# Time
# Design

From prehistory to the present, artists and designers have sought to create images, objects, and architectural works that embody and express the most profound aspects of human experience. Visions of love and hate, life and death, and the beauty of nature fill the walls of any art museum or gallery.

This compulsion to create has always inspired artists and designers to seek new avenues of expression. In contemporary art, innovation and experimentation have become the rule rather than the exception. Amazing new Web-based projects are used to distribute ideas to a global audience. Actions and ideas once considered taboo dominate many exhibitions. Separations among music, theater, and art become blurred when interdisciplinary artworks are presented.

In this final major section, we consider time as a dimension of art and design. While all areas of visual communication are affected by time, it is the sequential arts — such as film, video, computer graphics, visual books, and performance art — that most depend on the manipulation of time.

Chapter Thirteen offers an overview of time design and a description of its basic aspects and elements. Various forms of storytelling are discussed in Chapter Fourteen. We conclude with an exploration of interdisciplinary art and design, including an extended discussion of visual books, installation art, and performance art.

# Part
# Four

# Aspects and Elements of Time

Abe Morell quietly sets up a large camera in an empty New York apartment. Except for a single small opening, he has blocked the light coming in the windows. Ghostly and inverted images of the surrounding city begin to appear on the walls. At just the right moment, he releases the shutter.

In 1998, Nancy Callahan and Diane Gallo created *Storefront Stories* in Cherry Valley, New York. A combination of words, images, and everyday objects was installed in an unused storefront window. Every 10 days, the installation was changed, presenting the next chapter in a story. Over a six-week period, an entire narrative was revealed to the people in the town.

An unusual advertisement was shown during the 1984 Super Bowl. The 60-second commercial begins as gray-faced workers in a futuristic city trudge to a huge theater and shuffle to their seats (13.1). From the screen, a grim "Big Brother" intones: "From today we celebrate the first anniversary of the information purification directions." A woman athlete is then shown, carrying a sledgehammer and sprinting toward the theater, with guards in hot pursuit. On arrival, she hurls the hammer into the screen, which explodes. As the words appear on the screen, an announcer reads, "On January 24, Apple Computer will introduce Macintosh. And you'll see why 1984 won't be like *1984.*"



**13.1 Apple Computer television ad introducing the Macintosh computer.** Shown during the 1984 Super Bowl.

What is the connection? What do these artworks have in common? In each case, an understanding of time is an essential aspect of the work. Like gravity, time itself is intangible. While it is easy to overlook a force that we cannot see, the *effects* of time are critically important in all areas of art and design. An illustrator working on a track meet poster seeks the most dramatic moment in each event. The action shown in a narrative painting such as *Raft of the Medusa* (13.2) is as important as the composition created. And, through variations in texture and color, a ceramicist invites us to examine a bowl slowly, revealing each nuance as we rotate the form.
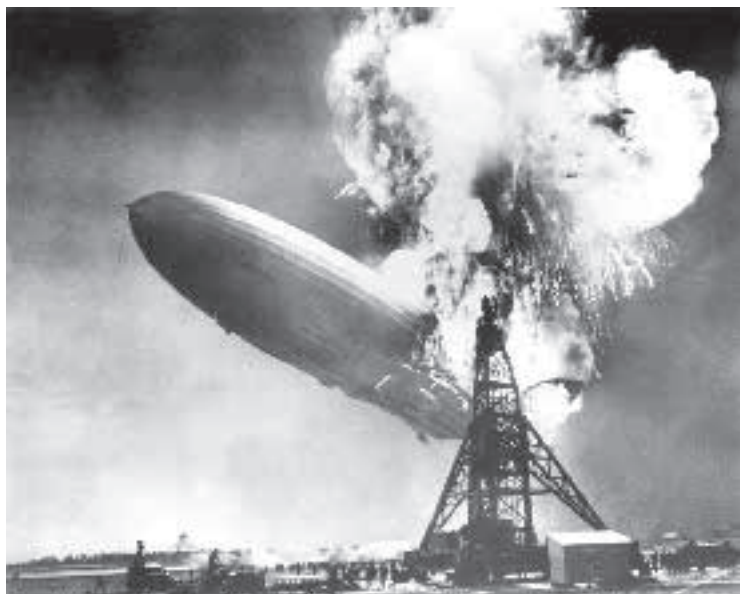
Photographers, videographers, book artists, and filmmakers are especially sensitive to the importance of time. When news photographer Sam Shere captured the moment at which the dirigible *Hindenburg* exploded, he created an indelible image (13.3). In *The Mysteries of Harris Burdick,* illustrator Chris Van Allsburg suggested a series of complex stories using a single drawing and a fragment of text (see figure 4.21, page 103). Time itself is the subject of Jim Campbell's *Digital Watch* (13.4). An ominous ticking noise accompanies the installation. On the large screen, viewers see themselves twice: in real time to the left of the clock and, after a brief delay, on the clock face itself. The persistent sound of the watch emphatically marks each passing second.

Meanings unfold through the passage of time. By selecting and composing each moment, we can turn the most mundane event into a memorable experience. Connections made through the juxtaposition of images can create a visual rhythm, express an idea, or tell a story. While these aspects of time are most clearly demonstrated through film, video, and photography, the implications for all areas of art and design are profound.
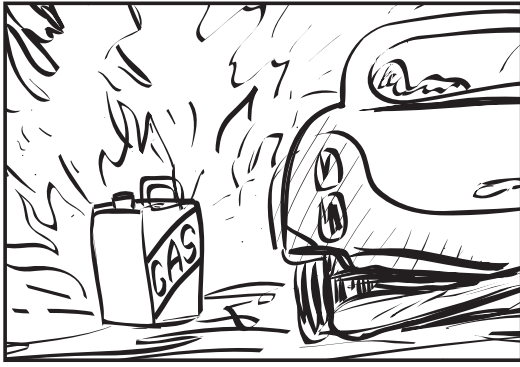


13.2 Théodore Géricault, *Raft of the Medusa*, 1818–19. Oil on canvas, 16 ft 1 in. × 23 ft 6 in. (4.9 × 7.2 m).



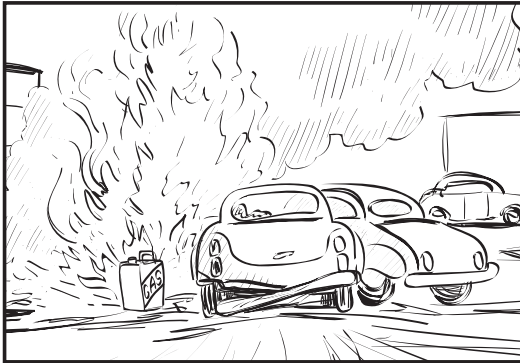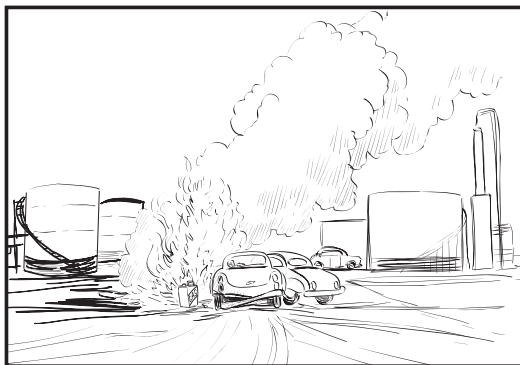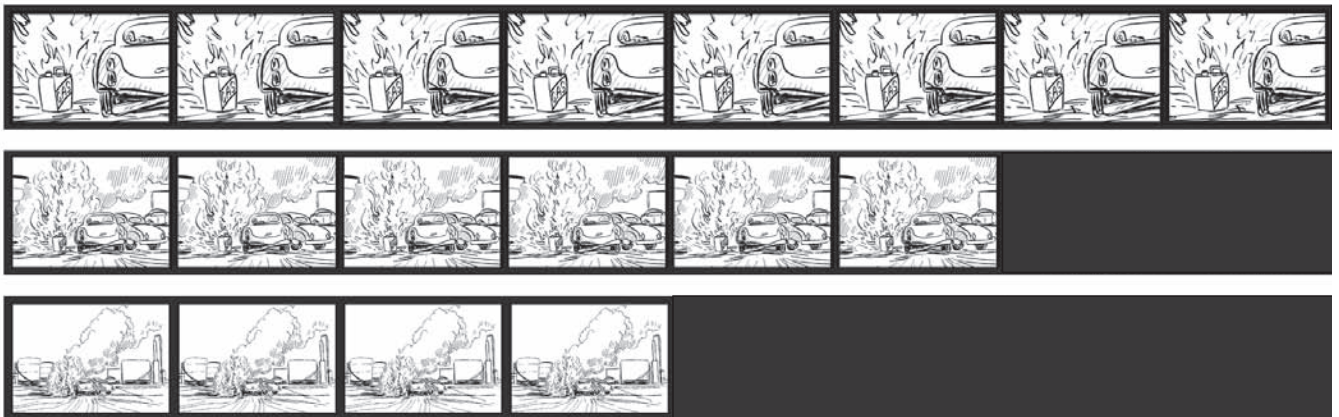13.3 Sam Shere, *Explosion of the* Hindenburg, *Lakehurst, NJ,* 1937. Photograph.



13.4 Jim Campbell, *Digital Watch*, 1991. Watch, camera, video cameras, electronics. Dimensions variable.

**13.5A** Single frame, close-up.



**13.5B** Single frame, medium shot.



**13.5C** Single frame, long shot.

# BUILDING BLOCKS

The sequential structures used in film, video, and graphic novels are generally composed using four basic units: frame, shot, scene, and sequence. The **frame** is a single static image. Projected onto a flat screen, a film frame is governed by the same compositional forces as a painting, a poster, or a photograph. As shown in figures 13.5A, 13.5B, and 13.5C, the boundaries of the frame determine the meaning of the image. The **close-up** in the first frame shows the gasoline can that is the source of the fire. The **medium shot** in the second frame shows the parking lot in which the fire has been set. The **long shot** in the final frame shows the fire in a larger context. We now see that this fire at an oil refinery could spark an explosion.

