

While motion can be simulated in printed works by means of repeated letterforms, uneven baselines, changes in direction, or inventive page formats such as flipbooks, kinetic typography gives designers the opportunity to communicate with behaviors or actions as well as with visual form. Time becomes the most significant structural element in the design, with the designer determining a sequence and pace for the message.

Beyond the basic considerations of typography, the designer decides *how* type moves and behaves, adding a “voice” to the message. Similar to listening to a person speak, type in motion can convey tone and inflection. And the pace at which the piece unfolds—quickly, slowly, or with dramatic pauses—establishes a mood. Moving type, coupled with sound and images, enables the typographic designer to explore narrative as a means of expressive communication.

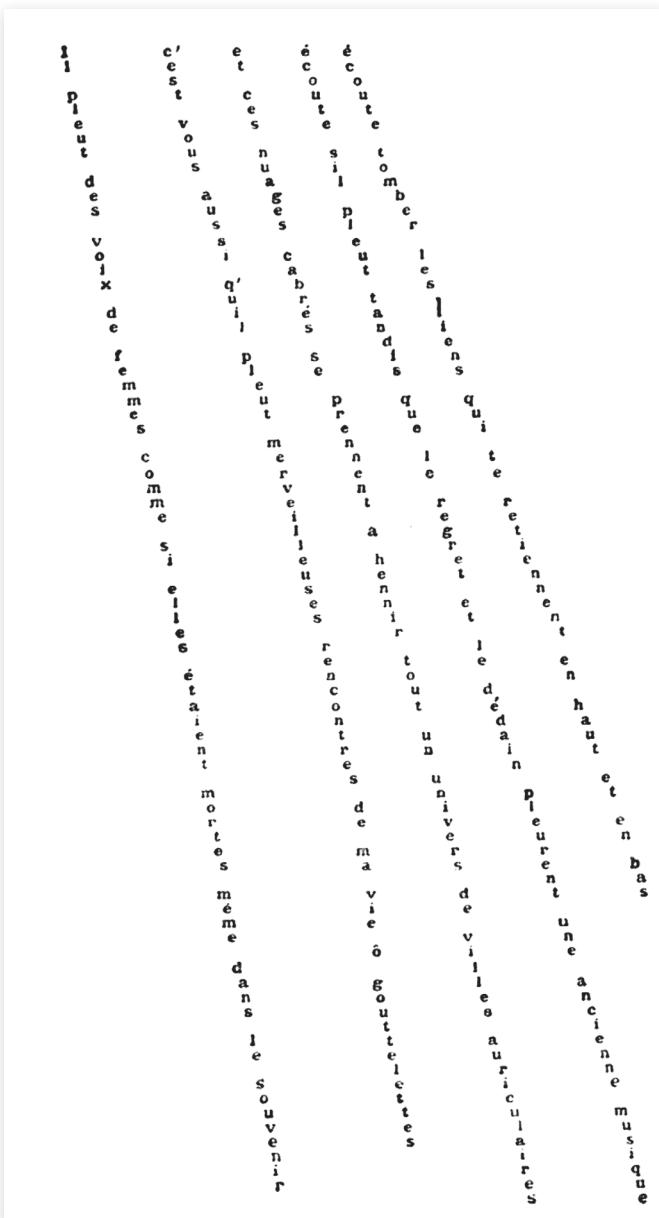


9-1 Film still from
Le portrait mystérieux,
1899, by Georges Méliès.

Designers have always been interested in dynamic typography. Examples of animated letterforms appeared as early as 1899 in advertisements created by Georges Méliès, a French illusionist and filmmaker, who used multiple exposures and time-lapse photography in his work (Fig. 9-1). Around 1929, the Italian Futurists began challenging assumptions about how language could be expressed and interpreted by liberating words from traditional compositions and arranging them in dynamic ways. Filippo Marinetti explored the concept of speed and motion in books with type set on diagonal and vertical baselines (Fig. 1-125 and Fig. 6-2). Carlo Carrà made collages with layers of color and typography to communicate the changing nature of media and the fast-paced distribution of information (Fig. 9-2). And French poet Guillaume Apollinaire worked with “calligrams,” poems with words that move through the page to express a concept (Fig. 9-3). These revolutionary typographic forms continue to be influential to artists and designers wishing to express ideas with type in time and motion.



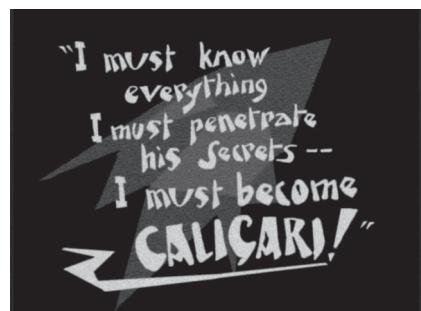
9-2 Interventionist Demonstration, by Carlo Carrà,
1914, puts type into circular motion with overlapping
layers, shadows, and dynamic juxtapositions to give a
sense of time and space.



9-3 “Il Pleut” (It’s raining), by the poet Guillaume Apollinaire, 1918, is a “calligram” that composes words as raining letters.

