

About This Chapter



This chapter examines how visual components can be organized to create desired appearances and meanings.

Concepts and Terms in This Chapter

Composition

Harmony

Simplicity/Complexity

Order/Chaos

Attention/Hierarchy

Contrast

Rhythm/Sequencing

Repetition

Pattern

Proportions

Structure

Geometry/Ratios

5-1 (Previous page and above)
Amish Split-Bars Quilt,
Lancaster County, Pennsylvania, 1900
Designer Unknown

Even the simplest forms can exhibit thoughtful use of basic visual elements, characteristics, and interactions.

Defining Composition

Composing Visually

Composition refers to the arrangement of elements and characteristics within a defined area. This arrangement can be both visually pleasing but, more importantly, used to convey specific information and meaning.

Visual composition is similar to composition in other activities such as writing and music. In these activities we seek harmony. The word *harmony* has Greek origins (*harmos*: to join) and, in a visual context, it indicates a grouping of related components that make sense together. While harmony can involve some degree of discord or tension that attracts us, it is balanced by an overall appearance of continuity, of organized visual movement. A form that balances change with a level of consistency among its parts is often visually engaging and meaningful.

A form's composition can emphasize parts of information, reveal relationships among components, and guide interpretation. This can be done by making some aspects more dominant than others to create different levels of attention. Structure can also be used to create order and unity, and to guide meaning. These considerations can be addressed in a single composition or across several compositions that are seen together as a group.

Philosophies of Visual Organization

Simplicity and Complexity

"Less is More"¹

(circa 1947)

Mies Van der Rohe

"Less is a Bore"²

(circa 1966)

Robert Venturi

"More is different"³

(circa 1997)

Dr. Philip W. Anderson

The term *simplicity* usually refers to a form with a limited number of simple elements (figure 5-2), or a form that is organized in such a way that its message is unambiguous and easily understood.

Certain ideas or objects depicted in abstract, symbolic, or literal form require some degree of simplification. This is particularly evident in the design of symbols, such as those shown in chapter 2, where information is often more effectively understood if visually simplified. In such a context, simplification heightens relationships among parts of a form by reducing the number of parts used. Yet, when a form is visually simplified it can actually become conceptually complex and enriched. Hence, simplicity should not be construed as simplistic.

Simplicity has also served as an identifier of cultures such as the Shakers. Founded in Massachusetts in the 19th century, simplicity in their lifestyle and design was an expression of communal religious beliefs. And while simplicity has been a dominant theme in design for much of the twentieth century, recently its widespread use has been questioned. Technology allows increased manipulation of imagery and typography, and attitudes toward the role and meaning of ornamentation have changed as part of the cyclical nature of thinking.

The adage "less is more" has its place under certain conditions, but should not be taken as a mandate to eliminate ornamentation. Introducing complexity is not necessarily a deliberate effort to make something confusing. Complexity can reveal the richness and subtleties of an idea. The work in figure 5-3 appears visually complex even though its message seems clear. As with simplicity, complexity's desirability in a form is dependent on the context.

5-2

The A-Z Book, 1969

Thomas Ockerse

This book contains a series of die-cut shapes examining relationships among letters of the Roman alphabet. The adjacent pages reveal the letter V found in the letter M.



Pages 1, 2

Pages 3, 4

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"The living quality of an image is generated by the tension between the spatial forces; that is, by the struggle between the attraction and repulsion of the fields of these forces."⁴

Gyorgy Kepes

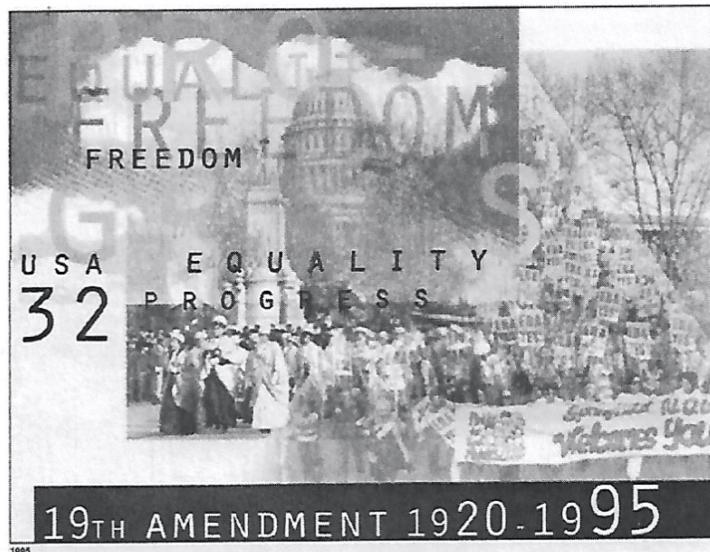
5-3
**U.S. Postal Stamp
Commemorating the
19th Amendment, 1995**
April Greiman

Seemingly chaotic and active forms are often structured through the alignment of common elements and characteristics such as colors, basic shapes, and type.

