UNDERSTANDING FORMAL ELEMENTS
From Marilyn Wyman: *Looking and Writing: A Guide for Art History Students*

Beyond the questions of contextual and historical interpretation and stylistic analysis is the formal analysis. In a formal analysis, art historians examine the materials used by artists and the processes of construction.

How has an artist handled colors, lines, and shapes? How are space, mass, volume, and texture used by the artist? These categories and the way in which an artist organizes them make up the formal language of art. Design principles, the organization of formal elements by the artist, will be discussed in Chapter 4. The formal elements used by an artist can be compared to the words and phrases used by a writer, while the design principles are the grammar.

COLOR
Colors are refracted wavelengths of light that exist in a bonded relationship. In the late seventeenth century, the English physicist and mathematician Sir Isaac Newton developed one of the earliest color charts to demonstrate the relationships or bonds between colors. His knowledge of color came not only from the close observation of nature, especially the rainbow, but also from the observation that white light, passing through a prism, broke apart into separate bands of color called the spectrum. When he bounced the spectrum bands through a second prism, they rejoined to become a single beam of white light. Just as the prism refracted (broke apart) light into its components, wavelengths of light are either absorbed by or reflected from an object. A red apple (that may have hit Newton on the head) reflects the longest spectrum wavelength, which we call red, while absorbing the remaining wavelengths. Pigments used by an artist similarly reflect or absorb specific wavelengths. Newton created a circular chart or color wheel to record colors and display their relationships to one another. Although there have been other systems introduced in the West over the more than three hundred years since Newton developed his color wheel, they would have been impossible without his pioneering work in color theory.

Color Terms
_Hue_: a synonym for color. Each hue is determined by its wavelength and has a specific position on the color wheel.

_Partial Colors_: hues that cannot be made from other colors. For pigment, they are red, yellow, and blue. The primary colors in light (used in photography, computer graphics, and video) are red, green, and blue-violet (hence, a computer monitor is listed as RGB).

_Secondary Colors_: hues made by mixing two primary colors. They are, for pigment, orange (red plus yellow), green (blue plus yellow), and violet (red plus blue).

_Tertiary Colors_: also called intermediate colors. Mixing a primary color with a secondary color makes these hues.

_Analogous Colors_: colors next to one another on the color wheel because they share a common hue.

_Complementary Colors_: colors directly opposite one another on the color wheel that do not share any common hues, such as red and green. Placing complementary colors side by side in a painting intensifies each, especially at the edges.

_Neutrals_: black and white.

_Value_: the relationship of light to dark that helps define a hue or color. We divide value into _tints_ that reflect more light to the eye and _shades_ that appear darker because less light is reflected. How bright or dull a color appears also may be called its _intensity_ or its _saturation_. A hue that reflects more light, such as yellow, has a greater value and a greater intensity than a hue that absorbs more light, such as violet. This also helps determine color placement on the color wheel, so that yellow should always be at the top and violet at the bottom. A _value scale_ records the transition from light to dark from the neutral colors.
white (highest value) and black (lowest value). There are traditionally seven levels between white and black; a color said to be of medium intensity or value is in the middle position.

The selection of colors used by an artist is called a palette. The term palette also refers to the surface or board on which an artist places selected pigments and on which these pigments are mixed. We can speak about warm palettes that are heavy on the reds, oranges, and yellows, and cool palettes dominated by greens, blues, and violets. These color families also carry symbolic meanings; we associate the warm colors with fire, sunshine, and anger, whereas the cool colors remind us of water and the sky. Artists also may limit their palettes to only a single hue, although the values may cover the entire value scale. In that case, we talk about a monochromatic palette. Pablo Picasso's large canvas Guernica is a monochromatic canvas that uses only the gray scale. This special palette is called a grisaille. When an artist uses multiple hues as well as multiple values, the work is polychromatic.

Colors are used descriptively (the green of a ripe Pippin apple), sometimes called local color, symbolically (white to represent purity for a modern Western bride), and psychologically (the calming effect of a subtle rose tint in a waiting room). Think of the number of common phrases that equate emotional or psychological states to specific colors. As an example, let us consider the word "blue." How many ways can we understand this one simple word? After all, this is one of the earliest colors we learn to identify. The sky is blue; the water is blue; blueberries are blue; even bubblegum-flavored ice cream may be blue. But, are they all the same blue? How do we know what blue is meant when someone uses the term to describe an object? While there is a shared understanding that aids us in determining and communicating meaning in the above examples, each of us will envision a slightly different blue based on personal experience.

