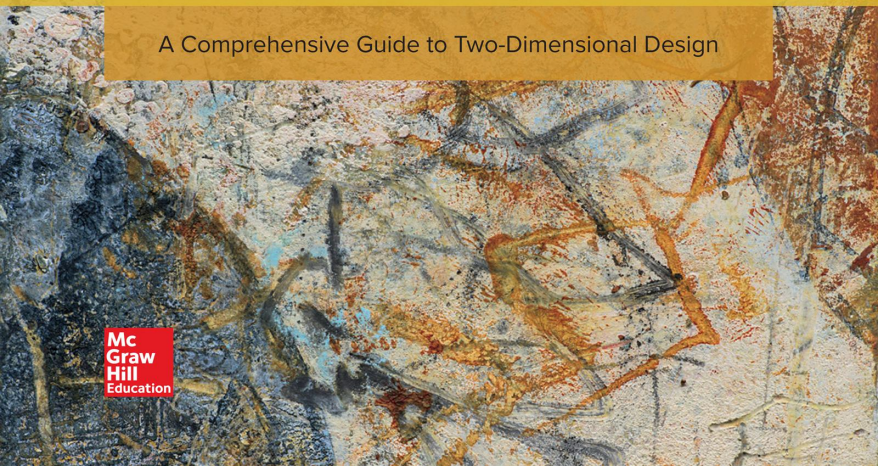
Mary Stewart

Sixth Edition

Launching the Imagination

A Comprehensive Guide to Two-Dimensional Design



Mc Graw Hill Education

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A Comprehensive Guide to Two-Dimensional Design

sixth edition

Mary Stewart

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Launching the Imagination:

A Comprehensive Guide to Two-Dimensional Design

is dedicated to

Nancy Callahan, MFA

dedication

Launching the Imagination treats design as both a verb and a noun—as both a process and a product. Through an immersion in 2D, 3D, and 4D concepts and possibilities, students develop visual thinking strategies that will serve them throughout their studies and their careers. They discover that design is deliberate—a process of exploring a wide range of solutions and choosing the most promising option for development. They are encouraged to analyze each resulting solution thoughtfully in order to produce the clearest and most inventive solution to each assignment. And they find inspiration in the work of others, analyzing the art of the past and the present for insights.

LAUNCH YOUR IMAGINATION WITH CONNECT

Connect helps students better understand and retain these basic concepts. Connect is a highly reliable, easy-to-use homework and learning management solution that embeds learning science and award-winning adaptive tools to improve student results.

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Included in Connect, LearnSmart is an adaptive learning program designed to help students learn faster, study smarter, and retain more knowledge for greater success by distinguishing what students know from what they don't, and focusing on concepts they are most likely to forget, An intelligent adaptive study tool,

LearnSmart is proven to strengthen memory recall, keep students in class, and boost grades. Connect also includes additional assessments.

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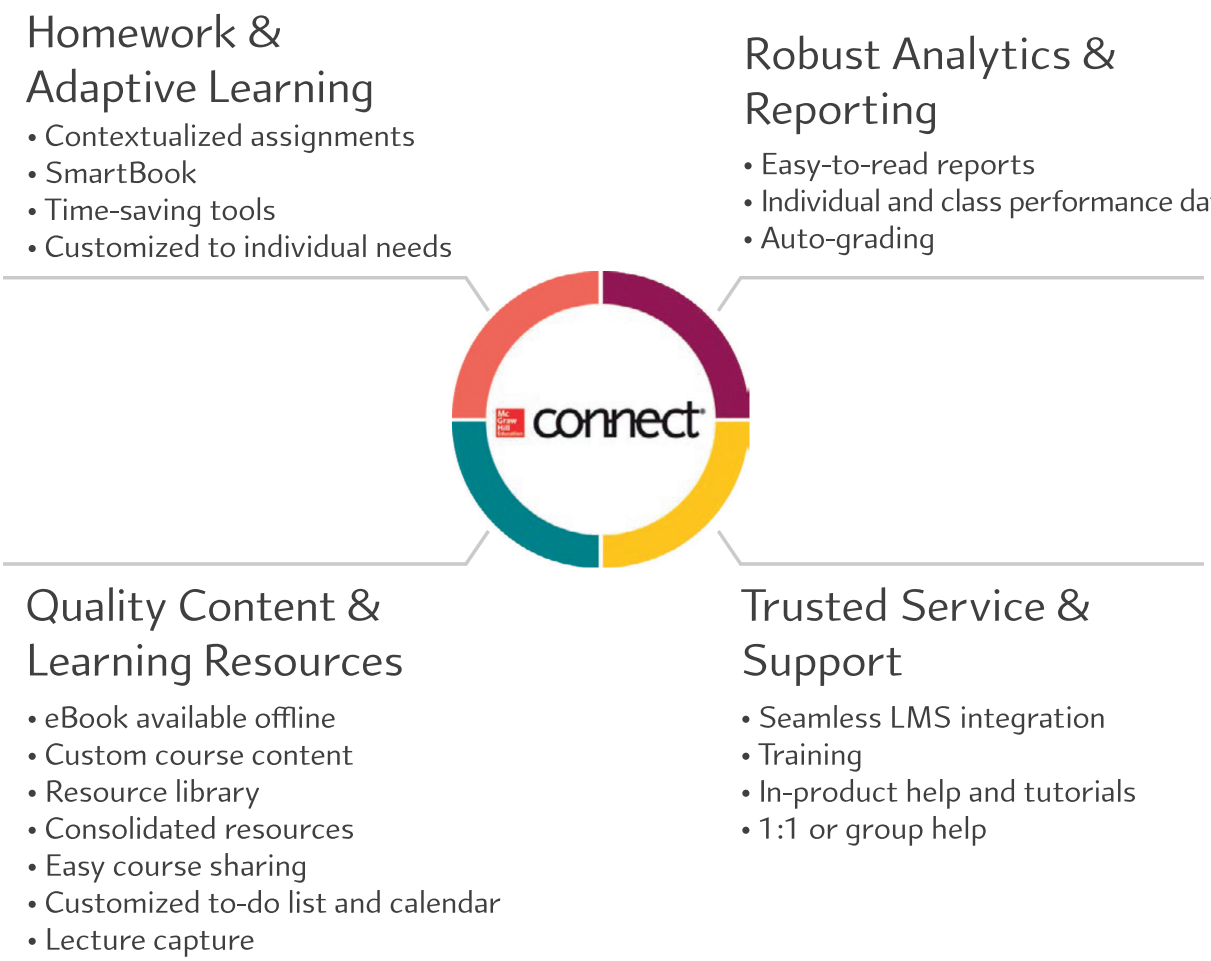
Launching the Imagination now offers two reading experiences for students and instructors: SmartBook and eBook. Fueled by LearnSmart, SmartBook is the first and only adaptive reading experience currently available. SmartBook® creates a personalized reading experience by highlighting the most impactful concepts a student needs to learn at that moment in time. The reading experience continuously adapts by highlighting content based on what the student knows and doesn't know. Real-time reports quickly identify the concepts that require more attention from individual students—or the entire class. eBook provides a simple, elegant reading experience, available for offline reading.



HALLMARKS OF OUR NEW EDITION OF *LAUNCHING THE IMAGINATION*

Building on the strengths of the previous five editions, *Launching the Imagination*, sixth edition, is even more

- **Concise.** Content has been refined so that maximum content can be communicated as clearly and concisely as possible.
- **Colorful.** In addition to the full color used throughout the book, the writing is livelier than that in most textbooks. Analogies expand communication, and every visual example has been carefully selected for maximum impact.
- **Comprehensive.** *Launching the Imagination* is the only foundational text with full sections devoted to critical and creative thinking and to time-based design. The photo program is global, represents a myriad of stylistic approaches, and prominently features design and media arts as well as more traditional art forms.
- **Contemporary.** More than half of the visual examples represent artworks completed since 1970, and over 100 represent works completed since 2000.
- **Compelling.** Interviews with exemplars of creativity have always been an important feature of this book. Three of the best past profiles have been revised and a new profile has been added. Now inserted into the body of the text, each interview deliberately builds on its chapter content. In Chapter 5, designer Steve Quinn describes the seven-step sequence he uses in developing websites, logos, and motion graphics. In Chapter 8, Jim Elniski describes *The Greenhouse Chicago,* an innovative home that is both highly energy efficient and elegant. In Chapter 11, ceramicist David MacDonald describes his influences and work process. And, in the new profile in Chapter 6, artist Sara Mast describes an ambitious art and science collaboration begun in celebration of the ideas of Albert Einstein.
- We have also added a new feature called Success Stories. These short interviews explore connections between foundational coursework and career success. In Chapter 5, Elizabeth Nelson discusses her wide-ranging design work at the Shedd Aquarium in Chicago. In Chapter 6, Jane Parkerson Ferry describes her work as Curator of Education at the Orlando Museum of Art. Jason Chin's interview in Chapter 7 connects directly to his self-designed project in the Self Assignment feature earlier in the chapter. As a freshman at Syracuse University, he completed this ambitious illustration project as the final project in a Two-Dimensional Design course. In the Chapter 7 interview, he describes his current work as a professional illustrator. In Chapter 8, Dennis Montagna describes connections between his art and design major and his current historical preservation work for the National Park Service.
- Almost fifty new images have been added, representing major contemporary artists and designers including Wolfgang Buttress, Do Ho Suh, Garo Antreasian, Janet Ballweg, Phoebe Morris, Alain Cornu, and Natalya Zahn.

To suit a variety of design curricula, *Launching the Imagination* is offered in three versions: a comprehensive version containing all four parts; a 2D-only version containing Parts 1 and 2 covering 2D design; and a 3D-only version containing Parts 2 and 3. You have the 2D version, which includes the following eight chapters: Chapter 1: Basic Elements; Chapter 2: The Element Of Color; Chapter 3: Principles of Two-Dimensional Design; Chapter 4: Illusion of Space, Illusion of Motion; Chapter 5: Problem Seeking and Problem Solving; Chapter 6: Cultivating Creativity; Chapter 7: Developing Critical Thinking; and Chapter 8: Constructing Meaning.

CHAPTER-BY-CHAPTER CHANGES

Each chapter has been updated and, where needed, reorganized to maximize clarity. Improvements include the following:

Chapter 1: Examples of architectural design sketching and computer-aided design help to connect traditional and contemporary uses of line. A witty new tromp l'oeil image provides an engaging example of this technique.

Chapter 2: Diagrams have been updated and definitions have been further clarified.

Chapter 3: Witty new examples have been added and the writing has been further clarified.

Chapter 4: New examples have been added and the writing has been further clarified.

Chapter 5: The Steve Quinn interview is woven into the body of the chapter, and a *Success Story* with designer Elizabeth Nelson has been added.

Chapter 6: An interview with Sara Mast has been embedded into the chapter and a *Success Story* with Curator of Education Jane Parkerson Ferry has been added.

Chapter 7: The new Jason Chin Success Story clearly demonstrates connections between his foundational coursework and his current career as an illustrator.

Chapter 8: The interview with Jim Elniski has been updated and the Dennis Montagna Success Story has been added.

ACKNOWLEDGMENTS

Every new edition of *Launching the Imagination* is a significant challenge that requires work by a supportive and experienced team. At McGraw-Hill, senior editor Sarah Remington provided oversight for the project as a whole. At Laurence King Publishers, editor Donald Dinwiddie helped strengthen and clarify the writing and provided all kinds of helpful advice. Sandy Wille and Egzon Shaqiri from the McGraw-Hill production team made this new edition possible behind the scenes. Photo researcher Alison Prior was remarkably tenacious in pursuing each permission and was wonderfully inventive in suggesting alternatives when necessary. Robin Farrow worked tirelessly to develop the best possible layouts. Mat Kelly of Central College and A. Scott Baine of East Mississippi Community College contributed their expertise to assessments in Connect.

Images are at the heart of this book. I would like especially to thank all the artists and designers who granted permission for their artworks and the galleries, museums, archives, and private donors who provided the high-resolution images.

This edition is dedicated to four master educators. Dr. Dan Collins at Arizona State University has been an exemplar of innovation in education throughout his career. He is founding Co-Director of the PRISM lab (a 3D visualization and prototyping facility) and heads the foundation program in the School of Art (artCore). Through his leadership at the Telluride Institute in Colorado and as a Senior Sustainability Scholar at Arizona State, he continually seeks new ways to use art to advance the greater good. As past Director of the First-Year program at The School of the Art Institute of Chicago and co-founder of Integrative Teaching International, Jim Elniski has been a consistent and compelling voice for innovation in higher education. His community-based art projects, in conjunction with various human-service organizations, educational sites, and neighborhood

associations, explore the dynamic interplay of the aesthetic experience, human behavior, and the social and natural environment. The two-dimensional design version of this book is dedicated to Nancy Callahan, a brilliant and versatile educator from the State University of New York at Oneonta. Callahan has inspired both students and professional book artists through her teaching, workshops, and exhibitions. The three-dimensional design version is dedicated to Anne Stagg, now serving as Associate Chair of the Florida State University Art Department. A versatile and inventive educator, Stagg is renowned for her honesty and strong commitment to students. All of these remarkable people are exemplars of the very best in higher education.

The following reviewers provided valuable insights and suggestions for the sixth edition:

Emily Beck, *The University of Notre Dame*
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James Wade, *University of Kentucky*
Shannon Lindsey, *University of South Carolina*

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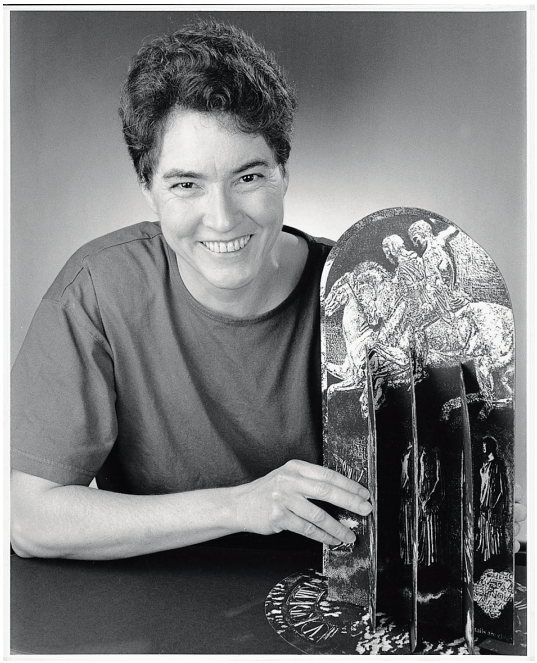
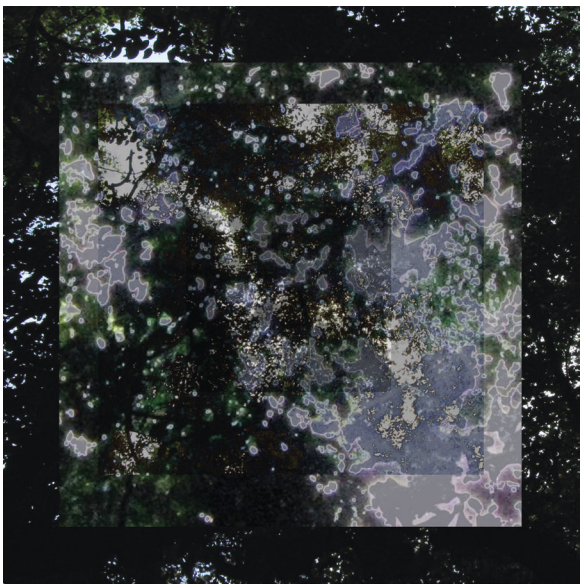
Author, artist, and educator Mary Stewart is a professor in the Department of Art at Florida State University. Her drawing, prints, and visual books have been shown in over 90 exhibitions nationally and internationally, and she has received two Pennsylvania Arts Council grants for collaborative choreography. A cofounder of Integrative Teaching International, she has given over 60 lectures and workshops on creative inquiry, curriculum design, educational leadership, and storytelling.

