Excerpts from:
Digital Filmmaking Handbook,
"Planning your shoot"

You might have heard stories about how Alfred Hitchcock meticulously planned which cars would drive by in the background of some of his scenes. Or perhaps you've read about the maniacal detail that Stanley Kubrick demanded in his productions. You can argue at length about whether such concern contributes to the viewer's experience, but there is a lesson to be learned from both examples: Prepare!

As a director, you're responsible for everything the viewer sees on-screen, whether it's good or bad. With a little preparation, you can improve your odds that the viewer is seeing something good.

Your main tool for preparing for your shoot is the *storyboard*. Because storyboarding requires you to perform the first serious visualization of your project, the storyboarding process forces you to answer some questions that you might not have dealt with during the writing of your script. From choosing locations, to the look of your production, to how your project will be edited, storyboarding is where you'll make many practical decisions about how you'll shoot your script.

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Storyboards are comic-book-like representations of the images in your production (Figure 5.1). How well they're drawn and what they look like doesn't matter, just as long as they convey to you and your crew a reasonable approximation of how the composition, framings, and cuts in your production will play out. The amount of detail in your storyboards will depend on the type of scene you are creating. For a scene of three people talking around a dinner table, your storyboards will probably be less detailed, and will serve more to help you plan framing and cutting. For a special effects-heavy shot of a spaceship flying into a spaceport on a faraway, alien world, your storyboards will include more detail to help your art department and visual effects crews plan and prepare for their work.

It doesn't necessarily matter if you shoot exactly what you planned in your storyboards. More important is the information that you will learn while storyboarding. Until you meticulously start to plan things on paper, you might not know how much *coverage* you will need for a particular scene, or that you're going to need a particular set piece or prop.

Whether or not you choose to draw storyboards, you still need to go through a "storyboarding" process. That is, you need to methodically plan the visual images and details that you will use to create your final product. This planning ranges from deciding how to frame and shoot a scene, to choosing a location, cast, set, and props for your shoot.
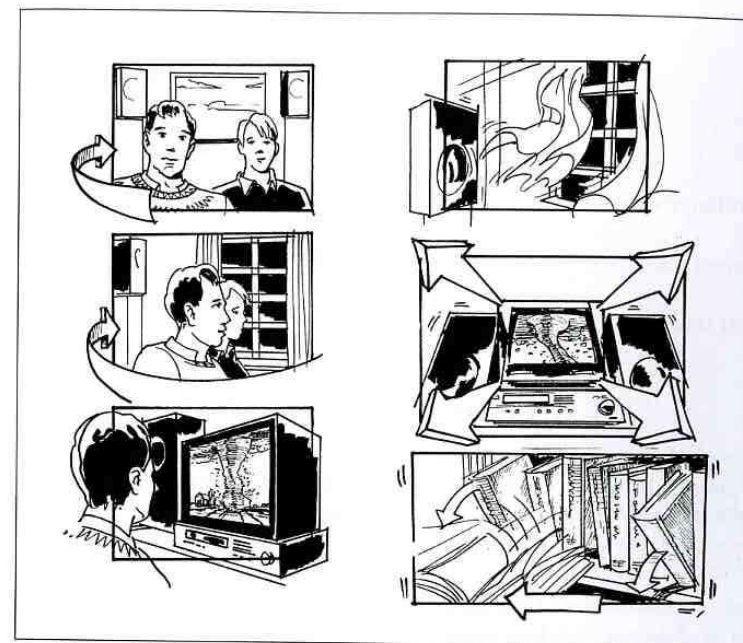
FIGURE 5.1 A picture can be worth a thousand words when drawn by a professional storyboard artist.

You don't have to storyboard, and many great directors don't. However, if you decide not to storyboard, you should at least create a list of shots for each scene. The last thing you want to do when you get to a location is to keep your cast and crew waiting because you haven't spent any time thinking about how to shoot.

You'll often start storyboarding before you've chosen any locations or built any sets. Obviously, if you already know the location of a scene—the Golden Gate Bridge, for example—then you can storyboard somewhat accurately. Generally, though, you'll first create somewhat abstract, non-location specific storyboards. Later, if the shot calls for it, you can go back and refine your storyboards after you've chosen locations, built sets, created props, and so on.