In filmmaking, a **shot** is a continuous group of frames. In figure 13.6, the first shot consists of eight frames, the second shot consists of six frames, and the third shot consists of four frames. In traditional films, the eight-frame shot would last for one-third second, while the six-frame shot would last for one-quarter second.

By combining these shots, we can create a scene. A **scene** is usually constructed from continuous action in continuous time and continuous space. Shots of various length often are combined to strengthen expression.

A **sequence** is a collection of related shots and scenes that constitute a major section of action or narration. To understand the expressive potential of a sequence, we will examine four major ways in which shots can be related.



**13.6** In filmmaking, a shot is a continuous group of frames.

## Relationships

In *Film Art: An Introduction,* David Bordwell and Kristin Thompson describe four types of shot-to-shot relationships.

A **graphic relationship** connects two or more images through visual similarity. Because the images of doves, airplanes, and crosses in figures 13.7A, 13.7B, and 13.7C are graphically similar, a visual connection is made when they are shown together. In this case, a visual connection can be used to communicate a political idea. Doves symbolize peace, bombers symbolize war, and crosses symbolize death. The juxtaposition of these shots shows that the transition from peace to war leads to death.

A **spatial relationship** can expand or compress the stage on which an action occurs. Through a combination of close-ups and distance shots, the filmmaker can imply movement and can increase or decrease the emotional connection between the actor and the audience (13.8A–C).

A **temporal relationship** can establish **chronology,** the order in which events occur. A story may be told through a simple sequence of events or be reorganized using **flashbacks,** which refer to previous events. The 1993 movie *The Fugitive* uses flashbacks extensively. The film begins with the murder of Dr. Kimball's wife. Wrongly accused of the crime and sentenced to death, Kimball must discover the actual killer if he is to clear his name. Flashbacks to the murder, which occur throughout the story, show Kimball's recollection of the event that shattered his life.

When many shots are combined, a deliberate **rhythmic relationship** can be developed. Rhythm is often based on an interplay between static and dynamic, on a contrast between light and dark, or on a combination of shots of different duration.
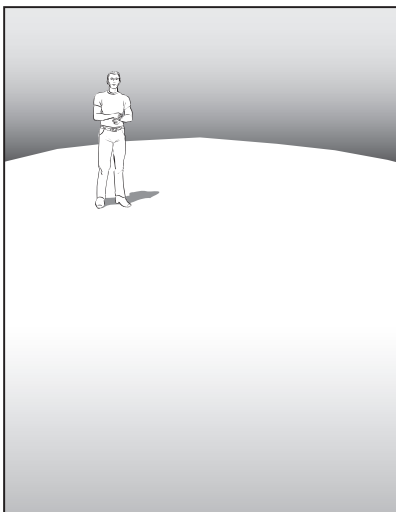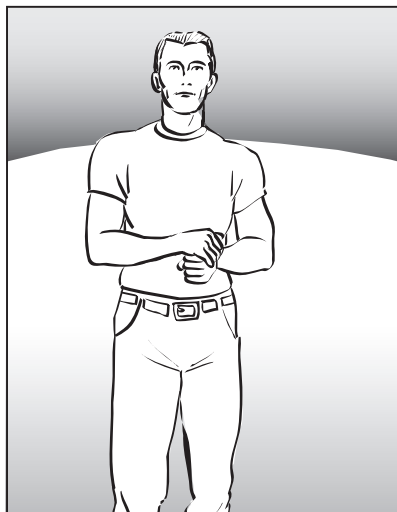


**13.7A** Doves symbolize peace.
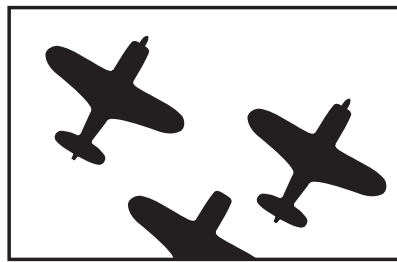


**13.7B** Bombers symbolize war.



**13.7C** Crosses symbolize death.



**13.8A** Long shot.



**13.8B** Medium shot.



**13.8C** Close-up.

A          B          C

D          E          F

G          H          I

J          K

**13.9 A–K  Alfred Hitchcock, *The Birds*.**

In *The Birds*, Alfred Hitchcock used all these relationships to create a suspenseful sequence that builds to an explosive climax (13.9A–K). In *Film Art*, David Bordwell and Kristin Thompson describe this especially impressive example.[1] Melanie, the central character in the sequence, watches in horror as a line of flaming gasoline advances across the pavement, then ignites a gasoline station. The shots of her face create one graphic relationship, while the shots of the flame create a second. By **crosscutting,** or alternating between the two, Hitchcock created a powerful rhythm and established a simultaneous temporal relationship: Melanie is watching the gasoline as it advances toward the gas station. In a final aerial view (13.9K), we shift our spatial position to watch the final explosion from a seagull's point of view. Hitchcock combined graphic, rhythmic, temporal, and spatial relationships to create a cinematic tour de force.

## Transitions

Four common transitions in film and video are the cut, fade, dissolve, and wipe (13.10). A **cut** is an abrupt transition that may connect very different images or very similar images, depending on the effect required. Fades and dissolves are gradual transitions. In a **fade,** the shot slowly darkens or lightens. In a **dissolve,** as one shot fades, another appears. Two shots are superimposed briefly in a **lap dissolve.** A **wipe** is more abrupt than a fade but softer than a cut. In a wipe, the first shot seems to be pushed off the screen by the second.

As described by Scott McCloud in *Understanding Comics*, comic books rely on six additional transitions.[2] American comics rely heavily on **action-to-action transitions** (13.11). Capturing sequential moments within an event, the action-to-action transition is clear and straightforward.

| Cut | Fade | Dissolve | Lap dissolve | Wipe |
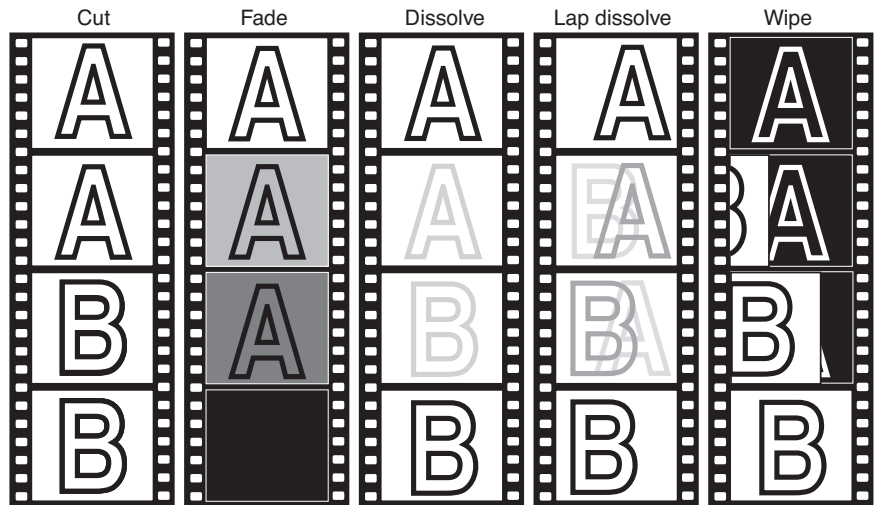


**13.10** Common transitions.

In a **subject-to-subject transition** (13.12), two shots within the same scene are juxtaposed. The combination may provide crucial information, as in this explosive story.

A **scene-to-scene transition** (13.13) requires more reader involvement. Depending on the images used, this type of transition can transport us across great distances in time and space.



**13.11** Action-to-action transition.
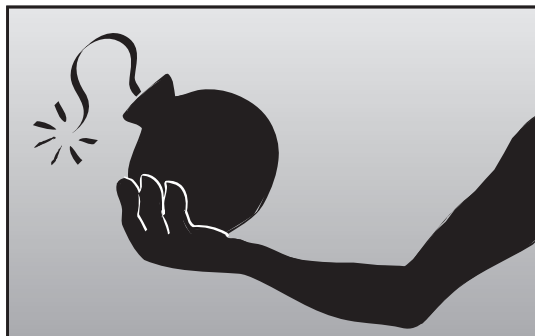


**13.12** Subject-to-subject transition.

**13.13** Scene-to-scene transition.

A **non-sequitur transition** (13.14) requires even more reader involvement. Because there is no logical relationship between shots, meaning must be invented.

Two additional transitions often appear in Japanese comic books. A **moment-to-moment transition** (13.15) is used when a character or situation is simply being observed over time. An **aspect-to-aspect transition** (13.16) is used to record different views within a scene. The passage of time slows as we scrutinize our surroundings.
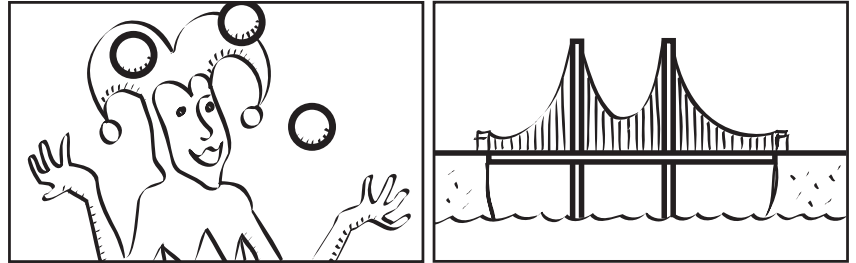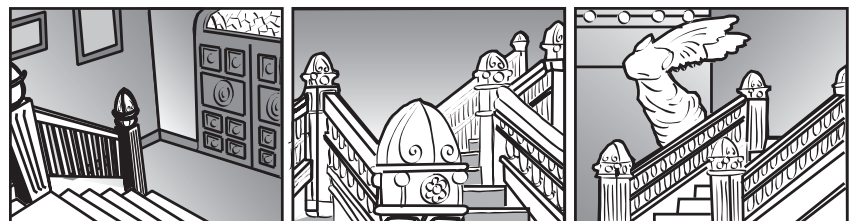


**13.14** Non-sequitur transition.



**13.15** Moment-to-moment transition.

## Key Questions

**BUILDING BLOCKS**

- Can a graphic or temporal relationship add meaning to your artwork?