The history of type in motion is most commonly linked to film title sequences. In silent films, intertitles were used to cue audiences to plot points (Fig. 9-4), and for many years simple title cards marked the start and end of a film (Fig. 9-5). Beginning in the late 1950s, designers were commissioned to introduce the themes and story lines of the films in more complex and communicative title sequences. Designers like Saul Bass and Maurice Binder shaped new ways in which typography might introduce setting and character in a film (Fig. 1-156). In Binder’s work for the film *Charade*, a thriller starring Audrey Hepburn and Cary Grant from 1963, the type and credits merge with colors, arrows, maze shapes, and patterns, giving the viewer a hint of the twisting plot, fashionable Paris setting, and action (Fig. 9-6).

Today, kinetic typography is featured not just in film and television titles but in a wide range of digital media. Type in motion has the ability to draw in viewers and keep their attention with a cinematic, narrative presentation of a message. Designers use moving type in many projects, including websites, film titles, book and game trailers, data visualizations, and mobile apps.

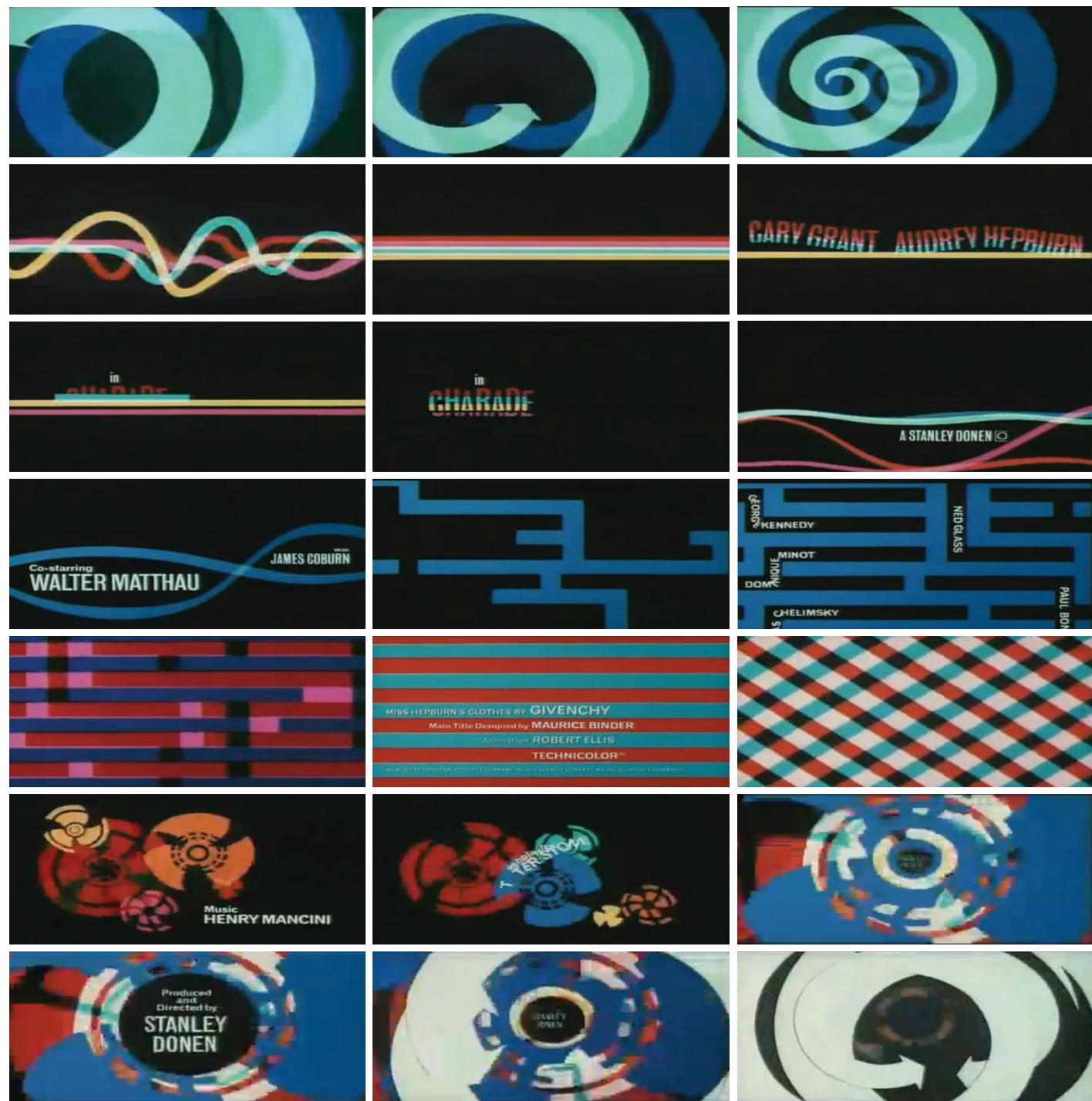


9-4 An intertitle card from the silent film *The Cabinet of Dr. Caligari*, 1920, uses expressive typography in keeping with the horror film’s stylized sets.



9-5 Title card used in the trailer for the film *Citizen Kane*, 1941.