In addition to visualizing the movement of your camera, you'll also use storyboards to explore the motion of elements within your scene. For complicated effects or action shots, your storyboards will be your first opportunity to choreograph your scenes.

Shots and Coverage

Once you start shooting, your main concern will be to get all of the *coverage* that you will need when you're in the editing room. The term *coverage* refers to the number and types of shots you need to shoot to "cover" a particular scene. How much coverage is necessary? That all depends on your tastes, the needs of your script, and how much shooting you can reasonably manage to do.

It's important to realize that, although you might have written a very "visual" script, you probably didn't write out specific shots (in fact, you shouldn't have written out specific shots; it makes your script much less readable).

HOW MANY SHOTS DOES IT TAKE TO MAKE A SCENE?

When a scene is well shot and expertly edited, you won't even be aware of one shot turning into the next. In fact, unless you actually choose to look at the number of shots, you might not ever have any idea of just how many shots it takes to create a scene.

Let's take a look at a real-world example. Perhaps you've seen the James Bond movie *Tomorrow Never Dies*. Like all James Bond movies, this one begins with an action sequence that takes place before the main credits. One could describe this sequence as follows:

> On top of a snow-covered mountain, a group of terrorists have met to sell weapons. James Bond has managed to sneak in to the location and has set up a small video camera, which is relaying images back to headquarters where M and a number of generals are watching. After a lot of fighting and a daring air battle, Bond manages to escape with a nuke-laden airplane before a missile launched by the generals strikes the mountain.

As you can see, it's your basic "excuse me, I have to save the world" type of James Bond scene and the entire thing lasts about nine minutes. However, take a look at this list of the first 19 shots in the scene:

1. Wide-shot—Terrorist arms bazaar. Pan down to reveal a video camera.
2. Reverse-angle of the video camera.
3. Shot of what the camera sees (called a "point-of-view" or POV shot).
4. Shot of the camera lens zooming.
5. Another POV shot. We zoom in to a group of terrorists.
6. Another shot of the video camera panning and zooming.
7. Another POV shot. This time, we see a fat, bearded man.

8. Another shot of the video camera.
9. Another POV shot. This time, some trucks.
10. Yet another shot of the video camera.
11. And yet another POV shot. Two terrorists making a deal.
12. Again, a shot of the video camera.
13. A POV shot of some guns.
14. Now, we see three big-screen monitors showing the videos we've just seen. The camera pans down to reveal a man speaking.
15. Medium shot of two men in military uniforms. They watch the screens.
16. The speaking man again.
17. Reverse shot showing the whole room including the men, and the big screens.
18. Close-up of a woman.
19. 2-shot of the woman and the speaking man.

There you have it, 19 shots, each completely different, and almost every one of them requiring a different camera setup – that is, the camera had to be moved and re-arranged for *each* of these 19 shots. What's really amazing, though, is that these 19 shots account for only *one minute* of screen time! And this is a two-hour movie!

If we imagine what the terrorist arms bazaar set looked like, we can get a good idea of all of the different locations where they would have to put the camera to get those first 13 shots (Figure 5.2).
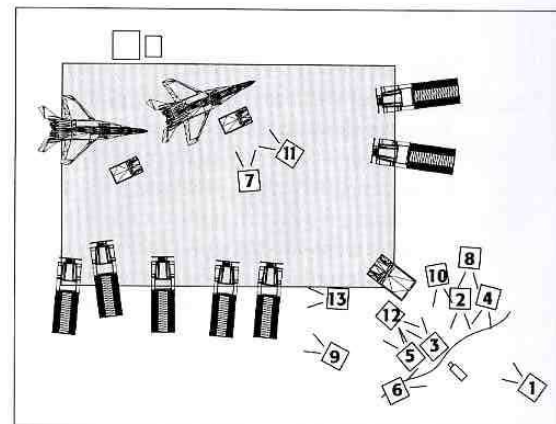
FIGURE 5.2 This map shows a rough approximation of the set for the first scene of the James Bond movie *Tomorrow Never Dies*, including camera positions and orientations for the first 13 shots. Note that these 13 shots take up only 40 seconds in the final scene! That's a lot of work for 40 seconds of finished film.

Storyboarding is only one of your previsualization tasks, and you'll probably refine and change your storyboards throughout your pre-production and production phases.