- Where are you using close-ups, medium shots, and long shots? What purpose does each serve?

- Would rhythmic variation strengthen your idea? What happens when you accelerate or change the rhythm?



**13.16** Aspect-to-aspect transition.

# DURATION

**Duration** refers to three things: the running time of a film, video, or performance; the time covered by the events depicted in the story; and the overall span of time the story encompasses. For example, the viewing time of *Star Wars* is 118 minutes. The **plot duration** (from the capture of Princess Leia to the destruction of the Death Star) is about a month. The overall **story duration,** however, extends back to Darth Vader's betrayal of the Jedi warriors and his alliance with the dark side of the Force.

Matching all three aspects of duration to the intended message is essential. Tolstoy's *War and Peace* cannot be fully communicated in a 15-minute film. Equally, a 10-second rocket launch may lose rather than gain power when the duration is increased. Every moment has its own power. A 15-second soft drink ad uses time just as carefully as a 2-hour film.

Determining the plot duration is especially important. Following the principles of drama described by Aristotle, ancient Greek plays (such as *Oedipus Rex*) generally occur over a one- or two-day period. Even though the characters often refer to previous events, the action on stage is brief. *Hamlet, Romeo and Juliet,* and most other Shakespeare plays are equally brief. By limiting the time frame, the playwright focuses our attention on a few events and thereby increases the impact of the play.
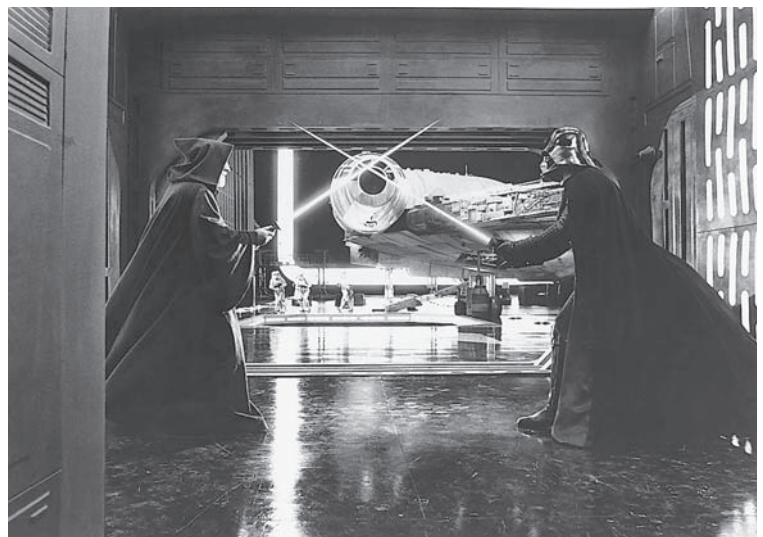
# TEMPO

**Tempo** refers to the speed at which time passes. Despite the apparent constancy of real time, our perception of events in our lives varies widely, depending on the nature of the activity and the rate of change. Consider this story. Six coal miners were trapped by the collapse of a mine shaft. Based on the size of their shelter and the number of trapped men, the miners determined that there would be enough oxygen for a four-hour wait. Beyond that point, rescue would be futile: they would run out of oxygen. A miner with a fluorescent watch was asked to call out the hours as the time passed. He did so but modified his report, cutting in half the actual length of time passed. Six hours passed. All of the miners survived, except the man with the watch. He alone knew that they were out of oxygen.

Tempo is equally determined by the movement of the actors and by the editing of the film. In *Star Wars,* the fight between Darth Vader and Obi-Wan Kenobi began as staged combat between two actors (13.17). To provide director George Lucas with enough raw material, many versions, or **takes,** were filmed, using multiple cameras. The final tempo was determined through editing. By connecting fragments from many different views, Lucas was able to increase or decrease the fight tempo.
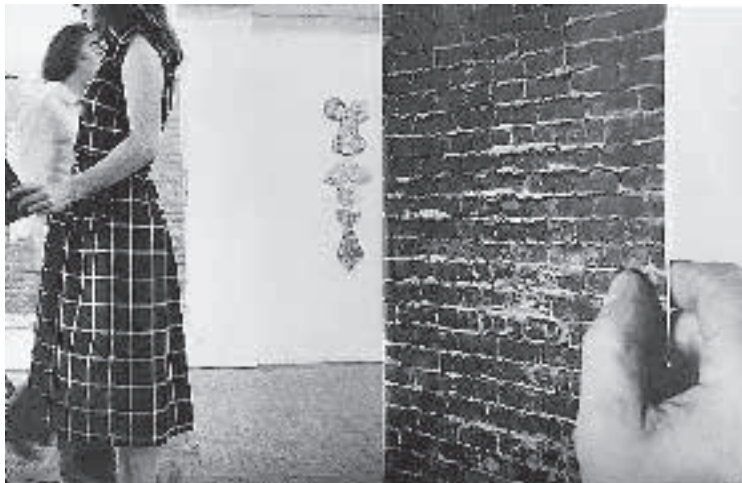
## Key Questions

### DURATION

- What is the actual duration of the event on which your artwork is based? What is the duration of your edited version?

- What did you cut from the raw footage and what did you add? Why?

- What strategies can you use to expand or compress duration?

- Will expanded or compressed duration add meaning to your artwork?



13.17 George Lucas, *Star Wars*, 1977.

In a visual book, tempo is commonly created in two ways. First, by increasing the number and frequency of images, the artist can increase the tempo. Second, by turning the page, the reader controls the viewing speed.

In a flip book, actions can pass slowly or quickly, depending on the pace set by the viewer. In a more elaborate book called *Cover to Cover* (13.18), Michael Snow presents multiple views of a room interior and the surrounding landscape. There is no text—photographs of walls, doorways, and streets re-create the environment within the book format. The viewer can run or stroll through the house, depending on the speed with which the pages are turned.
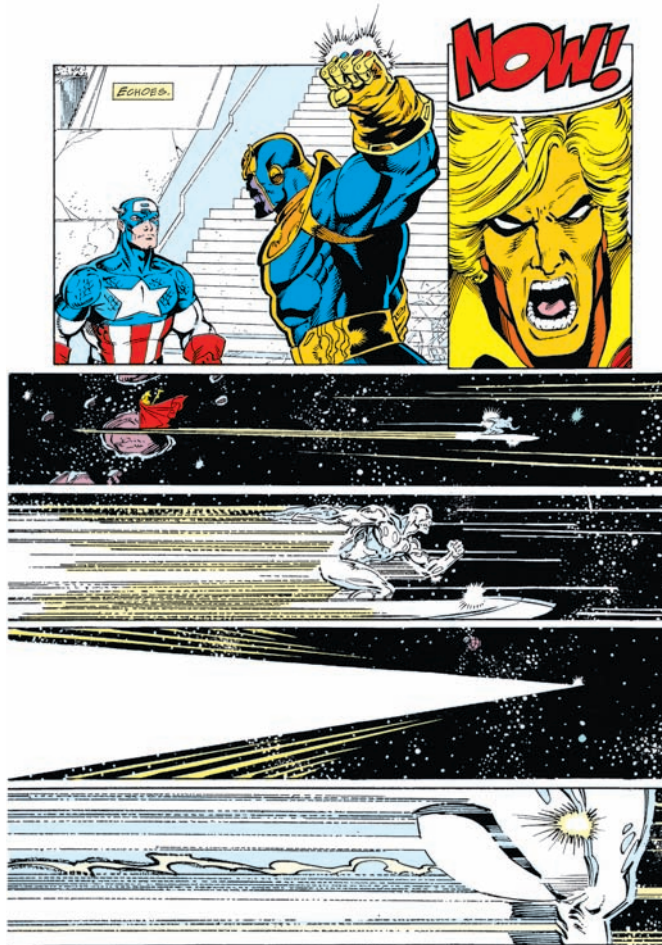
**13.19 Captain America, Silver Surfer,** *Infinity Gauntlet #4,* **Cover Date: October 1991.** Writer: Jim Starlin. Penciler: Ron Lim. Inker: Josef Rubinstein. Characters Featured: Captain America, Thanos, Adam Warlock, and Silver Surfer. © 2010 Marvel Characters, Inc. Used with permission.

As with film, tempo in a comic book is largely determined by the organization of multiple images. Vertical panels placed in close proximity tend to speed up the tempo, while horizontal panels tend to slow it down. Interactions among various superhero characters are shown in figure 13.19. The horizontal panels emphasize the speed of the flying figures, while the vertical panels slow down the action. Close-ups in the final sequence of images emphasize the fierce determination of each character.

## Key Questions
### TEMPO

- How quickly does time pass in your artwork?

- What are the advantages of a slow tempo? Of a fast tempo? Of variations in tempo?

- When and why might tempo variations occur?

# INTENSITY

**Intensity** refers to the level of energy in a performance or the quality of observation of an event. For example, to win an Olympic gold medal, an ice skater must spin rapidly, fully extend each move, and exude both athletic skill and emotional conviction. Likewise, even an ordinary glass of water becomes fascinating when observed closely. The glass itself offers a graceful interplay between line and shape, while light passing through droplets of water breaks into a prismatic array of color.