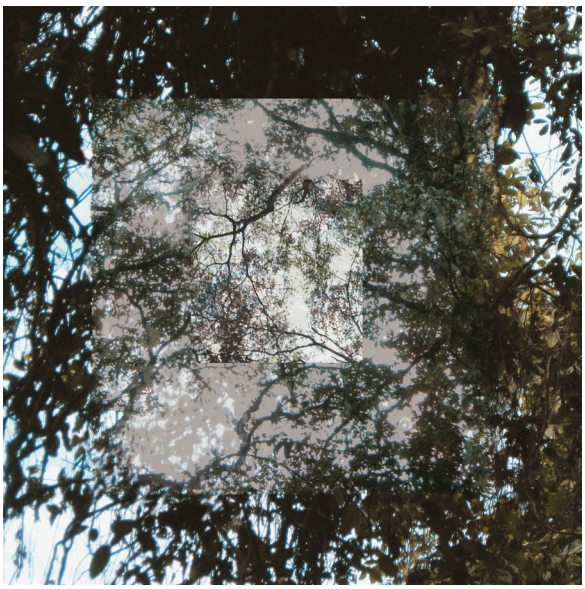
As shown below, her *Continuum Series* connects the macroscopic with the microscopic. Fragments of towering trees are juxtaposed with images that suggest activity at a cellular level. In this series, Professor Stewart seeks to explore ways in which we construct and express knowledge, both of ourselves and of the world around us.



Author Mary Stewart with *Labyrinth* book.
Courtesy the author



Mary Stewart, *Continuum #4,* 2012. Digital collage, 44 × 44 in. (111.7 × 111.7 cm).
Courtesy the author

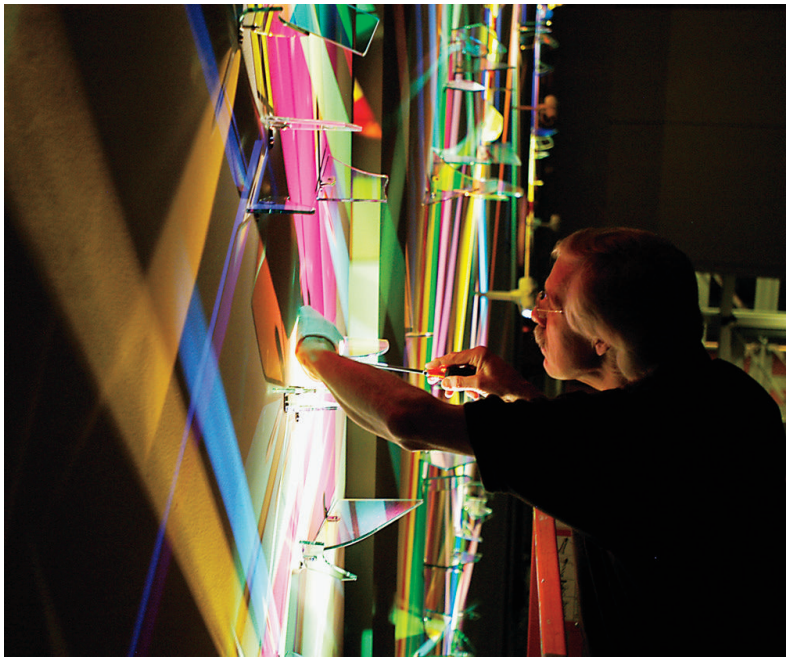


Mary Stewart, *Continuum #8*, 2012. Digital collage, 44 × 44 in. (111.7 × 111.7 cm).
Courtesy the author

What is *Launching the Imagination* about, and how can it be useful to you?

In this book, we will explore

- the components of visual construction,
- ways that these components can be used,
- characteristics of creative and of critical thinking,
- ways to increase your creativity,
- the physical characteristics of various materials,
- ways in which you can use materials to express ideas,
- the components and power of visual storytelling,
- contemporary approaches to visualization.



Stephen Knapp installing *First Symphony*, 2006. Lightpainting installation, Ball State University, Muncie, IN.

Because studio courses require hands-on work, we will treat design as a noun *and* as a verb.

As a noun, design may be defined as

- a plan or pattern, such as the blueprint for a house;
- an arrangement of lines, shapes, colors, and textures into an artistic whole, as in the composition of a painting.

As a verb, design can be defined as

- to plan, delineate, or define, as in designing a building or a functional object;
- to create a deliberate sequence of events, as in designing a film storyboard;
- to organize disparate parts into a coherent whole, as in designing a brochure.

Design is deliberate. Rather than simply hoping for the best and accepting the result, artists and designers explore a wide range of solutions to every problem, and then choose the most promising option for further development. Inspiring examples and informative text can help accelerate your learning process. In this book, over 625 images supply visual examples from many cultures and in all areas of art and design. Nine lively interviews with living artists provide insight into the creative process. Idea generation and critical thinking are thoroughly discussed in Part Two, and key questions (posted at the end of various sections of text) provide a way for you to self-assess your projects as they develop.

How high can you fly? How far can you travel? Will you work traditionally, in a specific discipline such as painting, printmaking, or ceramics? Or will you combine disciplines to create new forms of expression? Having mastered the basics of visual thinking, you will have the versatility and critical judgment needed to pursue a personal path.

Launching the Imagination

A Comprehensive Guide to Two-Dimensional Design

Lilian Garcia-Roig, *Water and Rock Flows*, 2010. Oil on canvas, 48 × 48 in. (121.9 × 121.9 cm).

Two-Dimensional Design

Creating art in any form can be engrossing and exhilarating. Through our studio work, we can heighten our attention, engage our emotions, and build a sense of accomplishment. These personal rewards make art one of the most popular hobbies.

A *career* in art and design demands more from us. As art and design professionals, we must translate our personal insights into public communication. The ideas and emotions a professional wishes to express must engage an audience, whether the encounter occurs in the silence of a museum or in the chaos of a city street.

This ability to communicate visually is developed through years of study plus relentless practice. As professionals, we must develop our visual awareness, create new concepts, and master various techniques. We spend hours in the studio, refining ideas and inventing alternative solutions to each visual problem. A professional identifies the potential in a preliminary idea and develops it fully.

The elements and principles of design are the building blocks from which we create images and express ideas. Chapter One presents point, line, shape, texture, and value. Chapter Two is devoted to the characteristics and compositional impact of color. Chapter Three introduces a wide range of basic organizational strategies, known as the principles of design. Chapter Four expands these basic principles and devotes attention to the illusion of space and the illusion of motion.

Part One

chapter one

Basic Elements

Point, line, shape, texture, value, and color are the building blocks that make up two-dimensional designs. Just as oxygen and hydrogen are powerful both individually and when combined as H_2O, so these visual **elements** operate both independently and in combination. In this chapter, we explore the unique characteristics of the five most basic elements and analyze their uses in art and design. We discuss color, the most complex element, in Chapter Two.

POINT

Defining Point

A **point** is a basic mark, such as a dot, a pixel, or a brushstroke. When we add a point to a blank sheet of paper, we create a dialog between this basic visual element and the surrounding space. This dialog sets a compositional game in motion. In this section, we explore two types of point. A **focal point** is the primary point of interest in a composition. By its size, compositional location, orientation, or color, a focal point activates the design and thus attracts the attention of the viewer. A collection of points is called an **array**. We can create rich textures and entire images using an array.

Using Point

Because points are both simple and powerful, they are often used in logo design. Logos must read clearly in both small and large scale, and must be easy to remember. For example, the Think Point Design logo in figure 1.1 is dominated by a circle combined with three words. The addition of the small point at the top

1.1 Andrew Beard and Sharon Sandercock, Think Point Design logo, 2012. Dimensions variable.

1.2 Pentagram Design, Corella Publishing logo, 2006. Dimensions variable. Courtesy of Pentagram Design

1.3 Michael Bierut, lead designer, Pentagram Design, Mohawk Paper logo, 2012. Digital media, dimensions variable.
Courtesy of Pentagram Design

of the logo adds a splash of darker green and suggests movement. This quickly communicates a simple message: "Think Point Design is an innovative company and always on the move." By contrast, the point in figure 1.2 transforms a simple black-and-gray shape into a cheerful parrot's head. We immediately want to find out more about Corella Publishing, the business this logo represents. Our final example is a logo for Mohawk Paper (1.3). Green, orange, violet, blue, and aqua points combined with lines of various colors create an energetic M. This combination of lines and points also refers to the process by which paper is produced and printed as it moves past the inked cylinders. Using a series of colorful points and lines, lead designer Michael Bierut provided a fresh identity for a well-established company.

An array of points can create an entire image while retaining the energy of the individual parts. Magazines often use this approach for their covers or posters. In figure 1.4, Charis Tsevis combined images of hundreds of everyday people to create the image of American president Barack Obama. Many wear blue or hold blue signs, further stating their support for his Democratic Party agenda. The image suggests that Obama is a man of the people rather than a remote politician. In our second example of an array,

1.4 Charis Tsevis, *Obama*, 2007. Photo mosaic, dimensions variable.
© Charis Tsevis

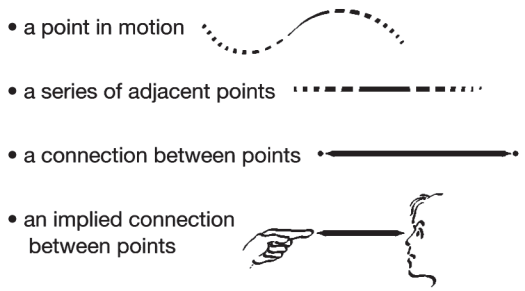
Paddy Japaljarri Stewart has created an Australian landscape from hundreds of colorful dots. Using a traditional Aboriginal approach, *Bush Cabbage Dreaming at Ngarlu* (1.5) presents an imagined aerial view of the outback. Based on Dreaming, a spiritual practice that is uniquely Aborigine, each mark records the journey of an ancestral presence across the earth.

1.5 Paddy Japaljarri Stewart, *Bush Cabbage Dreaming at Ngarlu* (detail), Yuendumn, Central Australia, 1986. Acrylic on canvas, full size 47½ × 93½ in. (120.5 × 237.5 cm).
South Australian Museum. © 2017 Artists Rights Society (ARS), New York/VISCOPY, Australia

LINE

Defining Line

Line is one of the simplest and most versatile elements of design. Line may be defined as



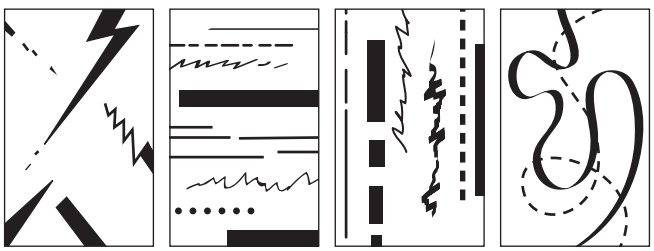
1.6 Line definitions.

The first definition emphasizes the unique dynamism of line. The remaining three definitions emphasize its connective power. Lighter and more fluid than any of the other visual elements, line can add a special energy to a design. Simply by drawing a line, we can activate a space, define a shape, or create a compositional bridge.

Line Quality

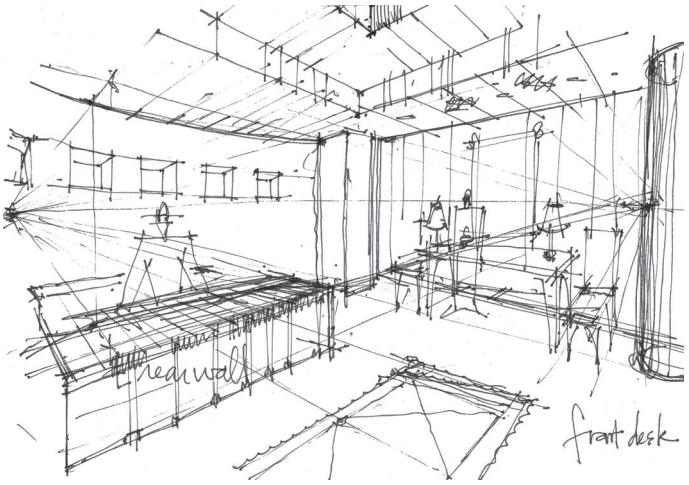
Each line has its own distinctive quality. This quality is largely determined by the line's orientation, direction, and degree of continuity, and by the material used.

Orientation refers to the line's horizontal, vertical, or diagonal position. Diagonal lines and curving lines are generally the most dynamic (1.7A, 1.7D). Charged with energy, they suggest action and movement. Horizontal lines are typically the most stable, or static (1.7B). Vertical lines imply *potential* change. When verticals adhere to the edge of the design, they become tethered and thus lose mobility. Free-floating verticals, on the other hand, seem ready to topple at any moment (1.7C).



A Diagonal **B** Horizontal **C** Vertical **D** Continuous curve

1.7A–D Line orientation and continuity.



1.8 Jim Dawkins, concept sketch exploring view compositions for the front desk area of a hotel lobby, 2009. © Jim Dawkins

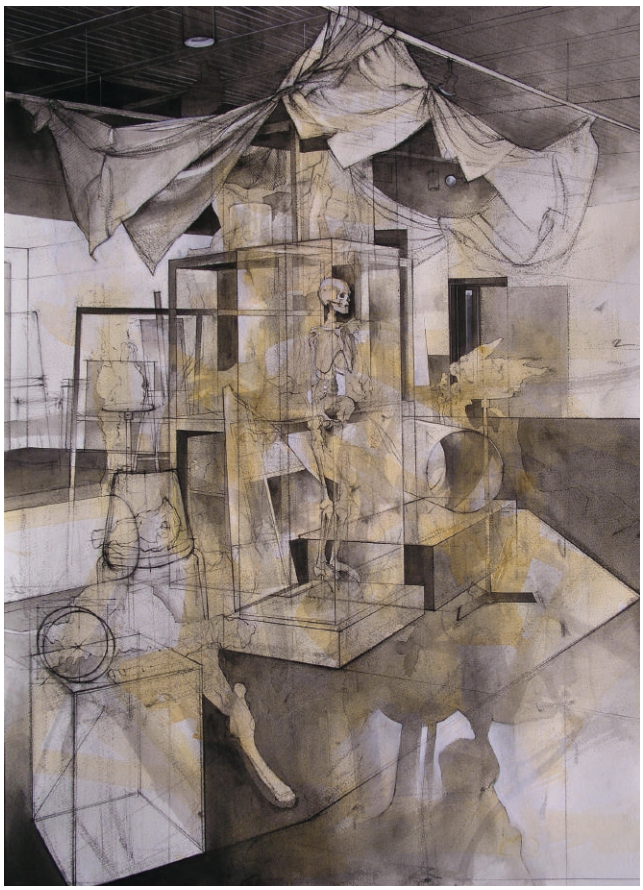
Direction refers to the implied movement of a line. We can use line weight to accentuate direction. Generally, a swelling line suggests forward or outward movement, and a shrinking line suggests inward movement. Notice how the top and bottom diagonal lines in figure 1.7A seem to push forward as they become thicker.