NGLES

Here's a list of the types of shots or camera angles you can use to compose a scene. Figure 5.3 shows samples of each type of shot, and how you might represent such shots, framings, and cuts within your storyboards.

Master shot: A master shot is a relatively wide, static shot that covers all the action in a scene. Often it is used more as a "safety" shot or a backup in case the planned coverage doesn't work. Master shots "establish" the scene—its location, participants, and tone. They are what give the viewers their first, big hit of information in a scene.

2-shot: A shot used to cover a dialog scene between two actors. Both actors are visible, usually from mid-torso up.

Over-the-shoulder (OS): Also used to cover dialog scenes between two actors. The shot focuses on one actor, but contains the silhouette or partial view of the second actor in the foreground.

Reverse: A view 180 degrees from the previous shot. Usually used in combination with a POV shot or an OS shot.

Point of view (POV): A shot where the camera shows the point of view of one of the characters. Often a dolly move.

Extreme close up (ECU): A very tight close-up, such as a shot of someone's eyes or a bug on his or her nose.

Close-up (CU): A tight shot where the subject fills the entire frame. If the subject is a person, a shot of his or her head.

Medium close-up (MCU): A slightly wider shot than a close-up. Usually like a sculptured "bust"—head, neck, shoulder, upper torso.

Medium shot (MS): On a person, usually a from-the-waist-up view.

Wide shot (WS): A shot that shows a whole area, usually full-figure in the case of people.

Tracking (or dolly): A moving shot that uses a camera dolly (a wheeled cart that travels along special tracks) to push the camera through the scene. Often an opening shot or a POV. Depending on how they're designed, dolly shots can travel from side to side or forward and back.
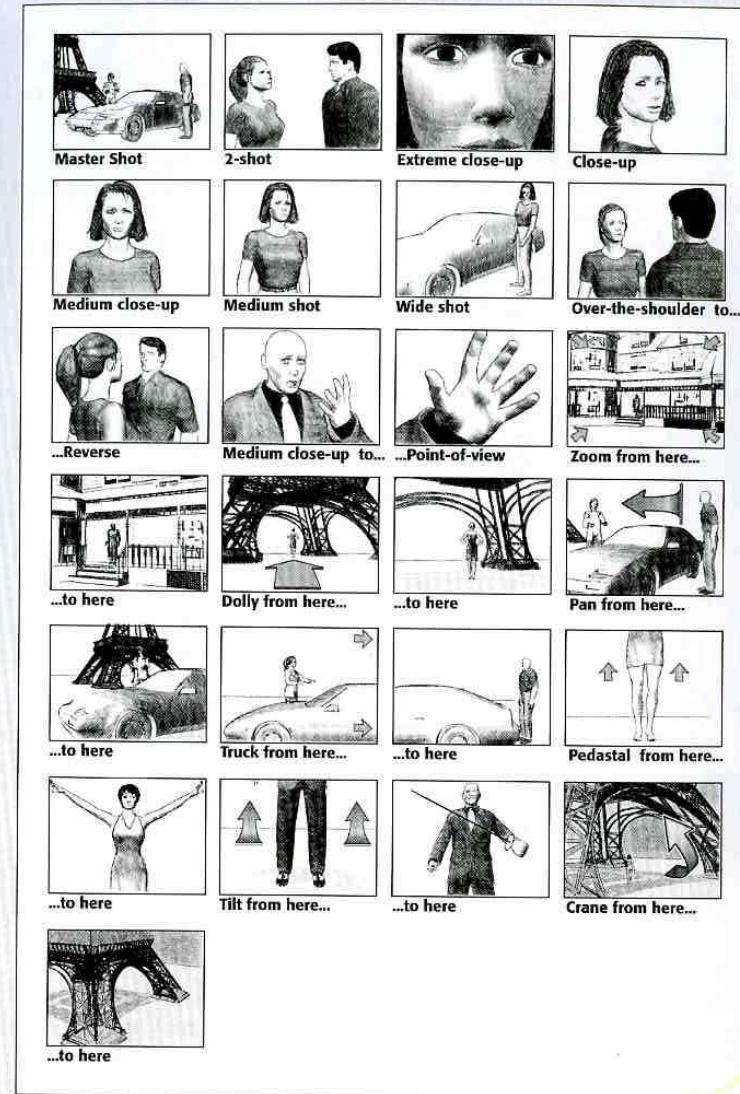

FIGURE 5.3   Camera angles.