Intensity of performance is an essential aspect of theater. We can feel the concentration the actors bring to the stage, and when a dramatic or dangerous event occurs, we can share their emotion. In *Cleaning the House* (13.20), Yugoslavian artist Marina Abramovic combined intensity with metaphor to make a political statement. Wearing a white dress and sitting in a poorly lit New York City basement, she repeatedly scrubbed the dirt and blood off a collection of massive cow bones. Like the bones, various ethnic groups in her homeland have been "cleansed," bringing trauma and bleached bones to the once prosperous country.
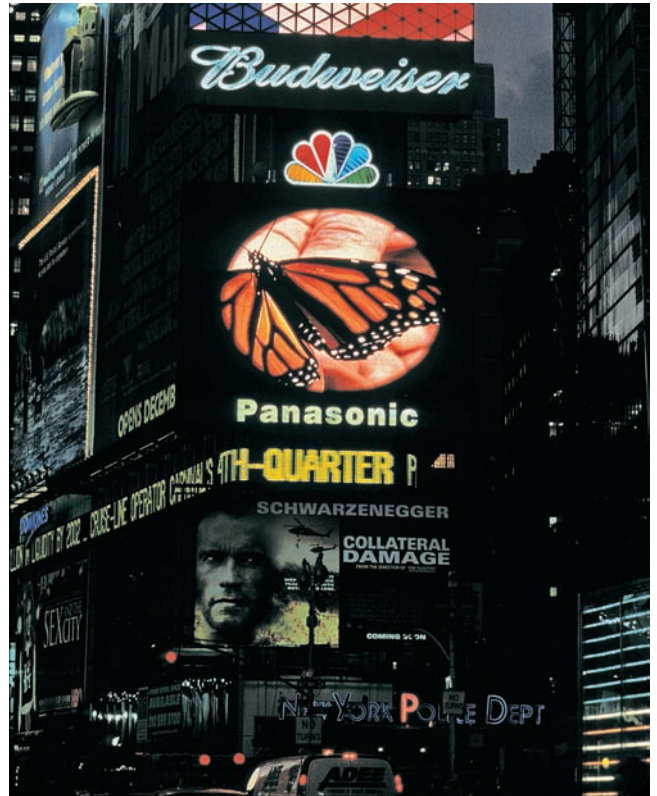
Video is often used first to record, then to intensify everyday experience. In *Migration (Monarch)* (13.21), Mary Lucier photographed a monarch butterfly, which alights on a human hand, then dies. Capable of migrating thousands of miles, the beautiful creature is shown here as fragile and transient. The very act of filming the insect's death focuses our attention on the event, while the subsequent projection of the video in the middle of Manhattan increases its poignancy and significance.

## Key Questions

**INTENSITY**

- What is the intensity level of your artwork or performance? How will a change in intensity affect the expressive power of your artwork?

- How are you communicating this intensity to the audience?

- What is the most important moment in your work? Is it the most intense moment?



**13.20  Marina Abramovic, *Cleaning the House*, 1995.**
Performance at Sean Kelly Gallery. Duration, two hours.



**13.21  Mary Lucier, *Migration (Monarch)*, 2000.**
Video projection, Times Square.

# SCOPE

**Scope** can be defined in two ways. Conceptually, it is the extent of our perception or the range of ideas our minds can grasp. Temporally, scope refers to the range of action within a given moment.

The earliest films, such as *The Arrival of a Train at La Ciotat Station* (13.22), are limited in scope. A single event is seen from a fixed viewpoint. By positioning his camera carefully, director Louis Lumière created a dynamic, diagonal composition. The train and passengers seem to come out of the screen and into the theater. Some audience members were so convinced of the illusion that they exited the theater to avoid being hit by the train. In the early days of cinema, any moving image fascinated the audience, and its dramatic composition made this film especially popular.

As directors gained experience, they expanded the temporal scope of their films. In *The Great Train Robbery* (1903), a gang of bandits holds up a train; a telegraph operator alerts the authorities; a posse is gathered from men at a local dance; the posse captures the thieves. Director Edwin S. Porter used only 11 shots, and the editing is quite simple. Nonetheless, it is clear that the robbery, the telegrapher's message, and the dance are roughly simultaneous events.

With *Intolerance,* director D. W. Griffith expanded conceptual scope to the limit. Using intolerance throughout history as a theme, Griffith developed four simultaneous stories: the fall of Babylon, Jesus' final days, the St. Bartholomew's Day Massacre in France, and a labor strike in modern-day America. These stories are intercut throughout the film, with the image of a woman rocking a cradle as a further recurrent theme. Each story concludes in an attempted rescue. Weaving the four narratives together in an accelerating rhythm (13.23A and B), Griffith brought the film to a breathtaking conclusion.

Complex stories often require complex editing, and Griffith became a master of the art. By alternately showing two or more events, he created a connection between simultaneous actions. Comic book artists use many of the same devices. This technique of crosscutting is used repeatedly in *Inhumans* (13.24), by Paul Jenkins and Jae Lee. Moving again and again from cannon fire to a quiet
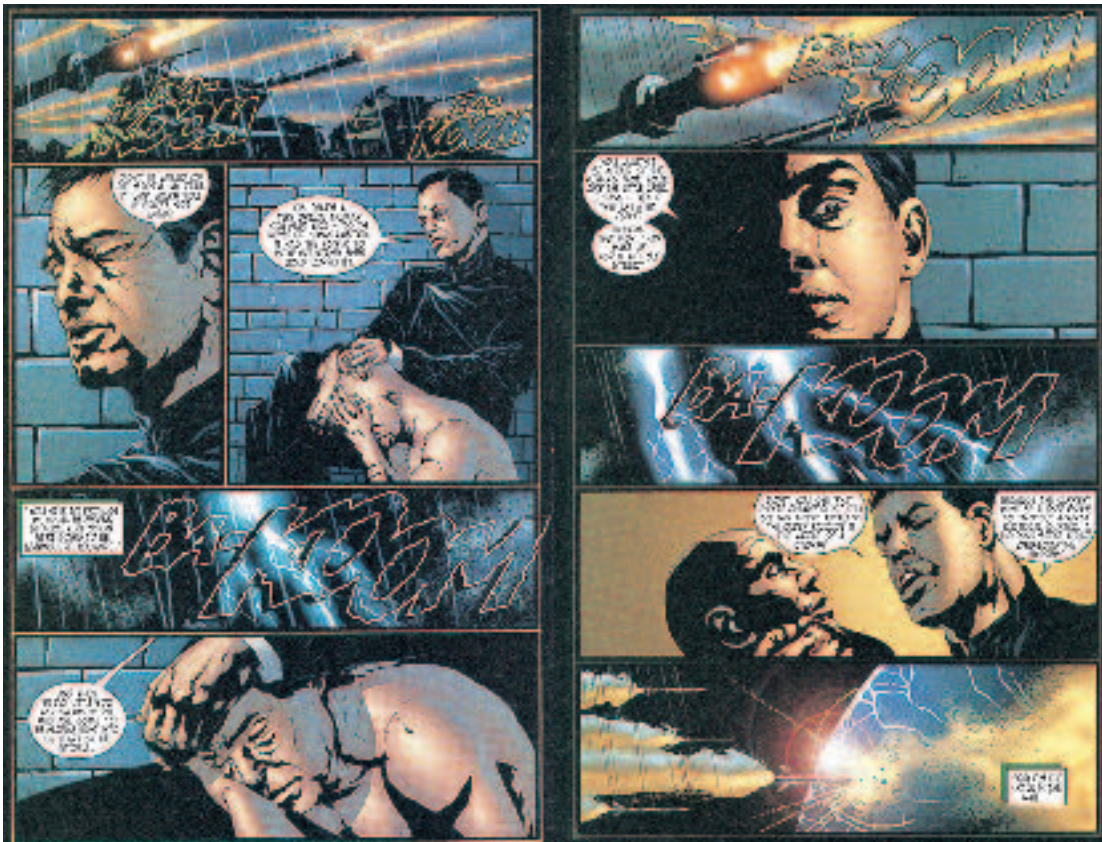


13.22  Louis Lumière, *The Arrival of a Train at La Ciotat Station*, 1897.



13.23A  D. W. Griffith, *Intolerance*, 1916.



13.23B  D. W. Griffith, *Intolerance*, 1916.

**13.24  Paul Jenkins (Writer) and Jae Lee (Artist),** *Inhumans: "First Contact,"* **Volume 2, Issue 5, March 1999.** © 2010 Marvel Comics, Inc. Used with permission.



**13.25  Nicolas Poussin,** *The Rape of the Sabine Women,* **1634.** Oil on canvas, 5 ft ⅞ in. × 6 ft 10⅝ in. (154.6 × 209.9 cm).

conversation between two men, the artists show that the events are concurrent.

Scope is equally important in traditional narrative painting. In Nicolas Poussin's *The Rape of the Sabine Women* (13.25), a complex event is shown in a single image. Seeking wives, the Romans have invited the Sabines to a festival. They then attack their guests and abduct the women. Many actions occur at once. In the upper-left corner, Romulus raises his cloak as a signal to attack. As the courtyard swirls with struggles between the women and their captors, an old woman and two children at the center of the painting watch in terror.

## Key Questions

**SCOPE**

- Is your artwork limited or broad in scope?
- If it is broad in scope, how can you create continuity among multiple events?
- If it is narrow in scope, how can you make the "small" story become meaningful?
- Consider moving from broad scope to narrow scope within your movie. How does this affect communication?

## SETTING

**Setting** is one of the most complex aspects of time. It includes the physical and temporal location of a story, its props and costumes, and the use of sound.

## Physical and Temporal Location

The physical setting of an event has an extraordinary impact on meaning. An action that is appropriate in one context may be appalling in another. As a drum major, you will be applauded when you strut down Main Street during a Fourth of July parade. At a different time of day (such as Monday morning rush hour) or in a different location (such as an airport), you are likely to get arrested.

The temporal setting is equally significant. Most of the action in *Gone with the Wind* is derived from romantic conflict involving Scarlett O'Hara, Ashley Wilkes, and Rhett Butler. While each of the three characters is interesting, the love triangle itself is commonplace. It is the temporal setting of the novel during the American Civil War that shifts the story from soap opera to epic.