9-6 Frames from the title sequence for *Charade*, 1963. The circling arrows visually convey the twisting plot of the film. (Designer: Maurice Binder)



Moving type offers unique communication opportunities because it has two properties: form and behavior. As with static typography, the designer chooses typeface characteristics (serif, sans serif, extended, italic, etc.), and how the type is set (lowercase, all caps, size, color, etc.) to add meaning to a message. With dynamic typography, he or she also determines how the type moves (pace, rhythm, with sound, etc.), relying on that action to communicate a mood, a context for the message, or a hierarchy of information.

For example, to make a word seem important on a poster, the designer may make it large, bold, and red (Fig. 9-7). In a motion sequence, the designer may also animate the large red type so it comes toward the viewer, increasing in size until it fills the frame (Fig. 9-8). To show significant years on an interactive timeline, a designer may indicate the dates with bold, all-caps text, and animate the numbers so they grow in size when a user hovers over them.

Another example of this kind of feedback is the subtle animations and transitions that guide users through mobile app and website interfaces. Readers rely on both what type looks like and how it moves to help them interpret the message.

Time and sequence

An understanding of the principles of animation and film broadens the potential for designers to communicate and create rich messages with type in time and motion. Like a film director, the designer is a storyteller and can control time, sequence, pace, and even sound to achieve different results. He or she can sequence content in a straightforward, linear way, with one event following another. Or, time can be manipulated by changing the order of the story or content using foreshadowing and flashbacks. As Jean-Luc Godard, the French New Wave film director, has said, “A story should have a beginning, a middle, and an end, but not necessarily in that order.”

In all cases, time becomes the structural element of the design and is enhanced by appropriate choices of typographic forms, images, movements, and sounds. Different structures and the rhythm of the action can set a mood and engage viewers by giving them cues as to what is going to happen next.



9-7 In this poster for an exhibition at P.S.1, a museum in New York, bold typography draws attention. (Designer: Level Design Group)



9-8 This motion sequence emphasizes the names of the artists in the exhibition by moving them toward the viewer and increasing their size over time. (Designer: Level Design Group)

Structures

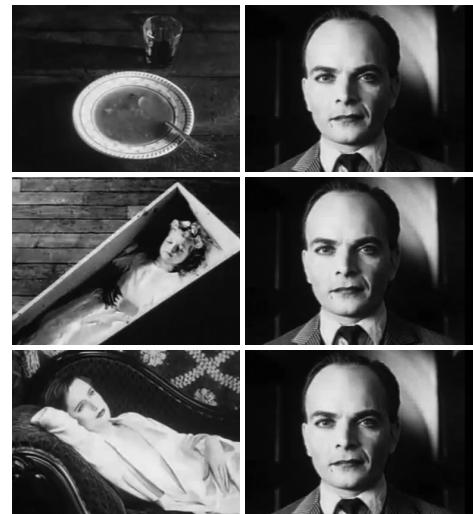
In the span of a motion piece, frames follow each other, revealing the message or story for the viewer over time. The order is important to how we decipher a message. We see one frame in the context of what came before it and what comes after it. The amount of visual information, and how it is composed in a frame in comparison to the frames that precede and follow it, gives the viewer cues for interpretation.

Meaning and interpretation. Designers can present an idea using a sequence to tell a story or communicate information in a very direct, explicit way called denotative meaning. If a visual idea is presented so that the sequence juxtaposes two or more images, words, or sounds in a way that encourages associations and communicates implicit meaning, this is called connotative meaning (see Chapter 6).

A designer can use the order of frames to convey symbolic meaning. In the language of film, this technique is called montage. A montage is a series of shots that combine into a sequence to condense space or time, or suggest a feeling or idea. Russian filmmaker Lev Kuleshov experimented with this

technique by cutting the same shot of an actor between varying images to elicit different emotions from the audience (Fig. 9-9). The director Alfred Hitchcock considered the montage one of the most important ways to impart meaning; he once said, “Cinema is simply pieces of film put together in a manner that creates ideas and emotions.”

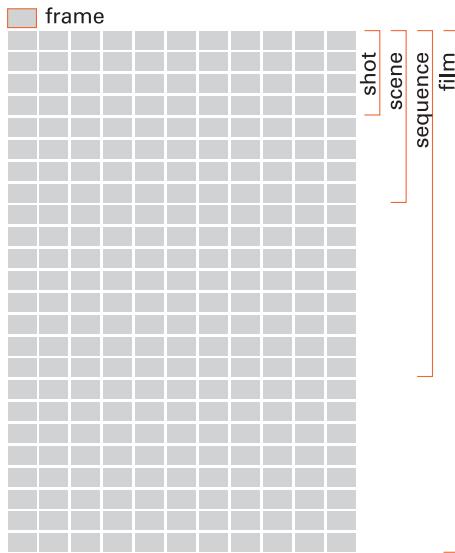
Continuity. The feeling that space, time, and visual elements are continuous helps bring clarity to a motion sequence. To maintain a viewer’s sense of orientation, it is important to establish visual links to what is happening from frame to frame. This is done spatially by maintaining the positions of major elements in the frame in each shot. In terms of time, a logical sequence with an event in one frame causing an effect in the next provides a sense of chronology. A third way to provide continuity in a motion sequence is to link segments using the same visual properties of line, form, color, or image from one shot to the next. For example, in a sequence shown in Fig. 9-10, the camera zooms in to a yellow balloon and then cuts to a frame with a yellow letter *O* before zooming out to reveal the word *hello*.