Crane: A moving shot that uses a camera crane to move the camera through the air, allowing movement on an X-Y-Z axis.

Pan: A side-to-side movement of the camera, where the camera rotates around its base. The resulting motion is what you would see if you stood in one place and turned your head from side to side. Often used to follow a figure across frame.

Tilt: Similar to a pan, but the camera tilts up and down. Analogous to tilting your head up or down. Usually used to reveal something, like a character who just ripped his pants.

Pedestal: Raising or lowering the camera, usually by adjusting the tripod on which the camera is mounted. Creates a "rising periscope" point of view. Very rarely used in features.

Zoom: A lens movement from a tight to a wide shot (zoom out), or a wide to a tight shot (zoom in).

Dolly counter zoom: A shot where a dolly and a zoom are performed at the same time. In the resulting shot, the framing of the image stays the same, but the depth of field changes dramatically. Objects in the background foreshorten and appear to float backward. The most famous example is in *Jaws*, when Roy Scheider sees the shark in the water on the crowded beach. His POV of the shark is a dramatic dolly counter zoom.

Slow reveal: Usually a pan, tilt, or dolly that reveals something that at first wasn't apparent. A woman laughs at a table, pan over to reveal that her husband just spilled his wine.

Two things are interesting about this scene: first, you can see that it can take a *lot* of different angles and setups to get the coverage you need to make the scene you want. Second, if you shoot and edit well, your audience won't necessarily even realize how many different shots they're seeing.

Less Is More

Remember, storyboards are a visualization tool, not an end product. If you show crew members detailed, photorealistic storyboards, they'll be inclined to think that those images are what your final scene will look like. Better to give designers, costumers, set builders, and actors rough, sketchy storyboards. Let them use their expertise to design and create the details for which they're responsible.

COMPUTER-GENERATED STORYBOARDS

Programs such as *Storyboard Artist* and *Storyboard Quick* provide simple drawing tools and libraries of characters, props, sets, and camera motion symbols that allow you to create storyboards quickly and easily. Although they might not look as good as hand-drawn storyboards drawn by a professional storyboard artist, these programs provide many advantages over handmade storyboards. With their object-oriented nature, storyboarding programs make it simple to pick up objects and move them around, providing for easier revisions (Figure 5.4).
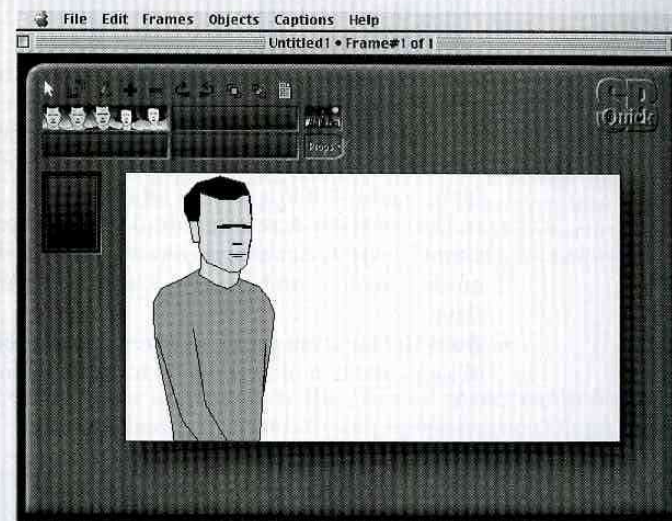

FIGURE 5.4   The *Storyboard Quick* interface.

Of course, there's no reason you can't use your favorite image editor or paint program to create your storyboards. Whether you draw directly into the computer, or work on paper and then scan your drawings, preparing final storyboards in a program such as Photoshop will let you easily create mixes of location photos, and simple sketches or clip art.

TING

The locations and sets on which you choose to shoot will convey some of the most vital visual information in your story. Sometimes, set and location will convey even more than your script or your actors.

