COLOR THEORY: Week 6

"I found I could say things with color and shapes that I couldn't say any other way."

— Georgia O'Keefe

Notes, clarifications, and additional information

The colored paper used in Josef Albers classes and most art school classes is ColorAid. The color is silkscreened onto the paper. ColorAid comes in 314 colors (pure hues, tints and shades, and complements). It comes in several sizes, including: 2"x3" ($40), 4.5"x6" ($70), and 6"x9" ($140). You can also purchase a packet of 19 graduated grays in 9"x12" ($21).

Albers' Interaction of Color

Color intervals and transformation

Just as in transposing music, Albers asserts that one can "transform" color, that is, shift it to another key, but one must pay careful attention to the intervals in each piece ensuring that they match. A composition of lighter light or color is referred to as a higher key while a composition of darker light or color is referred to as a lower key.

Intersection

When placing a third color over the right color in a pair, then sliding the third color slowly to the right, "the central color [the third color] looks more and more like two colors, repeating at the left boundary the color of the right neighbor, at the right the color of the left neighbor."

Vibrating boundaries

Placing two contrasting (complementary) or near-contrasting colors next to each other produces the effect of vibrating boundaries. Note: These are not neon colors.

Equal light intensity

When two colors are of the same intensity/saturation, placing them next to each other can create a "loss of form."

Figure and ground

A basic principle of design is that smaller, more distinct elements seen against larger, plainer elements create the sense of figure and ground. This effect can be amplified through the use of complementary or contrasting colors.

Light Source

Highlights and shadows play a critical role in creating the illusion of dimension and depth in art. To create an accurate reproduction of a scene—whether the artist uses an actual, physical light source (for example, the sun or a lamp on a desk), or an imagined light source—the direction and intensity of the light (and shadows) must be consistent throughout the piece.

Dimensionality

Varying colors within shapes can turn them from appearing two-dimensional to three-dimensional.

If you create a cube with the front, side, and top all the same color, it will appear two-dimensional. If you change two of the sides to have different colors, the cube will appear three-dimensional. If you apply an imagined, consistent light source then use different values of the same hue, the cube will appear three-dimensional.

The illusion of dimension can be created in any geometric shape using multiple values of a single hue.

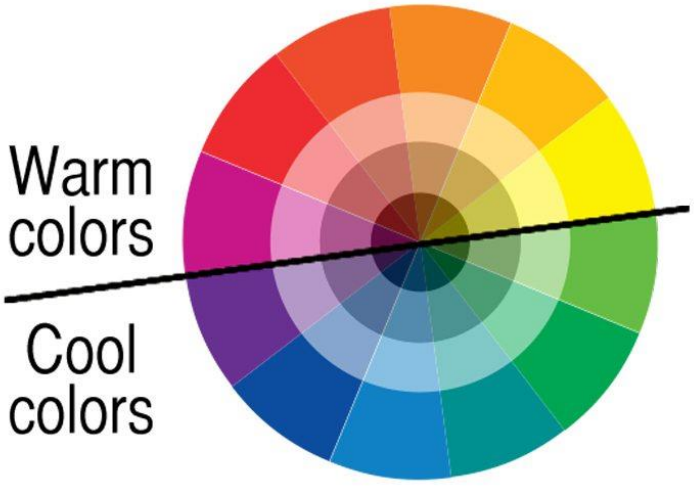
Arranging shapes to appear over or under each other is created using reflections (tints) and shadows (shades).

Highlights and shadows

Many representational artworks (including illustrations and logos) don't display the source of light directly, but you can ascertain the direction by studying the highlights and shadows in the work. The highlights and shadows will indicate the intensity, direction, angle, and distance of the light.

Atmospheric color and perspective

Leonardo da Vinci wrote, "Colours become weaker in proportion to their distance from the person who is looking at them." Da Vinci referred to this phenomenon as "aerial perspective," while many people now refer to it as "atmospheric color" or "atmospheric perspective." Moisture and tiny particles of dust and other matter in the atmosphere scatter the light to its shortest wavelength, blue. Red light with the longest wavelength is scattered the least so red objects in the distance can appear redder.



Spatially, warm colors appear to advance or expand while cool colors appear to recede. With this in mind, artists can use color, especially in landscapes, to make objects appear to be closer or farther away.

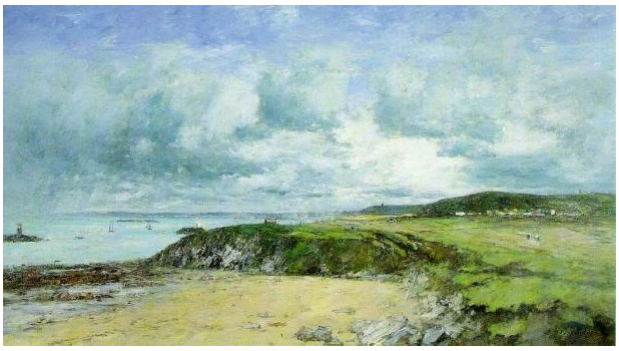
The intensity or saturation of the color also creates spatial perspective. More intense or saturated colors appear closer while more dull or unsaturated colors appear farther away.

The following factors create atmospheric perspective or simply perspective:

- Relative size. When viewing two objects of similar size, we perceive the smaller one to be farther away.
- Relative clarity. We perceive hazy objects (objects with soft or blurred edges) or objects with fewer details as farther away than objects that appear sharp and clear.
- Interposition. Objects that block or overlap other objects tend to be perceived as closer.
- Texture gradient. Closer objects appear more distorted in size than objects farther away.

Paris Street, Rainy Day, Gustave Caillebotte. 1877.

- Relative height. Objects that appear higher in our field of vision are perceived as farther away than those that are lower.



Rivage de Portrieux (Cotes-du-Nord), Eugene Boudin. 1874.

- Parallel lines appear to converge in the distance.
- Light and shadow. Dimmer objects appear to be farther away.
- Diminishing contrast.
- Values become lighter when objects recede.
- Colors appear to fade, become less saturated (less intense), and shift to cooler colors.

Examine the painting *"Broad Quay, Bristol"* by Peter Monomay (1760) to identify how aspects of the art cue us to view the scene as having depth including linear perspective, relative clarity, interposition, texture gradient, relative height, light and shadow, and relative size.

Negative space

Positive space is the subject of an artwork. Negative space is the space around or between the subject. Negative space is as clearly defined as positive space. Negative space can be as or more compelling than positive space.

Time of day or season

Applying the illusion of dimension and adjusting the effect of light in a composition will create the effect of viewing the subject/object at different times of the day or year. Monet's series of the Rouen Cathedral demonstrate this beautifully. Using an identical view, his selection of hues create the impression of the cathedral in spring, summer, fall, etc. Likewise, on a sunny day, the color of objects will appear saturated in the morning, lighter or whiter (unsaturated) mid-day, and darker or more saturated in the evening.

Undertones

Many colors, especially white and neutral colors, have an undertone. The more saturated a color is, the less likely it is to have an undertone. To identify an undertone, compare the color against similar colors. For example, grays often have an undertone of any of the colors on the color wheel. Find a neutral gray (a mix of only black and white) and compare your gray to it. This will help to bring out the underlying tone. You can also place a neutral against saturated hues one at a time. When placed against a hue, the hue's complement will become visible (as the undertone) in a neutral gray. For example, when placed against red, the green undertone in a gray will be visible.

Video Links

Laws of Light: Sphere
https://www.youtube.com/watch?v=6GJ4P1T7OHI