

## Vocabulary

sculpture  
fine art  
applied art

# Three-Dimensional Media

**H**ave you ever taken a lump of clay and formed it into a bowl or an animal? If so, you were working with a three-dimensional medium. These media make solid forms that have height, width, and depth.

## Sculpture

**Sculpture** is a *three-dimensional work of art*. Sculpture is art that is made to occupy space. This is one way in which sculpture is different from other kinds of art. Although objects in a drawing or painting can look quite real, the work is flat, or two-dimensional. Artists who create sculpture are called sculptors.

### The Media of Sculpture

Like other artists, sculptors use a wide variety of media in their work. Sculpting media include clay, glass, plastics, wood, stone, and metal. No matter what medium is used, a sculpture will be one of two types: sculpture in the round or relief sculpture.

► **FIGURE 3.11** How do the unusual colors and materials affect the expressive quality of this sculpture?

Luis Jimenez. *Vaquero*. Modeled 1980, cast 1990. Fiberglass and epoxy. Height: 5 m (16'6"). The National Museum of American Art, Smithsonian Institution, Washington, D.C. © Luis Jimenez/Artists Rights Society (ARS), New York.



- **Sculpture in the round.** This type of sculpture is surrounded *on all sides* by space. Another name for sculpture in the round is *freestanding* sculpture. You can walk around sculpture in the round or turn it over in your hands to see all sides. Sculptures in the round can be realistic representations of people or objects (**Figure 3.11**). Not all freestanding sculptures have recognizable subjects, however. (See Figure 5.6 on page 101).
- **Relief sculpture.** This type of sculpture projects into space from a flat background. Relief sculptures are designed to be viewed only from one side. **Figure 3.12** shows an example of a relief sculpture attached to a smooth, gently-rounded surface. You cannot see the back of the figure. The figure protrudes out into space from the smooth surface of the vase.

### Sculpting Techniques

In addition to a wide array of media, sculptors use a variety of processes. The processes include modeling, carving, casting, and assembly.



▲ **FIGURE 3.12** Al Qoyawayma adds an architectural quality to his pottery by using relief elements that are forced from inside the pottery wall. He then carves details into the raised relief work.

Al Qoyawayma (Hopi). *Blanketed Figure Vase*. c. 1980. Clay pottery. Height: 27.9 cm (11").

- **Modeling.** In this process, a soft, pliable material is built up and shaped. Media such as clay, wax, and plaster are used in modeling. Because the sculptor gradually adds more material to build a form, modeling is referred to as an *additive* process.
- **Carving.** In carving, the sculptor cuts, chips, or drills from a solid mass of material to create a sculpture. Material is removed until the sculpture is completed. Carving is therefore called a *subtractive* process. Wood and stone are the most common carving media.
- **Casting.** In casting, molten metal or another substance is poured into a mold and allowed to harden. The artist duplicates a form originally molded with clay, wax, or plaster using a more permanent material. Just as in printmaking, an edition of sculptures can be made from the same

mold. Once the edition is complete, the mold is destroyed. This prevents the mold from being used again and safeguards the monetary value of the sculptures that were originally cast.

- **Assembling.** In this process, also called *constructing*, a variety of different materials are gathered and joined together to make a sculpture. One assembly process involves welding metal, but media can be glued, sewn, or otherwise fitted together. Assembling is sometimes used along with other sculpting processes. A combination of casting and assembling was used to create *Zaga* (**Figure 3.13**).



▲ **FIGURE 3.13** Graves collected natural objects and cast them in bronze at a metal foundry. She then selected certain cast objects from her collection of thousands of objects and assembled them to make her sculpture.

Nancy Graves. *Zaga*. 1983. Cast bronze with polychrome chemical patination. 182.9 × 124.5 × 81.3 cm (72 × 49 × 32"). The Nelson-Atkins Museum of Art, Kansas City, Missouri. Gift of the Friends of Art (F84-27). © Nancy Graves Foundation/Licensed by VAGA, New York, NY.

