UNIT
8

LIGHT and SHADOW

Lesson 1
SENSORY PROPERTIES OF LIGHT and SHADOW
HOW MASTERS USED LIGHT and SHADOW
GUIDED PRACTICE SHEETS

Lesson 2
EXPRESSIVE PROPERTIES OF LIGHT and SHADOW
GUIDED PRACTICE SHEETS

Lesson 3
A HISTORICAL LOOK AT LIGHT and SHADOW
GUIDED PRACTICE SHEETS
CONCEPT: Objects in the path of light have a light side, a shadow side, and a cast shadow.

LIGHT AND SHADOW SCALE

The scale below shows various degrees of light and shadow. The first illustration portrays a strong sense of light and shadow. It clearly shows the cube with a light side, a shadow side, and a cast shadow. In the following illustrations, the light gradually weakens until, in the last illustration, no light side, shadow side, or cast shadow is present. When these aspects are rendered accurately on an object, the feeling of form and depth are strengthened. Without these aspects, the picture can appear flat.

STRONG APPEARANCE OF LIGHT

WEAK APPEARANCE OF LIGHT
LIGHT MAKES A BIG DIFFERENCE!

1. Light is an important aspect in the universe and it greatly affects all things on earth. Physically, the light from the sun is vital for our existence. Visually, light on objects helps create the illusion of form and depth.

Drawing objects with a light and shadow side is fantastic! Stay tuned for more.
THREE ASPECTS OF LIGHT

2. When light strikes an object, the object has three major aspects: a light side, a shadow side, and a cast shadow.

LIGHT SIDE

SHADOW SIDE

CAST SHADOW

Generally, the light side of an object has the lightest value, the shadow side is darker than the light side, and the cast shadow typically is the darkest value. In specific lighting situations, the values on an object may vary from this. The important thing is to record the values as accurately as possible.
3. Rendering a light side, a shadow side, and a cast shadow on simple forms is the foundation for adding light and shadow to all other kinds of forms.
4. Depicting light on a compound form is a matter of rendering each part with a light side, a shadow side, and a cast shadow.
5. A complex form can be drawn with a light side, a shadow side, and a cast shadow by rendering each part individually. When each form is seen in its simplest form, adding a light and shadow side becomes easier.
LIGHT ON COMPLEX FORMS

Remember, complex objects are made up of many smaller forms. Rendering each part accurately can help give the illusion of light and enhance the appearance of form.

AFTER RAPHAEL
6. Each object has its own value. This inherent value is called local value. Light does not change the local value of an object. When light strikes either a light or a dark object, each will have a light side and a shadow side; the light object remains light and the dark object remains dark.

Notice how the light affects the local value of the two cubes.
LIGHT AND LOCAL VALUES

Notice the objects in the illustration below and how light affects their local value. It is important that an artist notice these kinds of value differences when rendering objects from nature.
7. Objects in the path of light cast a shadow.

8. Cast shadows are on the opposite side of the light source. When the sun is in the south, the cast shadows point in the opposite direction (north). When the sun is in the west, the cast shadows point in the opposite direction (east).
THE DIRECTION AND ANGLE OF THE LIGHT

9. A cast shadow is the result of the direction and angle of the light.

The direction of the light is the same direction in which the cast shadow points. A line from the base (foot) of the object to the tip (head) of the cast shadow indicates the direction of the light.