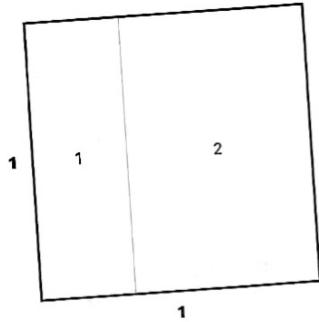
Order and Chaos

Order has long been a human concern, from the days of early Egypt to the present. Design, by most definitions, is an activity that involves or seeks some degree of order. For the most part, our needs are met through meaningful organization and not those chaotic in nature. Organization is a common tendency in our lives. We generally exhibit patterns of order over randomness in our daily activities. Order can bring clarity and result in a better understanding of purpose.

What defines chaos is open to interpretation as well as when it is appropriate. Many apparently chaotic and complex systems possess orderly structures and intent. Figure 5-3 is an active, chaotic composition, yet further examination reveals order based on aligned horizontal lines and merged areas of similar value. The balance between chaos and order suggests a progression of ideas and change, and reinforces the subject matter.



Ways of Finding Relationships



5-4
External and Internal Proportions

Determining a format and dividing it with reference to the material to be presented, is an early step in the creation of a message.

Proportions

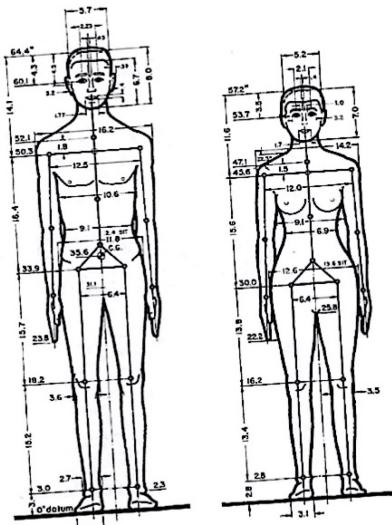
Proportions help describe the visual forms we see each day, from buildings to household objects. They also represent the nonvisual, such as the amount of time we work in a given day. Whether in visual or nonvisual form, proportions can be compared, measured, and analyzed.

In visual form, the term *proportion* refers to the size relationship between parts of a form. Width and height can be compared to determine proportions in a two-dimensional form. Such a comparison might examine the relationship between the form's external dimensions as well as its internal dimensions (figure 5-4). For example, the width and height of this page are external dimensions, while the width of this text column and the white space to the left are internal dimensions.

In addition to creating harmony, proportions can help us make sense of our place in the universe. To some, harmonious form suggests the expression of a higher order or that the universe is in order. Although proportions can make a form more visually inviting, they can also enhance functionality (figure 5-5) and the communication of meaning, and can be used to persuade or create a desired impression (figure 5-6).

5-5
Diagrams from The Measure of Man, 1955
Henry Dreyfuss Associates

These diagrams reveal the basic proportions of some human bodies. These, and others, have been used for the design of a variety of industrial products from chairs to automobiles.



we see each day, also represent the work in a given day. Proportions can be com-

to the size relationship. Height can be compared to the size of the form. The relationship between internal dimensions and height of this figure is the width of this text column.

As can help us make a harmonious form that the universe is form more visually unity (figure 5-5) and be used to persuade



5-6

Palette of Narmer, 3000 B.C.

The Palette of Narmer depicts a king who once controlled the region of present-day Egypt. Note the king's exaggerated proportions and size relative to his subjects.

5-7

Proportional Study, mid-fifteenth century Leonardo da Vinci

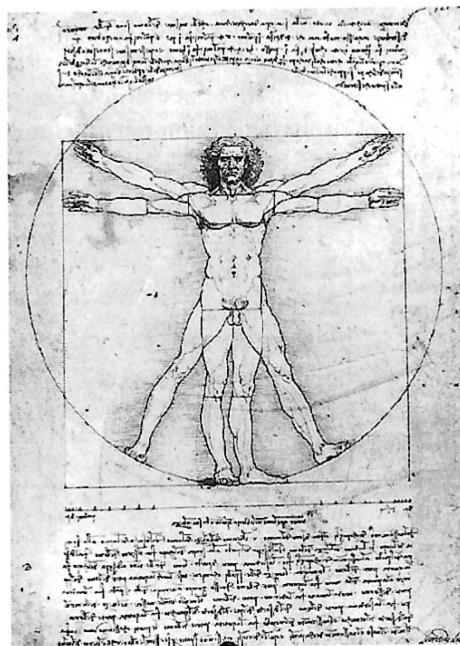
The figure's proportions are based on those described by Vitruvius as normal for an adult male.