9-9 Around 1920, Russian filmmaker Lev Kuleshov discovered that audiences perceive an actor as hungry, sad, or in love depending on what image precedes the actor, even if it is the same shot. The technique that exploits this discovery is known as montage.

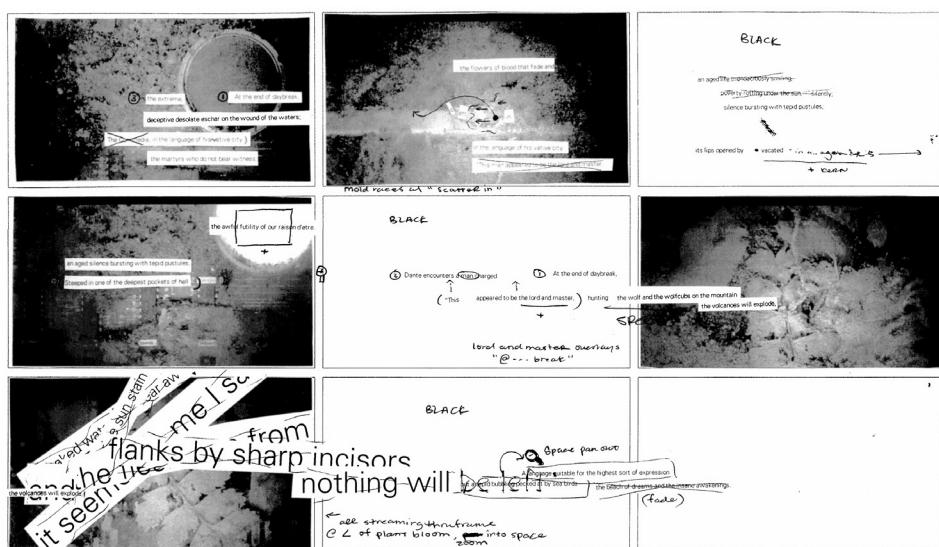


9-10 Continuity within a sequence is here achieved by using the same color across several frames and repeating circular shapes to transition from image to type.
(Designer: Sandra Maxa)



9-11 The parts of a motion sequence or film.

9-12 Storyboards show the sequence of frames, indicating how a story will be told. In this example, quiet frames precede loud frames, adding emphasis to the action. (Designer: Erica Peterson)



Filmic syntax. The syntax used in film is similar to that of language. In language, letters create words, words are put together to make sentences, sentences combine to form paragraphs, and paragraphs are linked to make stories or deliver information. In film, frames make up shots, shots make up scenes, scenes make up sequences, and sequences combine to create a story. An engaging book design enhances written language by creating pages that flow from one to the next, while time-based pieces rely on a visual relationship between frames, shots, scenes, and sequences (Fig. 9-11).

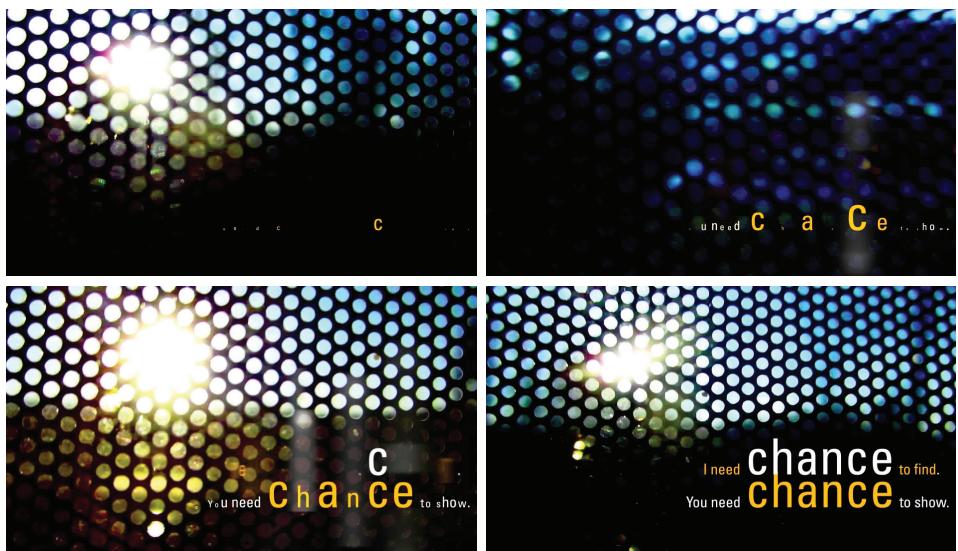
Designers use storyboards to visualize a narrative and show how elements in a sequence will move and change. They are used to sketch the relationship between frames, plan for continuity, and determine the pace at which action will unfold. The storyboard also helps the designer decide which frames will hold the most important content, which will contain points of drama or excitement, and which will be static or quiet. Like the use of white space or negative space in a poster design, adding a slow or quiet scene before or after a fast, loud scene will make the active scene seem more dramatic and impactful (Fig. 9-12).