## Crafts

Before machines were invented, people made everything by hand. Today, artists are still creating one-of-a-kind items. Some objects are created for practical use, and others are made purely for decorative purposes. *Art made to be experienced visually* is called **fine art**. *Art made to be functional as well as visually pleasing* is called **applied art**. Today the distinction between fine art and applied art is fading.

Artists are currently creating both functional and decorative craft objects. Weavings are made from natural wool, linen, silk, cotton, and manufactured fibers. Quilts are stitched from fine fabrics to be hung on the wall like paintings. Baskets are woven from natural materials such as reeds and wood slats (**Figure 3.14**), as well as manufactured fibers. Pottery is made with clay from

the earth. Handmade glass objects are formed by forcing air through a tube to shape globs of melted glass. Jewelry is crafted using expensive materials such as precious stones and gold, but it can also be made using paper. As wonderful as technology has become, we still appreciate having an object that is one-of-a-kind and made by hand.

### The Media of Crafts

The most commonly used craft media are clay, glass, wood, fiber, and metal. Clay and glass can be used to make plates and cups, vases, and jars. Wood can be used to make furniture or containers. Fiber is used to weave cloth and to make baskets. Metal is used to make utensils and jewelry.

Each craft contains an almost unlimited number of choices. An artist using clay can choose stoneware, earthenware, or porcelain. A weaver can select natural

► **FIGURE 3.14** Imagine the skill it took to make this basket and lid perfectly round and to make each twist of the warp just the right size to create points in proportion to the shape of the basket. Notice that the points are smaller at the top and bottom and larger near the center.

Edith Bondie. *Porkypine Basket*.  
c. 1975. Wood. 20 × 21.6 × 21.6 cm  
(7<sup>7</sup>/<sub>8</sub> × 8<sup>1</sup>/<sub>2</sub> × 8<sup>1</sup>/<sub>2</sub>" ). The National  
Museum of American Art, Smithsonian  
Institution, Washington, D.C.





► **FIGURE 3.15** This settee reminds us of an Asante stool from Africa because it incorporates animal totem forms into its structure.

Judy Kensley McKie. *Monkey Settee*. 1995. Walnut and bronze. 90.2 × 182.2 × 61 cm (35½ × 71¾ × 24"). Renwick Gallery, The National Museum of American Art, Smithsonian Institution, Washington, D.C.

fibers or synthetic fibers. A woodworker can choose among oak, ash, mahogany, rosewood, ebony, cedar, and pine. What media were used to create **Figure 3.15**?

## The Processes of Crafts

The techniques and processes a craft artist uses depends on the media selected. Clay, for example, can be modeled, carved, and assembled. It can also be *thrown* on a potter's wheel. Clay is finished by firing it in a *kiln*, a furnace that reaches high temperatures.

Glass can be mold-made or blown. Blown glass requires a process in which the artist, using special tools, blows air into molten glass in order to shape it.

Wood is worked using techniques such as carving and assembling, turning, and bending. In turning, a piece of wood is rotated on a machine called a lathe. The

machine may have a fixed tool that shapes the piece, or the artist may use a special tool. Bending is another shaping process. A piece of wood is soaked in water or another liquid to make it pliable. Then it is slowly manipulated into place.

Fiber can be woven into cloth or baskets. It can be embroidered, sewn, or quilted. Metal can be shaped in molds or it can be cut with special shears. Pliable metals can be hammered or filed into shape. Pieces can be assembled by linking them together or by soldering them together. Soldering is a process using a handheld tool called a soldering iron that melts small areas of the metal. When the metal cools, the pieces are joined. Assembling larger pieces of metal, a process called welding, requires a larger, more powerful tool with an open flame.

# Architecture

Of all the arts, architecture has the greatest impact on our daily lives. The quality of the architecture we use for shelter, for gatherings, and for worship affects the quality of our lives. Architecture is the planning and creation of buildings. Because a well-designed building is a shelter as well as a work of art, architecture is considered both an applied art and a fine art. An artist who works in the field of architecture is an architect. To be certified, an architect studies engineering because a structure must be designed to hold its own weight and withstand the physical forces placed on it. An architect also studies the visual arts in order to create buildings that are well-proportioned and pleasing to the eye. Architects

design for individuals as well as for the public. The needs of each group must be considered and met before a building can be called a success.