There's no real rule for finding a location; you simply have to get out of the house and start looking around. There are, however, some things to remember and some questions to ask when looking for and selecting a location. Moreover, depending on the type of equipment you will be using, your location needs might vary. Consider the following when scouting locations:

- **Is the location available?** Obviously, you'll have to talk to the owners and see if you can work a deal—either for cash or donations of improvements to the property.
- **Do you need both the inside and outside?** You can always shoot your interiors on a set, or in a building to which you have better, less expensive access. Storyboard carefully for these situations.
- **Can you find the same type of location in a cheaper town?** The inside of an office is the inside of an office. See if you can find office space nearby, but in a cheaper location.
- **Is the location a reasonable distance from the rest of your shoot?** Lugging equipment, cast, and crew to faraway locations can quickly become prohibitively expensive, particularly on a union shoot.
- **Does the location require redressing or modification?** Removal of signs, addition of new signs, changing the look or "period" of the

N THE 'HOOD

For his movie *Do the Right Thing*, Spike Lee made major modifications to an entire city block in Brooklyn. With a clear idea of the storefronts he needed for his set—as well as their proximity to each other—his set designers set about modifying existing buildings to fit his needs. In addition to getting the individual storefronts he needed, he got all of the "in-between" locations (sidewalks, street corners, etc.), and all within walking distance of each other. In the process of preparing the set, his location security guards cleared out and renovated a crack house, a set change that, obviously, made a lasting improvement in the neighborhood.

environs. This can be done through practical set dressings or through digital "dressing" and post-processing.

- **Does the location afford the coverage you need?** If the shots you plan on shooting require many different angles, you'll need to consider your location carefully. For example, although your location might look great, be sure you can you shoot it from multiple angles and reverse angles without getting unwanted scenery (Figure 5.5a, b, c).
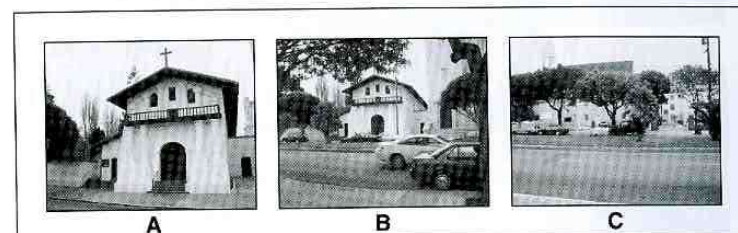
FIGURE 5.5 (a) This Spanish-style mission might be just the location for some exteriors in your turn-of-the-century drama (b) Unfortunately, it sits on a very busy, four-lane thoroughfare, which will make shooting clean audio very difficult. (c) also, across the street from the Mission are very modern buildings and parking lots, which will make reverse angles difficult. (On the other hand, this location—San Francisco's Mission Dolores—was good enough for Hitchcock! He featured it prominently in *Vertigo*. Of course, it wasn't a period piece, and there was much less traffic in 1958.

- **Does your location have the physical space required for the size of your shoot?** In addition to your equipment, don't forget the support needs of your crew (trucks, catering, porta-toilets, etc.) (Figure 5.6).
- **Does the location have access to sufficient practical resources such as power?** Remote locations pose other logistical problems, such as access to restrooms and refrigeration.
- **Is the location too noisy?** Refrigerators, outside traffic, and air-conditioning are just a few things that will add a hum to your sound recordings. Overhead airplanes and other intermittent noises will require constant halting of your production while you wait for the noise to pass.
- **What are the location requirements of your equipment?** If you are shooting at night, you might be able to get away with more or less lighting depending on the type of camera you are using. In addition, video cameras can have difficulty dealing with certain repeating patterns and textures. Closely spaced horizontal or vertical lines can

FIGURE 5.6 These cozy little houses could make a great location; however, the narrow street could make things difficult if you're expecting to use a large crew. In addition, clearing the street of cars could require expensive city permits, making what seemed like a cheap location into a big expense.

create annoying interference patterns on your screen. Does your location contain such textures? If so, can you shoot around them?

- **What about light and sound?** Can you adequately light and mic your location for the needs of your particular equipment? Different cameras and formats have different needs in regard to light and sound. Plan for these accordingly.
- **Can you improve the authenticity of your set with sound effects?** Adding some simple ambient sounds to a shot—adding the cries of a circus barker to a shot of a tent, for example—can improve the authenticity of your set.
- **Can you fake it?** Cutting from a good, convincing establishing shot of a sun-dappled vineyard with appropriate ambient sound effects to an interior set that's been properly decorated might be all you need to make your audience believe that you paid for a long shoot in the hills of Tuscany (Figure 5.7).

