shots digitally. But even so, they need to design each and every element—from walls and cars to flying glass, smoke, and fire—just as they would for real-world elements, and previs is central to succeeding in that regard.

As we’ve noted, digital previs can also help plot camera moves and lighting placement in great detail. If, for example, you will be shooting actors in front of a green screen on-set, you can figure out long before productions starts what the digital background that will replace that green screen will look like by experi-

The Sin City films (2005, 2014) use an extreme version of set extension, where most of the settings, sets, and backgrounds are created digitally from bare-bones live-action footage.
menting with different designs, including colors, textures, and patterns, during the digital previs process.

Indeed, digital previs is crucial in the growing trend toward combining real-world elements with digital elements through “construction” of entirely virtual sets or set extensions. Virtual sets—used either when productions cannot afford or do not want to travel to locations or build sets, or for stylistic reasons—involve shooting with a green screen and later surrounding the actors with CG environments. Set extensions are used when filmmakers build partial sets, and then combine them with virtual “extensions” that complete the illusion. While the digital age has made this easier to do, the technique of creating matte paintings on glass and combining them with minimal footage from the set is almost as old as the art of filmmaking itself. Like real sets, virtual sets or set extensions require intimate design. The computer allows unprecedented experimenting in this regard. You can change backgrounds, colors, and shapes; add or remove signs, cars, text, and doors; and so much more.

Digital previs allows you to view the sets you are designing in three dimensions and in greater detail than a hand-drawn storyboard can provide. As the creator of the film and its production designer, you will hopefully already have a good, three-dimensional vision of the movie in your head. But the ability to work with that image using sophisticated software on a computer, show it to others and get their input, and then revise it rapidly has been a major breakthrough.

An added benefit of doing digital previs is that it involves many of the same tools and techniques as visual effects work and, in some cases, will allow you to create portions of digital assets that you will be able to build on later, when you strive to create the eventual 3D image, rather than starting over. If you previs a building, for instance, the basic wire frame and possibly other elements may serve you well when you begin doing visual effects work on the scene involving that building.

Here are the basic steps you will go through if you choose to do digital previs work on your movie:

1. Create a list of scenes or shots that you intend to previsualize, with brief notes about what you need and want from each shot and its significance. If you are previsualizing the entire sequence, you will list every frame you need. If you are conceptualizing it and want to create a digital template for designing the entire scene, you might only list the most crucial shot in the sequence.

2. Doing digital previs does not mean you should forgo storyboards, or at least the use of rough sketches. Start with sketches of key sequences or shots, and then use them as reference material for creating your digital previs material. Alternatively, if sketching is simply not something you feel you can accomplish, go to your locations and photograph environments and specific elements, or even have friends or fellow students roughly act out some blocking for your sequence and take pictures of that, and use those photos as storyboard equivalents.

3. Similar to the process described in Chapter 13 for animation and visual effects, you will use your animation software to create a rough version of the 3D environment you are designing, and block out where characters, elements, and possibly cameras and lights should be placed. If you are previsualizing primarily for blocking and camera movement, your buildings and designs will
be rudimentary at best—perhaps even just blobs or blocks. For design specificity, you will need far more detail, but only for the particular elements you are concerned with in a shot. Therefore, you will likely not need to take all the 3D material in each shot through the traditional animation steps described in Chapter 13.

4. Instead, you will render out CG images as soon as you have the minimal amount of detail you need to previsualize your sequence adequately. Depending on your needs and resources, you may do a rough render and then, after making adjustments, re-render for greater nuance, detail, or other refinements to some elements, such as costumes or architecture. The point, however, is to go only as far as you need to in order to make your design or filming decisions, rather than to pursue near-final-level quality.

5. Eventually, once you have the 3D previs material at the level you need, you will edit the shots together in the order you want to view and share them. But you may also wish to print all or some of them out and mount them on walls or boards in your workspace for easy reference, as is frequently done with hand-drawn storyboards.
There is now a wide range of useful and affordable computer tools designed specifically to help you create sophisticated storyboards and previsualize action, blocking, lighting, and camera moves, among other things. Here are a few popular ones:

- **SketchUp** ([www.sketchup.com](http://www.sketchup.com)). This is a 3D drawing product with a low-end free version, in addition to more powerful versions at reasonable prices. Sketchup is designed for you to use as if you were sketching on paper, and you can certainly do rough blocking and design with it.

- **FrameForge** ([www.frameforge3d.com](http://www.frameforge3d.com)). This tool is specifically designed for moving image previsualization work, and can help you draw rough storyboards, do layout, and create rough animation and blocking, among other things.

- **StoryBoard Quick** and **StoryBoard Artist** ([www.powerproduction.com/index.php](http://www.powerproduction.com/index.php)). These tools, from the same manufacturer, are both digital storyboard crafting tools. StoryBoard Quick is designed for simple storyboard generation, whereas StoryBoard Artist adds animation and extensive revision tools, among other things.

- **Photoshop** ([www.photoshop.com](http://www.photoshop.com)). Long available to consumers and professionals alike, Adobe's famous graphic design software is quite useful for manipulating scanned images, photos, and 3D images, and can be used for storyboard creation, among other design-related tasks.

- **Poser** ([http://poser.smithmicro.com](http://poser.smithmicro.com)). Poser is a well-known tool for simple design and animation of virtual characters, rather than environments.

### Designer’s Emergency Kit

- Drafting paper/sketchbook
- Pencils and markers
- Tape roll with different kinds of tape
- Dulling spray and other spray paints that can darken surfaces
- Sponges for mottling paint
- Cleaning supplies for cleaning surfaces
- Scissors or X-Acto knife
- Digital still camera
- Camcorder
- Compass
- Maps
- Tape measure
- Laptop with graphics software or CGI software installed
CHAPTER 4 ESSENTIALS

You need to study the fundamentals of good design and staging. Learn about the use of space, color palette, balance, harmony, lines, textures, shape, form, size, and so on. Then, examine issues related to arranging elements within those spaces—creating things like props and set pieces, developing an overall sense of decor, and figuring out how to place and use those elements wisely.

Strategically analyze your screenplay—scene by scene, shot by shot—and come up with a design plan for how you want to use the spaces you have available: whether you can use real-world locations or build sets, how you want to arrange elements within those spaces, how you want to design each of those elements, and how you want to light and shoot them. Extensive research is crucial for launching this process.

Find ways to previsualize how you want to design and arrange things. Methods typically revolve around creating concept art and storyboards for key sequences, and using computer storyboard or animation tools to visualize the shots in three dimensions, allowing you to experiment with design and technical options before you commit to them. This will be useful as you proceed with the construction of sets, the dressing of locations, and the detailed planning of shots.

KEY TERMS

Animatics  Location managers  Set pieces
Art director  Mise-en-scène  Storyboards
Concept art  Previsualization (Previs)  Story reels
Construction manager  Prop masters  Typage
Floorplan  Props  Virtual sets
Frontality  Set decorators (Dressers)
Greenspeople  Set extensions
“Like a divining rod as it points the way through the labyrinth of this tricky medium.”
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