## The Media of Architecture

From the earliest times people have been creating shelters from materials found in their natural environment. Huts constructed from sticks and bark were covered with mud. Nomadic people constructed movable shelters from wood poles and covered them with animal skins. In the north, ice was cut and formed to make shelters. In the tropics, leaves and grasses were woven together. Gradually, people developed skills to make better use of available materials for permanent structures that were used for gathering as well as shelter. People learned to make bricks by firing clay to

### Activity

### Redesigning a Familiar Building

**Demonstrating Effective Use of Art Media and Tools in Design.** Architects are often hired to renovate an old structure. Look for a building in your community that you would like to see improved. Study it by making sketches from different points of view. Identify and list in your sketchbook the media that were used in the construction of the building you have selected. Think about the media you have just studied. List some that would harmonize with the surrounding buildings and the environment. Using pencil, draw one face of the building. Include the existing doors and windows. Then redesign the look of that side using the media that you believe will improve the look of the building. Use watercolors to indicate the colors of the new construction media.

**Computer Option.** Use a computer application to redesign the façade of a building in your community. Choose the Grids and Rulers option to guide your drawing so you can maintain scale and proportion. Consider how you can create harmony by repeating the materials, colors, or architectural features of other buildings in your community. Begin by drawing the front view. Hold down the Shift key to draw straight lines or restrict shapes. Use the copy and paste functions to make duplicates of features such as doors and windows. Save and title the line drawing. Then use your choice of brushes, textures, and gradients to simulate natural materials. Use the Save As option to retile and save. Print and display your work.

make it hard. They stacked the bricks to build walls. Stonecutters develop methods for cutting stone so smoothly that one could be stacked on top of the next without anything to hold them in place (**Figure 3.16**). Others learned how to balance one long stone on top of two posts and developed the post-and-lintel method of construction. Today this is called post-and-beam construction because architects use wood or steel beams instead of stone lintels.

Later, architects learned to form an arch with stone. The arch carried the weight of walls and roofs without buckling. Arches led to vaults, or arched roofs that connect walls. Vaulted halls enabled architects to create more open space. A dome is a round roof, as if an

arch had been extended into a full circle. Using more advanced construction techniques architects developed a pointed stone arch and supported it with buttresses. This allowed large openings to be made in the walls that were filled with stained-glass windows.

Wood was always a popular material, because it was plentiful. Balloon framing allowed builders to use heavy beams of wood to support thin walls. The truss supported a sloped roof. This technique is still being used today.

Technology has given us steel and reinforced concrete. Steel frames enabled us to cover the outside of skyscrapers with glass. The development of new materials has not eliminated the use of the older materials. New ways of



◀ **FIGURE 3.16** The builders of Tiwanaku in present-day Bolivia were excellent stone masons. They cut the stones to fit together so perfectly that the buildings have survived to this day without any mortar to hold the stones in place.

David Borsky. Wall from the Sunken Courtyard of Tiwanaku, Bolivia. A.D. 700. Photograph. Courtesy of the artist.

using them are always being developed. When Louis Sullivan built the Wainwright Building (**Figure 3.17**), he first created a large frame, or cage, made with steel beams. To cover the frame he used brick, which blended in with the surrounding buildings.

An architect is concerned with the environment into which the structure will be placed as well as the purpose of the building. The success of a building is the combination of the right media with good design. The Guggenheim Museum in Bilbao, Spain, by American architect Frank Gehry (Figure 14.1, page 388) is made of limestone, titanium, steel, and

glass. The straight limestone blocks contrast with curved and bent titanium panels giving the building the look of a huge abstract sculpture.



### Check Your Understanding

1. What are the two main types of sculpture?
2. What are the four basic sculpting methods?
3. Define *crafts*. Name three categories of functional crafts.
4. Define *architecture*.



► **FIGURE 3.17** This skyscraper echoes its internal steel frame in its exterior design. Sullivan emphasized the height of the skyscraper by stressing the vertical lines that move the viewer's eyes upward, and underplaying the horizontal elements in the window area.

Louis Sullivan. *Wainwright Building*. St. Louis, Missouri. 1890–91.