Continuity, or linear flow, can enhance direction. Figure 1.7D shows that a continuous line tends to generate a stronger sense of direction than a broken or jagged line.

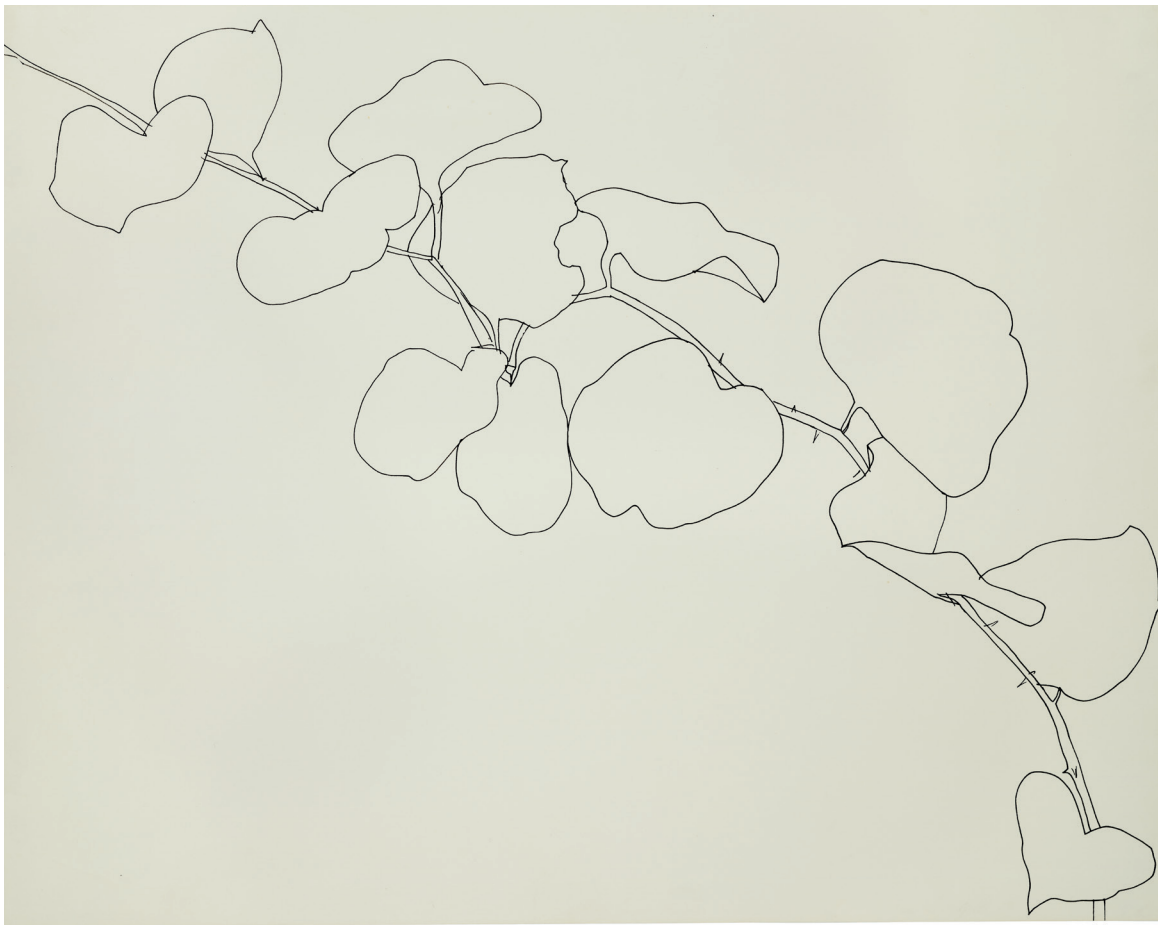
As our fourth aspect of line, each material produces a range of distinctive marks. We can use a metallic graphite pencil to produce modulating lines of varying thickness. A felt pen produces a crisp, clean, emphatic line. Charcoal and chalk are soft and highly responsive to each change in pressure and direction. Brush and ink offers even wider variation in line width, continuity, and darkness. By experimenting with the range of marks each instrument can produce, we can use any material more expressively.

Artists and designers use line as the most direct means of translating an initial thought into a preliminary image. In figure 1.8, architect Jim Dawkins laid out a rough plan for a hotel lobby. He needed only a few lines to record the essential idea. As shown in figure 1.9, computer-aided design (CAD) can then be used to create a much more detailed wire-frame drawing. And, in figure 1.10, painter Kevin Haran used vertical, horizontal, and diagonal lines to map out the positions of objects in a still life. Spheres, cones, and the detailed skull move our eyes around and through the shifting space.

1.9 Computer-aided design (CAD) utilizing a wire-frame drawing for a collection of buildings. © nadia/Getty Images



1.10 Kevin Haran, *Still Life with Skeleton*, 2004. Charcoal, ink, and acrylic wash on Arches paper, 30 × 22 in. (76.2 × 55.9 cm). © Kevin Haran

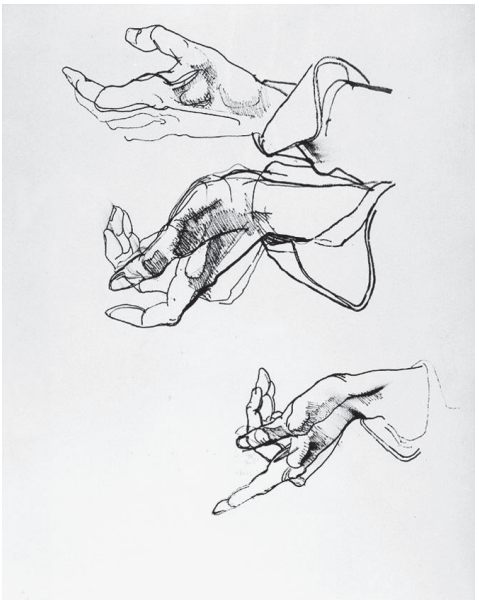


1.11 Ellsworth Kelly, *Briar*, 1961. The Wadsworth Atheneum Museum of Art, Hartford, CT. Gift of Mr. Samuel Wagstaff, Jr. In memory of Elva McCormick, 1980. © Ellsworth Kelly. Photograph by Allen Phillips

Actual Lines

Actual lines can describe forms simply and eloquently. In figure 1.11, Ellsworth Kelly used **contour lines** to define the edges of each leaf and locate them along a simple stalk. As this artwork demonstrates, essential shapes can be as eloquent as photographic detail. Similarly, Rico Lebrun's **gesture drawing** of a hand (1.12) captures essential action rather than describing every anatomical detail. We focus on what the hand is *doing* rather than on what the hand *is*. And, as figure 1.13 shows, Rembrandt often used economical lines to describe the spheres and cylindrical volumes from which figures are made. Because it communicates information using basic volumes, we often call this type of line drawing a **volume summary**.

Calligraphic lines can add even more energy to a drawing or a design. The word *calligraphy* is derived from two Greek words: *kalus*, meaning "beautiful," and *graphein*, meaning "to write." Like handwriting, the calligraphic line is both personal and highly expressive. For example, in figure 1.14, painter Tawaraya Sōtatsu and calligrapher Hon'ami Kōetsu used variations in line weight and continuity to suggest the graceful motion of birds.



1.12 Rico Lebrun, *Hand*, 1964. Pen and ink on paper. © Rico Lebrun. Collection of David Lebrun. Courtesy of Koplin Gallery, Los Angeles

Artists often use **organizational lines** to create the loose linear "skeleton" on which to build a composition.

1.13 Rembrandt van Rijn, *Two Women Helping a Child to Walk*, c. 1635–37. Red chalk on paper.

1.14 Attributed to Tawaraya Sōtatsu, calligraphy by Hon'ami Kōetsu, *Flying Cranes and Poetry*, Edo period (1615–1868). Ink on gray-blue paper, gold flecked, 7⅝ × 6⅜ in. (19 × 16 cm).
The Nelson-Atkins Museum of Art, Kansas City, MO.
Gift of Mrs. George H. Bunting, Jr., 73-27. Photograph by Mel McLean

Kevin Haran's drawing in figure 1.10 shows that these skeletal drawings have great energy and can be presented as artworks in themselves. Similarly, Jim Dawkins's sketch in figure 1.8 provides just enough detail as he begins to design an interior. In other cases, organizational lines provide the framework for elaborate compositions. When we analyze Alfred Leslie's *The Killing Cycle* (1.15), we can see an underlying

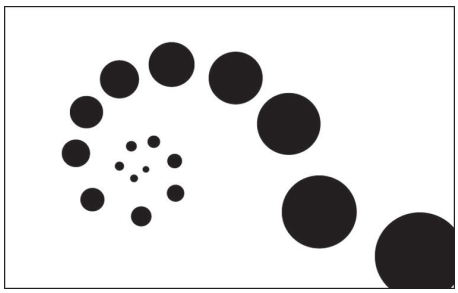
1.15 Alfred Leslie, *The Killing Cycle #5: Loading Pier*, 1975.
Oil on canvas, 9 × 7 ft. (2.7 × 1.8 m).

framework. A dead man on a diagonal board connects a single woman in the lower left corner to the four figures in the upper right. A horizontal line supports these four figures, while their bent arms and legs create even more diagonal lines. The diagonal lines add energy to the composition, while the horizontal line adds stability.

Implied Lines

Lines can play a major role in a design even when they are implied rather than actually being drawn. Because **implied lines** simply *suggest* connections, the viewer becomes actively involved in compositions that use this type of line.

Fortunately, we have a natural inclination to seek visual unity. Given enough clues, we will connect separate visual parts by filling in the missing pieces. The visual clues may be quite obvious. For example, we can easily link the circles in figure 1.16 to create a linear spiral. In other cases, the clues are subtle. In Minor



1.16 A series of dots can create an implied line.

White's *Sandblaster* (1.17), the white arrow implies a connection between the numbers in the foreground and the worker's helmet.

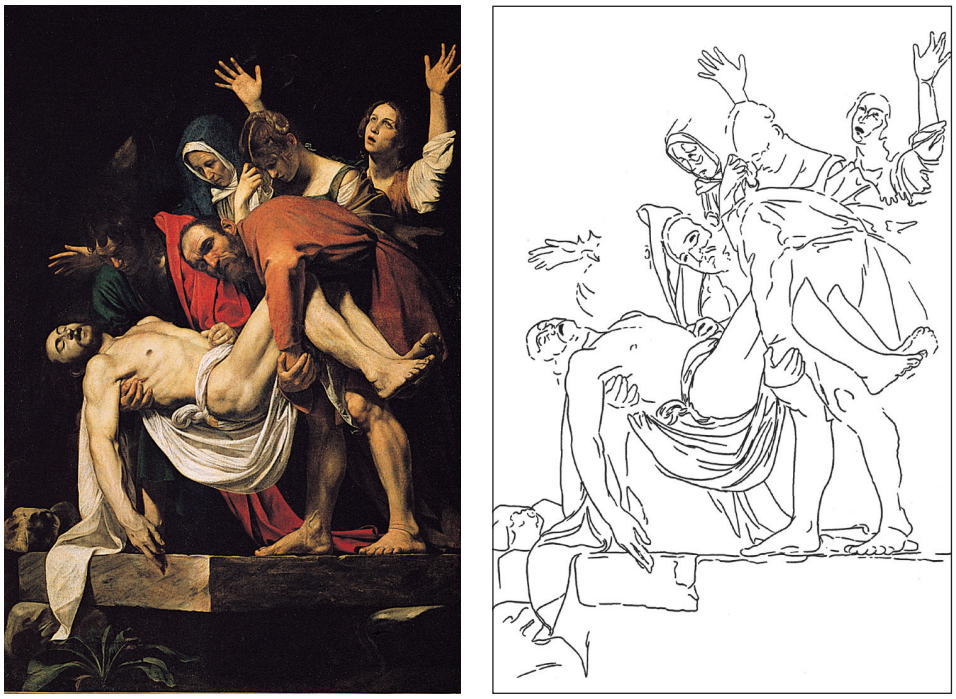
This inclination to connect fragmentary information is called **closure**. "Lost and found" contours require an elegant form of closure. In a "lost and found" composition, the edges of some shapes are clearly defined, and other shapes appear to merge with the background. When presented with such an image, the viewer must create a mental bridge between the resulting islands of information.

Caravaggio's *The Deposition* (1.18A) uses closure extensively. A contour drawing of this image has many gaps, as details are lost in the shadows (1.18B). Used skillfully, this loss of definition becomes a strength rather than a weakness. Connections made through closure can stimulate the viewer's imagination and encourage a more personal interpretation.

1.17 Minor White, *Sandblaster, San Francisco*, 1949. Gelatin silver print, 10 7/16 × 11 7/16 in. (26.5 × 29.1 cm).

Linear Networks

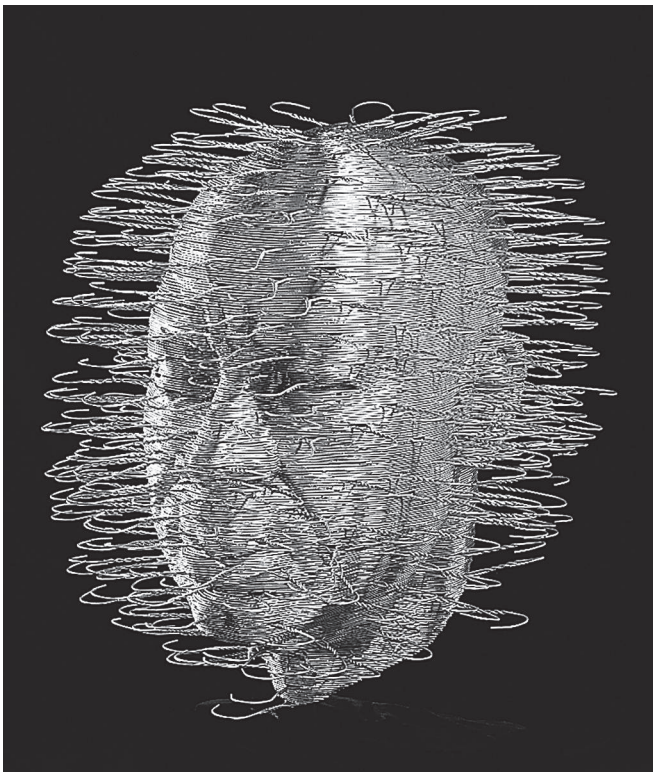
Multiple lines can add detail to a design and create a convincing illusion of space. **Hatching** produces a range of grays through straight parallel lines. We can produce an even wider range of grays through **cross-hatching**. Many layers of lines at various angles



A **B**

1.18A–B Caravaggio, *The Deposition*, 1604. Oil on canvas, 9 ft 10⅛ in. × 6 ft 7⅞ in. (3 × 2.03 m).
Vatican Museums, Vatican State. Scala/Art Resource, New York

1.19 Jacques Villon, *Baudelaire*, c. 1918. Etching, printed in black, plate 16 5/16 × 11 in. (41.4 × 28 cm).
Gift of Victor S. Riesenfeld. The Museum of Modern Art, New York. Digital image © The Museum of Modern Art/Licensed by SCALA/Art Resource, New York. © 2017 Artists Rights Society (ARS), New York