DIRECTION OF THE LIGHT

ANGLE OF THE LIGHT

The angle of the light is determined by the height of the light source. When the light source is high, the angle is steep (closer to vertical) and the cast shadow is shorter; when the light source is low, the angle is more horizontal and the cast shadow is longer.
10. How much we see of the light side and shadow side of an object depends on where we are located in relation to the object and the location of the light source.
CAST SHADOWS AND THE TIME OF DAY

11. Cast shadows can help tell the time of day. When cast shadows are long, the sun's position is low in the sky and the time will be either early morning or before sunset. When cast shadows are short, the sun's position is high in the sky and the time will be during the middle of the day (such as at noon).
12. The nearness of the light source affects the appearance of the cast shadow. A light source that is a great distance from objects (such as the sun) will cast a shadow that is parallel. (When the object has a consistent width, the cast shadow will be the same width in the distance as it is at the base of the object.) When a light source is near to objects, it will cast a radiating shadow. (When the object has a consistent width, the shadow will be larger in the distance than at the base of the object.)
13. Cast shadows help define the terrain and contour of objects.

When a cast shadow falls on a surface that changes direction, the cast shadow follows the direction of the surface.

The cast shadows help define the appearance of the wall and the form of the steps in the illustration above.

Notice how the cast shadows defines the contour of the ground in the picture at the left.
DETACHED CAST SHADOWS

14. A cast shadow appears at the base of the object casting it. When an object is flying, floating, or suspended in the air, the cast shadow is detached from the object.

Notice the two spheres in the illustration to the right. One is suspended in the air, and the other is resting on the surface of the ground.

Notice the detached cast shadow in the picture below.
La Tour was very interested in painting picture with a single light source. He was one of only a few artists who created beautiful pictures portraying minimal light. Notice how he has treated the light on each of the figures in the picture. With the candle in the middle of the picture he has been careful to paint the light side and shadow side correctly as well as the cast shadows.

GENERAL INFORMATION

*St. Joseph the Carpenter* by Georges de La Tour (Jorg duh Lah-TOUR) 1593-1652

Georges de La Tour worked all of his life in Lorraine, which is a province of France today. He painted religious and everyday subjects in a style (Baroque) that stems from Caravaggio and Utrecht. In his later works he adopted a form of indirect lighting from a candle or other concealed source of light.

HISTORY

Born in 1593, La Tour was the son of a baker in Vic-sur-Seille, a small town under the jurisdiction of the Bishop of Metz. His name appears in historical records very rarely, and very little is said about him. By 1617 he was recorded as a painter in Vic, when he was married to the wealthy Diane LeNerf, whose family lived at nearby Luneville in the Duchy of Lorraine. In 1620 La Tour moved to his wife’s hometown, where he remained for the rest of his life. Little is known of La Tour’s training. It is probably that he was largely self-taught as a young man but also studied the works of other painters such as Caravaggio and Utrecht. Little more is known of his life than that he worked for the Duke of Lorraine during the plague and war years 1631 through 1632 and rose to become painter to the king of France. He died in 1652 and was forgotten shortly thereafter. His name was lost for over two-hundred years, until 1863, and no paintings were attached to his name until 1915, when nine had been discovered. His works were exhibited in 1934 and again in 1972. Today forty paintings have been accredited to him.

STYLE AND WORKS

La Tour is best known as painter of night scenes, usually having a single candle as a source of light. The figures, such as in St. Joseph, stand out calm and dignified from the dark background. The light falls in concentrated shafts upon their faces and hands. One of the reasons La Tour is respected so much today is that he combined a down-to-earth, analytical approach with a lofty indifference—which gives his pictures great impact. Adding to the impact is the size of his works. Most of his pictures are life-size, which makes them seem monumental.
GENERAL INFORMATION

_Boy With A Tire_ by Hughie Lee-Smith 1915-

Hughie Lee-Smith was born in Eustis, Florida. He attended school in Cleveland, Ohio, and graduated from the Cleveland School of Art with high honors. He also received a grant for postgraduate study. World War II began and he enlisted in the navy. During his service, he painted a series entitled "The History of the Negro in the United States Navy." After leaving the navy, he returned to Wayne State University and graduated in 1953 with a bachelor of arts degree. He has won many awards for his paintings and become one of the most prominent African American artists in the United States. He was elected a member of the National Academy of Design in 1967 and has been an instructor and the head of the Department of Drawing and Painting at Claflin University.

