

Section III - Focus on Color

Week 11

Discussion / Critique: *Variations on a Theme 1 through 4*

Discussion / Critique: *Final Project Part 2 (beginning of the final drawing) - Finished Drawing Due wk 12*

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Lecture / Discussion: Introduction to Color

We can discuss the extremely complex subject of color from many different points of view:

I - The Physics of Color - Light engenders color

- A) White light (sun light) = the sum total of all colors visible to the human eye, as well as invisible (ultraviolet and infrared).
A prism will separate white light into the full visual spectrum.
- B) Objects absorb all colors except the color we see, which the object reflects.
A red object appears red because it absorbs all colors except red.
If lit with a green light, the red object will appear black because there will be no red light to reflect.

C) All man made light sources have spectral qualities different than sun light and therefore will have some affect on the apparent color of objects, including the work we produce in this class. Even daylight, when reflected off of painted walls and other objects (colored curtains, green trees, etc.) will change it's spectral qualities and therefore the appearance of objects which the light falls on.

D) Objects with the least brilliant hues, and lightest values of color will be most apparently altered by the spectral quality of the light falling on objects.

E) Light Source Color: Cathode Ray Tubes (Video Displays), LED Screens, Etc.

II - The Chemistry of Color - Pigments, Dyes, Inks, Paints, Etc.

III - The Physiology of Color - How the Eye perceives Color

IV - The Psychology of Color - How Color affects the Mind, Spirit Moods, etc.

V - The History of Color and it's Cultural Use in Mankind's Creations

VI - The Aesthetics of Color involving both Physiological Perception and the Psychological effect of Color.

A) Those who have mastered, or intend to master, the art of color use, possess or will develop a deep, organized comprehension based on pondering of all of these complexities. Love of color = the ticket for admission to color's deepest beauties, immanent and impermanent mysteries. Vincent Van Gogh said, "I am always between two currents of thought: first the material difficulties, turning round and round and round to make a living; and second, the study of color. I am always hoping to make a discovery here, to express the feelings of two lovers by a marriage of two complementary colors, their mingling and their opposition, the mysterious vibrations of kindred tones. To express the thought behind a brow by the radiance of a bright tone against a somber background. To express hope by some star, the eagerness of a soul by a sunset glow."

B) Color's Aesthetics involve the Interrelationship of Visual, Mental, and Spiritual Phenomena

- 1) Visual - Impressionism - Implies visually impressive effect without "symbolic" truth and/or "emotional" power = bland, imitative
- 2) Emotional - Expressionism - Implies emotional effect without "symbolic" content and/or "visual" strength = sentimental
- 3) Symbolic - Constructivism - Implies symbolism without "visual" accuracy and/or "emotional" force = anemic formalism

C) Subjectivity - Problems of Conditioned Color Perception - Individuals differ in judgement regarding the perception and affects of color.

- 1) We must attempt to discuss color by removing as much of the subjective and sentimental as possible.
- 2) We must attempt to move into Objective Color Principles.
 - a) Establish Objective Language
 - b) Realize that Light Quality affect of and on Colors
 - c) Realize that Adjacent Colors affect Colors
 - d) Evaluate the Joint Effect of two or more Colors

So where do we start?

COLOR - THE **MOST RELATIVE** MEDIUM IN ART AND DESIGN

We have almost **no visual color memory** when compared to our audio memory, verbal memory or visual shape/symbol memory. We find it next to impossible to remember a distinct color (here I don't mean that we don't remember that something was "red" but rather that we don't remember with precision the specific hue, chroma, and value of "red"). This relativity requires that we compare colors in real time to evaluate their relative relationship.

We have a highly **inadequate nomenclature** for color. While we experience an infinite variety of hues, values, and chromas, we have only about 30 color names in the english language; unless we include systems such as the Pantone Matching System. Clear reading of color requires **consideration of context** - the interaction between colors - as we **never** perceive color out of context with another color, or out of context with a light reflecting from it, or color as a light source in and of itself, with its varied color temperature.

Color Terms (please use them when discussing work):

Chromatic Colors - Refers to the rainbow range, which relates to the visible spectrum as seen by the human eyes.

Achromatic Colors - Refers to the neutral range of black, grays and white.

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Hue - Refers to a specific, within the range, such as red, blue, yellow, green, violet, orange, etc. We add a level of precision when we say, "red orange or yellow orange."

Value - Refers to the color's **tint** (lightness) or **shade** (darkness). We achieve tonal or value gradation theoretically by adding black, white or a different hue of a different value.

Chroma - Refers to the degree of Brilliance, Intensity or Dullness. We control chroma by adding: black, white, gray or another hue of unlike brilliance - We must compare one color to another to determine brilliance in relationship, one to another.

Color Wheel - Theoretically references all Hues in their Full Chroma

Color Star / Color Sphere - Theoretically references the Color Wheel plus all Values

Color Quality - Position on the Color Wheel

Primary Hues - Red, Blue, Yellow

Secondary Hues - Violet (Red + Blue), Orange (Red + Yellow), Green (Blue + Yellow)

Tertiary Hues - Blue Violet (Blue + Red + Blue), Red Violet (Blue + Red + Red), Red Orange (Red + Yellow + Red), Yellow Orange (Red + Yellow + Yellow), Blue Green (Blue + Yellow + Blue), Yellow Green (Blue + Yellow + Yellow)

Complementary Hues - Refers to opposite Hues on the Color Wheel or Sphere - Either one of two colors whose mixture in the right proportions produces (theoretically) neutral gray (in the case of pigment) such as: Red (primary) and green (secondary), yellow (primary) and violet (secondary), blue (primary) and orange (secondary).