1.20 David Mach, *Eckow*, 1997. Coat hangers, 2 ft 2¼ in. × 1 ft 11½ in. × 2 ft 5½ in. (67 × 60 × 75 cm).
© David Mach

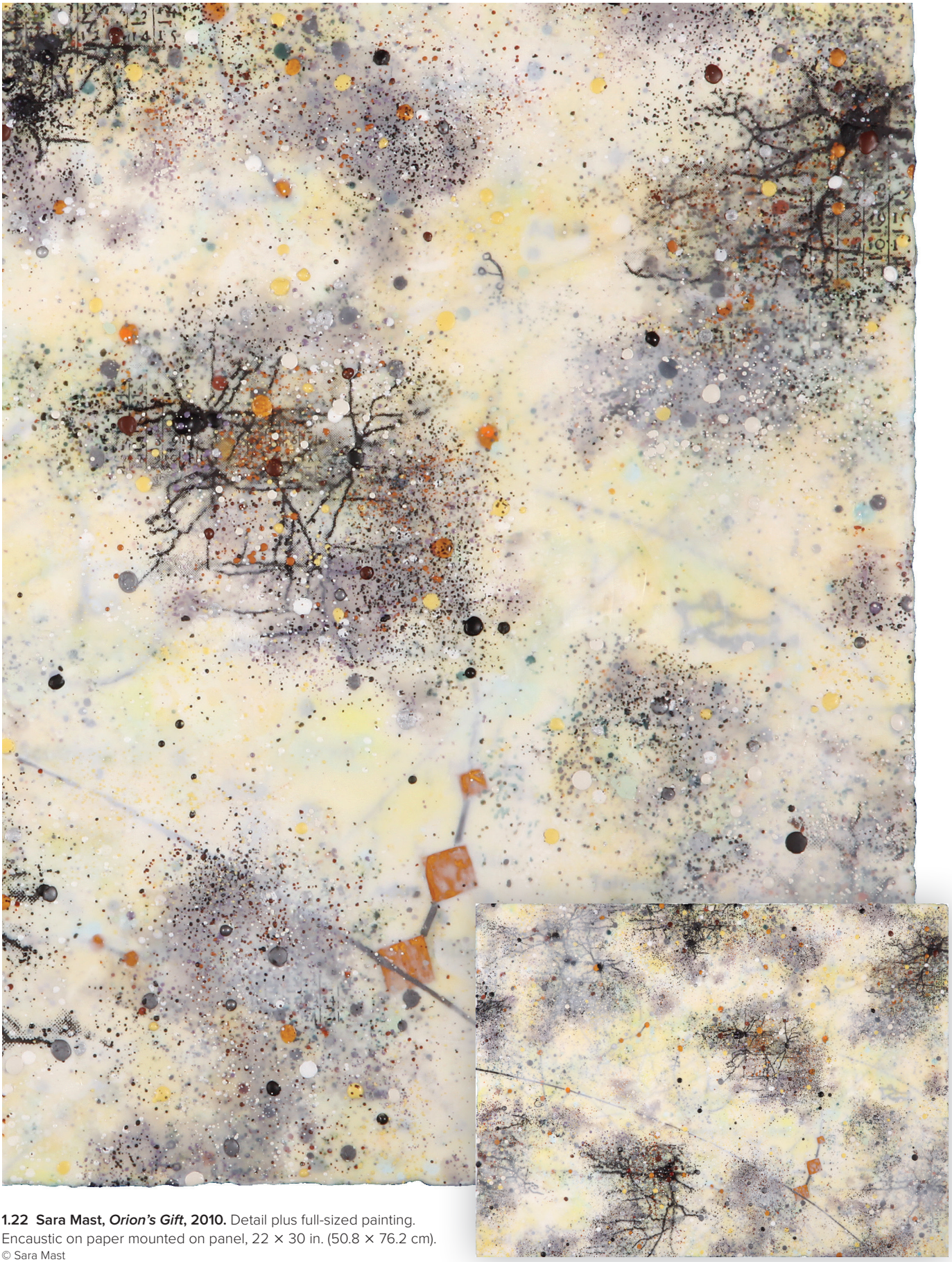
are used in cross-hatching. Jacques Villon used both hatching and cross-hatching in his portrait of poet Charles Baudelaire (1.19). The head is divided into a series of faceted planes. Hatching defines each shift in the surface of the head, and cross-hatching creates the shadows.

Cross-contours can create an even more powerful illusion of three-dimensionality. Often created using curving parallel lines, cross-contours "map" surface variations across shapes or objects. In figure 1.20, David Mach created a cross-contour sculpture by bending coat hangers into the shape of a human head. In two-dimensional design, we can use drawn lines to produce a similar effect.

Hatching, cross-hatching, and cross-contours are often combined. In *Head of a Satyr* (1.21), Michelangelo used all these techniques to visually carve out the curves and planes of the head.

Linear networks play an equally important role in more abstract or conceptual art. As we will see in Chapter Six (which includes a full interview), Sara Mast is fascinated by humanity's connection to the cosmos. She has noted that our bodies and the stars

1.21 Michelangelo, *Head of a Satyr*, c. 1620–30.
Pen and ink over chalk, 10⅝ × 7⅞ in. (27 × 20 cm).
Photograph by Michèle Bellot. © RMN-Grand Palais/Art Resource, New York



1.22 Sara Mast, *Orion's Gift*, 2010. Detail plus full-sized painting. Encaustic on paper mounted on panel, 22 × 30 in. (50.8 × 76.2 cm).

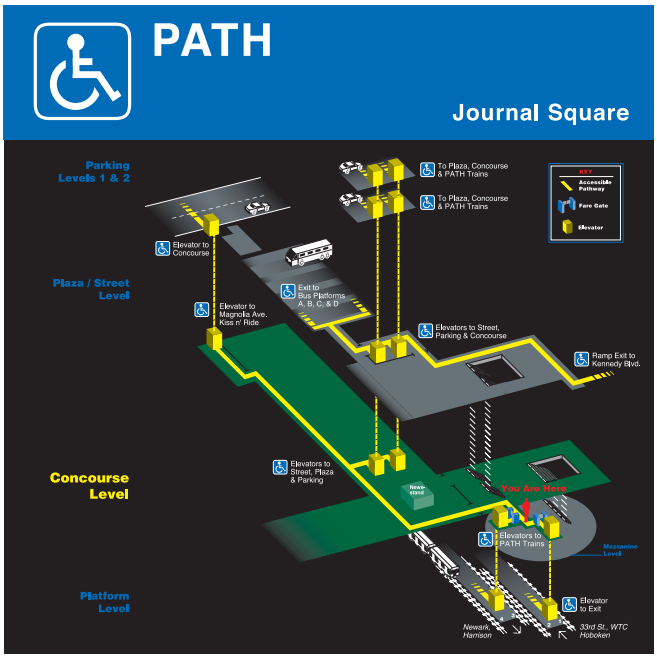
are ultimately made from the same materials. Orion is one of the most visible of the constellations. In *Orion's Gift* (1.22), Mast connects the branching growth of biological forms to the atomic particles in this mysterious constellation. Black and gray lines of varying width reach out from clusters of points, creating pathways that are also reminiscent of neurons in the brain.

Using Line

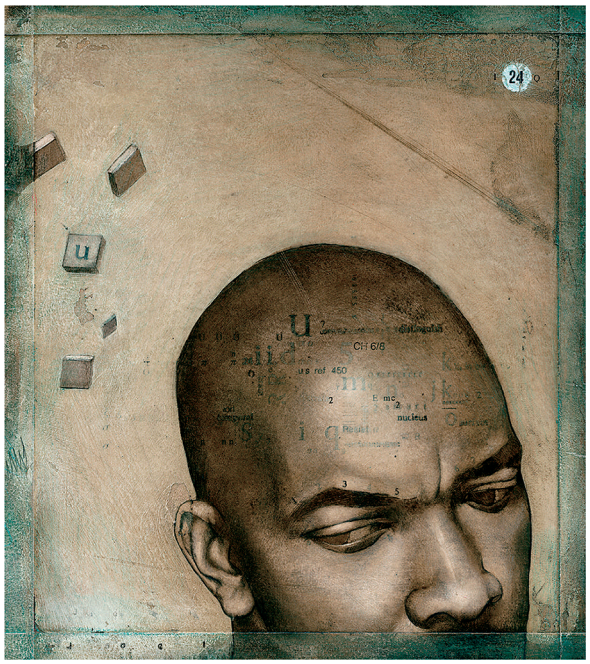
We can use line to define, enclose, connect, or dissect. Line serves all these purposes in a New York City subway map (1.23). A curved line has been combined with an angular line to define the wheelchair logo. Another line encloses this logo within a square, emphasizing its importance. Diagonal lines connect the subway entrance to the elevators, and vertical lines dissect the drawing to highlight the location of the elevators. Using this map, a person in a wheelchair can navigate through a busy station and catch the right train.

In a sense, the first line we draw is actually the *fifth* line in a rectangular composition. In his *Self-Portrait* (1.24), Joel Peter Johnson used drawn lines to echo the four pre-existing edges of the composition. His head breaks out of this linear boundary. As a result, the portrait appears to extend beyond the painting's edge and into the world of the viewer.

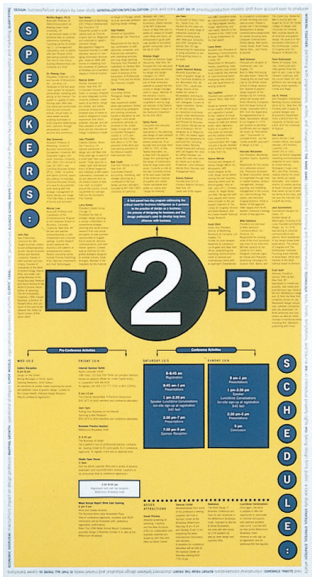
Lines can serve many purposes at once. In an advertisement for the American Institute of Graphic Arts



1.23 Louis Nelson Associates, Inc., PATH Station Maps, 1993.
Graphic designer: Jennifer Stoller.



1.24 Joel Peter Johnson, *Self-Portrait*, 1999. Oil on board, 9 × 8 in. (22.9 × 20.3 cm).



1.25 Pentagram Design, brochure from the American Institute of Graphic Arts "Design 2 Business" conference, 1996.
Courtesy of Pentagram Design

(1.25), vertical dotted lines at the upper left and lower right highlight the speakers' schedule. A horizontal line creates a connection between the *D* and *B* in the "design to business" logo, and separates the top and bottom of the overall layout. We can even read the columns of text as vertical and horizontal lines.

When orientation, direction, continuity, and medium are effectively employed, line can be used to create compositions that are both sophisticated and thoughtful.

key questions

LINE

- What is the dominant orientation of the lines in your design—diagonal, vertical, or horizontal? What is the expressive effect?
- What happens when you repeat lines or when lines intersect?
- How would the composition change if you removed one or more lines?
- Consider using line to direct attention to areas of compositional importance.

SHAPE

Defining Shape

A **shape** is a flat, enclosed area (1.26A–D). You can create shapes by:

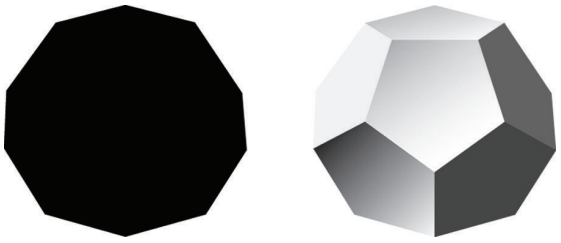
- Enclosing an area within a continuous line
- Surrounding an area with other shapes
- Filling an area with solid color or texture
- Filling an area with gradated color or texture

A three-dimensional enclosure is called a **volume**. Thus, circles and squares are shapes; spheres and cubes are volumes. We can use **gradation** or **shading** to make a two-dimensional shape appear three-dimensional, or volumetric. For example, in figure 1.27, a flat, circular shape becomes a faceted polyhedron when we add a series of gray tones.

Both flat and gradated shapes can be used to create an arresting image. In Aaron Douglas's *Aspects of Negro Life: From Slavery Through Reconstruction* (1.28), flat silhouettes combined with transparent

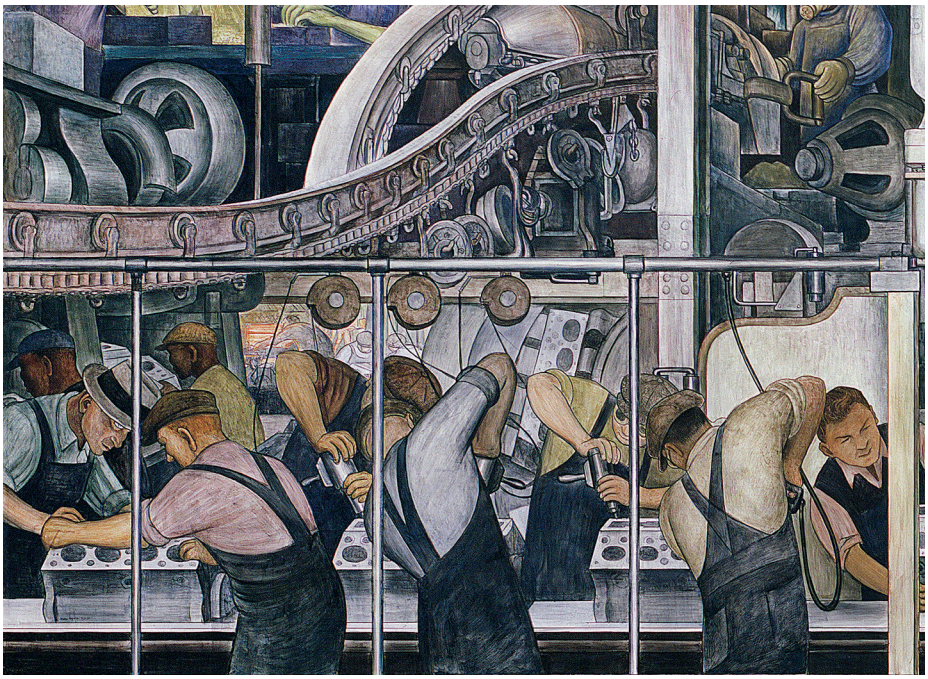
A B C D

1.26A–D Any form of enclosure can create a shape.

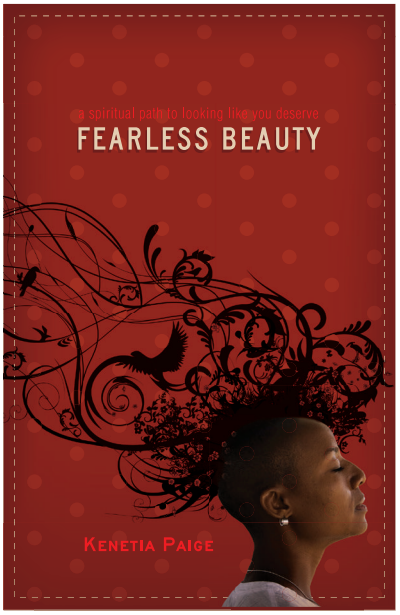


1.27 Variations in shading can transform a shape into an illusory volume.

1.28 Aaron Douglas, *Aspects of Negro Life: From Slavery Through Reconstruction*, 1934. Oil on canvas, 5 ft × 11 ft 7 in. (1.52 × 3.5 m).
Schomburg Center for Research in Black Culture, The New York Public Library. Schomburg Center/Art Resource, New York/ Art © Heirs of Aaron Douglas/ Licensed by VAGA



1.29 Diego M. Rivera, *Detroit Industry, North Wall* (detail), 1932–33. Fresco, full size 17 ft 8½ in. × 45 ft (5.4 × 13.7 m).
Gift of Edsel B. Ford, Photograph © 2001 The Detroit Institute of Arts/The Bridgeman Art Library. © 2017 Banco de México Diego Rivera Frida Kahlo Museums Trust, Mexico, D.F./Artists Rights Society (ARS), New York



1.30 Cecilia Sorochin, SoroDesign, cover for *Fearless Beauty*, 2008. 8.5 × 5.5 in. (21.6 × 14 cm).
Courtesy of Cecilia Sorochin, SoroDesign, www.SoroDesign.com

1.31 Gustav Klimt, *Salomé*, 1909. Oil on canvas, 70⅞ × 18⅛ in. (178 × 46 cm).
Galleria Moderna Venice, Italy. Cameraphoto Arte, Venice/Art Resource, New York

targets create an energetic panorama. We can almost hear the speaker in the center and feel the movement of the crowd. In Diego Rivera's *Detroit Industry* (1.29), a combination of size variation and shading suggests volume and increases the illusion of space.