STYLE AND WORKS

Lee-Smith is best known for his paintings of old, dying neighborhoods. He paints the run-down buildings, vacant lots, and lonely streets. Often he includes people, but usually only one or two. They stand alone, staring into space, sad and lonely. The details of the old setting are carefully painted. Such details as wire, pavement or dirt streets, sidewalks, and crumbling plaster on the walls appear real. The colors are usually in a high key and give the setting a very quiet feeling.

Lee-Smith has used a more conventional use of light in his picture. He has also been careful to draw the appearance of light and shadow accurately. It is mostly a picture that uses cast shadows to create the appearance of light. The illustrations below show how he has used a knowledge of the direction and angle of the light to accurately draw the cast shadow and determine the proper location of light and shadow sides. The figure is seen as if the light is shining directly toward him. There is not much of a shadow side seen in the picture.
Learning to draw objects that have the appearance of light is important in making them look realistic. This skill is one of the most important in the field of art. Render each of the following examples with a light side, a shadow side, and a cast shadow. Use the direction and angle of the light as indicated in each box.
Render the objects in the boxes with a light side, shadow side, and cast shadow. Correctly draw the cast shadow falling on the other objects. Use the directions and angle indicated in each box.
EXPRESSIVE PROPERTIES OF
LIGHT and SHADOW

CONCEPT: Light and shadow have expressive potential and can portray ideas, moods, feelings, and values. Understanding the expressive properties of light and shadow can help to evaluate and appreciate works of art.
EXPRESSIVE PROPERTIES OF LIGHT AND SHADOW

NO LIGHT AND SHADOW
- FLATNESS / Sometimes we see objects with no light and shadow. Objects in this lighting situation can appear flattened by the lack of light and have a two-dimensional appearance. This condition could suggest such things as flatness, non-dimensionality, weakness, blandness, etc.

LOCAL VALUES ONLY
- VISIBLE / Objects rendered with local values but not having a light side or shadow side can suggest things such as clear, visible, distinct, obvious, plain, candid, straightforward, etc.

DIM LIGHT
- MYSTERIOUS / Dim light makes it hard to discern objects clearly. Dim light may be associated with such things as mystery, secret, hidden, or concealed.
- FOGGY / Sometimes objects in this condition may appear fuzzy, unclear, smoky, or foggy.

HIGH CONTRAST
- BRIGHT / Sometimes the lighting situation may be high contrast. Objects in this condition may appear stark, severe, glaring, bright, harsh, intense, etc.

STRONG APPEARANCE OF LIGHT AND SHADOW
- REALITY / Objects with a strong light and shadow may appear three-dimensional and can suggest things such as reality, tangible, true, concrete, having space and depth, as things really are, etc.
Select a painting by a master and describe its contents by completing the sentences below. Be as accurate as you can. Write statements that are factual and descriptive. Additional comments may be written on the back of the paper.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>ANALYSIS</th>
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<tbody>
<tr>
<td>People and objects</td>
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<td>Shape</td>
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<td>Space</td>
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<td>Size &amp; Proportion</td>
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<tr>
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<tr>
<td>Light &amp; Shadow</td>
<td>Light &amp; Shadow</td>
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</tbody>
</table>

**INTERPRETATION**

Describe the effect the elements have in the picture.

**JUDGMENT**

Make a judgment of the artwork.
Examine the two pictures illustrated above. If both artists intended to portray a feeling of hope and enlightenment in their picture, which one do you feel is more successful? Circle the letter on the first line below and explain your answer in the space provided. Additional comments may be written on the back of the paper.

Picture A. Picture B.
A HISTORICAL LOOK AT LIGHT and SHADOW

CONCEPT: Artists in each major art period used light and shadow in their own way. How light and shadow have been used in an artwork can help identify a specific period of time, culture, or artistic style.
Most artists from ancient civilizations did not draw or paint pictures that showed the effect of light on objects. The surviving art of the Egyptians, Sumerians, Assyrians, Persians, and Minoans does not show objects having a light side, a shadow side, or a cast shadow.