Likewise, Nancy Holt's *Sun Tunnels* (13.26) would be meaningless if removed from its site in



**13.26 Nancy Holt,** *Sun Tunnels,* **1973–76.** Great Basin Desert, UT. Four tunnels, each 18 ft long × 9 ft 4 in. (5.5 × 2.8 m) diameter, each axis 86 ft (26.2 m) long. Aligned with sunrises and sunsets on the solstices.

western Utah. Constructed from four 22-ton concrete tunnels, this sculpture is aligned with the rising and setting sun on the winter and summer solstices. The arrangement of stars in four constellations is shown by holes cut in the walls of each tunnel. Designed to heighten awareness of our place in the universe, this work relies on both time and place for its impact.

## Props and Costumes

Props and costumes can have an equally dramatic effect in a narrative. The top hat and tuxedo worn by Fred Astaire in many films helped convey a formal elegance, while the leather jacket worn by Michael Jackson in *Beat It* helped place him on a contemporary city street. In Peter Jackson's *The Lord of the*



**13.27A** Tatana Kellner, *Fifty Years of Silence,* 1992. 12.2 × 19.7 × 2 in. (31 × 50 × 5 cm).



**13.27B** Tatana Kellner, *Fifty Years of Silence,* 1992. 12.2 × 19.7 × 2 in. (31 × 50 × 5 cm).
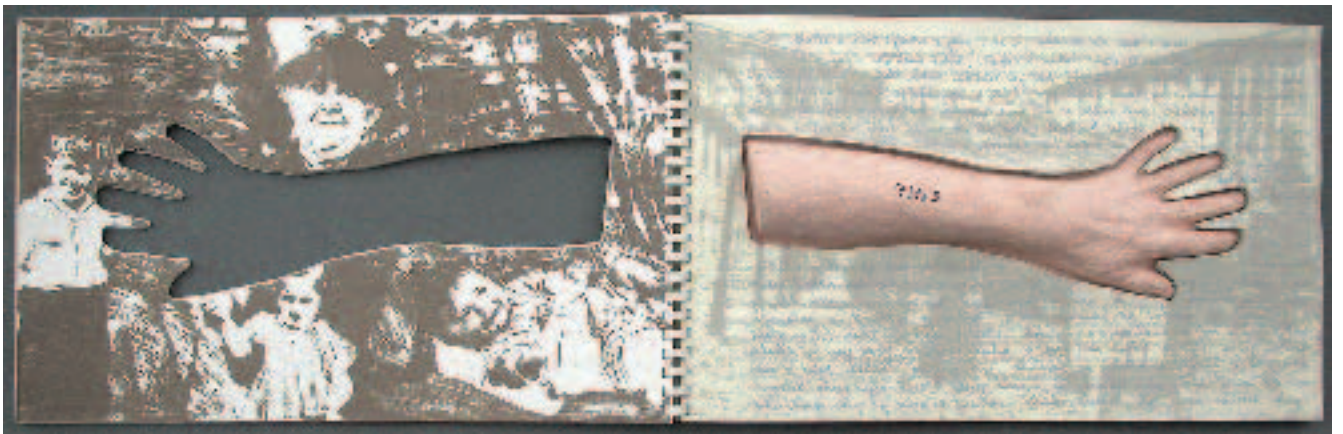


**13.27C** Tatana Kellner, *Fifty Years of Silence,* 1992. 12.2 × 19.7 × 2 in. (31 × 50 × 5 cm).

*Rings*, the one ring of power is as pivotal a character as Frodo himself.

*Fifty Years of Silence* (13.27A–C), a visual book by Tatana Kellner, is even more dependent on objects and their meanings. The simple pine crate that houses the book seems innocuous until we see the small, five-digit number burned into the lid. When the lid is removed, a papier-mâché arm is revealed, bearing the same number. It is a cast of the arm of Kellner's mother, a survivor of Auschwitz. The book pages, cut out around the arm, tell the story of the family before and during the Holocaust. As the pages are turned, the actual arm and the cutout arm are as inescapable as the repressed memories of a Holocaust survivor. By placing it in such a prominent position in the book, Kellner provides us with a sculptural close-up of the indelible tattoo. The wooden crate suggests a container for expensive wine or a shipping crate for a valuable object. The arm is an even more compelling sculptural object. By using these "props," Kellner gives her book greater immediacy and transforms the story of a Holocaust survivor into a highly personal event.

## Setting and Actor

Relationships between an actor and a setting can substantially affect our interpretation of an action or event. As shown in figures 13.28 through 13.34, placement of a single figure within a setting offers a wide range of possibilities.

First, we must decide where to place the dancer within the frame. Three alternatives are shown in figure 13.28. Positioned at the far left edge, she faces an empty stage, which invites her to enter. Positioned in the center, she commands attention. She can move to the right, to the left, forward, or back with ease. She is now in a more commanding position. Facing right, and positioned at the right, she seems ready to leave the frame, perhaps to join other dancers offstage.

What happens when the size of the dancer is varied? As shown in figure 13.29, changing the size of the figure in relationship to the frame helps define the distance between the dancer and the viewer. When the dancer is reduced in size and placed in the upper half of the frame, she seems distant, far from the viewer. When she moves far into the foreground,

with her torso filling the frame, she seems to push past the boundary and into our space.

The addition of an illusionistic setting (13.30) dramatically changes the amount of space available to the dancer. Even a simple line can be used in various ways. It may be the ground, providing a resting place for the dancer. When the dancer overlaps the line, it recedes, suggesting a horizon. The addition of a second line can expand the space even further. We can now show two grounds at the same time: the foreground and the background.
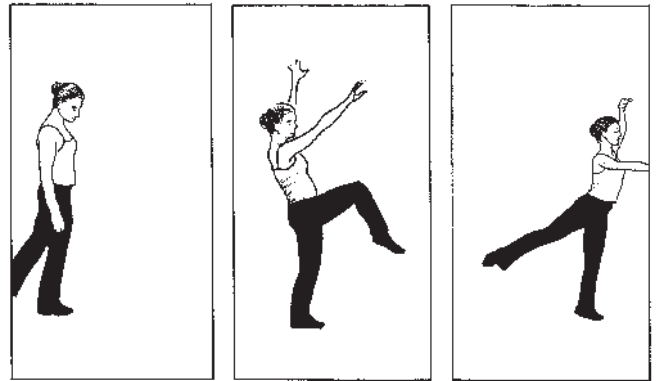


13.28
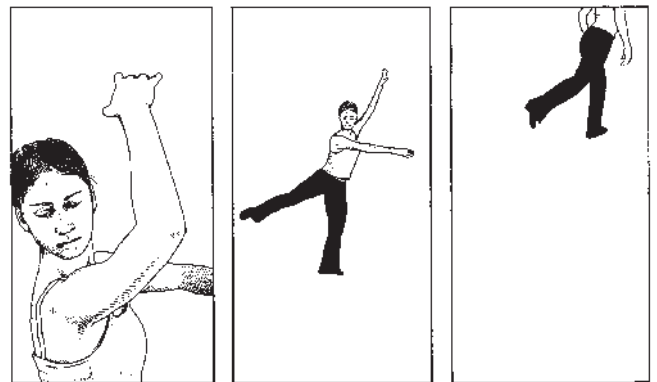


13.29
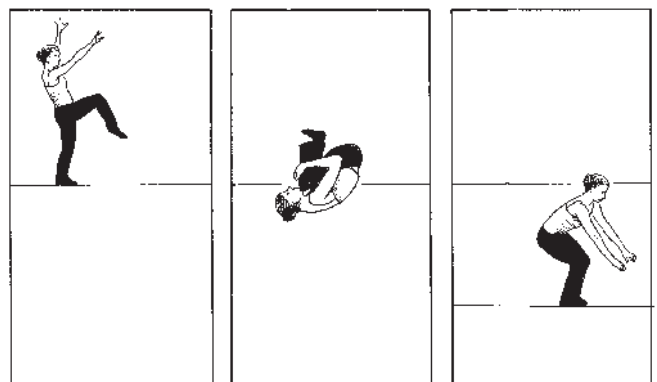


13.30

In figure 13.31, the addition of perspective lines further enhances the space. A long corridor in one-point perspective gives the dancer an expansive stage that invites movement from the background to the foreground. The space is extended beyond the edge of the frame by the repeating chairs and the lines in the floor. Despite her small size, the dancer's central placement makes her the focus of both images.

The setting can become even more significant when the dancer is viewed from above or below (13.32). Looking up from the front row gives the figure a commanding presence. Looking down from the balcony makes her seem insignificant.

Adjusting the lights (13.33) greatly increases the compositional and emotional possibilities. Sidelighting accentuates the dimensionality of both the figure and the setting. When we back-light the dancer, she becomes a silhouette. We lose information about her volume but gain a striking graphic image and an impressive cast shadow. Spotlighting the dancer can direct attention to a specific part of her body or eliminate the rest of the stage altogether.
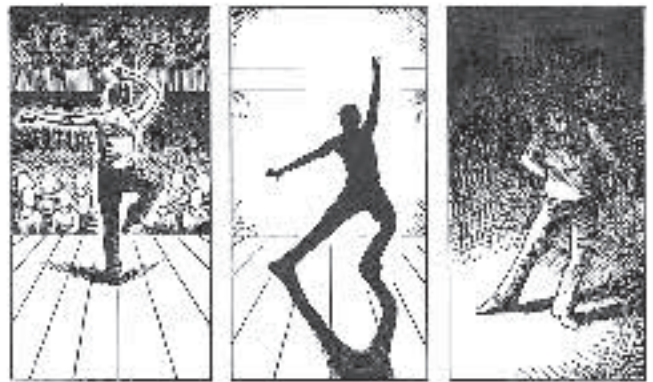
Variations in focus (13.34) can affect both spatial location and emotional impact. When the foreground figure is out of focus, she is less dominant,
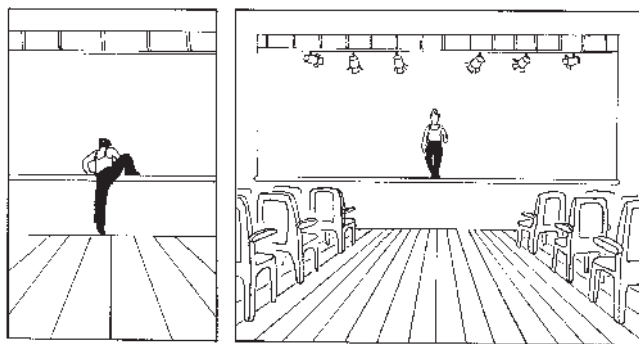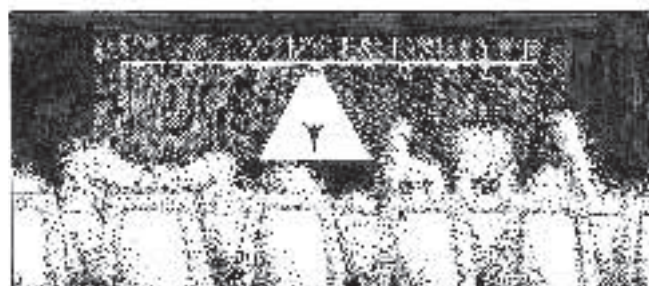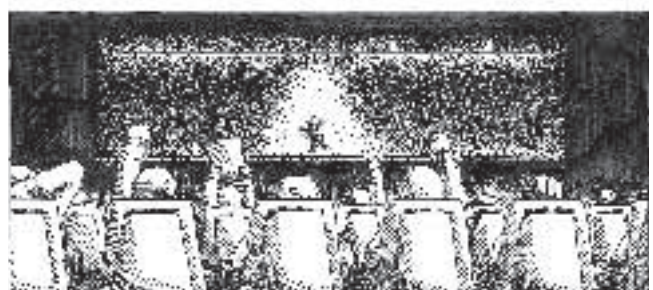