Graphic designers are equally aware of the expressive power of flat and gradated shapes. In a cover design for *Fearless Beauty* (1.30), Cecilia Sorochin combined a model's volumetric head with a headdress composed from swirling flat shapes. While rooted in reality, the woman seems empowered by her lively imagination.

Gustav Klimt also combined flat and volumetric shapes to create *Salomé* (1.31). In this horrific tale from the biblical New Testament, John the Baptist has been imprisoned for his criticism of the royal family. Salomé, the king's niece, performs a stunning dance and the delighted king grants her a single wish. In revenge, Salomé asks for John's head. The tall, vertical shape of the painting is similar to the size and shape of a standing viewer. Flat patterns and color surround the volumetric figures, while two curving lines add a sinuous energy to the center of the design.

Types of Shape

The size and shape of a soccer field are very different from the size and shape of a tennis court. In each case, the playing area defines the game to be played. It is impossible to play soccer on a tennis court or to play tennis on a soccer field.

Similarly, the outer edge of a two-dimensional design provides the playing field for our compositional games. The long, horizontal rectangles used by Douglas and Rivera create an expansive panorama, while Klimt's vertical rectangle compresses a sordid drama into a claustrophobic column. Thus, creating a dialog between compositional shapes and the surrounding format is our first concern.

Figure and Ground, Positive and Negative

As shown in figure 1.32A, a shape that is distinguished from the background is called a **positive shape**, or **figure**. The surrounding is called the **negative shape**, or **ground**. Depending on its location relative to the ground, the figure can become dynamic or static, leaden or buoyant (1.32B–D).

In traditional paintings such as Caravaggio's *The Deposition* (see figure 1.18A), the artist treats the entire composition like a window into an imaginary world. To increase this illusion, Caravaggio lightly sanded the canvas before he applied the paint, and he kept heavy brushstrokes to a minimum. We are invited to see *into* the painting, rather than focusing on its surface.

When an artist uses a shaped format, we become more aware of the artwork's physicality. The 9-foot-tall teacup in Elizabeth Murray's *Just in Time* (1.33) is monumental in size and loaded with implication. The painted shapes connect directly to the shaped edge, emphasizing the crack running down the center of the composition. This is no ordinary teacup. For Murray, this crack in everyday reality invites us to enter an alternative world that extends beyond a simple cup of tea.

1.32A–D Various figure/ground relationships. When centered, the figure tends to be static. As it moves to the bottom left, it becomes more dynamic, and it becomes even more so when it is positioned diagonally near the top or bottom edge.

1.33 Elizabeth Murray, *Just in Time*, 1981. Oil on canvas, two sections, overall size 106 × 97 in. (269.2 × 246.4 cm).
Philadelphia Museum of Art: Purchased with the Edward and Althea Budd Fund, the Adele Haas Turner and Beatrice Pastorius Turner Memorial Fund. © The Murray-Holman Family Trust. Courtesy of Pace/Artists Rights Society (ARS), New York, 2017

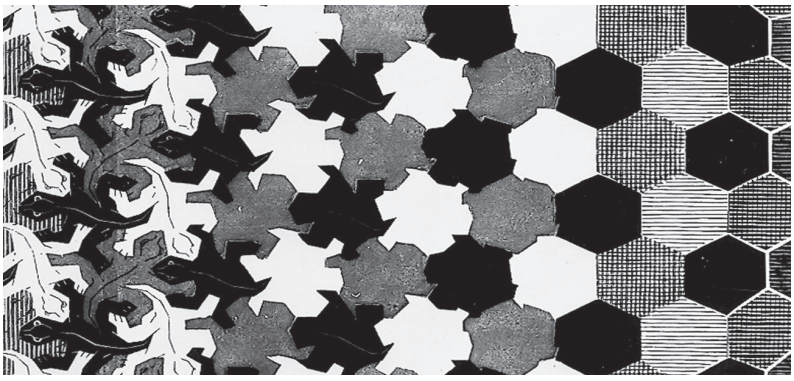
When the figure and ground are equally well designed, every square inch of the composition becomes supercharged. In figure 1.34, illustrator Phoebe Morris used an aerial view of a fierce wolf to define the head of a young boy. In this Russian folk story, Peter manages to capture the wolf by dropping a noose over its head. He frees a duck the wolf has swallowed, and then a group of hunters transport the subdued animal to a zoo. Morris created a clever image that embodies various aspects of the narrative, including the negative shape creating Peter's head.

Figure/ground reversal pushes this effect even further. **Figure/ground reversal** occurs when first the positive and then the negative shapes command our attention. As this fragment from *Metamorphosis II* (1.35) shows, M. C. Escher was a master of figure/ground reversal. The organic shapes on the left become an interlocking mass of black-and-white

1.34 Phoebe Morris, poster for Sergei Prokofiev's *Peter and the Wolf*, 2013. Graphite and digital, dimensions variable.

lizards. The lizards then evolve into a network of hexagons. Combined with the figure/ground reversal, this type of metamorphosis animates the entire 13-foot-long composition.

Figure/ground reversal requires a carefully balanced dialogue between opposing forces. Escher generally achieved this balance by using light and dark



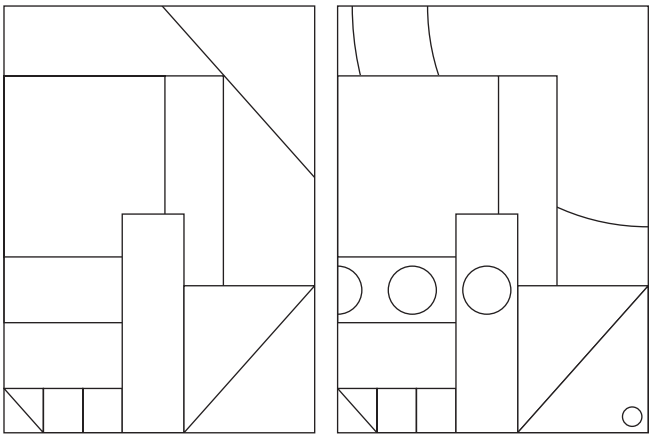
1.35 M. C. Escher, *Metamorphosis II* (detail), 1939–40. Woodcut in black, green, and brown, printed from 20 blocks on 3 combined sheets, full size 7½ × 153⅜ in. (19 × 390 cm).

1.36 Sam Francis, *Flash Point*, 1975. Acrylic on paper, 32¼ × 22⅞ in. (82 × 59 cm).

shapes of similar size. In figure 1.36, Sam Francis achieved a similar balance between a very small white square and a much larger red rectangle. The crisp boundary and central location strengthen the square. Despite its small size, it holds its own against the larger mass of swirling red paint.

Rectilinear and Curvilinear Shapes

Rectilinear shapes are composed from straight lines and angular corners. **Curvilinear shapes** are dominated by curves and flowing edges. Simple rectilinear shapes, such as squares and rectangles, are generally cooperative. When placed within a rectangular format, they easily connect to other shapes and can run parallel to the compositional edge (1.37A). Curvilinear shapes, especially circles, are generally less cooperative. They retain their individuality even when other



A B

1.37A–B Rectilinear and curvilinear shapes. Rectilinear shapes can easily be fit together to create a unified design. Curvilinear shapes tend to be more individualistic.

1.38 Aubrey Beardsley, *Salomé with the Head of John the Baptist*, 1894. Line block print, 11 × 6 in. (27.9 × 15.2 cm).
Creative Commons via the British Library

shapes partially conceal them (1.37B). As a result, we can use curvilinear shapes as targets that emphasize areas of special importance in a design.

Aubrey Beardsley (1.38) combined rectilinear and curvilinear shapes to create another interpretation of the Salomé story described on page 15. Using an internal boundary line, he emphasized the composition's rectangular shape. Within this boundary, curving black-and-white shapes create a series of complex visual relationships. A bubble pattern dominates the upper left corner. In the upper right corner, Salomé clutches Saint John's head. Extending from the head down to the flower, a white line follows the transformation of the dead saint's blood into a living plant. This line creates a conceptual and compositional connection between the top and bottom edges.

A very different combination of rectilinear and curvilinear shapes activates Robert Rauschenberg's *Brace* (1.39). The central image of three baseball players is surrounded by layered rectangles to the right, left, and bottom. A solid line extends from the catcher to the top edge. Vigorous brushstrokes add power to the painting. Occupying only a small fraction of the composition and surrounded by vigorously painted shapes, the circle *still* dominates the design: we *have* to keep our eyes on the ball!

Geometric and Organic Shapes

Geometric shapes are distinguished by their crisp, precise edges and mathematically consistent curves. They dominate the technological world of architecture and industry, and they appear in nature as crystalline structures and growth patterns. **Organic shapes** are more commonly found in the natural world of plants and animals, sea and sky. As Helen Frankenthaler's *Interior Landscape* shows (1.40), organic shapes can add unpredictable energy to a rectangular composition.

Using Shape

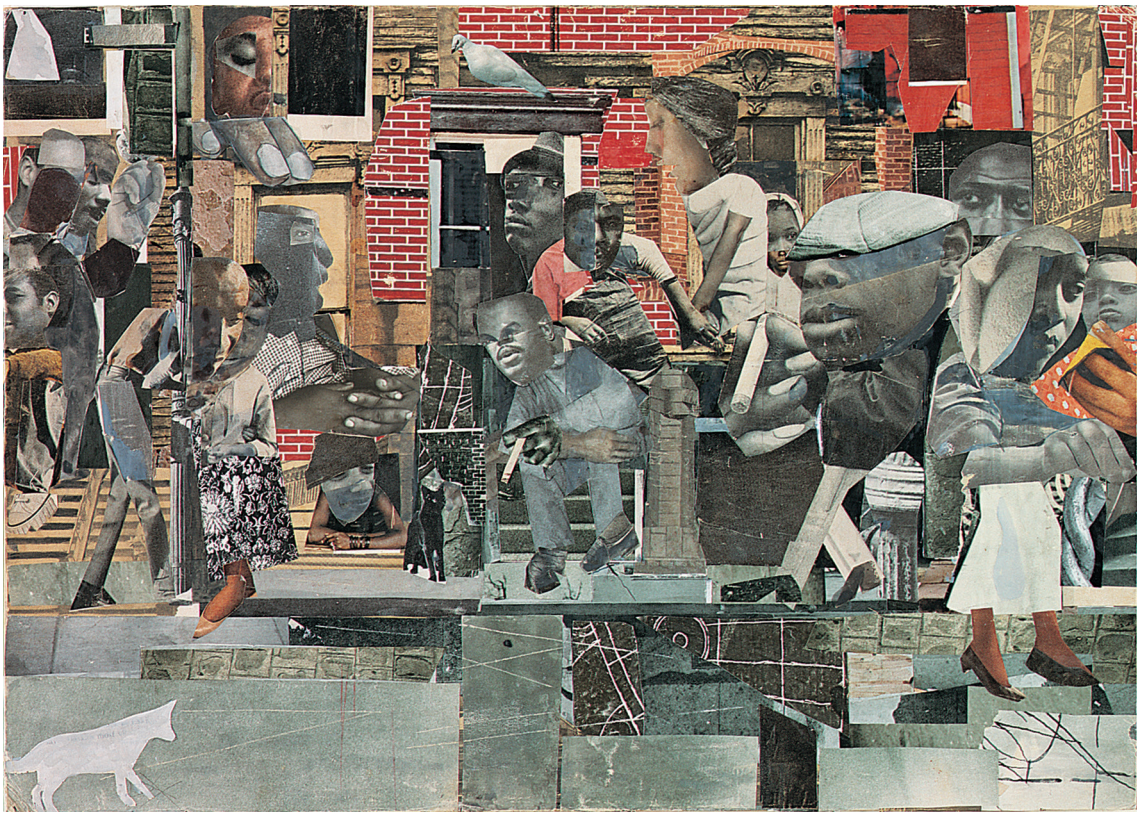
Artists and designers often use simple shapes when they seek clear, direct communication. In figure 1.41, I used just one gradated shape plus six words to visualize Hamlet's most famous soliloquy from Shakespeare's play. Commanded by the ghost of his murdered father to kill his uncle, Hamlet is distraught and indecisive. Should he become a murderer himself, based on his encounter with a ghost? What does it mean to be alive—or dead? "To Be," written across the top, offers one option. Along the bottom, "Or Not To Be" offers another.

More complex shapes are often used when the message is subtle or contradictory. **Collage** is one method of creating such complex shapes. Constructed from visual fragments initially designed for another

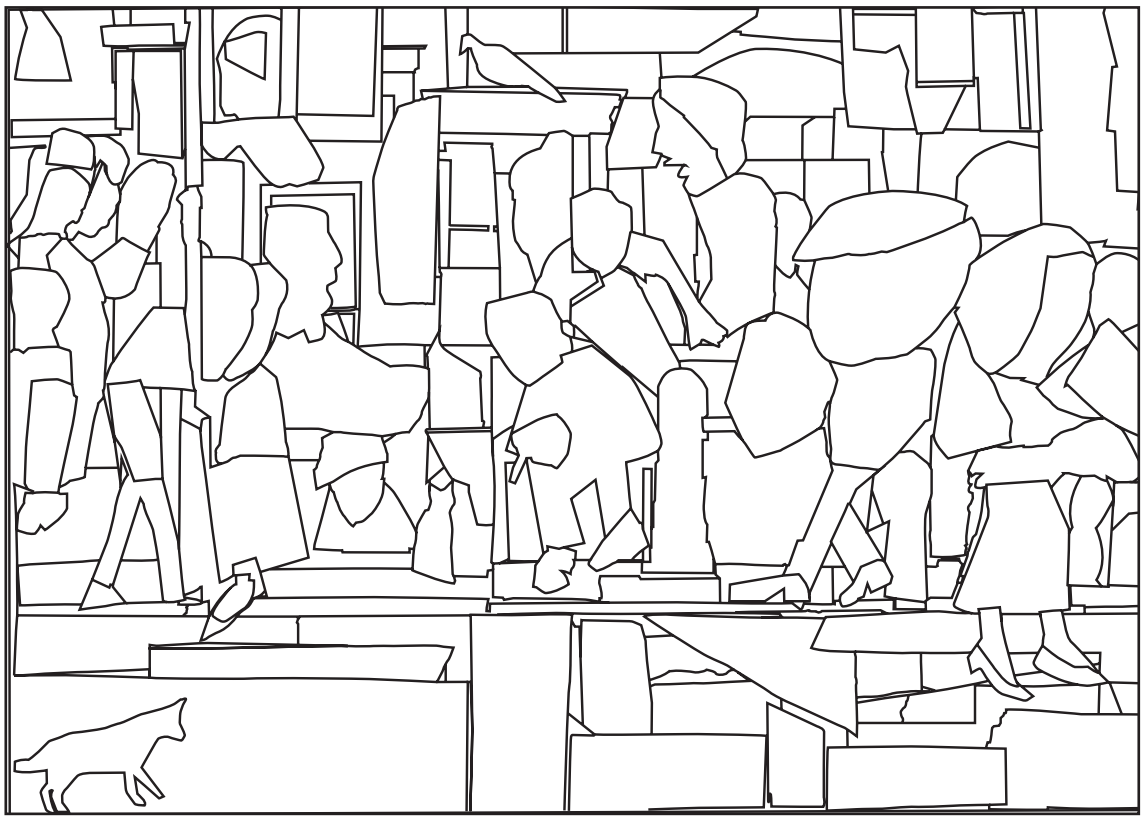
1.39 Robert Rauschenberg, *Brace*, 1962. Oil and silkscreen on canvas, 60 × 60 in. (152.4 × 152.4 cm).
Art © Robert Rauschenberg. Licensed by VAGA, New York

1.40 Helen Frankenthaler, *Interior Landscape*, 1964. Acrylic on canvas, 8 ft 8⅞ in. × 7 ft 8⅝ in. (266 × 235 cm).
San Francisco Museum of Modern Art, Gift of the Women's Board, © Helen Frankenthaler. © 2017 Artists Rights Society (ARS), New York. Photograph by Ben Blackwell

1.41 Mary Stewart, *Hamlet's Dilemma*, 2013. Digital study.
Courtesy of the author



1.42A Romare Bearden, *The Dove*, 1964. Cut-and-pasted paper, gouache, pencil, and colored pencil on cardboard, 13⅜ × 18¾ in. (34 × 47.5 cm).