Talk to your principal crew members when scouting locations. Does the production designer agree with your assessment of the feel of the set? Can he or she dress it accordingly? Does the cinematographer feel that he or she can shoot it in the way that you want? And can it be done affordably? Does your gaffer think the set can be outfitted? Careful storyboarding will help you explore these issues and formulate questions to present to your crew.
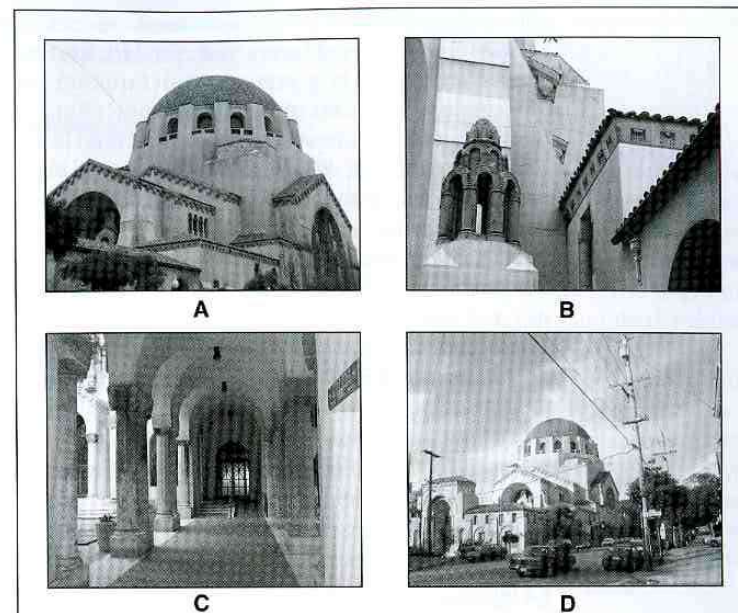
FIGURE 5.7 (a–c) A few well-planned establishing shots combined with the right audio can quickly establish a Mid-Eastern location **(d)** when, in fact, you've only gone as far as a busy American street corner.

PRODUCTION DESIGN

An important part of pre-production is the chance to work with your crew to create the "look" of your movie—from the elements on the set, to the way the movie will be shot and cut—a process also known as *production design*.

Whether you do it yourself or attach a professional production designer or art director to your project, defining the look is more than just creating a style; it's a chance to explore how all of the elements at your disposal can be used to strengthen your visual image and, consequently, your story.

The goal of production design is to enhance the story by adding to the available visual palette. For example, in *Trainspotting*, every wall is painted a striking color often covered in a thick layer of grime: turquoise, red, green, mustard yellow. This dark, rich palette conveys an atmosphere of opiate sensuality appropriate to the film. In the film *Red*, the

color palette is biased toward occasional touches of bright reds against a background of charcoal grays and rich dark browns. In *American Beauty*, the sets are dressed in typical suburban furniture just verging on "kitsch." The comfortable excess of the main family's house lies in sharp contrast to the austere, traditional Americana furniture in the house of the family next door. In *Do the Right Thing*, bright reds in the sets and clothing are used to increase both the feeling of hot summer and the emotional intensity of the drama.

Just as the director of photography is head of the camera department, the production designer is head of the art department. The production designer usually starts working early in the process, helping to generate storyboards and an overall "look" for the project. The title of this position might vary—you might use an art director or a set designer instead of a production designer, but their duties will be relatively the same. On a big movie, the production designer is responsible for the overall vision, while the art director implements that vision and manages the art department crew, which includes set designers, set dressers, prop masters, modelers, scenic painters, set construction workers, and production assistants.

Art Directing Basics

Good art direction is a combination of the symbolic and the practical. If your story is about a young girl growing up in Kansas in 1850, you'll be limited to certain types of buildings, furniture, and clothes. However, you still have the choice of giving her a sunlit, whitewashed bedroom with furnishings upholstered in bright calico fabrics, or an age-darkened room with no direct sunlight and dull, dark fabrics. These simple details tell two very different stories.