What if we should say, "The man is blue." Does this mean the same thing as "The water is blue."? If we were Hindi, the sentence could mean the same thing. The god Krishna is painted as a blue man to indicate his darker complexion. This, along with the context of the painting, helps to distinguish Krishna from other deities within the Hindu pantheon. Similarly, if we referred to an individual whose body temperature had dropped significantly below normal, we might say that the individual had turned blue, indicating a dangerous hypothermia. However, for most people the sentence ("The man is blue.") means something quite different. Blue, in this context, indicates a mood rather than a color. We use this term to indicate a mild depression, a psychological state rather than a physical one. At times, these meanings may merge. The twentieth-century painter Pablo Picasso went through a "Blue period" early in his career, after the suicide of his closest friend Casagemas, coupled with his sense of alienation (both as a Spaniard living in Paris and as a painter outside the established gallery marketplace). During this period, Picasso's palette tended to the blues, as did his mood; his subjects included individuals who were suffering--the blue guitarist who could only play sad songs on his blue guitar, the haggard features of a life-worn woman ironing--or living on the fringes of normative society. After a year, with a new dealer, a new mistress, and a new feeling of inclusion, Picasso emerged from his depression and entered what has popularly been called the "Rose (or Circus) period." His palette brightened and his subject matter emphasized life through the harlequins of the circus. Similarly, in popular music Billie Holiday sang "the blues," a style characterized by lyrics of struggle and by "blue notes" that are a key to the sound of the blues themselves.

When artists use blue in a painting, all of these issues become a part of its meaning; it is the viewer's responsibility to determine which of the many definitions or meanings is/are most suitable. In determining meaning, the observant interpreter begins to deconstruct or "unpack" the clues. How is blue used? Is it descriptive, as the blue eyes in a portrait? Is it symbolic, as in Toni Morrison's novel The Bluest Eye? Are there specific cultural links, as the blue of Krishna or the blue note "scales" in western Africa?

Color choices are dependent on both availability and cultural practice. Contemporary palettes have grown larger with the addition of more saturated chemical (synthetic) pigments rather than the often more subtle natural pigments.
The naming of colors as well as their symbolic meaning is culturally determined. During the European Middle Ages and Renaissance, colors were associated with specific organs and fluids in the body that in turn determined one's personality and temperament: black for melancholy, yellow for churlishness, green for apathy, and red for optimism. Many of these references have remained as part of Western folk culture, as when we say someone is "green with envy."

Essential to art theory in India is the concept of *rasa* or inner essence. Like the Medieval and Renaissance humours discussed above, each *rasa* refers to an emotional state which in turn is identified both with a particular God within the pantheon and a specific color. The God Krishna was mentioned during the discussion of the color blue; Krishna and the color blue are both identified with the *rasa* love. Knowledge of color symbolism is important in understanding different cultural traditions. We would be out of place if we wore black (a Western tradition) rather than white (an Asian tradition) to a Chinese funeral.

**LINE**

A line is the visible record of a moving point. Like color, line can be both descriptive and symbolic. They are part of the way in which we understand and describe our world. We can describe lines as *mechanical* (straight and machine-like), *organic* (flowing and curving) and *calligraphic* (varying in thickness). Various kinds of lines have acquired symbolic meaning: vertical lines for strength (a soldier standing at attention or a tree), horizontal lines as resting (a sleeping person), curved and diagonal lines for movement. A *contour line* defines the edges of forms. These edges may be drawn as actual lines or implied lines where two colors meet.

*Compositional lines* both define forms, move viewers' eyes from action to action or subject to subject, and organize the surface. Often compositional lines are implied and not actually drawn. In Hiram Powers's *Greek Slave*, our eyes follow the downward glance of the captive's eyes, although the artist has not placed any lines there. One of the most important implied lines is between a physical work of art (in any media) and the viewer. The power of these lines helps hold our attention; in figural work (work with a human subject), this line often through the eyes.

**SHAPE AND SPACE**

A shape is a defined or limited area created by real or implied contour lines. In sculpture or architecture, shape is defined by the physical edge of the work; in two-dimensional work, contour lines or the meeting of two or more colors, values, or textures create edges. We divide shapes into *geometric* or *rectilinear* shapes (circles, triangles, or squares) and *biomorphic* or *organic* shapes (as found in nature). On a flat plane (paintings, drawings, photographs, and prints), a shape has width and height. In space (sculpture and architecture), a shape has width, height, and depth defined as *mass* (shapes that have solidity) and *volume* (shapes that displace space). In paintings, drawings, and prints, mass and volume are implied by the careful use of shading. In photographs, the careful placement or use of light suggests mass and volume. Shapes also can be described as *positive* (the actual shape of an object and limited or defined by its contour lines) and *negative* (the voids formed between the shapes).

Space is both the physical areas around or between shapes and the illusion of depth on a flat surface. Artists create the perception of a three-dimensional world using techniques of *perspective*. Many perspective systems can be used to describe space on a two-dimensional surface.

The illusion of space can be created by the use of *aerial* or *atmospheric* perspective in which distant objects become less distinct and their colors more muted, whereas close objects have crisper edges and clearer hues. *Scientific* or *linear* perspective is a mathematical system developed during the Renaissance using diminishing *scale* (relative size) to achieve the illusion of space that has remained an important method through which Western-trained artists order or systematically arrange space. As objects recede in space, they appear smaller than objects close at hand. An artist begins by creating a *horizon line* with one or more *vanishing points* from which radiating lines or *orthogonals* will be drawn.
Other traditional methodologies for ordering space include systems of overlapping (layering shapes), position (shapes higher or lower in the picture plane), convergence (decreasing size of shape as it recedes), and relative scale (the relationship of large to small shapes).