1.42B Romare Bearden, *The Dove*, 1964, compositional diagram. Printed and cut shapes work together to create a complex composition.

purpose, a collage combines two kinds of shape: the shape of each piece of cut paper and the shapes created by the information printed *on* the paper.

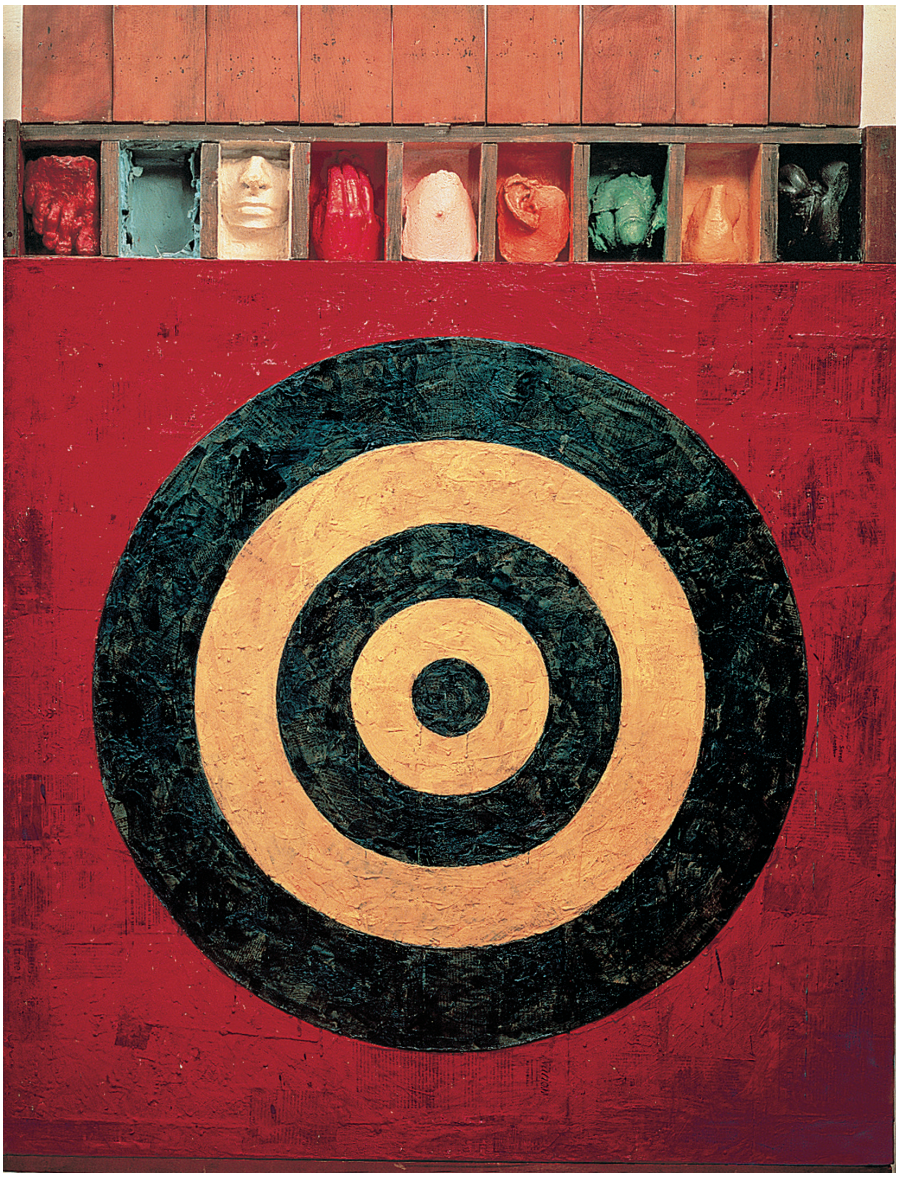
In Romare Bearden's *The Dove* (1.42A), the outer edges of each cut fragment create a lively pattern of curvilinear and rectilinear shapes. The lines and textures printed on these photographic fragments create a second set of shapes. A linear diagram of this artwork demonstrates the complexity of the resulting composition (1.42B). Combining his perceptions of contemporary Harlem with childhood memories, Bearden used this interplay of cut edges and printed textures to create a rich composition from the shifting shapes.

In *Target with Plaster Casts* (1.43), Jasper Johns combined simple shapes with sculptural objects to create an equally complex composition. A series of concentric circles creates a clearly defined target at the center of the painting. Nine sculptural fragments of a human figure line the upper edge—an ear, a hand, a mouth, and so forth. To add further complexity, Johns embedded scraps of newspaper into the colored wax from which he constructed the painting. Equally attracted to the representational body parts above and the symbolic target below, we must reconcile two very different forms of visual information.

key questions

SHAPE

- Experiment with rectilinear, curvilinear, geometric, and organic shapes. Which type of shape will best express your idea?
- What happens when you combine flat, solid shapes with gradated shapes? Or fuse negative and positive?
- Contrast adds interest. What happens when you use two or more types of shape in a composition?



1.43 Jasper Johns, *Target with Plaster Casts*, 1955. Encaustic and collage on canvas with objects, 51 × 44 × 2½ in. (129.5 × 111.8 × 6.4 cm).
Collection of David Geffen, Los Angeles. Art © Jasper Johns/Licensed by VAGA, New York

1.44 Albrecht Dürer, *The Knight, Death, and the Devil*, 1513. Engraving, 11 × 14 in. (28 × 36 cm).

TEXTURE

The surface quality of a two-dimensional shape or a three-dimensional volume is called **texture**. Texture engages our sense of touch as well as our vision, and can enhance the visual surface and conceptual meaning of a design.

Types of Texture

Physical texture creates variations in a surface. The woven texture of canvas, the bumpy texture of thickly applied paint, and the rough texture of wood grain are common examples. **Visual texture** is an illusion. We can create it by using multiple marks that simulate physical texture.

Albrecht Dürer's *The Knight, Death and the Devil* (1.44) employs both visual and physical texture. Dürer created the knight's armor, the horse's glossy hide, the dog's furry coat, and other details using cross-contours, cross-hatching, and patterns of dots called **stippling**. All are examples of visual texture. Furthermore, this print is an **engraving**. Each dot and line was carefully carved into a thin sheet of copper. Dürer then pressed ink into the grooves and wiped the surface metal clean. He then positioned the plate face up on a printing press and laid a damp sheet of paper over it. He cranked both through the press, transferring the ink and creating a subtle embossment. As a result, physical texture accentuates the visual texture in this image.

Invented texture is one form of visual texture. Using invented texture, the artist or designer can activate a surface using shapes that have no direct reference to perceptual reality. Bruce Conner used invented textures from many sources to construct his paper collage *Psychedelicatessen Owner* (1.45). He combined floral patterns, visual gemstones, and cross-contours to create a witty and improbable portrait. By contrast, Brad Holland drew all the textures in figure 1.46, using pen and ink. As the density of the marks increases, the face dissolves into dark masses of pure energy.

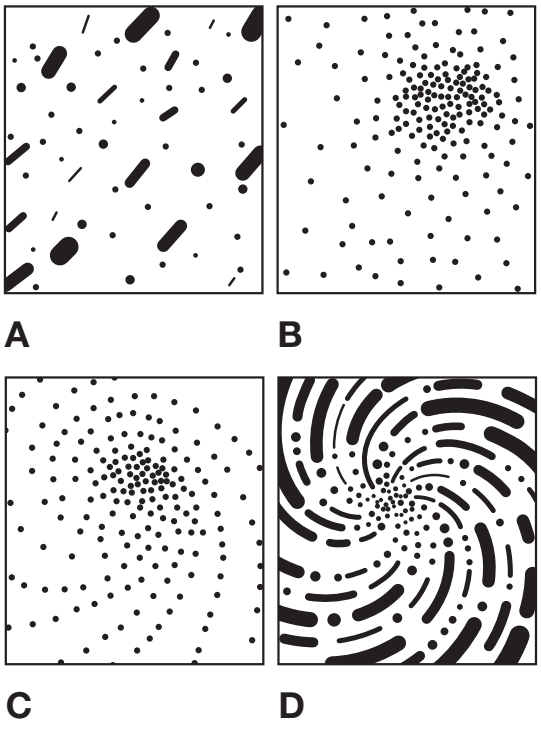
Creating Texture

When creating any type of texture, we must take two basic factors into account.

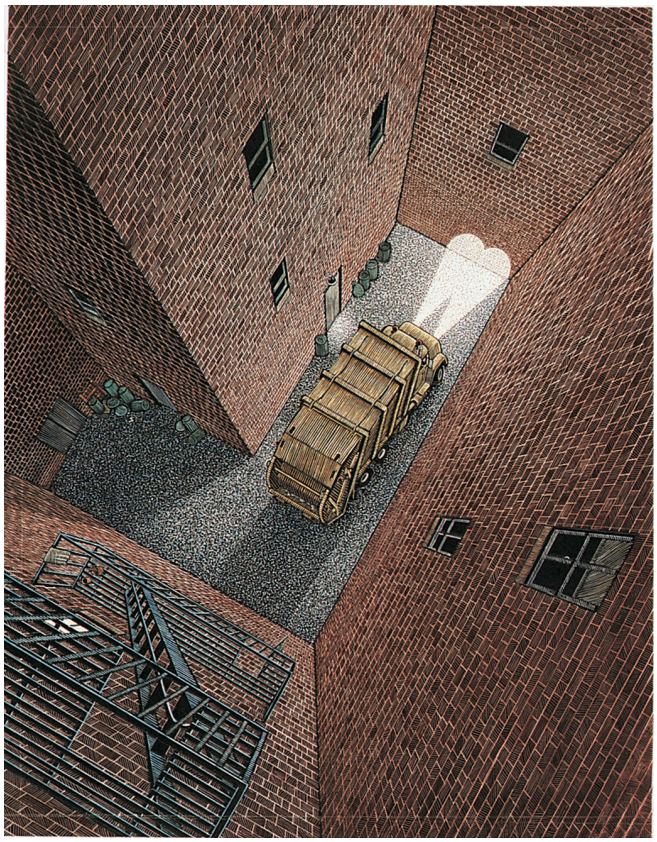
First, every material has its own inherent textural quality. Charcoal is characteristically soft and rich, while a linocut print, such as Beardsley's *Salomé* (see figure 1.38), creates crisp, distinct edges. It is very

1.45 Bruce Conner, *Psychedelicatessen Owner*, March 31, 1990. Paper collage, 8 × 6 in. (20.3 × 15.2 cm).

1.46 Brad Holland, *Literary Beast*, illustration for *Confessions of a Short-Order Artist*, *Persönlich*, 1997. Pen and ink.



1.47A–D Examples of textural size, density, and orientation.



1.48 Douglas Smith, *No Turning*, 1986. Scratchboard and watercolor, 11¼ × 15 in. (29.2 × 38.1 cm).

difficult to create soft, atmospheric textures using linocut, or to create crisp textures using charcoal.

Second, the support surface contributes its own texture. This surface may be smooth, like most photographs, or quite bumpy, like the canvas and embedded collage that Jasper Johns used for his *Target* (see figure 1.43). Thus, work with texture requires a heightened sensitivity to both the support surface and the medium that the artist uses to create the design.

Texture and Space

Artists and designers create visual texture whenever they repeat lines, dots, or other shapes. Variations in the size, density, and orientation of these marks can produce different spatial effects. Larger and darker marks tend to advance outward (1.47A). Finer marks, tightly packed, tend to pull us inward (1.47B). In figure 1.47C, the marks have been organized into a loose spiral. The overall impact is strongest when size, density, and orientation are combined, as in figure 1.47D.

In figure 1.48, Douglas Smith combined texture and linear perspective to produce a dramatic illusion of space. The lines of mortar between the bricks all point toward the truck in the center, while the bricks themselves diminish in size as the distance increases. The truck at the bottom of the wall of bricks seems to be trapped in a claustrophobic space.

By contrast, Robert Indiana's *The Great American Dream: New York* (1.49) is spatially shallow. Indiana constructed a three-dimensional model of a coin or medallion from layers of cardboard. He then laid his drawing paper on top of the construction and made a rubbing, using colored pencils. We can interpret this seemingly simple composition in at least three ways. First, creating a design through rubbing can remind us of the coin rubbings we may have made as children. Second, in many cultures, rubbing coins evokes wealth or good luck. Finally, the rubbing itself creates the *illusion* of the coin or medallion, not the reality. Perhaps the Great American Dream of wealth and success for anyone is just an illusion, ready to dissolve during a stock market crash.