13.33



13.31
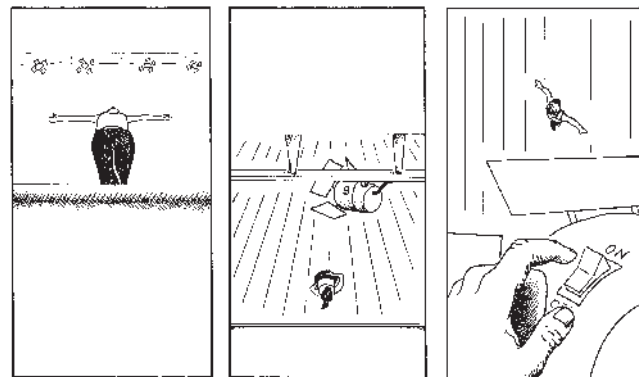


13.32



13.34

and we quickly look past her into the more tightly focused audience. A more traditional use of focus is shown in the middle drawing: clear focus in the foreground gradually diminishes as we approach the distant stage. However, do we really want to focus on the back of the audience? By focusing on the distant stage, we can watch the dancer as she ends her performance and accepts the applause.

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## Key Questions

**SETTING AND ACTOR**

- Start with a single actor. Who is this person? An eight-year-old boy? A pregnant woman? A soldier in a wheelchair? What objects relate to this character?

- How many ways can you position the actor in the setting? How does each position affect meaning?

- What is the viewer's position relative to the actor?

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## Sound: The Hidden Dimension

Two versions of a clip from *Chariots of Fire* were shown during the 1996 Academy Awards ceremony. This story of the British track tream that won many medals during the 1924 Olympic Games showed the transformation of idealistic men into heroic athletes. In the first version, a group of young men ran along a beach, accompanied by the sounds of their feet splashing in the water. It was a pleasant but prosaic scene, showing ordinary men on an ordinary beach. The same footage was then shown as it appeared in theaters around the world. Accompanied by the famous theme music, these Olympic runners became graceful, even godlike. They were transformed by the music.

Despite its invisibility, the soundtrack is as important to a film as the images we see. Sound engages another of our senses and heightens our emotion. A well-written score can set the stage for an action and help unify a complex film. Sound also heightens our expectations. Consider the importance of squeaky doors in any horror movie or our feeling of expectation when the *Star Wars* theme is played. As we begin to study film, we find that the example from *Chariots of Fire* is not an isolated case. Sound can make or break a film.

Four types of sound dominate time design: speech (as delivered by an actor or generated from the audience), music, ambient sound, and sound effects. Each sound has seven qualities.

**Loudness** is determined by the size of the oscillations in a sound wave. Just as Beethoven varied the volume (or loudness) within his symphonies, so the astute filmmaker or performance artist learns to use a full range of sound, from a whisper to a scream.

**Pitch** is determined by wave frequency, as compression and expansion occur within the sound wave. The higher pitch of most female voices generally is less threatening than the lower pitch of most male voices. Not surprisingly, the hero is a tenor, while the villain is a baritone in most operas.

**Timbre** refers to the unique quality of each instrument. For example, a note of the same volume and pitch is quite different when it is generated by a trumpet rather than a violin.

**Duration** refers to the length of time a sound can be heard. A sound that persists over a long period of time is often used as a bridge between two or more film clips, while a brief, explosive sound may jolt us out of our seats.

**Rhythm** is determined by three qualities: the **beat,** or pulse, of the sound; the **pace** (or tempo) at which the sound is played; and the **accents,** or areas of emphasis, within the sound. We encounter rhythm in every conversation as we listen to the speed of our friend's speech and note his or her emphasis on particular words. Rap music, which in some ways is a heightened form of speech, greatly emphasizes the beat, through both a rhythmic use of words and the strong definition of each syllable.

In film, **fidelity** refers to the connection between a sound and its source. The arrival of a helicopter at the end of the musical *Miss Saigon* is accompanied by the loud sound of a churning propeller. Here, the sonic information and the visual information match. In *Apocalypse Now,* Richard Wagner's "Ride of the Valkyries" is played as a group of helicopters arrives. As in *Chariots of Fire,* this mismatch between the visual and sonic information substantially changes our interpretation of the event.

Finally, all forms of sound operate within a **spatial context.** The bagpipe, designed to rally troops in war, is an excellent instrument to play outdoors. When played in a small room, the same instrument

can very nearly blast plaster off a wall. Likewise, a whispered conversation in a closet may be more compelling than a shouted conversation on a beach. Even when we have no image at all, sound alone can define space and create a sense of anticipation or dread.

In a film, the spatial dimension of sound becomes even more significant. **Diegetic** sound, or sound that is part of the world we see on the screen, can be generated by a visible event or can come from an invisible, offscreen source. Both onscreen and offscreen sound are critically important, and in many cases a director will shift between the two. For example, in *Titanic*, a quartet of musicians is shown playing "Nearer My God to Thee" as the ship sinks lower and lower. The music continues as we see an elderly couple in their cabin, embracing (13.35), and a mother comforting her child. The combination of the music and the images heightens the emotion of the moment.

In addition to his work on ballets (such as *Billy the Kid* and *Appalachian Spring*), symphonies, chamber pieces, and songs, composer Aaron Copland was a master of film music. In 1949, he wrote "Tip to Moviegoers: Take Off Those Earmuffs," an essay describing ways music can enhance a film.[3] While his comments are most applicable to music, they can also be applied to other types of sound. Copland emphasized five points, paraphrased below.

- *Sound can create a more convincing atmosphere of time and place.* For example, harpsichord music may be effective in a film set in seventeenth-century Paris while jazz may be appropriate for a detective story set in contemporary Memphis, Tennessee.

- *Sound can communicate the unspoken thoughts of a character or the unseen implications of a situation.* A cheerful family picnic film can quickly become threatening and claustrophobic if an accelerated heartbeat is added.

- *Sound can serve as a neutral background, filling space between bits of dialogue.* Copland considered this the "composer's most ungrateful task" yet noted its value in helping create a unified film. Background sounds can subtly season the overall temporal stew.

- *Sound can build a sense of continuity.* As noted in Chapter 1, a collage of visual fragments can be difficult to unify. Similarly, a **montage,** or collection of temporal fragments, can quickly



13.35 James Cameron, *Titanic*, 1997.

become chaotic and incomprehensible. The addition of sound helps connect the parts and can add a unifying rhythm.

- *Sound often heralds the beginning of an event or rounds it off with a sense of finality.* John Williams, one of the most successful and prolific of contemporary composers, is renowned for his evocative introductions as well as his grand finales. For examples of his work, watch and listen to *Harry Potter and the Sorcerer's Stone*, *Jaws*, *Star Wars*, *Raiders of the Lost Ark*, *Superman*, and *Schindler's List*.

For clarity, all these examples are emphatic and familiar. In your own work, consider less obvious and more evocative solutions. The interplay between sound and image is extremely rich, and experimenting with the least familiar combinations may lead you to the most powerful results.

## Key Questions

### SETTING

- Consider all aspects of setting: sound, props, physical space, and lighting. Have you used each aspect fully?
- How can changes in setting add meaning to your artwork?
- Consider various settings. What will happen if the setting changes during the performance from a deserted train station to a factory? To a doctor's office? To a lecture hall?

# CHRONOLOGY

Chronology refers to temporal order. In real time, a foot race begins with the athletes lining up in position (action A), followed by the firing of the starting gun (action B), the running of the race (action C), and the conclusion at the finish line (action D). These actions can be organized in various ways, from a disorienting ABACADA pattern to the familiar ABCD pattern of the actual race.

In *Structure of the Visual Book,*[4] Keith Smith demonstrates the narrative possibilities of multiple images (13.36–13.45, page 312). Changes in chronology completely change meaning. In each case, relationships among the images create the sequence of events needed to tell a story.

Chronology is created when shots are combined. A filmmaker combines shots through **editing.** Editing serves six basic purposes.

First, the film editor must select the most compelling images from the total footage shot. No matter how carefully a scene is rehearsed, variations in performance quality occur, especially when there are many actors on the set. Even more footage is shot for a documentary film. Before editing a film about the 1936 Olympic Games in Berlin, Leni Riefenstahl devoted 10 solid weeks of work to just watching the raw footage. Editing this material down to a 3½-hour film took another two years!

Second, the raw film must be organized into a cohesive whole. Multiple cameras are often used to provide plenty of rough footage. Constructing a coherent composition using both close-up and distant shots is often the first step.