Hierarchy

All good typographic design establishes a hierarchy of the content presented, whether it be the several levels of headlines, text, and captions that lead our eye through a newspaper or the simple hierarchy of a book index, with just single spaces between alphabetic sections. The size, color, and weight of a typeface help a reader determine what is most important. In addition, words that are set at the top or left of a page are usually read first. Designing type in motion uses these same components to create hierarchy, as well as others related to when type enters the frame (time) and how it moves within and out of the frame (behavior). Over the course of a sequence, elements are said to have “birth, life, and death.”

Time. Because of the linear structure of animation, the order in which type enters the screen can indicate significance to the viewer. We often perceive items that appear first or last as more important. For example, if one letter is fading up while another is fading out, the viewer will give more attention to the new word coming into focus (Fig. 9-13).

Behavior. The speed and juxtaposition of elements with sound also help create hierarchy. The speed at which words appear and disappear affects the amount of attention the viewer gives them. In addition, words that appear with a fast or slow motion that interrupts the established pace of the sequence are considered more significant (Fig. 9-14). Sound or music can also add emphasis to type entering a frame. If music builds in volume or intensity when a word enters the frame, that word will become more important than others that appeared while there was no sound.



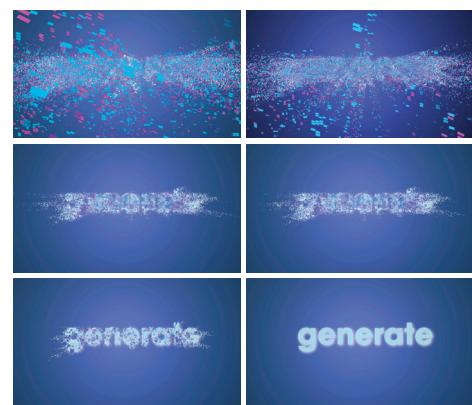
9-13 In addition to the large size and bright color of the word chance, the unusual order in which the letters appear give the word prominence. (Designer: Hong Wei)



9-14 Type fading up quickly on the left and right sides of the screen attract attention because it interrupts the established pace of the animation. (Designer: Hong Wei)

HOW TYPE CHANGES AND MOVES

9-16 In this sequence, small pixels build the word generate. The fixed position of the word helps the viewer perceive the passing of time as the word takes form. (Designer: Anna Bitskaya)



9-15 In this interactive website, the position of the words thank you is fixed, but the letters transform by changing orientation, growing, or melting when a user moves the mouse. (Designer: Jason M. Gottlieb)

Fixed position

Variation. In a motion sequence, type can change even if it does not move across the screen. The typography can remain the same while each frame shows a change in color or other formal quality. Likewise, a letter or word can remain in a fixed position while its visual attributes are altered. A letter or word can change in typeface, weight, width, slant, or size. It can change in color, value, or transparency. It can also change its shape through cropping, blurring, slicing, repeating, or adding dimension with shadow (Fig. 9-15). One more way a letter or word may change while remaining in a fixed position is if it is built up over a series of frames. This repetitive action can communicate a sense of passing time (Fig. 9-16). The possibilities for animated type, even without motion across the screen, are endless when more than one variable changes at a time.

A technique called rapid serial visual presentation relies on a fixed position of typography. After the first frame, the words change quickly in sequence, about ten items per second, challenging the viewer to read the screen and building a sense of anticipation about the next word. In this technique, also called quick-cut editing, repetition is often used to ensure certain elements are remembered.



9-17 In this image the camera was positioned high and to the left of the typography, showing the three-dimensional letterforms as part of the landscape. (Designer: Tiffany Small)

Camera angle. Another technique that allows the type to remain in a fixed position is altering the “camera” angle. While in most cases designers are not operating an actual camera to film an animation, this technique can be achieved through software. The perspective of the viewer is changed by moving the camera and giving different impressions. For example, dramatic angles give a stronger illusion of three-dimensional space, making typography part of the virtual landscape (Fig. 9-17). A camera angle can also affect how a subject is perceived. A high-angle shot can make the subject seem small or weak, while a low-angle shot can make the subject seem important or powerful.

Camera movement. In a motion sequence, the subject may remain fixed, while the camera movement changes the viewer’s perspective. Some terms used in motion design are borrowed from film and include *panning*, *tilting*, *tracking*, and *zooming*. In a panning shot, the type or subject is stationary and the camera moves from left to right. In a tilting shot, the camera moves up and down. In a tracking shot, the camera moves forward or backward through space, or parallel to the action. Zooming allows the camera to get closer to the subject over time (Fig. 9-18).

The frame and space

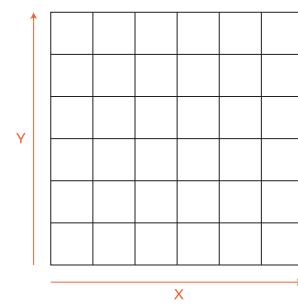
Designers in all media must consider the edge of a composition and how the type enters, exits, or is contained by the frame. Additionally, if letters, words, or images are moving, the frame acts as a constant reference point and becomes more important to how the viewer follows the animation and reads the message.

