Theory of Color

Prof. Mukul Srivastava
Head
Department of Journalism & Mass Communication
University of Lucknow,
Lucknow (India)

sri.mukul@gmail.com
https://www.youtube.com/channel/UCdkxo7fhiSE8kzyKolTL8IQ
http://mukulmedia.blogspot.com/
www.mukulmedia.com
http://www.lkouniv.ac.in/
THEORY OF
COLOURS

sri.mukul@gmail.com, http://mukulmedia.blogspot.com/
Reproducing Color

- Three essential elements to seeing color:
  - Light, an illuminated object and an observer
  - At low light levels colors look different
    - why fire trucks are no longer painted red
  - In bright daylight we can see more colors, more contrast and more saturation
  - The color spectrum shows the range of color visible to the human eye.
    - White light is a mixture of all the visible colors
    - It’s called Additive Color

sri.mukul@gmail.com, http://mukulmedia.blogspot.com/
Additive Color

The visible spectrum

Used in monitors.

Primary Colors are Red, Blue and Green

When combined it produces ‘white’ light or the combination of all visible colors.
Additive color

Primary Colors are Red, Blue and Green

When combined it produces ‘white’ light or the presence in equal strengths of all the colors.

Subtractive color complements additive color
Subtractive Color

Combines pigments that absorb or filter light.

Used in any pigment (ink, colored pencils, crayons) on a substrate

Primary colors are Cyan, Magenta and Yellow

Combined they produce ‘black’ or the absence of color.
Additive Colors

Red

Magenta

Blue

Cyan

Green

Yellow

Subtractive Colors

(also the primary printing colors)
Additive & Subtractive Relationship
It’s Complementary!

Place additive primaries at the points of the triangle. Subtractive primaries are placed between the two additives that combine to create them.

A subtractive color filters out the primary color across from it (the complement) from white light.
Subtractive Colors act as a filter

The ink on the paper absorbs blue, reflecting green and red light which you see as yellow.

The ink on the paper absorbs blue, reflecting green see as green.
Hue, Value and Saturation

- **Hue** is identified as the color family or color name (such as red, green, purple). Hue is directly linked to the color's wavelength.

- **Saturation**, also called "chroma," is a measure of the purity of a color or how sharp or dull the color appears.

- **Brightness**, also called "luminance" or "value," is the shade (darkness) or tint (lightness) of a color.

- Areas of an evenly colored object in direct light have higher brightness than areas in shadow.
Hue, Value and Saturation

Below: Colors of similar hue, value and saturation will harmonise just as will musical notes one octave apart. The colors must for they are the equivalent!

Below: Colors of similar value and hue (but different saturation) will harmonise. Any of these 'harmonies' can be utilised in a painting as either major or minor accents (chords).

sri.mukul@gmail.com, http://mukulmedia.blogspot.com/
Below: Colors of similar value (but different hue and saturation) will harmonise. This would describe a painting of colors with no value difference. No forms would be discernible just hues. We define a high key painting as one with the 'majority' of the painting surface painted with high value colors. Some years ago a particular paint manufacturer produced (modular) colors labled with their value so artists could more easily harmonise their color schemes!

Below: Colors of similar hue (but different value and saturation) will harmonise. This would be equivalent to a painting done in sepia tones.
Thank You

sri.mukul@gmail.com, http://mukulmedia.blogspot.com/