No matter what perspective system an artist follows, all suggest foreground (the front edge of the canvas or paper), a middle ground, and a background (that often appears to flow infinitely into the distance). These methods create an implied space, because the actual surface of the canvas or paper is relatively flat.

In sculpture, space is tangible. A sculpture exists in real or positive space and sculptural extensions (whether actual or implied) continue spatial control beyond the central mass or core. The area surrounding and defined by the sculpture and the open areas within the central mass of the sculpture are called negative space. It is active and tangible although there is nothing physical in the space. For this reason, when we approach a sculpture in a museum or public space, we feel its presence and power when we are still some distance from the actual object.

Paintings and works on paper use negative space, as do relief carvings. The spaces between forms on the surface, discussed as negative and positive spaces above, work together spatially on the flat surface plane to create the illusion of negative and positive space. The way an artist manipulates color on a surface also creates spatial references.

A very active space, similar to the stage in a theater, is used by performance artists. In the twentieth century, a number of artists moved away from traditional media to explore performance spaces. Performance artists interact with their spaces and their audiences as if they were living sculptures. As in an analysis of video and digital media, performance artists work with real time rather than the illusion of time and within real space, rather the illusion of space.

TEXTURE AND SURFACE

Texture includes both the physical (actual) and the implied surface of a work. One is aware of the actual texture of a surface and may discuss the quality of the paint on a surface (dry, moist, thick, thin, etc.) and the tactility of the surface itself (wood, metal, paper, cloth, marble, clay, etc). But artists also use invented or implied textures that are meant to simulate and recall real textures. A still-life painting is a complex interplay of implied textures (glass, wood, metal, flowers, fruits, leaves, insects, and cloth). Objects in still-life paintings by the nineteenth-century American artist William Harnett are so realistic in their appearance that they trick us into believing they are real and not painted, a process called trompe l’œil or fool the eye.

Sculpture may use both actual and implied textures. Works by the nineteenth-century French sculptor August Rodin carry the imprint of his fingers and tools; they have lively actual surfaces as compared to the polished surfaces of Greek Slave. Hiram Powers, however, has implied the textures of the cloth hanging on the post (even differentiating the cloth from its fringes), her flesh and hair, the metallic cross, and links of chain.

Some surface textures are not the result of the artist's direct manipulation of the surface, but are part of the natural aging process of the work itself. Artists working with public sculpture must consider how their work will age with exposure to sun and rain and the patinas (surfaces) that will develop.

Artists may combine actual and implied textures in collages (on a two-dimensional surface) and assemblages, a sculpture constructed from a variety of materials with many textures. When analyzing collages (for example, the paper collages by the African American artist Romare Bearden) and assemblages (as in the work of the Native American artist Jimmie Durham), the relationship between the actual and implied surface textures is part of the meaning.

TIME AND MOTION

Time and motion are implied in paintings, sculpture, photographs, and drawings. In many cultures, as well as in twentieth-century Western art, time and motion are integral aspects of the work. An African
The mask is not encountered as a static image within its own culture; it is dynamically presented with costume, music, dance, and song as it celebrates the mythical power of women in Nigerian Yoruba society. The static display of the mask in a museum rather than the performance of that mask in situ strips it of power and meaning. A discussion of the mask using Western formulas of formal analysis yields little real information about the work. In a museum environment, we see and thus describe the mask using a methodology and vocabulary alien to Yoruba culture.

The twentieth century found Western artists breaking away from established media and expectations to explore new media and techniques. Art as spectacle and performance has moved in and out of the history of Western art for hundreds of years. In the fifteenth century, the Renaissance architect Filippo Brunelleschi designed a network of cables used in the Duomo or Cathedral of Florence (Santa Maria Del Fiore) to enable performers to fly; a similar system of cables designed by the twentieth-century American architect Phillip Johnson for the Crystal Cathedral in Southern California allows performer-angels to fly during the Christmas pageant. The Happenings of the 1960s, building on a half century of performance art, moved art off gallery walls and into real space, away from the implied (the representation of a person or object in motion) and into the actual (live action), away from contained works (in a frame or closed form) to open forms.

In the 1980s and 1990s, performances and multimedia installations continued to blur the boundaries between theater and other visual/aural art traditions. The performance artist Ann Hamilton and the video artist Bill Viola engulf the viewer in sensory experiences based in reality. Similar to the museum experience of an African mask, our appreciation of performance or installation work is, therefore, limited. This is true even if the work has been recorded on video; we watch, but remain alienated or distanced from the experience. Compare your experience listening to music at a concert to hearing the same music on a compact disk or watching a play versus reading it. How many additional senses are involved in the actual experience?