Harmony - Implies **Balance**:

If we stare at a red shape and then a white field the after-image will appear green. If we stare at an orange shape and then a white field the after-image will appear blue. In the same way that our mind/eye seeks to achieve and/or restore balance in design we also seek to achieve and/or restore equilibrium and balance in our color experience. If we surround a true, neutral, achromatic, gray square with any color, the gray will take on the look of the surrounding color's complement.

We seem to find harmony in medium gray.

And when we mix complementary colors we achieve medium gray - theoretically.

Color combinations which, when mixed, do not yield medium gray will not create harmony, but will appear somewhat discordant and/or expressive.

One sided, emphatic use of a particular color can suggest excitement and appear provocative.

Homework Project 25 - Primary and Secondary Colors - considering dominance and subordination

1) Draw 6 - 6"x 6" Squares on Carolina board (or better).

2) Within the first 3 boxes - create a composition (asymmetrical and balanced - of course)

Box 1 - using only and all the primaries at equal value and chroma with emphasis placed on red (prominent).

Box 2 - using only and all the primaries at equal value and chroma with emphasis placed on blue (prominent).

Box 3 - using only and all the primaries at equal value and intensity with emphasis placed on yellow (prominent).

3) Within the second 3 boxes - create a composition (asymmetrical and balanced - of course)

Box 4 - using only and all the secondaries at equal value and chroma with emphasis placed on violet (prominent).

Box 5 - using only and all the secondaries at equal value and chroma with emphasis placed on orange (prominent).

Box 6 - using only and all the secondaries at equal value and chroma with emphasis placed on green (prominent).

Note: The "blue" and "violet (purple)" will require very slight tweaking with white tint to bring up to equal chroma (brilliance, intensity) of the yellow, red and green. In some cases green will also require tweaking with white to achieve the chroma equal to yellow and red.

Note: The operative words: equal value and equal chroma, with emphasis.

Due: Week 12

Discussion: Final Project Part 3 - Pen & Ink

Trace and transfer (in light pencil) drawing #2 to a new substrate. Make any changes which will strengthen the concept, composition, drama, space, etc.; and then render this new version in "pen and ink." Remember and use the line quality, cross hatch, stipple and / or pattern techniques we've discussed and practiced — as appropriate to your sense of style, concept and composition. Minimum of 11"x14" on Carolina board or better.

Due Week 13

Discussion: Fifth Circle - Variations on a theme

Complete the fifth circle using only primary colors. Use only **Primary Colors, each Equal in Value and Equal in Brilliance to one another.** You may use tints and shades of the primary colors, but **do not blend colors.** In other words we are using a clean "flat color application" with emphasis on good paint consistency, fine color balance and use of value, brilliance and intensity.

Due: Week 13

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The Color Wheel

Describes

Hue (position on the equator)

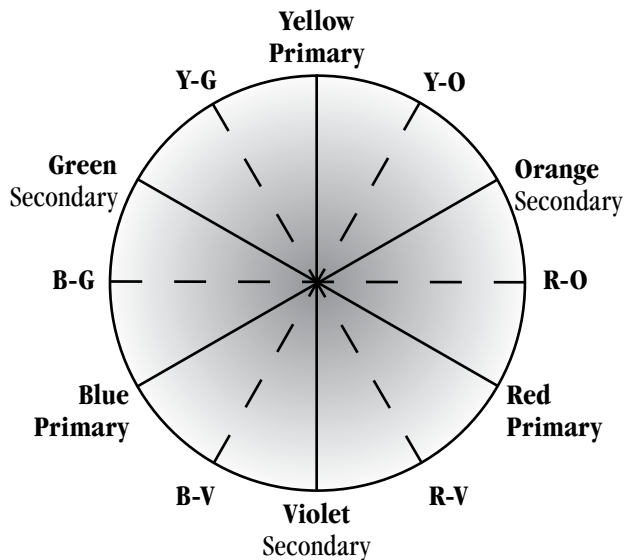
Chroma (position within the circle)

Mixing Complementary Hues or all Hues

Reduces Chroma,

Moving Towards the Center

Ultimately Results in (theoretical) Gray



The Color Sphere

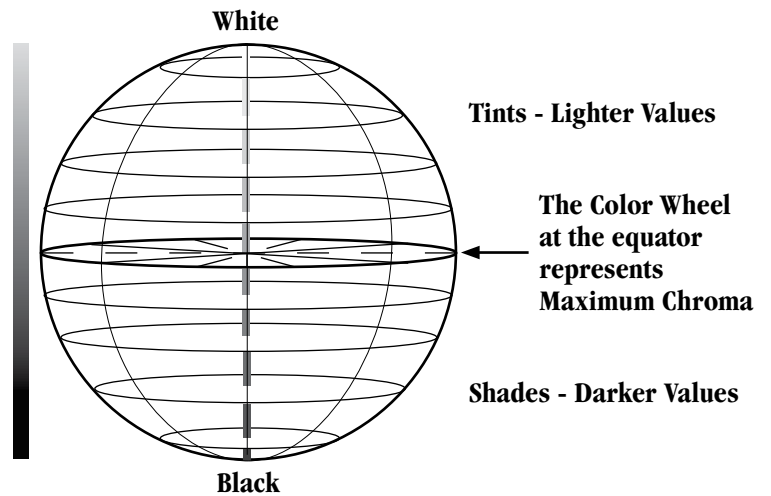
Describes

Hue (position on the equator of the Color Wheel)

Value (position on Vertical Axis of the Sphere)

Chroma (position on the Horizontal Axis of the Sphere)

Theoretically speaking all colors can be found by referencing a position on or within the Color Sphere



Gray (Neutral) = R + G (B + Y)

Gray (Neutral) = B + O (R + Y)

Gray (Neutral) = Y + V (R + B)

Altering Chroma by mixing color can affect Value

Altering Value by tinting or shading can affect Chroma