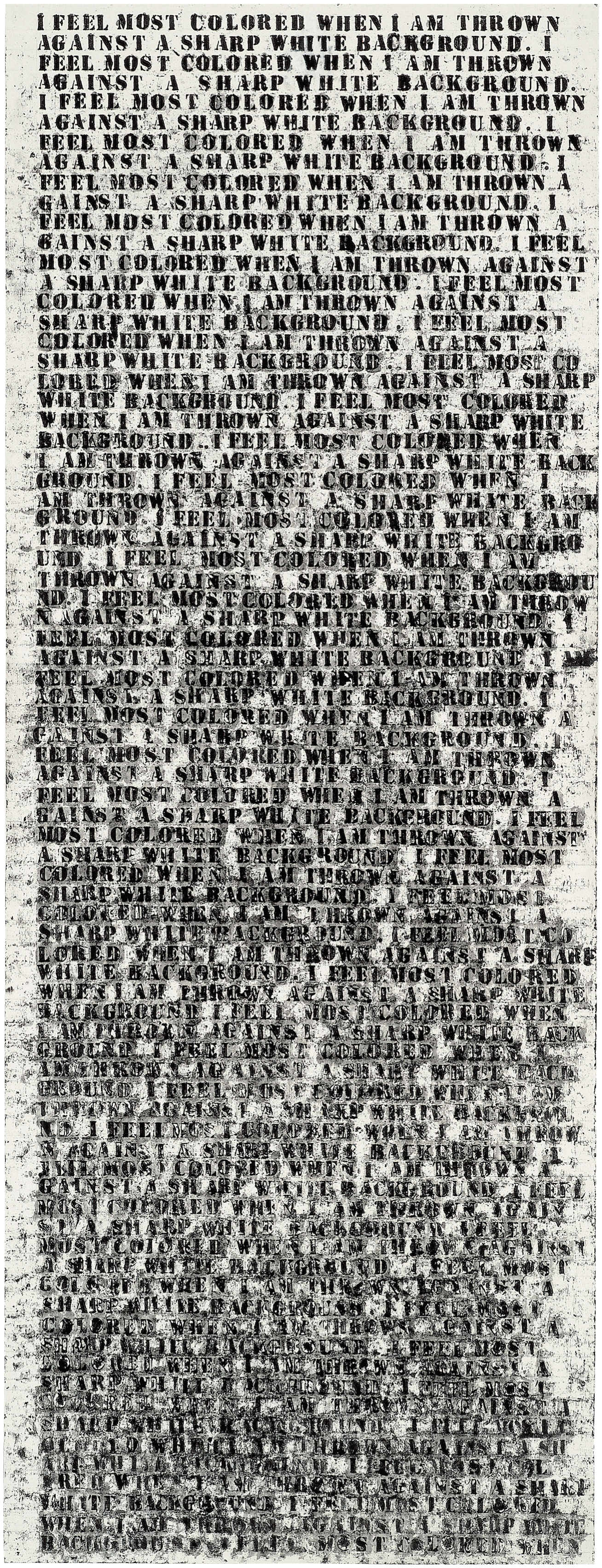
Both spatial and flat textures can be created using letters, numbers, or words. Variations in size, density, and orientation can strongly affect the meaning of these verbal textures. In figure 1.50, African-American painter Glenn Ligon repeatedly wrote, "I feel most colored when I am thrown against a sharp white background," on a gallery wall. As the density of the

1.49 Robert Indiana, *The Great American Dream: New York (The Glory-Star Version)*, 1966. Wax crayon on paper sheet, $39\frac{13}{16} \times 26\frac{1}{8}$ in. (101.1 × 66.4 cm).
Whitney Museum of American Art, New York; Gift of Norman Dubrow 77.98. © 2017 Morgan Art Foundation Ltd./Artists Rights Society (ARS), New York

words increases, the words begin to fuse together, creating variations in the visual texture while reducing verbal clarity.

Trompe l'Oeil

Taken to an extreme, visual texture can so resemble reality that a deception occurs. We call this effect **trompe l'oeil**, from a French term meaning "to fool the eye." Trompe l'oeil can become a simple exercise in technical virtuosity or can significantly alter our perception of reality. By simulating architectural details, John Pugh created an amazing dialog between illusion and reality in figure 1.51. Originally painted on the side of Taylor Hall on the campus of Chico State University, *Academe* appears to peel away the surface of a conventional building to reveal four Greek columns underneath. This sly reference to the ancient source of many academic subjects is both arresting



1.50 Glenn Ligon, *Untitled* (*I feel most colored when I am thrown against a sharp white background*), 1990. Oilstick and gesso on wood, 6 ft 6 in. × 30 in. (200 × 76.2 cm).
Courtesy of the artist, Luhring Augustine, New York, and Regen Projects, Los Angeles

1.51 John Pugh, *Academe* on Taylor Hall, Chico State University, California, 1980. Mural painting.
Photo Barcroft/Getty Images

1.52 Claudio Bravo, *Blue Package*, 1967. Oil on canvas, 6 ft 2⅝ in. × 4 ft 10⅝ in. (190 × 149.5 cm).
Courtesy Marlborough Gallery, New York. Photo © Christie's Images/Bridgeman Image

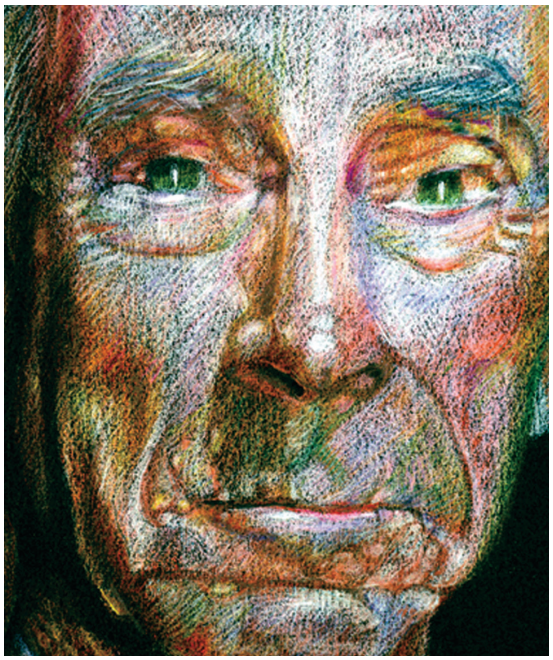
and thought-provoking. It was so popular that when Taylor Hall was demolished, the mural was re-created on a new Arts and Humanities building.

Combining Physical and Visual Texture

Each material has a distinctive physical texture, and each drawing method creates a distinctive visual texture. By combining physical and visual textures, we can unify a composition and add another layer of conceptual and compositional energy.

Blended graphite, pastel, or charcoal creates the smooth surface that is often favored for highly representational images. Claudio Bravo developed the visual textures in *Blue Package* (1.52) using pastel. By carefully drawing every fold, he created a convincing simulation of a three-dimensional object.

Cross-hatching creates a more active visual texture. Dugald Stermer constructed his portrait of mathematician Bertrand Russell (1.53) from a network of



1.53 Dugald Stermer, *Portrait of Bertrand Russell* (detail), for the *New York Times Book Review*, 2002. Colored pencil.

vigorous lines. The bumpy texture of the paper adds more energy to this lively drawing.

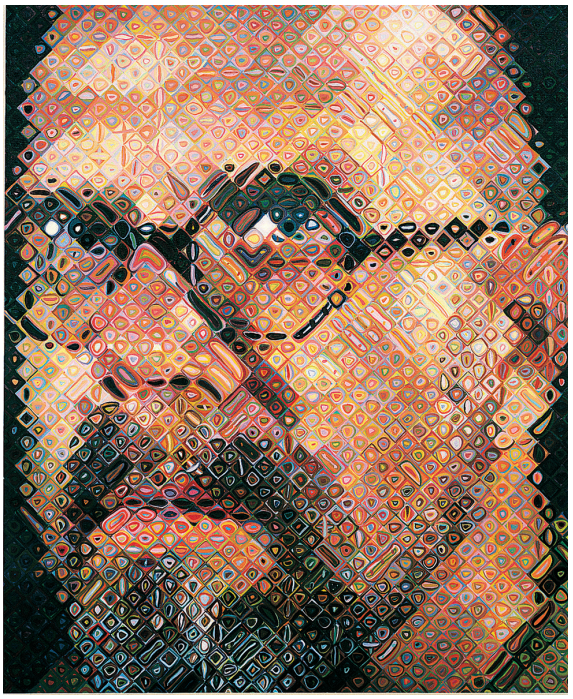
Anselm Kiefer combined physical and visual textures in *Wayland's Song (with Wing)* (1.54). In this myth, a metalsmith named Wayland is captured by the king of Sweden, then crippled and forced to create treasures on demand. In revenge, he murders the king's sons and makes drinking cups from their skulls. He then flees, using wings fashioned from metal sheets. By adding straw and a lead wing to the photographic base image, Kiefer was able to combine the illusionistic qualities of painting with the physical immediacy of sculpture.

Marks and Meanings

Every textural mark that we make can add to or subtract from the composition as a whole. When the texture is random or inappropriate, the composition becomes cluttered and confused. On the other hand, deliberate use of texture can enhance the illusion of space and increase compositional unity.

1.54 Anselm Kiefer, *Wayland's Song (with Wing)*, 1982. Oil, emulsion, straw, and photograph with lead wing, 110¼ × 149⅝ in. (280 × 380 cm).

1.55 Benjamin Marra, *Self-Portrait*, 1998.
Oil on canvas, 8½ × 11 in. (21.6 × 28 cm).
Courtesy of Benjamin Marra



1.56 Chuck Close, *Self-Portrait*, 1997. Oil on canvas, 8 ft 6 in. × 7 ft (2.59 × 2.13 m).
© Chuck Close. Photograph by Ellen Page Wilson. Courtesy of Pace Gallery, New York

For example, each brushstroke in Benjamin Marra's *Self-Portrait* (1.55) describes a different facet of the face. Just as a sculptor carves out a portrait in plaster, so Marra used bold brushstrokes to carve out this portrait in paint. There are no random marks. Using both visual and physical texture, Marra increased the painting's immediacy and dimensionality.

Chuck Close's *Self-Portrait* (1.56) offers a very different interpretation of the head. Working from a photograph, Close methodically reduced the face to a series of squares within a grid. He then painted circles, diamonds, and other simple shapes inside each square. The grid provides structure, while the loosely painted interior shapes create an unexpected invented texture.

In Lilian Garcia-Roig's *Water and Rock Flows* (1.57), the texture of oil paint serves three distinct purposes. First, it creates a physical texture, suggesting the ripples and eddies in the moving water. Second, it brings great

1.57 Lilian Garcia-Roig, *Water and Rock Flows*, 2010.
Oil on canvas, 48 × 48 in. (121.9 × 121.9 cm).
© Lilian Garcia-Roig. Private collection.
Courtesy of Valley House Gallery & Sculpture Garden, Dallas

energy to every painted shape: we feel the movement; we become mesmerized by the shifting and colorful patterns. Finally, we become connected to the artist herself. Often squeezing paint directly from the tube and onto the canvas, Garcia-Roig builds up vigorous layers of glistening color. As with the natural world, her paintings are both dazzling and highly tactile.

key questions

TEXTURE

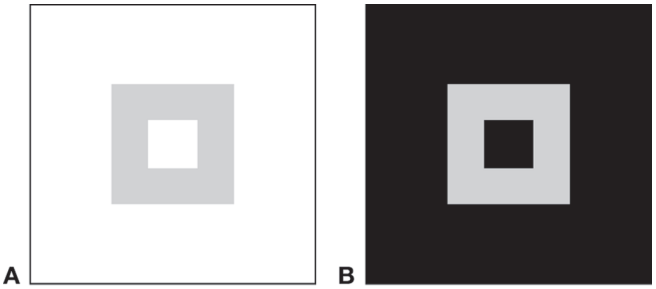
- What physical textures can you create with the materials you've chosen?
- What visual textures can you create with the materials you've chosen?
- Can the marks you make enhance the spatial illusion or increase compositional unity?
- How large can the marks become, and how loosely can you draw them?
- What happens to your design when you combine solid shapes and textured shapes?

VALUE

Value refers to the relative lightness or darkness of a surface. The word *relative* is significant. The lightness or darkness of a shape is largely determined by its surroundings. For example, on a white surface, a gray square seems stable and imposing (1.58A). The same gray square has less visual weight and seems luminous when it is surrounded by a black ground (1.58B). A **value scale** further demonstrates the importance of context (1.59). The solid gray line appears luminous when it is placed on a black background. As it crosses over the middle grays and into the white area, it seems to darken.

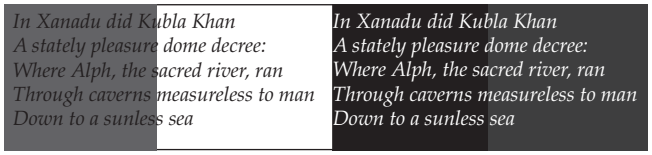
Contrast

Both communication and expression are affected by **value contrast**, or the amount of difference in values. High contrast tends to increase clarity and improve readability (1.60). Artists and designers often use low contrast for shapes of secondary importance or when the message is subtle. The same text can be dramatic or incoherent, depending on the amount of contrast.



1.58A–B Relative value.

1.59 Value scale.



1.60 Contrast affects readability.

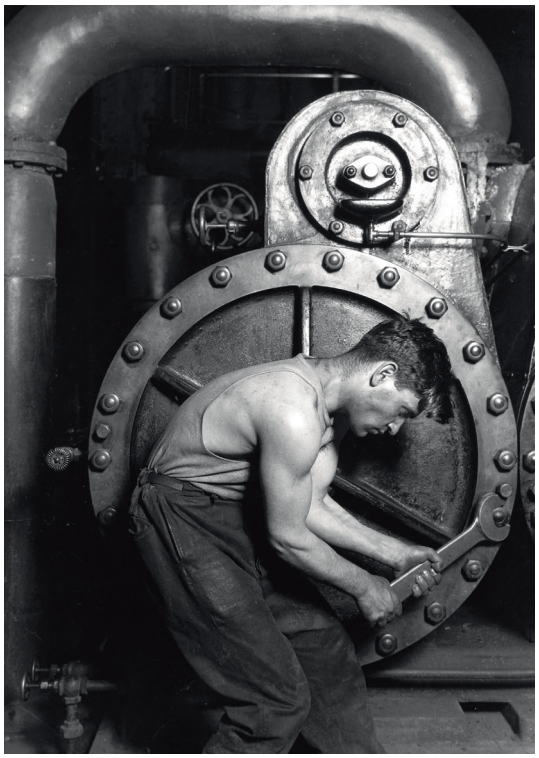
Photographers are especially aware of the importance of contrast. By using a filter, changing the print paper, or adjusting the image digitally, they can quickly modify contrast. High contrast gives Lewis Hine's *Powerhouse Mechanic* (1.61) a gritty immediacy. Each muscle and piece of machinery is clearly defined. By contrast, the city in Alfred Stieglitz's *The Terminal* (1.62) is quiet and atmospheric. This low-contrast photograph invites the viewer into a preindustrial world of horses and carriages.

Finally, value gradation can suggest a light source, create a sense of three-dimensionality, and enhance the illusion of space. Ray Burggraf's *Eternal Now* (1.63) demonstrates each of these effects.

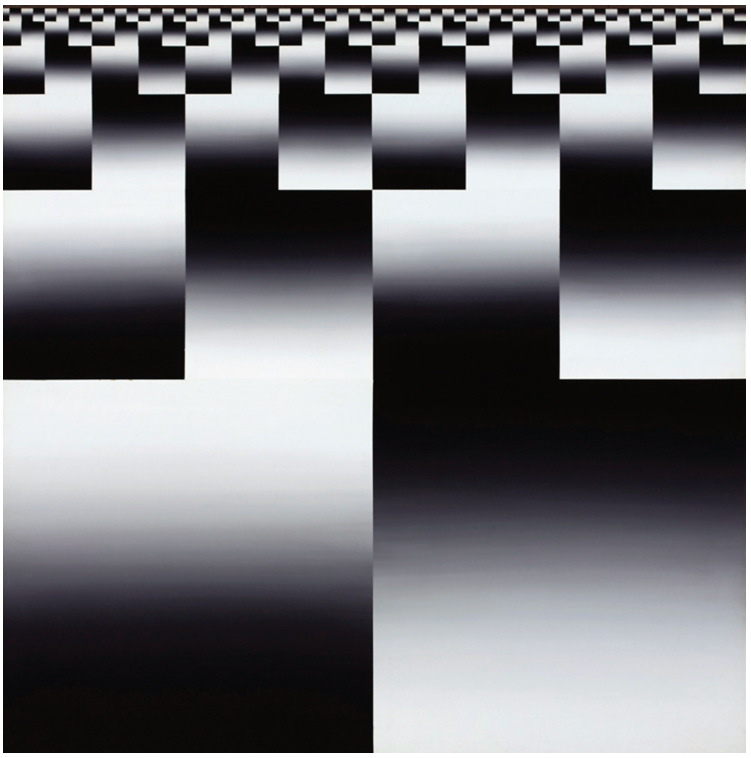
Value Distribution

Value distribution refers to the proportion and arrangement of lights and darks in a composition. Careful use of value distribution can increase emotional impact. A composition that is 80 percent black simply has a different "feel" from a composition that is 80 percent white.