Etruscan, *Two Dancers*, c. 480–470 B.C.

*Burial chamber door of Sen-metjem*, c. 1570–1085 B.C.

Cretan, *The Toreador Fresco*, c. 1500 B.C.
ROMAN \ FIRST USE OF LIGHT • The Romans were some of the first whose paintings show the effects of light on objects. A wall painting from Herculaneum shows some peaches and a glass jar. The peaches have a light side, shadow side, and cast shadow; the glass jar shows a light. Roman artists who painted pictures such as this one probably felt that adding the effects of light could help make objects appear more realistic; however they lacked a more complete understanding regarding the laws of light. Cast shadows tend to be inconsistent, and it is difficult to determine the source and direction of the light.

Still Life with Peaches, from Herculaneum, c. 50.

ROMAN \ LIGHT AND SHADOW SIDE ON FIGURES • The Romans drew and painted figures with a light side and shadow side. The illustration at the right shows some figures from the Villa of the Mysteries. The figures appear as if there is a light side and shadow side. In this example, as in the picture from Herculaneum, the effect of light is quite weak. The figures lack a convincing appearance of how light actually affects objects.

Herakles and Telephos, from Herculaneum, c. 70.

The Villa of the Mysteries, c. 50.

ROMAN \ LIGHT AND LOCAL VALUE • The Romans appear to have understood the idea of local value. They were able to paint figures of different values (men were sometimes painted darker than women) and add the effect of light. The illustration shows Hercules and several other figures. Hercules and Pan are much darker than the other figures. Though the figures differ in value, each appears to have a light side and a shadow side.
THE MIDDLE AGES

ISLAM \ MOHAMMED AND NO GRAVEN IMAGES • The issue of representation—drawing figures and objects so they appear real—was an important issue to the people in the Near East. The Koran forbade the worship of idols; statues were thought to be the work of Satan. After Mohammed became a religious leader (seventh century), he ordered many sculptures and paintings destroyed in order to comply with the laws of God. There was no pictorial tradition among the Arabs; consequently, drawn and painted images were not thought to present the same kind of problem as sculpture. Paintings were acceptable if they were small and if they did not cast a shadow. A cast shadow was considered a quality that made the picture look real. If the picture took on a three-dimensional appearance, it was thought that the artist presumed to be a creator like God, which was blasphemous. This Eastern tradition appears to have influenced the artwork produced by Christian artists during the Middle Ages.

EUROPE \ VARIATIONS OF VALUE BUT NO ILLUSION OF LIGHT • Many figures in illuminated manuscripts show variations of value but do not show value used to create the illusion of light and shadow. Slight value changes appear in clothing and other objects. In a great many of these pictures, value serves a decorative function rather than being used to portray nature accurately.

EUROPE \ LIGHT AND CAST SHADOWS—AT LAST • Toward the end of the Middle Ages some artworks began to show that artists had more awareness of light and shadow. The work of the Limbourg brothers shows a convincing appearance of light on their figures. In the art of the Limbourg brothers, cast shadows appear on the ground—some of the very few since its occurrence in the ancient world.
THE RENAISSANCE

EUROPE \ THE BEGINNING OF CHIOROSCURO • Masaccio (1401-1428) is given credit for discovering chiaroscuro. *Chiaroscuro* is an Italian word that means light and dark. Unlike Giotto (c. 1266-1337) one of the earliest Renaissance painters, Masaccio modeled his figures with an accurate light and shadow side. This is one of the first times in history that figures appear to have the appearance of an actual light source. His rendered figures seem to have volume and appear realistic.

EUROPE \ A REALISTIC APPEARANCE OF LIGHT AND SHADOW • In the work of Roger van der Weyden and Sandro Botticelli, figures are rendered with a convincing illusion of light. The solid use of a light side and shadow side makes the figures appear to have the volume and form of natural and realistic objects.