Three primary axes. A grid helps visually organize and group words or establish alignments. If viewers perceive there is visual organization, it can help them focus on the changes to the type over time. When thinking about how type can move or change, we start by noting the position at which it enters a frame. Position is noted on a grid that locates points on a two-dimensional plane with a horizontal x-axis and a vertical y-axis (Fig. 9-19). In addition, principles of three-dimensional space—point, line, plane, volume, and perspective—are important to time-based media because shapes have behaviors which are more apparent in three-dimensional space. A transverse z-axis locates a point in space, either in front of or behind the picture plane (Fig. 9-20). Once a starting position is identified, a designer plots a trajectory for the type and determines how it will move and change in the frame.

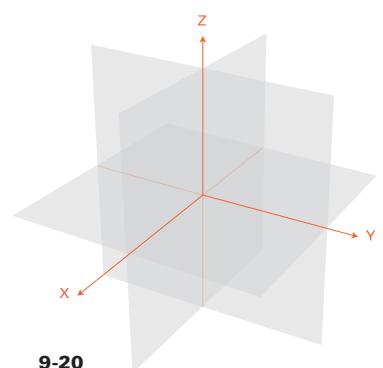
Depth of field. When working in three dimensions, principles of visual perception are used to create natural-looking movement. One principle, depth of field, states that objects that are farther away are smaller, lighter, and less in focus. Objects in the foreground are larger, darker, and sharper. Similarly, objects in the foreground move faster because they are larger, while images farther away move slower because they are smaller (Fig. 9-21).



9-18 In these examples, the subject, the letter A, is stationary, while the camera moves around it, panning, tilting, tracking, and zooming.



9-19



9-20

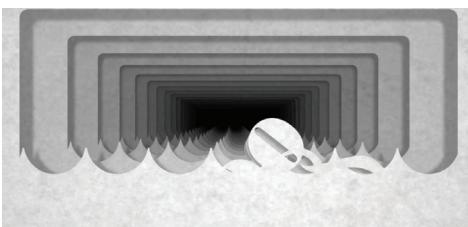
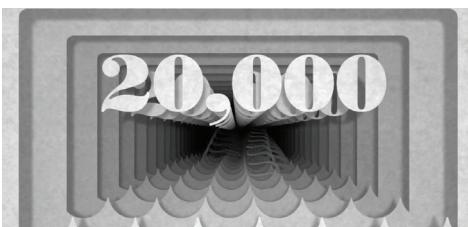
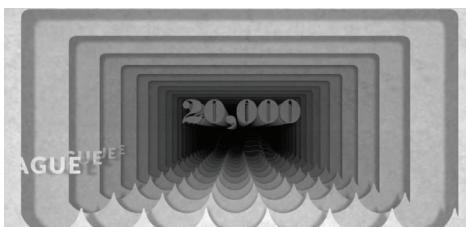
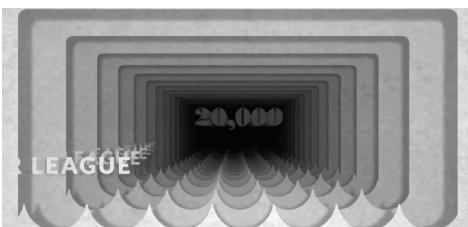
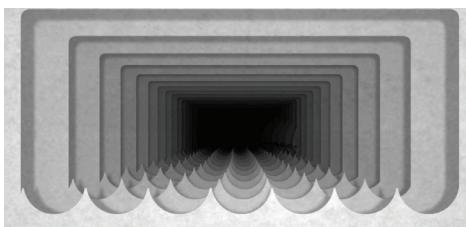


9-21 This title sequence for the documentary film *How Democracy Works Now* shows type layered over still images and film footage, all moving at different speeds. The moving layers give the illusion of depth and communicate complexity. (Designer: Level Design Group)

Movement

A designer of a motion sequence establishes the way that type and other visual elements move. Behaviors can be regular, inconsistent, or in-between, depending on the message. This section provides preliminary considerations for animating type and other elements. More detailed information can be found in the book *The Illusion of Life: Disney Animation* by Ollie Johnston and Frank Thomas, which describes twelve basic principles of animation, including how objects move in space based on the laws of physics, and guidelines for timing movement.

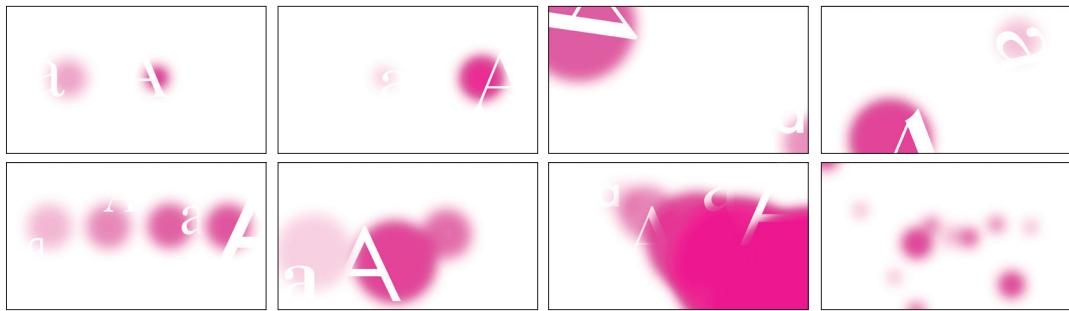
Direction. There are many ways type can move between two points, starting with simple scrolling. Basic scrolls can move type in a single line from right to left, like the marqueses featuring news headlines in Times Square (Fig. 9-22), or from bottom to top, like traditional film credits. In addition to moving in horizontal and vertical directions, type can also rotate or move diagonally. If a three-dimensional space is established, type may move forward, toward the viewer, from a vanishing point in the background on the z-axis (Fig. 9-23). This mimics movement in physical space, similar to how a train comes into view from down the track.



