Interaction of Color

Contrast is the perceived difference between adjacent colors in a design.

- The highest levels of contrast appear between the achromatic colors – black, white and fully saturated gray.
- Complementary colors also have high chromatic contrast.

- Contrast levels allow for aesthetic expression and determine legibility.
- **Yellow text on a white background** blue text on a black background, are difficult to read due to the low level of contrast between figure and ground.
- Some color combinations such as **Red text on a blue background**, cause illusions when positioned together.
- When choosing complementary colors, fully saturated colors will offer the highest level of contrast. Choosing from tints or shades within the hue family reduces the overall contrast of the composition.

Frank Stella  Khurasan Gate II , 1970, mixed technique
Itten’s Color Contrast

- Johannes Itten was one of the first people to define and identify strategies for successful color combinations.

- Through his research he devised seven methodologies for coordinating colors utilizing the hue’s contrasting properties.

- These contrasts add other variations with respect to the intensity of the respective hues; i.e. contrasts may be obtained due to light, moderate, or dark value.

The famed color theorist Johannes Itten observed the following 7 types of contrast:

1. **The contrast of hue:**
   the juxtaposition of colors at their most intense.

2. **The contrast of light and dark:**
   The contrast is formed by the juxtaposition of light and dark values. This could be a monochromatic composition.
Mark Tansey (American, 1949-), *Forward Retreat*, 1986, oil on canvas
3. The contrast of warm and cool
The contrast is formed by the juxtaposition of hues considered 'warm' or 'cool.'

4. The contrast of complements
The contrast is formed by the juxtaposition of color wheel or perceptual opposites.

5. Simultaneous contrast
The contrast is formed when the boundaries between colors perceptually vibrate. Some interesting illusions are accomplished with this contrast.
6. The contrast of saturation
The contrast is formed by the juxtaposition of light and dark values and their relative saturation.

7. The contrast of extension
Also known as the Contrast of Proportion. The contrast is formed by assigning proportional field sizes in relation to the visual weight of a color.
When creating a composition - either something freeform, or a more text based layout, a determination for the final impact of the whole presentation needs to be identified. Is your intent to craft a vibrant, attention grabbing ad, or a presentation with a low, or more moderate level of contrast? These decisions concern what is known as the dominant elements of the design.

The dominant element may be classified as either "contrast dominant" or "value dominant." Designs that evidence contrast dominance or value dominance are then sub-divided into low, moderate, and high contrast, or light, medium, and dark value categories.

The choice of colors will enhance or minimize the overall impact.
• It is easiest to understand the difference between dominant elements in the following compositions from a distance. If the proximity between the neighboring hues is less apparent when you squint, the overall composition displays lower contrast level; if the overall composition appears light, it has a light value. Conversely, if distinctions between hues are very apparent, the contrast is high, and if the overall composition appears dark, the value level is dark.

• Understanding how the relationships between the colors of a chosen palette will affect the final outcome of an overall composition is integral to mastering the use of color.

**Contrast Dominance**

In the examples below, the overall contrast level of a composition changes with the range of luminosity between chosen hues.

**Low contrast**

Low contrast compositions use colors within a narrow range of luminosity or brightness levels.

**Moderate contrast**

Moderate contrast compositions use colors within a moderate range of luminosity or brightness levels.

**High contrast**

High contrast compositions colors range from very light (high-luminosity) to very dark (low luminosity).
Value Dominance
In the examples below, the overall value of each composition changes with the incorporated hues' relative saturation.

Light value: a composition made up of tints, displays an overall light value.

Medium value: a medium value composition is made up of a balance between tints, saturated hues, and shades.

Dark value: a dark value composition displays mostly shades.

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