Sandro Botticelli,
*Portrait of a Young Man*, c. 1488.

Jan van Eyck, *Man in a Red Turban*, 1433.

EUROPE \ RAPHAEL • Many artists during the Renaissance developed the understanding and skill to represent objects with light and shadow. Raphael Santi, like others during this period, used value to create a convincing illusion of light. The values are deeper and more definite. The volume of the figure is more solid and convincing. The use of value also gives the work a greater feeling of mood and emotion. As time passed, artists during this period continued to develop even more convincing effects of light.
EUROPE / LEONARDO DA VINCI • Leonardo da Vinci believed that the use of light and shadow in an artwork was the heart of the work. He studied light probably as intensely as he did the many other things he became interested in and discovered many of its secrets not used previously. His love of light and value is evident in his most famous picture, Mona Lisa. Da Vinci used the newly discovered medium of oil paint to help create the luminous effects of light and shadow on the woman's face.

INDIA / NO LIGHT AND SHADOW • The artwork from India during the Renaissance did not show a use of light and shadow. Many pictures are line drawings. In these drawings value is used to darken areas but not to show light striking the subject. Paintings also employed line, with areas of color filling the shapes and little use of value to create the effect of light.

AMERICAN INDIAN / NO LIGHT AND SHADOW • The artwork of the Indians in the American Southwest shows an emphasis on stylization and an interest in images used for ceremony or other religious purposes but not for the purpose of portraying images that appear realistic.

CHINA and JAPAN / NO LIGHT AND SHADOW • The artwork from Japan and China shows an interest in using line but not in using value to create the illusion of light. Figures and objects do not have light sides, shadow sides, or cast shadows. Many drawings are executed in ink, with no attempt to portray light and shadow.
MODERN WORLD

EUROPE \ A RETURN TO LOCAL VALUE • Edouard Manet was one of the first artists during the modern era to begin to flatten the objects in the picture plane. He claimed the picture plane was flat and that pictures were merely paint on canvas. He believed that artists had no commitment to continue creating pictures that functioned as a “window to the world.” In some paintings, he flooded his figures with a frontal light, painting them with only a slender shadow side, thus causing them to appear flatter or more two-dimensional. (This idea is similar to placing oneself so only one side of an object is seen—an orthographic view. In the case of Manet it is an orthographic lighting view.)

Edouard Manet, portion of Luncheon on the Grass, 1863.

Giorgio de Chirico, Street, c. 1915.

EUROPE \ ABSENCE OF LIGHT AND SHADOW • Eventually the illusion of light and shadow was eliminated from the conceptual palette of many artists. Examine the works of Pablo Picasso, Henri Matisse, Stewart Davis, George Rouault, and Piet Mondrian. Ironically, in one of Picasso’s most famous paintings, Guernica, he shows a picture of a light bulb; yet none of the figures has a light side or a shadow side. In spite of this, the picture has a remarkable feeling of light and shadow.

Pablo Picasso, Guernica, 1937

EUROPE AND UNITED STATES \ LIGHT AND SHADOW IS ALIVE AND WELL • Since the portrayal of objects with light and shadow blossomed during the Renaissance, its appeal has not died. Even with a great number of modern artists eliminating the concept from their work, it is alive and doing well. The tradition of using light and shadow to create the illusion of light and form in paintings is seen in the works of artists such as Giorgio de Chirico, Salvador Dali, Edward Hopper, Andrew Wyeth, Wayne Thiebaud, Jack Beal, Chuck Close, Richard Estes, and Janet Fish.

Ethelyn Stewart, Zinnias, 1950.

Henry Tanner, Banjo Player, 1893.
SUMMARY • The **Time Line** is simulated in the four divisions below. Summarize the change in the use of light and shadow from the ancient world throughout the four major divisions of time, including the modern world.

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