9-23 In this sequence, type comes toward the viewer from a vanishing point, giving a sense of three-dimensional space. (Designer: Jamie Carusi)



9-22 Scrolling type on a Times Square marquee moves from right to left.



9-24 In this sequence, “Letter Beats,” dots appear repeatedly in sync with the pace of music and reveal the white letters. (Designer: Xiaozhou Li)

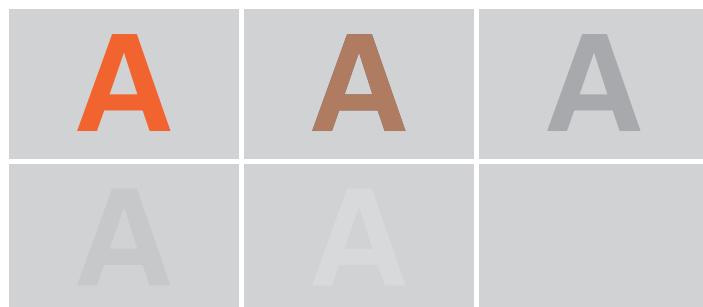
Rhythm and pace. A designer should consider the timing of a sequence and how typographic content or visual elements can establish a rhythm within it. Rhythm is an action, word, or image that is repeated at regular intervals in order to engage the viewer. The pace, or rate of a repeated element in a motion sequence over time, controls the speed that elements enter the frame. Often, music or repeated sound effects are synced with the appearance of type on screen to reinforce a visual pattern for the viewer (Fig. 9-24).

Effective use of rhythm and pace can set the tone of a piece. For example, if letters of a word march across the frame slowly, the tone may be perceived as serious or deliberate, while letters that appear quickly may communicate fun or urgency. Irregular rhythm is often used to demonstrate acceleration or deceleration or to exaggerate a motion.

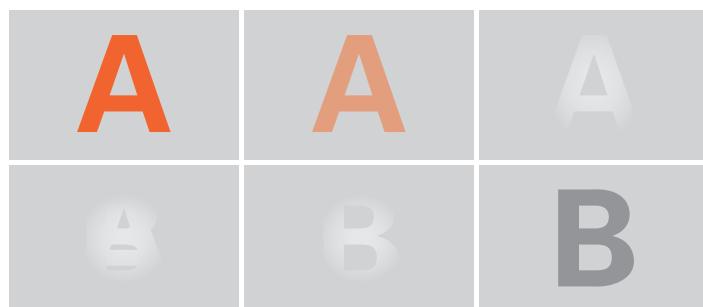
Transition. Transitions are used to indicate the change to a new scene, the passing of time, or different action with new text or visual elements. This can occur with a simple cut, a basic transition where one image is replaced by another (Fig. 9-25). Other transitions are more subtle and may be used to alter the viewer’s perception of time or suggest a mood. An example of this is a fade-out, in which a word gradually becomes lighter or darker to match the background so it disappears (Fig. 9-26). A fade-in is the opposite, with a word increasing in contrast with the background. Like a fade, a dissolve changes a word gradually, but instead of disappearing into a background, it transitions into a new word (Fig. 9-27). A wipe replaces one word with another word in a systematic motion, usually from left to right (Fig. 9-28). A designer may also create a sequence in which the viewer watches an entire transformation, including the in-between steps. There are many types of transitions where text or an image morphs from one state to another over time (Fig. 9-29).



9-25 In a cut, one image is replaced with another.



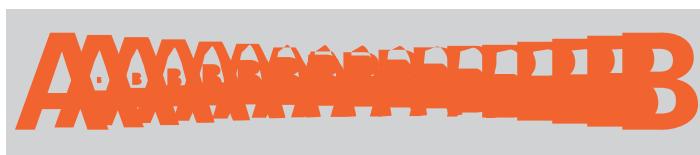
9-26 In a fade-out, an image gradually becomes lighter or darker to match the background.



9-27 In a dissolve, one image fades out to reveal another image.



9-28 In a wipe, one image replaces another in a transition from left to right.



9-29 In this example, a letter A morphs into a letter B.

Type in motion has the same legibility factors as static type. The characteristics of individual letters must have integrity so that readers can recognize their shapes. Typeface and size, case, letterspacing, and color all contribute to the ease and speed with which text is read. However, there are some additional guidelines for creating legible typography in motion.

Length and grouping. Because the designer sets the pace of linear animations, viewers cannot go back and reread text. In general, animating short sentences or phrases is better than animating long ones because the viewer can read the words on screen without getting tired. To aid in creating clear messages, consider what words or ideas belong together (thought-unit typography), and assign similar visual attributes and behaviors to them. This will help the viewer make connections and remember key text. Grouping words in a limited number of spatial zones on the screen helps focus a viewer's attention (Fig. 9-30). For example, if a pattern is established that repeatedly places text in the center of the screen, viewers will expect to see additional text there and will be able to focus on *how* an element is moving rather than *where* an element is moving, providing more clarity.

