

Introduction to Color Theory

Color is a property of light.

- Objects have no color of their own, they just reflect a particular wavelength from the color spectrum. (For example a blue object absorbs all of the wavelengths, EXCEPT for blue. The remaining wavelengths enter our eyes and this is what we see.)
- Light is made of all colors
- White reflects all the wave lengths of the color spectrum.
- Black absorbs all the wave lengths of the color spectrum.
- The spectrum of colors is created by passing white light through a prism.



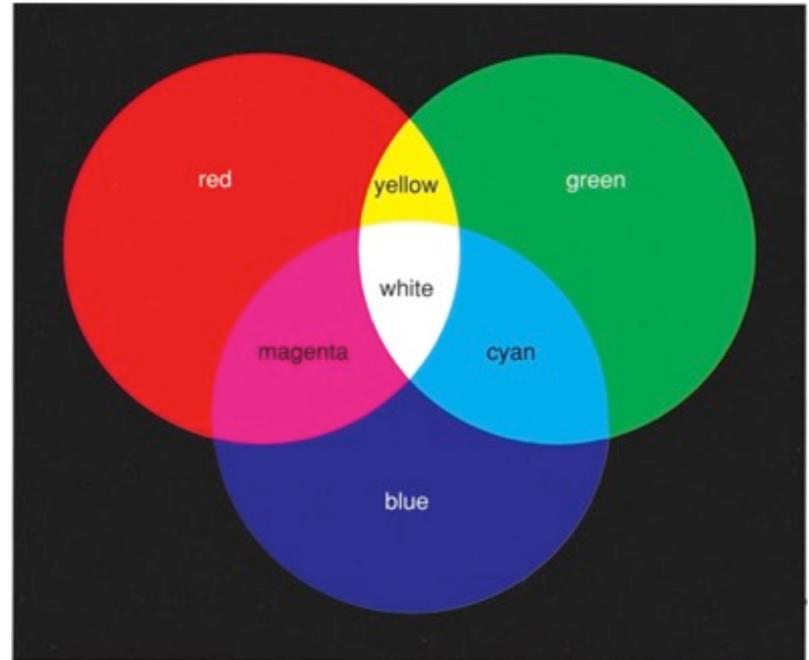
Color Mixing

Additive System – Color is created from projected light. (Computer art, photography, interior design...)

- Colors mix to create white in an additive system.

Subtractive System – Color is created from pigments, (Painting, drawing, etc...)

- **Color Wheel** – most common organization of color for the subtractive system



Colors of light mix according to the **additive process**.

Properties of Color: Hue, Value, & Saturation

1. Hue

Properties of Color: Hue

Hue - The name of the color

- There are not many hues but there are many colors.
- Example: Pink, scarlet, maroon and crimson are colors, but they all have a hue of Red.
- Color sharing the same hue can have many different names. (It's a commercial sales thing.)



The twelve-step color wheel of Johannes Itten.

Color Wheel

The most common organization for the relationship of the basic colors is the 12 step color wheel. (It comes from the early 18th c.)

3 Primary Colors:

- Red
- Blue
- Yellow

3 Secondary Colors - mixtures of the primary colors.

- Orange
- Green
- Violet

6 Tertiary Colors - mixtures of a primary and a secondary color.



2. Value

Properties of Color: Value

Value - Lightness or Darkness of a hue

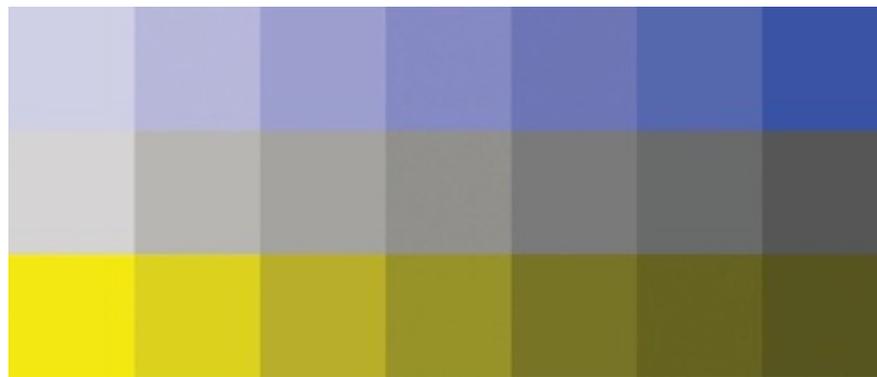
Tint - adding white to a hue

Shade - adding black to a hue

“Most people can distinguish at least 40 tints and shades of any color.”