Artists and designers often use values to create a sense of mystery or increase dramatic tension. For

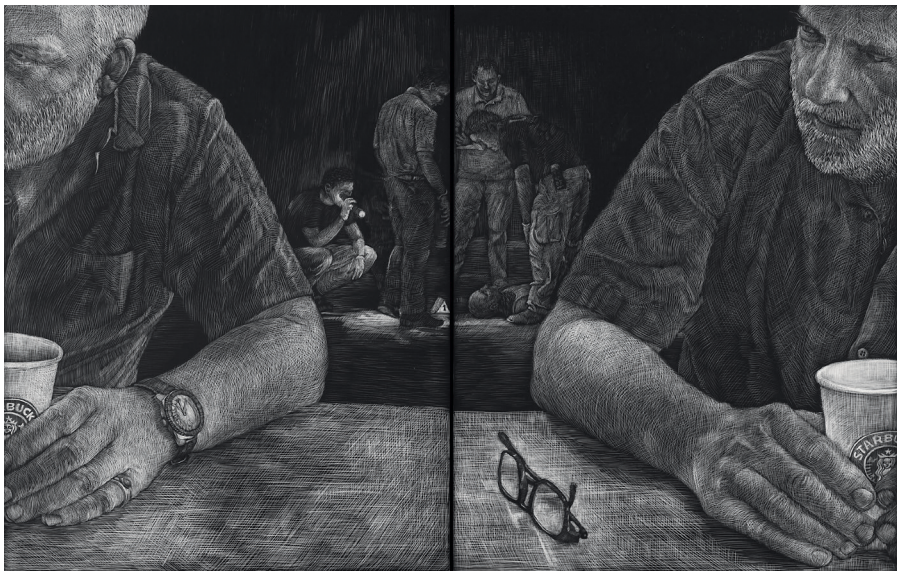


1.61 Lewis Hine, *Powerhouse Mechanic*, 1920. Photograph.
The National Archives



1.63 Ray Burggraf, *Eternal Now*, 1975. Brushed acrylic on canvas, 40 × 40 in. (101.6 × 101.6 cm).
© Ray Burggraf

1.62 Alfred Stieglitz, *The Terminal*, c. 1892. Chloride print, 3½ × 4½ in. (8.8 × 11.3 cm).
Courtesy of The Metropolitan Museum of Art/Gift of J. B. Neumann, 1958/Public Domain

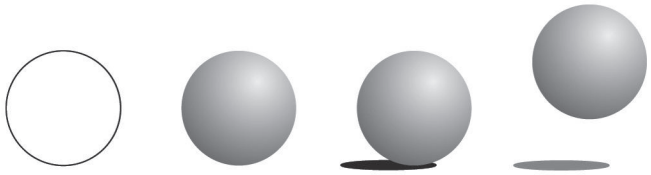


1.64 Alice Leora Briggs, *Ejecutado*, 2009. Sgraffito drawing on panel, 15 × 24 in. (38.1 × 61 cm).
© Alice Leora Briggs. Courtesy of Davidson Galleries, Seattle, WA

example, *Ejecutado* (1.64) by Alice Leora Briggs combines split images of a seated man in the foreground and a crime scene in the background. The man in the foreground creates a visual and conceptual frame for the tragic scene at the center of the composition. Who is the man drinking coffee? Why was the other man killed? The combination of visual clues and the dark values creates a dramatic mystery.

Lighter values tend to suggest openness, optimism, and clarity. The layout of Kevin Fletcher's *Leaving Wittenberg by Afternoon Train* (1.65) is similar to that of

1.65 Kevin G. Fletcher, *Leaving Wittenberg by Afternoon Train*, 2009. Monotype, 9¼ × 11¾ in. (23.5 × 29.8 cm).
© Kevin G. Fletcher. Courtesy of Davidson Galleries, Seattle, WA



1.66 From shape to volume through use of value.

1.67 Jan van Eyck, *Ghent Altarpiece* (closed), completed 1432. Oil on panel, approx. 11 ft 6 in. × 7 ft 7 in. (3.5 × 2.33 m).

Ejecutado. The composition is divided down the center by an architectural beam, and other architectural details frame the left and right sides. Train tracks lead us into the background. However, in this image we move from a dark foreground to a brightly lit background. Rather than being trapped in a tragedy, we are liberated by the journey ahead of us.

Value and Volume

When we use a full range of values, a two-dimensional shape can appear three-dimensional, or **volumetric**. Figure 1.66 shows the transformation of a circle into a sphere. We begin with a simple outline, then add the **attached shadows**, or values that directly define the basic form. The addition of a **cast shadow** in the third image grounds the sphere. In the fourth drawing, the separation between the shadow and the sphere creates a floating effect.

This transformation of shapes through value is so convincing that objects can appear to extend out from a two-dimensional surface. The earliest oil painters often used **grisaille**, or a gray underpainting, to create the illusion of three-dimensionality. They then added color, using transparent glazes or layers of paint. A detail from Jan van Eyck's *Ghent Altarpiece* (1.67) shows both the grisaille painting and the full-color painting. Van Eyck painted the two statues in the center using a range of grays and then added color to the kneeling figures on the right and left. Variations in value give all the figures a remarkable dimensionality.

1.68 Thomas Moran, *Noon-Day Rest in Marble Canyon*, from *Exploration of the Colorado River of the West*, by J. W. Powell, 1875. Wood engraving after an original sketch by Thomas Moran, 6½ × 4⅜ in. (16.5 × 11 cm).
Courtesy of History Colorado, ID#10027120

Value and Space

When combined in a composition, very dark, crisp shapes tend to advance spatially, and gray, blurry shapes tend to recede. For example, in Thomas Moran's *Noon-Day Rest in Marble Canyon* (1.68), the dark values in the foreground gradually fade until the cliffs in the background become gray and indistinct. This effect, called **atmospheric perspective**, is one of the simplest ways to create the illusion of space.

Chiaroscuro (literally, "light-dark") is another way to create the illusion of space. A primary light source is used to create six or more values. A dark background is added to increase contrast. In *Judith and Her Maidservant with the Head of Holofernes* by Artemisia Gentileschi (1.69), the highlighted areas are clearly delineated, whereas darker areas seem to dissolve into the background. The resulting image is as dramatic as a theatrical stage.

Value and Lighting

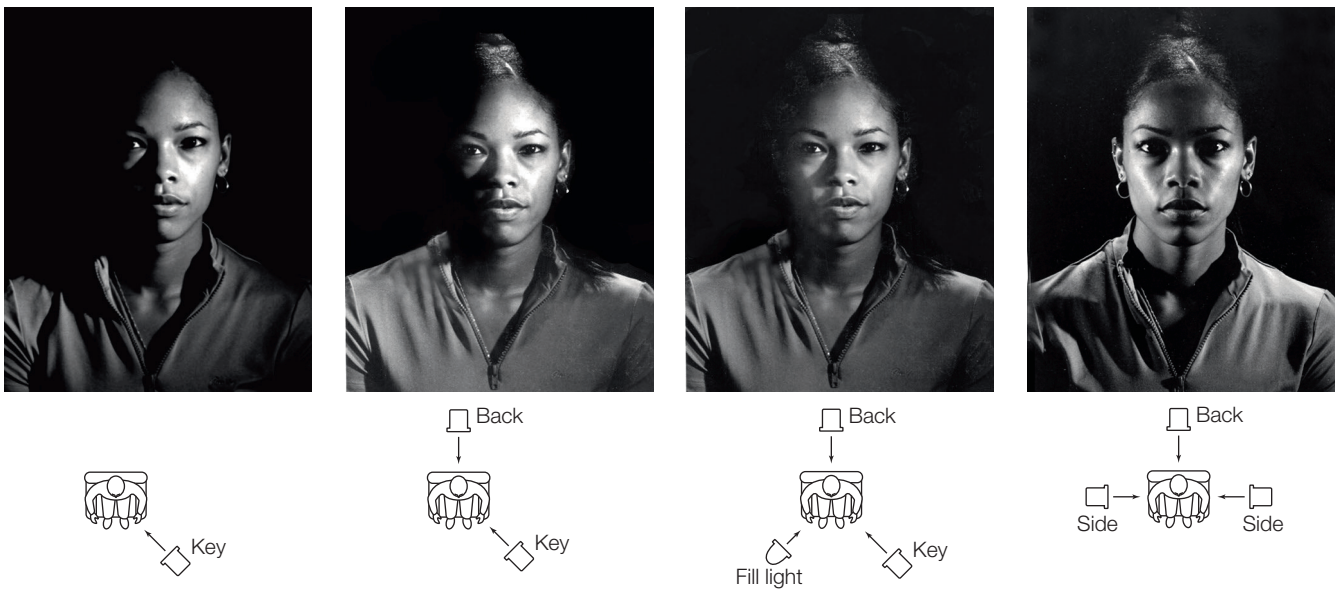
Filmmakers and set designers are especially aware of the expressive uses of value. Working with a wide range of lights, including sharply defined spotlights and more diffused floodlights, they can increase or decrease the illusion of space, emphasize an object or an action, and influence our emotional response to a character.

1.69 Artemisia Gentileschi, *Judith and Her Maidservant with the Head of Holofernes*, c. 1625. Oil on canvas, 72½ × 54¾ in. (1.84 × 1.42 m).
Gift of Mr. Leslie H. Green. Photograph © The Detroit Institute of Arts/The Bridgeman Art Library

Figure 1.70 shows four common forms of lighting. As described by Herbert Zettl in *Sight, Sound, Motion: Applied Media Aesthetics* (2004), a key light is the primary source of illumination. Placing this light at a 45-degree angle can enhance the illusion of space. Addition of a backlight separates the actor from the background and adds definition. When a fill light is added, the contrast between light and dark becomes less harsh, and the actor may appear less formidable. In theatrical performances, lighting designers often use powerful side lighting to increase drama while enhancing dimensionality.

Director Michael Curtiz used all these aspects of lighting expressively in the 1942 American classic film *Casablanca*. The lighting is fairly dark when we first enter Rick's Café Américain, the saloon where most of the action occurs. In this dark and mysterious place, a man will be shot, a seduction will be thwarted, and a romance will be rekindled.

The piano player, Sam, and the audience members closest to the stage are brightly lit as he sings an optimistic song (1.71A). The two villains in the film, Major Strasser and Captain Renault, are



1.70 John Veltri, Lighting Techniques, from *Sight, Sound, Motion: Applied Media Aesthetics* by Herbert Zettl, 3rd ed., 1999.
© John Veltri, EarthAlive Communications

1.71A ***Casablanca*** **still.** Sam and Rick in the bar.
Pictorial Press/Alamy Stock Photo

1.71B ***Casablanca*** **still.** Major Strasser and Captain Renault hatch a plot.
Collection Christophel/Alamy Stock Photo

1.71C ***Casablanca*** **still.** Ilsa tries to explain to Rick why she abandoned him in Paris.
Courtesy of Photofest

1.71D ***Casablanca*** **still.** Rick persuades Ilsa to escape with her husband.
United Archives GmbH/Alamy Stock Photo

often strongly side-lit (1.71B), which makes them appear more formidable and enhances the texture in their faces. By contrast, Curtiz used much softer light for the face of the heroine, Ilsa, who is emotionally and politically fragile.

Curtiz also used value and lighting to accentuate Ilsa's emotions throughout the film. When she tries to explain to Rick the reason she left him in Paris two years earlier, Ilsa wears a pure white dress and enters the darkened saloon like a virginal beam of light (1.71C). Later, when she visits Rick in his apartment, shadows cover her face, accentuating her conflicted emotions as she tries to decide whether to remain with her freedom-fighter husband, Victor, whom she idealizes, or return to Rick, whom she loves. In the final scene at the airport, diffused lighting again emphasizes Ilsa's vulnerability (1.71D). She and Victor disappear into the foggy night, escaping from Casablanca, while Rick and a reformed Captain Renault stroll away together to join the Foreign Legion.

key questions

VALUE

- What is the advantage of a wide value range? What is the advantage of a narrow value range? Which works better in your design?
- What happens when you invert the values—that is, the black areas become white and the white areas become black?
- Would your design benefit from a stronger illusion of space? If so, how can you use value to accomplish this?

summary

- The elements of two-dimensional design are point, line, shape, texture, value, and color.
- A point is a basic mark, such as a dot, a pixel, or a brushstroke. A focal point is the primary point of interest in a composition, while an array is a collection of points.
- Lines can contain, define, dissect, and connect. You can create line networks using hatching, cross-hatching, and cross-contours.
- A shape is created whenever an area is enclosed. The figure is the primary shape, while the ground, or negative shape, provides the surrounding context.
- When figure and ground shapes are equally strong, figure/ground reversal can occur.
- There are many types of shape, including rectilinear, curvilinear, geometric, organic, representational, nonrepresentational, and abstract. When gradated, shapes can appear three-dimensional.
- The surface quality of a two-dimensional shape or a three-dimensional volume is called *texture*. We can create visual texture through multiple marks, and use variations in the surface to create physical texture.
- Relative lightness or darkness in an artwork is called *value*. We can use value to create the illusion of space, suggest volume, shift compositional balance, and heighten emotion.

key terms

actual line
array
atmospheric perspective
attached shadow
calligraphic line
cast shadow
chiaroscuro
closure
collage
continuity
contour line
cross-contour
cross-hatching
curvilinear shape
direction
elements
engraving
figure/ground reversal
focal point
geometric shape
gesture drawing
gradation (shading)
grisaille
hatching
implied line
invented texture
line
negative shape (ground)
organic shape
organizational line
orientation
physical texture
point
positive shape (figure)
rectilinear shape
shape
stippling
texture
trompe l'oeil
value
value contrast
value distribution
value scale
visual texture
volume
volume summary
volumetric

chapter two

The Element of Color

Color immediately attracts attention. When presented with a collection of bottles filled with liquid in various colors, very young children group the objects by color rather than by size or shape. Color has great emotional power, and designers carefully choose a color palette that supports the mood of each project. An interior designer may use rose-red walls in a restaurant to increase emotional warmth, while using light blue walls in a day-care center to encourage calm.

Selecting the right colors can make or break a design. To assist their clients in project planning, the Neenah paper company produced a witty and informative brochure describing the effects of color (2.1). The company gave each color a personality as distinctive as an astrological sign. It then organized the colors in a booklet, creating an easy-to-use index of possibilities.

Although systems of this kind provide a shortcut to basic decision making, in this chapter we will see that color is an especially complex element. It defies easy formulas. We consider relationships between color and light, describe three major characteristics of color, explore harmony and disharmony, and analyze uses of color in various compositional contexts.

2.1 Brochure for Neenah Papers, 2009
Courtesy of Neenah Papers and Partners Design. Color Attributes courtesy of Dewey Color System®, deweycolorsystem.com