9-30 This sequence accompanies a news story about Voyager 1 and Voyager 2 with units of typography designed to bring emphasis and clarity to the spoken voiceover. (Designer: Joshua Howard)



Speed and duration. The speed at which type enters a frame and the length of time it stays on screen can affect legibility. Fluid movement also makes an animation easier to watch and read. Using more frames will create more natural movement and greater legibility of type in motion. Equally important to movement on screen are pauses in the action. Allowing a viewer to take in all the changing variables the designer has created is important to clear communication. Pauses are used to create drama, building anticipation as the viewer waits for the next frame (Fig. 9-31). The designer is in control of how quickly type will be read, and the viewer has to follow text at the pace

the designer sets. This can be uncomfortable for some viewers who are used to static text, which allows them to read at their own pace and go back to reread text at any time.

Viewers of type in motion must take in a lot of auditory and visual information at once—text, images, movement, sound—and process the combination of signs into meaningful messages. Well-designed sequences show a careful balance of these elements in each frame, shot, and scene so as not to overwhelm the viewer. Appropriate timing of type in motion requires trial and error, and testing with audiences is encouraged to guarantee legibility.



9-31 This animation about political conflict in Colombia is designed to make it easy for the viewer to receive information. Images and text are added gradually, and colored backgrounds cue the viewer to changes in tone. (Designer: Eduardo Palma)

Just as in two-dimensional typographic design, type in motion can employ expressive, abstract elements. With type in motion, the designer communicates through both the type's form and how it behaves. Animated type often takes on the qualities of a character in a story, and its actions may be playful, steady, dramatic, hesitant, frustrated, confident, and so on. Animated type helps visualize spoken language. It is most effective with short sentences or phrases, punctuating words and changes in how words are delivered, such as quickly, slowly, or with accompanying sounds. This layered visual communication is akin to tone or inflection used in conversation (Fig. 9-32).

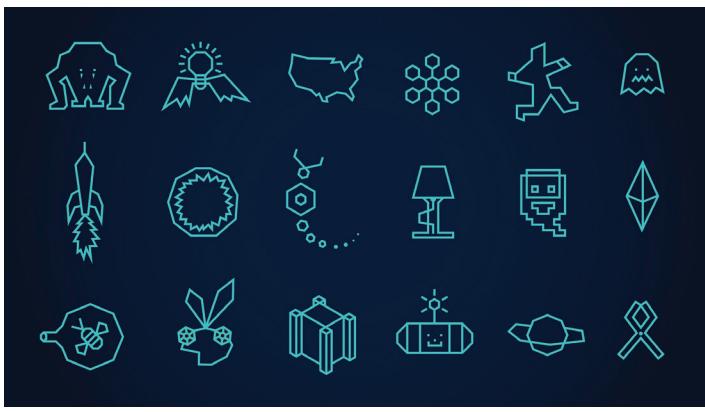
In addition, motion has a unique ability to show transformations. In a motion sequence, one letter, word, message, or idea often changes into another. Designers at the Museum of Modern Art in New York

created a moving, dynamic exhibition title wall in which icons of different works (Fig. 9-33) in the show move randomly and then come together to form the words *Applied Design* (Fig. 9-34). The animated projection orients visitors to the exhibition as they enter and visualizes the idea that design is responsive to change.

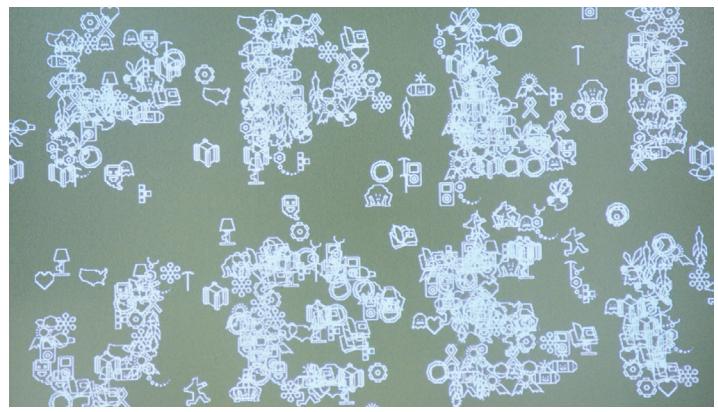
Thinking in terms of time and how a story or message builds over multiple frames can prevent the motion from overshadowing the meaning of the sequence. Additionally, there is expressive potential in juxtaposing type, image, and sound to create compelling sequences. Designing with type in time and motion offers a wealth of possibilities for enhancing a message, expressing thoughts, connecting with an audience, and providing a context for ideas.



9-32 In this sequence, type placed above the actor connotes thoughts in his head. Type size, case, orientation, and position relative to the frame all communicate tone. (Designer: Angad Medi)



9-33 Icons representing work in the Applied Design exhibition at MoMA in New York City are animated to form words. (Design: Tony Lee)



9-34 On the title wall for MoMA's Applied Design exhibition, icons move randomly and then come together to form the title. (Designer and animator: Tony Lee; programmer: David Yen)