“Normal” Color Value Differ

- “Not all the colors on the color wheel are shown at the same value.”



Value scales for blue, gray, and yellow with equal visual steps.

3. Saturation

Properties of Color: Saturation

Saturation = brightness of a color (also called *intensity*)

2 ways to lower saturation:
(or make a color duller)

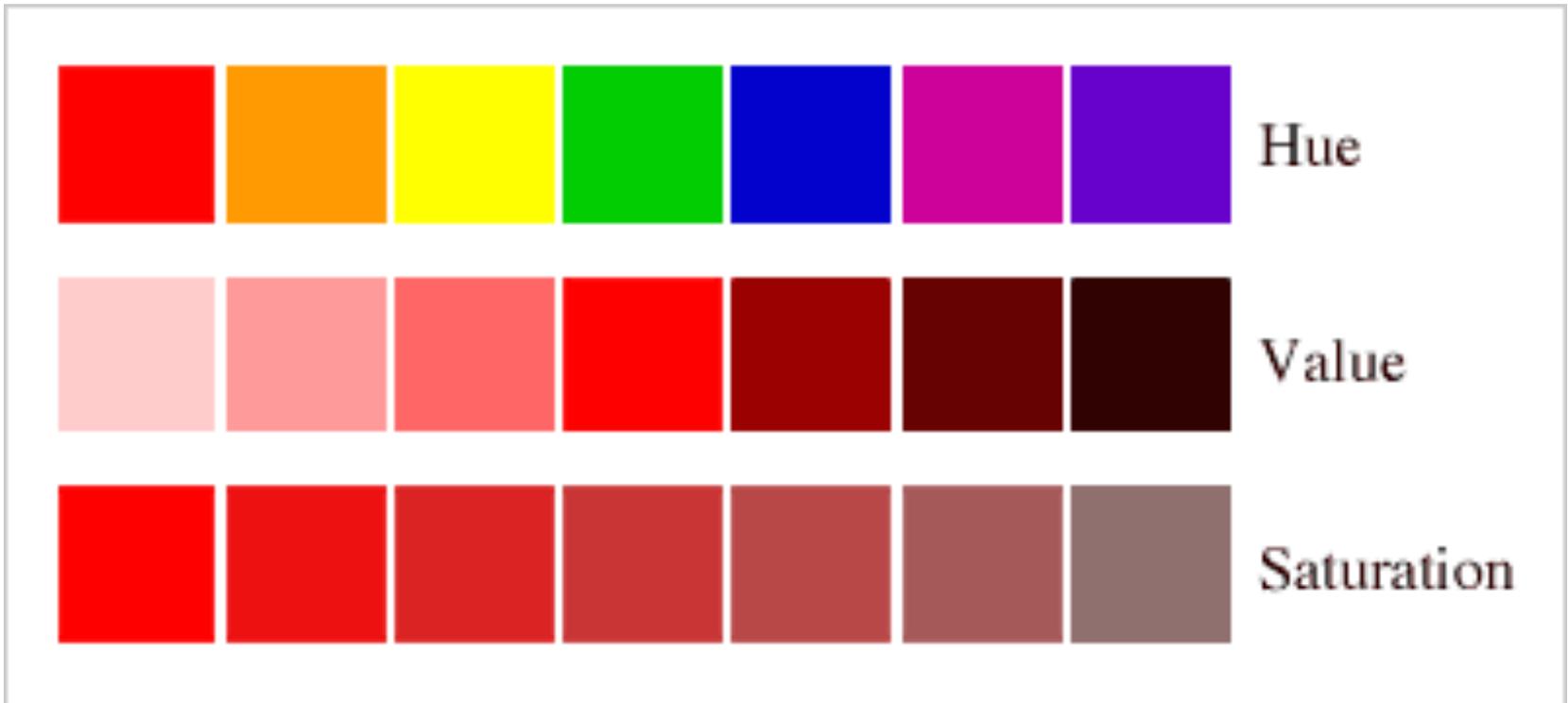
- Mix with Gray
- Mix with hues opposite on the color wheel:

Complement or Split complement

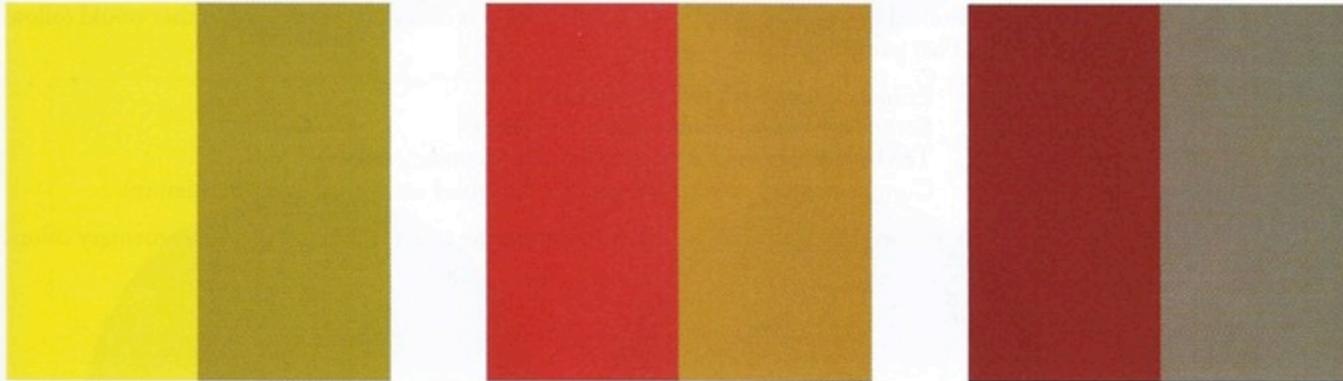


New York. Edgar Degas. After the Bath, Woman Drying Herself. c.1896. Oil on canvas, 2' 11" x 3' 9 2/3"

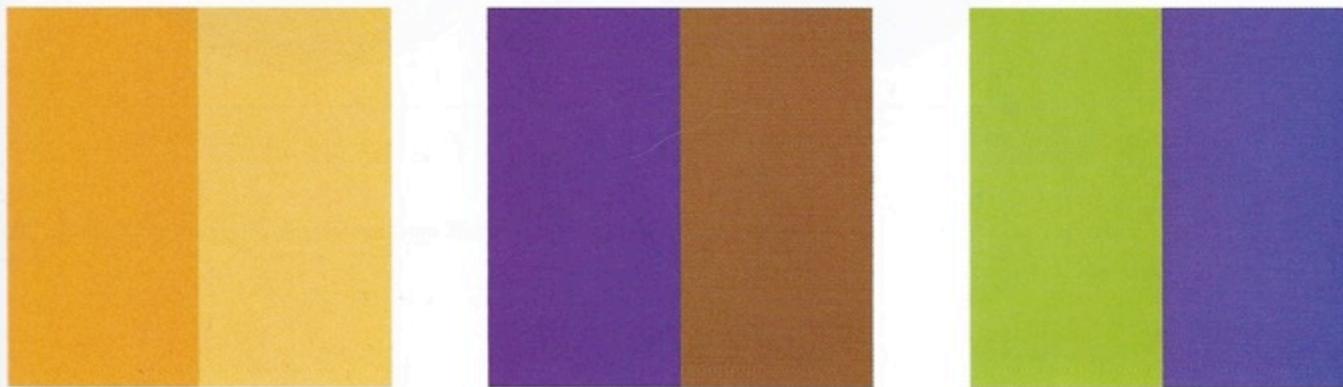
Hue & Saturation



Hue & Saturation



- Name the hue for each of the 6 colors above



- In each pairing, which color is more saturated?