Finding and Using Proportions

The first reference point in finding and understanding proportions is the human body. Your height (and what it allows you to see) and the length of your arms (and how far you can reach) are two continual factors that influence how you understand and interact with the things around you.

For centuries, the human body has served as the model for measuring and understanding the world. The fathom, which is the length of an average man's outstretched arms, was developed by the Greeks in 600 B.C. as a way of measuring distances. The metric system, based on units of ten (ten centimeters in a meter, ten meters in a kilometer, and so on), relates to our ten fingers.

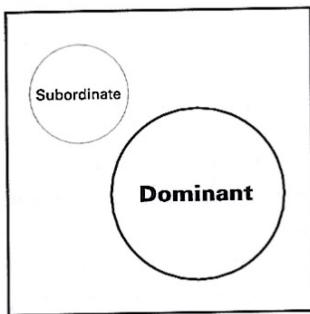
Perhaps the best-known study of human body proportions was done during the Renaissance by Leonardo da Vinci (Italian, 1452–1519), who examined and compared parts of the body in relation to basic geometric shapes. His studies sought to find a system of proportions usable for architecture and for the depiction of human form (figure 5-7).



* Focus on RULE OF 3rd

Ways of Directing Understanding

Attention and Hierarchy



5-8
Hierarchy through Size and Position

Although an element placed at the top of a composition can suggest greater importance relative to other elements, it may not be the first element viewed. Dominance and importance depends on a number of other variables, including size.

Capturing, maintaining, and focusing attention are important considerations in strengthening the appearance and meaning of a form. The choice and arrangement of components can lead our eye in a particular direction and keep it there or encourage it to move on.

Attention can be drawn through the use of hierarchy, in which some components or ideas stand out before others when arranged in dominant and subordinate areas. A dominant area is called the *focal point* (figure 5-8).

Hierarchy can make a composition more active and engaging, and aid the viewer in discerning which elements belong together. When some elements are presented over others, it is easier to understand the whole form and its function.

Research into how the human eye examines complex objects suggests that we are attracted primarily to elements in a composition we consider important and essential to understanding⁵ (figure 5-9). While such research can aid your ability to compose, it is important to note that scientific studies are generally conducted in controlled environments and that their outcomes are difficult to apply broadly. Many variables influence attention, including the physical environment in which a work is viewed or used, and one's cultural background, which may condition responses to shape and color.

5-9

Page from Eye Movements and Reading Orders, 1967
Dr. Alfred L. Yarbus

This time-lapse record of eye movement shows how we concentrate on the most informative and characteristic aspects of form.

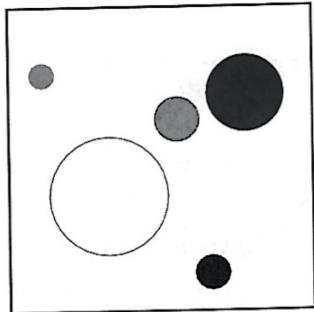


5-10
Emiliano Zapata,
Mauricio Lasansky

A focal point (the eye example) can control the character of a work

5-11
Order Form for Emilia Zapata
1997
Rudy Vanderlans

Viewing order and visual elements be directed by the use of visual elements. In this form, repeated and lines common alignment, define flexible sections, each own function.



5-12
Contrast
 Big/Small
 Light/Dark
 Close/Distant

Contrast

Attention and hierarchy are created through contrast, which refers to differences among elements and their degree of conflict or discord. We experience, desire, and create contrast daily for purposes of enrichment and identity as expressed in the clothes we wear. Contrast can also serve as an important tool of recognition as evidence by road signs whose color is generally in stark contrast to their surroundings. In the animal world, contrasts of movement, color, and pattern are an aid to survival as they often signal danger and initiate action.

Contrast can be achieved through opposing visual elements such as shape, direction, and color (figure 5-12). The interactions among contrasting elements are analogous to those in the physical realm. Although physical forces such as gravity are perceivable and thus more evident, visual forces are only observable.

We tend to favor compositions in which the parts are related in some way but also have differences, however subtle or pronounced. Contrast can attract and maintain our attention and move our eye to specific areas. It can reveal relationships and help us differentiate information. Organizing information according to contrast can also be a way of making qualitative judgments, as discussed in chapter 2.