Third, through editing, a temporal framework for the film is developed. Time can expand, contract, or move in a dizzying spiral. When using crosscutting, the editor shifts back and forth between two or more events, thereby suggesting the simultaneous occurrence of multiple actions. *A Tale of Two Cities,* by Charles Dickens, is a literary example of crosscutting. The narrative reaches a climax as Sydney Carton, in Paris, is led to the guillotine, while his double, who was actually condemned to die, is drugged and transported to London. Chapter after chapter, the story shifts between the two men, increasing the sense of urgency while presenting the simultaneous events. This novel offers simultaneous action at its best. Indeed, pioneer film director D. W. Griffith used Dickens as an example when he was challenged for his innovative editing of *Intolerance.*

Fourth, tempo in a film is determined largely by the number of cuts made. For example, an introspective drama may be constructed from 1,000 shots, while an action film may be made of 2,000 shots or more. Variations in tempo help sustain interest. If there is too little variation, a fast-paced film is just as monotonous as a slow-paced film. To develop momentum gradually, many filmmakers use a slow-paced beginning, which builds to a fast-paced climax, which returns to a slow-paced conclusion.

Fifth, connections made through editing can heighten emotion and suggest the real motivation for a character's actions. In a famous experiment, early Soviet filmmaker Lev Kulesov demonstrated the emotional impact of editing. He combined a neutral shot of an actor's face with four very different images: a bowl of soup, scenes from nature, a baby, and a dead woman.[4] When the film was shown, the audience praised the actor's skill: he looked hungry when the soup appeared, longed for freedom when the landscape was shown, was filled with joy at the sight of the baby, and felt grief at the sight of the woman. In each case, however, the shot of the actor's face was exactly the same. The emotions were created by the audience's response to the editing, not by any change in the actor's expression.

Finally, connections made through editing can substantially alter or enhance the meaning of a film. By cutting from a bone spinning in the air to a space station orbiting the earth (13.46, page 313), Stanley Kubrick connected prehistory to space travel in *2001: A Space Odyssey.*

## Key Questions
### CHRONOLOGY

- Do events in your project occur in a traditional linear (ABCD) order?
- What would happen if this order were changed? Would ADBDCCC be more powerful?
- What would happen if you deleted half the information in your project? Would the artwork as a whole gain or lose power?
- What would happen if you added more material from a different source?
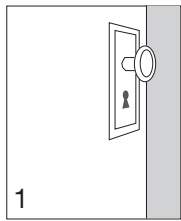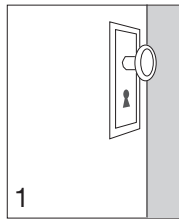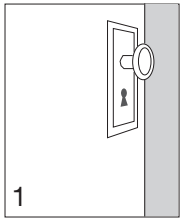
**13.36**

1 | Start with a door.

**13.37**

2 | 1 | Add a figure. Here, a woman opens the door.

**13.36 –13.45  Keith Smith, Excerpt from _Structure of the Visual Book,_ 1995.** Variations in chronology dramatically change the story.
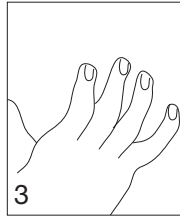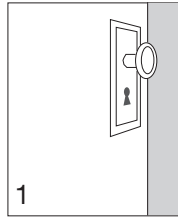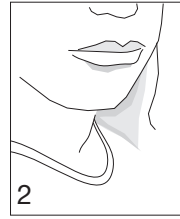
**13.38**

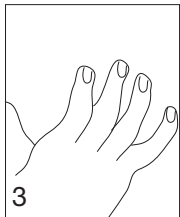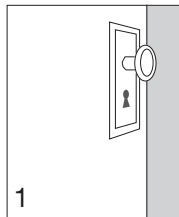1 | 2 | Here, the door opens and we meet a woman.

**13.39**

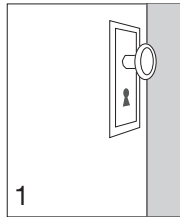3 | 1 | 2 | Adding a close-up of a hand creates a confrontation . . .

**13.40**

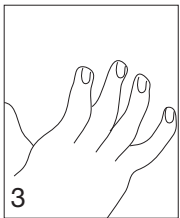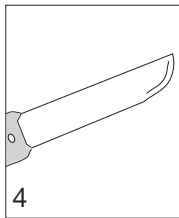2 | 3 | 1 | . . . while this order creates a sense of anticipation.
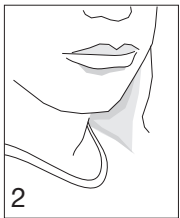
**13.41**
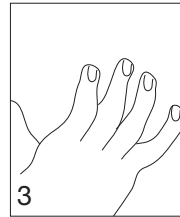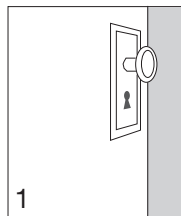
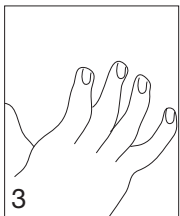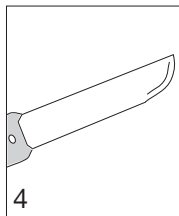1 | 2 | 3 | Here, we create a mystery.
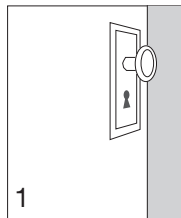
**13.42**

1 | 3 | 4 | 2 | With the introduction of a knife, a new meaning emerges. It is now becoming threatening.

**13.43**
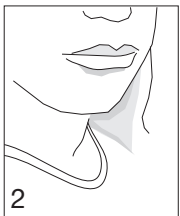
1 | 3 | 4 | 2 | 5 | And now even more so. Our imaginations provide a wide range of horrors for panel 5.

**13.44**
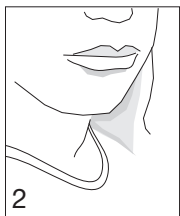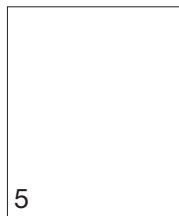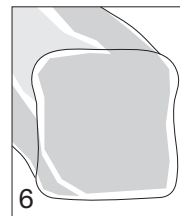
1 | 3 | 4 | 2 | 5 | 6 | Addition of a loaf of bread, however, diffuses the tension. It is not a murder after all, just a sandwich being made.
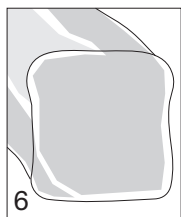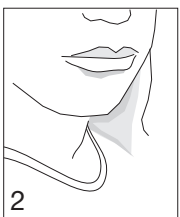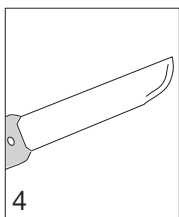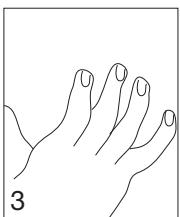
**13.45**

6 | 2 | 4 | 3 | The woman still has to take care, however; this final version suggests that she has cut herself!

**13.46  Stanley Kubrick,** *2001: A Space Odyssey,* **1968.** Juxtaposing the whirling bone and the floating space station connects prehistory to the space-age.
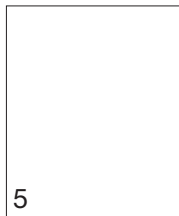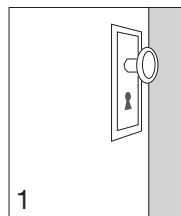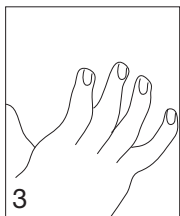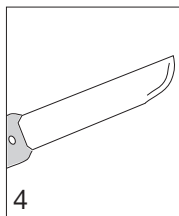
# SCHINDLER'S LIST: CONTENT AND COMPOSITION

All these aspects of editing are used brilliantly in *Schindler's List.* Mixing contemporary images with black-and-white images of wartime Poland, director Steven Spielberg tells a harrowing tale of the survival of over 1,000 Jews during the Holocaust. Based on historical events, the film shows the transformation of Nazi Oskar Schindler from a single-minded war profiteer to a compassionate man who eventually bought the lives of his enslaved workers. It is an incredible story, and any skillful filmmaker could have made a good film based on this event. However, to show the complexities of each character and to turn the story into a truly compelling film required another level of insight. Spielberg and his collaborators had that insight.

The critical importance of editing is apparent from the start. A contemporary scene of a Jewish family at home ends with a trail of smoke rising

from an extinguished candle (13.47). We cut to the smokestack on a train in wartime Krakow (13.48) and are transported back in time.

Editing also establishes Schindler's motivation and gives us insight into his personality. When he arrives at a cafe favored by Nazi officers, the maitre d' seats him, then asks a waiter who he is. Neither one knows his name. Schindler carefully positions himself at the center of the room. Through a series of close-ups, we follow his gaze as he notes the SS insignia on an officer's uniform and assesses the importance of the reserved table across the room. Using Schindler as the axis, the camera pans around the room (13.49). Positioned just over his shoulder, we watch Schindler as he observes the soldiers. He did not come to this restaurant to eat. He intends to meet the most influential Nazis in the area and establish himself as a man of consequence.

As the scene continues, Schindler joins the Nazis and leads a song. Finally, the highest-ranking officer asks the maitre d' about this newcomer. He now enthusiastically replies, "Why, that is Oskar Schindler!" (13.50A). Schindler (who entered the restaurant as a nobody) is now well defined: he has become the center of attention (13.50B). The evening has been a success.

Crosscutting is used throughout the film, both to establish a connection and to emphasize separation. Eviction of a Jewish family from their spacious home is immediately followed by images of Schindler surveying the same space, now his new home. He reclines on a large bed and exclaims, "It couldn't be better!" (13.51). We then cut to the evicted family, struggling up the stairs of their new dwelling, which will be shared with many other families. As they sit down in the single room they have been assigned, the wife notes, "It could be worse." Her angry husband replies, "How could it *possibly* be worse?" (13.52). Just then, another large family apologetically moves into the cramped space. It is now worse.