One of the easiest ways to add visual symbolism to a scene is via lighting, as discussed earlier in this chapter. Colors also have strong connotations for people. Black often connotes death, while red conjures feelings of blood and violence, but also love and passion; blue is peaceful and calming, but can also create a feeling of sadness, and so on. Similarly, styles of furniture and clothing can say a lot about a character. An elderly woman living alone in a house decorated in sparse Eames furniture from the 1960s might indicate someone who won't let go of the past. Change the character to a young man, and the same furniture indicates a retro-hip sense of style. Clutter can be comfortable or claustrophobic; sparsity can be clean or indicative of emotional emptiness. In addition to externalizing the themes of the story, production design should also aid in fo-

cusing the viewer's eye, a challenge that goes hand in hand with lighting and framing the shot.

Building a Set

If your location needs are very specific, it might be easier to build a set than to find the right location. Whether you build your set on a stage or at a location, you'll need to spend some extra effort to make it look real. Sets are usually built out of *flats*, large, hollow wooden walls that are held up from the rear with supports. If you rent a soundstage, you might find that several flats come with the stage rental. You can paint them the color of your choice.

Typically, a room built on a stage will have three solid walls and a fourth wall on wheels for use when needed. Many flats have doors or windows built into them. When shopping for a soundstage, look for one that has the type of flats you need. If your needs are very specialized, you might need to built your own flats, and color or texture them appropriately. For example, you can easily create a stucco or adobe look by gluing foamcore to a flat and then spraypainting it (spraypaint dissolves foamcore). Hiring a set carpenter can save lots of time and trouble.

Retail Therapy

Good set dressers and wardrobe people spend a lot of time browsing in the shops in their city. A thorough knowledge of where to buy odds and ends is one of the secrets of their profession.

Set Dressing and Props

Whether you have a found location or a built set, the next step is to dress it. Dressing a built set can take a little more work because it will be completely empty. On the other hand, your options might be limited when dressing a found location because you'll want to avoid disturbing the occupants or ruining their property. Either way, a good prop (short for *property*) can really sell a weak location. A giant gilded Victorian mirror, a barber's chair, a mirrored disco ball—the mere presence of these objects tells you where you are and makes the location believable. Props can be very expensive to rent, but if you can find that one key piece, it might be worth the money. In addition to prop rental houses, you can sometimes

rent props from retailers. Usually, this will involve a hefty deposit and the requirement that it be returned in perfect condition.

If your film involves weapons and fight scenes, you'll need special props such as breakaway furniture and glass, fake knife sets, and realistic-looking guns. Fake knife sets usually include a real version of the knife, a rubber version, a collapsible version, and a broken-off version. Renting a realistic-looking gun usually involves some extra paperwork, and you are required to keep it concealed at all times. If you have a really specialized object that you need—like the *Get Smart* shoe-phone—you'll probably need to have a fabricator or modeler make it for you.

QUIPMENT CHECKLIST

Staple gun
Hammer, screwdriver, and other tools
Nails, tacks, and push-pins
Various types of glue
House paint and spray paint, various colors including black
Paint brushes and rollers
Bucket
Dark brown and amber water-based stains, Streaks and Tips, etc.
Dulling spray (to take the shine off reflective objects)
Contact paper
Window cleaner (with ammonia)
Cleaning products
Rags, towels, cheese cloth
Dust mask

IG

If your shoot requires any special effects, then you have a whole extra planning job ahead of you. Special effects must be carefully planned out for all the reasons that any shot needs to be planned (to save time on the set and to make sure you get the footage you need), but effects planning is also the time when you have to figure out how you're going to create the effect you want.

Your first question when creating a special effect shot should always be, "Do I really need it?" Effects are time-consuming, complicated, and expensive. You should never include anything in a story if it doesn't re-

ally belong there, but you *definitely* shouldn't include something as complex as a special effects shot if it doesn't really belong there.

If you decide that you do need the effect, your next question is to determine if the effect is going to be created digitally (in the computer), or practically (using "real" props and sets, and clever camera work), or some combination of both. As amazing as digital effects can be, it's often easier and faster to create an effect using special props and backdrops on the set.

Obviously, to determine the best way to create an effect, you need to know something about creating effects, both digital and practical. We talk much more about effects creation in Chapters 16 and 17. Hopefully, if you're not comfortable with effects work, you can find someone who is and get him or her to help you with your effects planning.