5-13
Hanging Out at Carmine Street, 1996
 David Carson

Contrast can create active movement and reflect the subject matter. The placement of the dominant text defies the convention of a linear reading order used in Western cultures (top to bottom, left to right) to further its meaning.



5-14
Exercise in Contrast
 Emil Ruder

Changes in shape, size, and movement can create contrast. A typeface whose uniformity allows for unity and clear transmission.

5-15
The Church of the Nazarene
 Pueblo, New Mexico
 Laura Gilpin

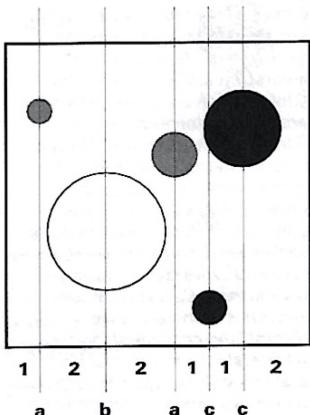
Contrast can create point and heightening of a composition.

5-18
Pages from Re-Design, essay t "Do Nothing,"
P. Scott Makela

The rhythm in lay pages seeks to he reading of a text the best design is design.

5-19
Two Hundred C Soup Cans, 196
Andy Warhol

Repetition can ch the meaning of a In this instance, a positional method commentary on n tion and the icons culture.



5-16

Rhythm

Rhythm can be created through the types of elements used (a, b, and c, each with a different value), their placement (1, 2), and at times, their association.

Creating and Organizing Multiple Forms

Rhythm

The natural environment provides an abundance of physical forms, patterns, and movements that establish rhythms. Since the beginning of recorded history, nature has influenced the creation of human-made rhythms. For example, the Nile's periodic flooding in ancient times inspired the creation of scales to mark flood levels and calendars to identify harvest times. Today, we continue to use nature's rhythms and movements—the Earth's revolution around the sun, the weather, the temperature—to regulate and plan our activities.

In two-dimensional design, rhythm is the movement from one idea, compositional area, or element to another. It is the result of hierarchy, contrast, and structure, and involves timing and spacing (figure 5-16). In music, time is manipulated through the pacing of components. To create an understandable and engaging rhythm in visual form, the spacing or intervals among elements becomes an important consideration.

The series of page spreads in figure 5-18 are related by idea and held together by symmetry, while the sizes and colors of the elements change in accordance with the pacing of the text.

By its nature, rhythm also involves repetition and can lead to the formation of patterns. Throughout history, patterns have served as decorative elements and as a means of conveying tradition or power. Patterns are created by grouping a single element or repeating multiple elements (figures 5-19 and 5-20).

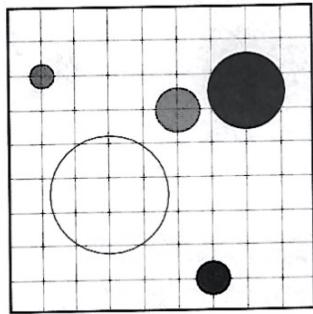
5-20
Blouse Pattern, Amuzgo, Guerre
Designer Unknown

Repetition of a giv tion can create a la in which the single assumes a new ap

5-17
Bar Code

The spacing between the vertical lines of a bar code not only conveys pricing information but also creates a simple visual rhythm.





5-21
Structure

Grids provide a visual reference to a composition's organizational structure.

"Design is the conscious effort to impose meaningful order."⁶

Victor Papanek

5-22
Oath of the Horatii, 1785
Jacques-Louis David

Structure can create order and heighten visual and conceptual relationships.

Ways of Creating Continuity

Structure

Structure refers to the internal parts of a form that support and define its appearance and contribute to conveying its message. Forms of all types have an underlying structure from those natural, such as the skeletal structure of our bodies to the internal framework of the buildings in the human-made environment. Structure holds components and ideas together, and is generally necessary to create meaning and a sense of continuity.

In a composition, structure can be revealed through elements, including those depicted literally, as in figure 5-22. The male figures create distinct triangles with their arms and legs, which contrasts with the stable vertical background and lamenting figures to the left. Taken together, this relationship heightens the work's symbolic meaning of men leaving for battle to the anguish of their loved ones.

Structure can also be revealed through the use of grids, which are (generally) evenly spaced vertical, horizontal, and/or diagonal lines (figure 5-21). The intersections of the lines result in quadrants where components can be aligned or placed in contrast. Grids are generally determined by the type, shape, size, and quantity of the corresponding material and are used extensively for organizing ideas and information. The simple, visible grid in figure 5-23 is both a visual element and a vehicle for creating hierarchy.



