

## **INDES 165: Visual Presentations**

### **Phenomena of Color and Light**

#### **Ten Basic Phenomena to Observe**

To successfully illustrate design ideas, it is instructive – and, more to the point, necessary – to observe the color phenomena that surround you in your everyday life. Ten such basic phenomena are briefly discussed and illustrated here. You will discover more, but these 10 should help you to understand the relationship between what you see around you and the techniques shown later in the book. It is hoped that they will also inspire you to use the power of your own unique observations. Michael Doyle, *Color Drawing*, p. 5.

#### **Local Tone**

*Every object has an intrinsic lightness or darkness, regardless of its illumination.*

The same shadow cast on two materials of different local color will be lighter or darker based on the inherent light/dark value of that material. Don't use one shadow value for both.

#### **Chiaroscuro**

*The term Chiaroscuro refers to the light-to-dark shading of an illustrated form in order to make it appear three-dimensional.*

Though rendering shade and shadow from light gray to black is appropriate for achromatic rendering, avoid using gray and black to render shade and shadow in color drawings. Instead, use darker values of the *local color*.

#### **Color of Shade and Shadow**

*Shades and shadows on forms also take on subtle colorations other than only the darker versions of their illuminated surfaces.*

Surfaces in shade and shadow will also reflect other local colors, especially those in higher illumination. The effects are most noticeable on neutral – white or gray – surfaces. *Simultaneous contrast* is a related phenomenon, where we perceive the lightest areas of the neutral surface as tinged with the complimentary hue of the color reflected on the surface.

#### **Gradation**

*Very few flat surfaces in your surroundings actually appear uniformly colored or illuminated..., appear[ing] uneven, graduating from one color to another, one level of lightness or darkness to another.*

This phenomenon occurs on all surfaces, but is most apparent on larger areas, like floors and walls. Matte surfaces gradate more gradually than glossy surfaces. In illustration, gradation is one of the most useful effects, especially when you *force the shadow*. This means accentuating the hue and value gradation at the edges where shadows meet light, and where lighter and darker surface planes meet. This is one of the easiest and most effective techniques you can use.

#### **Multiplicity of Color**

*Most of the colors you see are really visual averages or mixtures of a multitude of colors.*

Color mixture in nature can result from microscopic changes in how light is refracted, to the mixture of visual texture seen at a distance. In man-made objects, gradation, reflected colors, and simultaneous contrast account for much of the mingling of hues. But try not to actually MIX colors, which can result in dullness. Place them side by side, through use of different media techniques.

#### **Atmospheric Perspective**

*Forms that recede into the distance undergo a color change.*

More distant colors gradually become lighter and bluer (cooler). Cool colors recede and warm colors advance. There is a physiological basis for this perception as well.

#### **Reflections**

*Reflective surfaces present the colors they "see" back to you.*

Colors are less intense than the actual objects, however, especially in glass, water, and polished furniture surfaces. Mirrored surfaces distort shapes but reflect colors exactly.

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### **Luminosity**

*Light colors and strong, vivid colors appear to be illuminated, or to glow, when they are surrounded by darker values or applied to or seen against toned backgrounds.*

The darker the background, the higher the luminosity of the color seen against it. This is a helpful phenomenon for creating lighting and illumination effects.

### **Color and Light Level**

*Your perception of color depends on a different kind of reflection from those discussed earlier.*

Light levels influence the intensity (chroma) as well as the value of a color. Night scenes are especially influenced by this phenomenon, but it also applies to any shaded or shadowed area.

### **Arrangements of Light and Dark**

*Every tonal group you see in [a] scene can fall into one of the three categories: light, medium, or dark.*

This simplified approach allows you to plan your compositions and to observe your surroundings with greater ease.