Once you've determined how to create the effect you need, you might want to shoot some simple test shots and see if the effect really works. Alternatively, maybe you'll want to create *animatics*, or moving storyboards. Animatics can provide good visual references for everyone, from designers to effects crews to actors. For example, you can use a 3D program to create animatics that can be shown to actors and crew and that can even be used as placeholder video while you're editing.

Perhaps the best way to understand the importance of effects planning is with an example. In Chapter 2, "Writing and Scheduling," we introduced the *Consumer Electronics* script, a simple, silent story about a guy with a remote control. In one scene, the script calls for a painting of the Mona Lisa to appear on the wall behind the man, and for the wall to change color.

When shooting, we first thought about compositing the Mona Lisa in digitally, but then realized it would be easier to simply create a Mona Lisa prop (which we did by printing a digital file of the Mona Lisa on a large-format printer, and then mounting it inside a rented frame).

The change in wall color, though, was achieved through a digital effect called *rotoscoping*. Simply put, we simply re-painted the wall color in post-production. Unfortunately, the first time we shot, we didn't realize that the actor's head needed to remain in front of the painting at all times, to ease the rotoscoping process (Figure 5.8).

With better planning and some good tests, we could have avoided this. As it was, we had to reshoot, or face an incredibly difficult rotoscoping job.

Creating Rough Effects Shots

If your feature will contain complex effects shots—battling spaceships, giant flying insects, waving computer-generated cornfields—you'll want
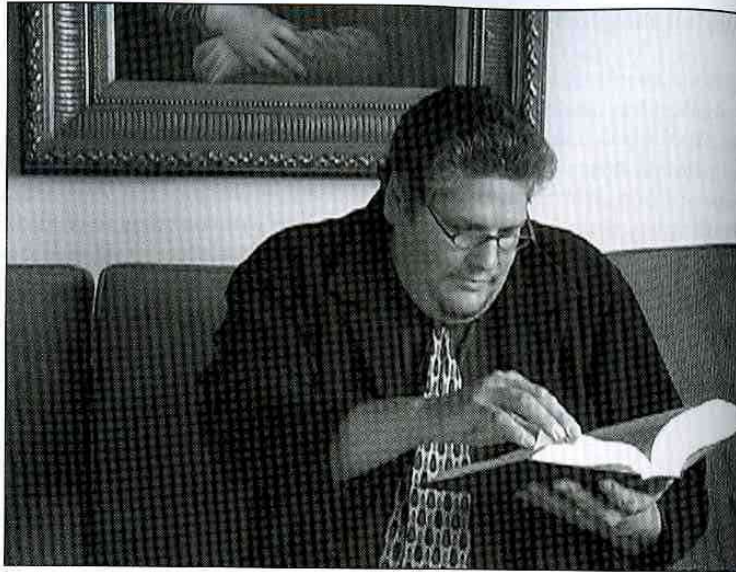
FIGURE 5.8 Due to bad effects planning, this shot from *Consumer Electronics* was unusable. Since the actor's head did not remain in front of the Mona Lisa at all times, repainting the wall became prohibitively difficult.

to start preparing such shots early in production. There's no reason you can't have your effects department quickly rough-out low-res, low-detail animations that can serve as animated storyboards. With these rough animations, you can more easily plan and direct shots. Having low-res proxy footage also means that you can go ahead and start editing before your final effects are rendered.

When planning your next shoot, be sure to consider the following:

- Is the location available?
- Do you need both the inside and outside?
- Can you find the same type of location in a cheaper town?
- Is the location a reasonable distance from the rest of your shoot?
- Does the location require redressing or modification?
- Does the location afford the coverage you need?

- Does your location have the physical space required for the size of your shoot?
- Does the location have access to sufficient practical resources such as power?
- Is the location too noisy?
- What are the location requirements of your equipment?
- What about light and sound?
- Can you improve the authenticity of your set with sound effects?
- Can you fake it?

SUMMARY

Filmmakers have always had to engage in meticulous planning before rolling their cameras. As a DV filmmaker, you have a decided advantage. With digital tools for storyboarding, you can more easily try out different visualizations. Moreover, with digital editing, your storyboards, animatics, and early work files can actually be repurposed to save time in your final post-production.