The destruction of the Krakow ghetto is a masterpiece of storytelling. Sound is especially important in this sequence, and variations in pacing substantially increase the visual impact. The sequence begins as Nazi commandant Goeth gives his assembled troops a brief history lesson (13.53). As he describes the arrival of the Jews in Poland in the fourteenth century, we cut from the soldiers to scenes of ghetto families quietly eating and preparing for the day ahead, unaware of the terror to follow. We return to Goeth as



13.47 **Steven Spielberg,** *Schindler's List.* Extinguished candle.



13.48 *Schindler's List.* Train's smokestack.



13.49 *Schindler's List.* Schindler in a cafe.

**13.50A** *Schindler's List.* Officer asks maitre d' about Schindler.



**13.50B** *Schindler's List.* Focus shifts to Schindler as he is identified.



**13.51** *Schindler's List.* New home.



**13.52** *Schindler's List.* New home, shared by three families.



**13.53** *Schindler's List.* Commandant Goeth.



**13.54** *Schindler's List.* Staircase.

he concludes his speech, noting that "by this evening, those six centuries are a rumor. They never existed."

An explosion of violence follows. The family at breakfast is now wrapping jewels in bread and eating them, in the hope of retaining something of value when the pogrom ends. Stern, the overworked accountant upon whom Schindler depends, desperately searches his pockets for his identity papers as a soldier screams in his face. The camera is jostled as terrified people are evicted from their apartments. Diagonal staircases and extreme camera angles increase compositional dynamism (13.54).

A contrast between violence and compassion, fast and slow pace, heightens the impact of this sequence. An old woman, walking slowly down a foggy street, is ignored by the soldiers, who run past, determined to clear the ghetto. A doctor methodically adds poison to cups of water, then gently administers it to his patients (13.55) rather than leave them for the soldiers to kill. A young Polish boy, assigned to report any survivors, instead saves the life of a woman and her daughter.

We now see a small girl in a red coat walking through the streets (13.56) and observed by Schindler, who surveys the action from a nearby hill. Accompanied by angelic music, she is the symbol of all the innocent deaths on this horrible day. We last see her as she scoots under a bed, seeking a place to hide. We will not see her again until much later in the film, when her red coat appears as the corpses from the ghetto liquidation are gathered to be burned.

Quiet finally descends on the city. The soldiers are now using stethoscopes to listen for survivors who may have hidden in apartment walls. In a final burst of violence, one soldier plays a vigorous



**13.55** *Schindler's List.* Doctor administering poison.

Bach toccata while other soldiers explode into action, firing their machine guns into the walls and commanding their dogs to attack.

The calm before the storm makes this sequence even more frightening. It would be impossible to sustain a fast pace throughout the film. Incessant horror would have simply left us numb. The editing and use of contrast have greatly enhanced the power of the ghetto sequence, leaving an indelible impression.



**13.56** *Schindler's List.* Girl in a red coat.

# SUMMARY

- An understanding of time is an essential aspect of any artwork. Photographers, filmmakers, and performers use time directly; painters, illustrators, ceramicists, and other artists generally use time indirectly.

- The building blocks of film are the frame, the shot, the scene, and the sequence.

- Shots can be related graphically, spatially, temporally, and rhythmically.

- The cut, fade, dissolve, and wipe are the most common transitions in film.

- Comic books use six additional transitions: action-to-action, subject-to-subject, scene-to-scene, non-sequitur, moment-to-moment, and aspect-to-aspect.

- Duration, tempo, intensity, scope, setting, and chronology are the six major elements of time design.

# KEY TERMS

| | | | |
|---|---|---|---|
| accents | fade | montage | shot |
| action-to-action transitions | fidelity | non-sequitur transition | spatial context |
| aspect-to-aspect transition | flashbacks | pace | spatial relationship |
| beat | frame | pitch | story duration |
| chronology | graphic relationship | plot duration | subject-to-subject transition |
| close-up | intensity | rhythm | takes |
| crosscutting | lap dissolve | rhythmic relationship | tempo |
| cut | long shot | scene | temporal relationship |
| diegetic | loudness | scene-to-scene transition | timbre |
| dissolve | medium shot | scope | wipe |
| duration | moment-to-moment | sequence | |
| editing | transition | setting | |

# STUDIO PROJECTS

To apply the concepts from this chapter in the studio, check out the Projects page in the Online Learning Center at www.mhhe.com/stewart4e. The following is a sample of the chapter-related assignments that are described in step-by-step detail.

*Time Observed.* Increasing awareness of time through careful attention.
*Arrested Time.* Implied time and captured moments.
*Tempo.* Exploring variations in the rate of change.
*Chronology.* A quick, simple demonstration of the impact of chronology on narrative.

# Profile:

## Sharon Greytak, Filmmaker

Resilient Spirit

Sharon Greytak is the writer, producer, and director of two award-winning features, *The Love Lesson* (1995) and *Hearing Voices* (1991), as well as the documentaries *Weirded Out and Blown Away* (1986) and *Losing It* (2001). Her films have been screened theatrically and at numerous festivals and showcases.

**MS:** You studied painting at CalArts and were always interested in literature. How, then, did you become a filmmaker?

**SG:** Film seemed to suit my personality. I was beginning to feel that art shown primarily in galleries reached a specific audience, but not the general public where discussion and change should occur. I felt an urgency about the social issues I wanted to address, and the unconventional stories I knew only I could tell. I knew as a filmmaker I could reach a very wide audience.

Furthermore, the process of painting is mainly solitary, while filmmaking is absolutely a collaborative art. There's an energy in film production that doesn't exist anywhere else, an energy toward what the mind's eye sees, toward what the camera will record. I guess I'm able to hold an idea and an image in my mind for a very long time. Communicating my vision and staying on track as the piece becomes more refined is the essence of what drives any artist.

**MS:** You write the screenplay, hire the crew, produce and direct the film, then market the result. Yet it all seems to start with a story you want to tell. What stories interest you most?

**SG:** All of my screenplays are original. A film is a visual story—very different than a written story. I write pictures. The script is the blueprint, providing the visual and emotional tone as well as the dialogue.

I explore unconventional human relationships in my stories—relationships that are overlooked by the mass media. I am interested in stories that haven't been told. In any film, I am always aware of the facet or angle of a story that is unique. The space between one's public and private identity has always fascinated me. I want to give voice to people whose voices are rarely heard.

**MS:** You've said that you are good at spotting the nuggets, the most telling images and human interactions. What makes an image or an exchange of dialogue compelling?

**SG:** It's very hard to explain. For me, it's a combination of all the senses, plus one or two unnamed senses; maybe instinct. I guess you're looking for the essence of what you're trying to communicate, but never naming it precisely. If you name it directly, it's dead. It comes back to trusting the viewer and leaving space for interpretation. When I'm directing actors and doing several takes, I look for something that shimmers, or wavers in the air around them; where all of us, cast and crew, have created an ephemeral moment aside from the actor's lines or anything tangible. It's something that lingers in the air for a moment. It is resonant, yet unsaid.

**MS:** Film constantly changes, and if the viewer doesn't "get" it the first time, the story can be lost. How do you determine what to say? What is essential?

**SG:** In any art form, it is so easy to overstate an idea. When I was in my twenties, I studied with painter David Salle. At that time, I was painting and drawing. I showed a series of mixed media works in David's experimental studio class. David cocked his head, stared a long time, then turned and said, "What do you think I am, stupid?" I was stunned. He went on about signs and symbols, the indexical and the iconic, a priori knowledge, and underestimating your audience. He then rattled off a list of books and articles I should be reading.

I made no art for three months. I read. I read aesthetics and politics, semiotics. I skulked around the edges of my classes, listening and watching. It was the turning point in my life as an artist. Exactly the right thing. And I picked up the camera. Super-8 at

first. I realized I had been always talking about my abstract drawings in a very narrative way. I wondered what I would do if I had to choose an image in the world. Inspiration had never come from life before. It had always been formal properties of line and color, mark making, and the gesture. It was from that point that my films and drawings began to have an undertone, something of their own, combined with a respect for the intelligence of my audience.

MS: I am impressed by the immediacy of film. A good film draws me in: I feel that I am right there.

SG: A base in reality is essential. When you have that, anything is possible to write. And, small things can illuminate big ideas. When I screened my short films at a festival in Krakow, Poland, we were invited to visit Auschwitz. Since I have a physical disability, I was not able to follow the tour group to the second level of the barracks. The irony of the situation was comical, and powerful. Had it been 50 years earlier, I wouldn't have lasted a day there. Just by fate the scenario would have been very different.

As the rest of the tour went upstairs, I stayed alone on the ground floor of the barracks. In silence I was able to look at the scratches on the door. Scratches that had been made by human hands.

By sitting still, alone, I could touch where so many other lives had been. I could make a more authen-tic connection through the remnants of a real life, through the energy I did not expect to find.

MS: Tell me about *Losing It*.

SG: *Losing It* is an international film exploring the quality of life for people with disabilities. It's about how people navigate social stereotypes within their culture to carve out a sense of purpose and worth despite physical limitations. I traveled in the United States, Brazil, Hong Kong, Russia, and Italy to interview people about the way they view themselves and the way in which society views them. It's also a story of personal search and human nature with regard to disability.

MS: What advice do you have for my students?

SG: Cultivate a diverse circle of friends and colleagues. Build a career slowly. Making art means a life in the arts. Not a year or two, but a lifetime of observing and questioning in order to create something unique. When I find myself having to do something or go somewhere out of obligation, a thing that at the time seems totally a waste of time, fate often finds a way of adding that experience or person to further my creative work. Most of the time I end up seeing an angle I wouldn't have recognized before. I guess what I'm saying is, stay open enough for life to show you things. Let life take you where you're supposed to go.



Stills from *Losing It*, documentary film by Sharon Greytak, writer, producer, director, 2001.