5-23
Poster for a Posters, 1959
Josef Müller

Grids can structure and create a sense of separate elements.

"The grid allows the individual..."

Josef Müller

5-24
Map of Washington, D.C., 1887
Designer Unknown

In addition to grids, lines can have other functions as well. They can have value on their own, for example, the primary legislative, judicial, and executive branches over other governments and the c...



5-25

Shell of the Nautilus Crab
Scott Camazine, Photographer

When compared numerically, the progressive compartments of the Nautilus shell exhibit the Fibonacci series.

1, 1, 2, 3, 5, 8, 13, 21 . . .

Fibonacci Series

Geometry and Ratios

The points, lines, and angles of geometry are useful tools for understanding the structure of natural and human-made forms. Geometry can simplify complex visual relationships and has long served as a descriptive device of our world. Through geometry, numerical ratios can be calculated and used to structure form.

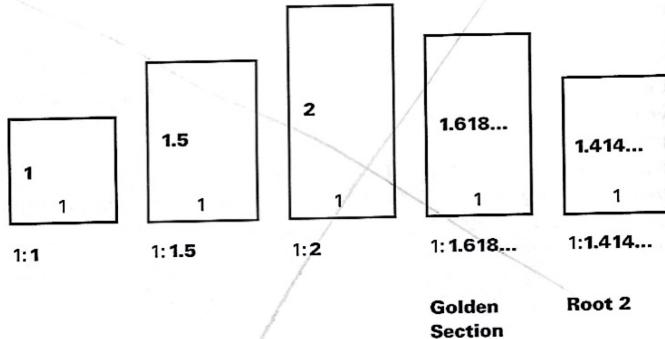
Perhaps the best-known ratio is that found in the Fibonacci series. This group of whole numbers is named after the thirteenth-century Italian mathematician Leonardo Fibonacci who advocated it as evidence of a rational order in nature. The numerical relationships in the Fibonacci series define the structure of numerous natural forms, including the nautilus shell (figure 5-25). Such patterns illustrate that nature, on occasion, has logical, geometric, and numerically identifiable structures.

Each number in the Fibonacci series is the sum of the two previous numbers. Any number in the series divided by the following is approximately 0.618, and any number divided by the previous is approximately 1.618. This ratio is often called the *golden section* and underlies geometric shapes used throughout history.

5-26

Ratios of Common Shapes

Numbers can describe proportional relationships among parts of a form or parts of several forms.



5-27

Golden Section

Ratio: 1:1.618 . . .

A square is divided by diagonals to a center point (a). From the center point (a) the length (a,b) is a radius. An arc is drawn from point (a) to point (b). A rectangle is drawn with the width of the radius and the height of the arc. The ratio of the longer side to the shorter side is 1:1.618 . . .

5-28

Cherto Ketl,

A.D. 1000

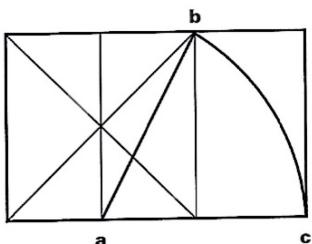
Russ Finley, P.

This prehistoric village housed people in rooms of various sizes and shapes which followed golden section proportions.⁹

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5-27
Golden Section
Ratio: 1:1.618 ...

A square is divided to find the center point (a), from which length (a,b) is found. From point (a) the length is swung as an arc to point (c) to create a rectangle of golden section proportions.

The Golden Section

Perhaps the most historically significant use of geometry in the design of usable form is the *golden section* (also known as the *golden mean* or *golden rectangle*) (figure 5-27). The proportional relationship of the golden section has been applied both intentionally and unintentionally in two- and three-dimensional design. Notable intentional examples include the paintings of Barnett Newman, architecture of ancient Rome, and Cherto Ketl (figure 5-28), although in this instance it is unclear if the ratio was derived geometrically.

The golden section occurs in a variety of natural forms and is considered visually pleasing to a variety of cultures. However, some psychological studies suggest that, under controlled conditions, the rectangle is not preferred over other proportions.⁸ Hence, while many common objects, such as credit cards and driver's licenses, approach golden section proportions, the question remains whether the golden section is pleasing in and of itself or pleasing because we are accustomed to its frequent use.

5-28
Cherto Ketl, New Mexico,
A.D. 1000
Russ Finley, Photographer

This prehistoric Pueblo Indian village housed more than 1,000 people in rooms of various sizes and shapes, most of which followed golden section proportions.⁹