Utilizing the 12 –Step Color Wheel

Color Schemes

1. Monochromatic
2. Analogous
3. Complementary
4. Split Complementary



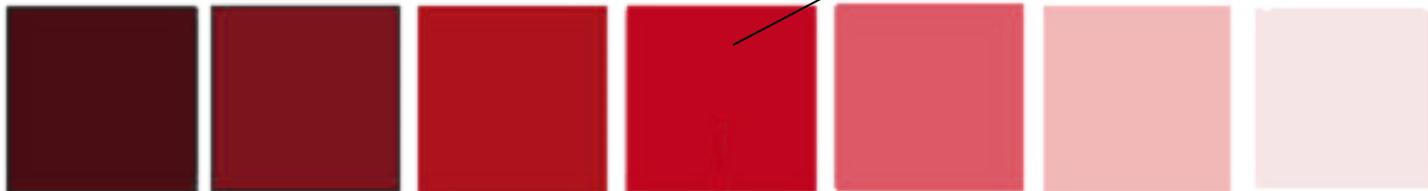
Color Schemes

1. Monochromatic – one hue plus shades and tints

2. Analogous

3. Complementary

4. Split Complementary



Color Schemes

1. Monochromatic – one hue plus shades and tints
2. Analogous – several hues that sit next to each other
3. Complementary
4. Split Complementary



Color Schemes

1. Monochromatic – one hue plus shades and tints
2. Analogous – several hues that sit next to each other
3. Complementary – Opposite colors on the color wheel
4. Split Complementary



Color Mixing

Complementary Colors –
opposite on color wheel

- Red-Green
- Blue-Orange
- Yellow-Purple

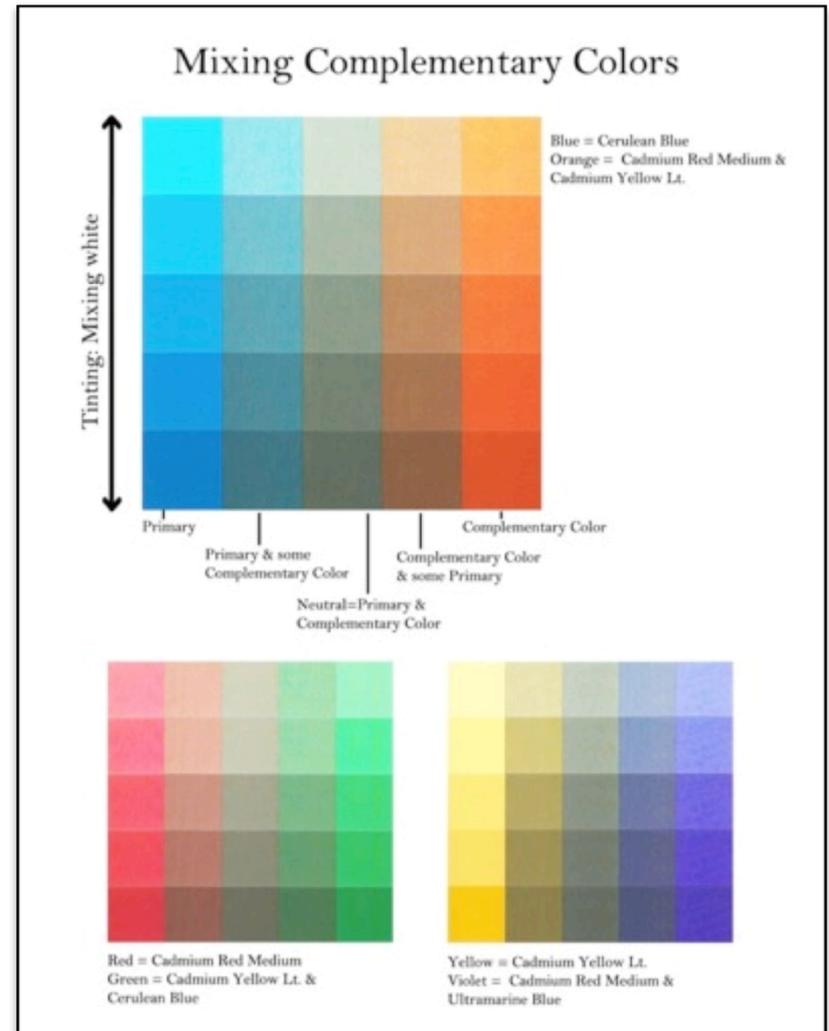
Uses:

- Placing 2 complementary colors side by side creates a brighter image.
- Mixing 2 complementary colors creates gray – desaturating the color



Mixing: Complementary Colors

- Mixing complementary colors will help you achieve more neutral, naturalistic tones
- **Avoid using black**, you can achieve darker and more neutral values by mixing complements. You will find that your painting will have stronger color interactions.



Intensity/Complementary Colors

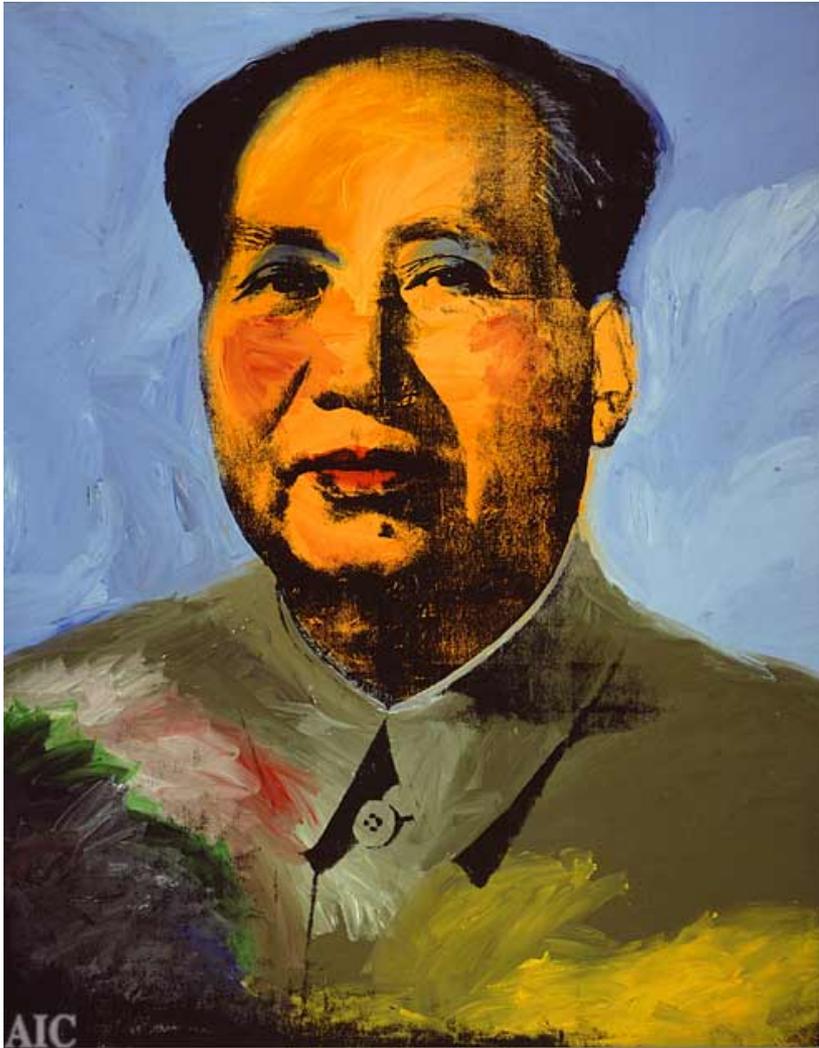
To Make Colors Appear
Brighter use:

- **Simultaneous contrast** –
when 2 complements are
next to each other they
increase the visual
brilliance of each other

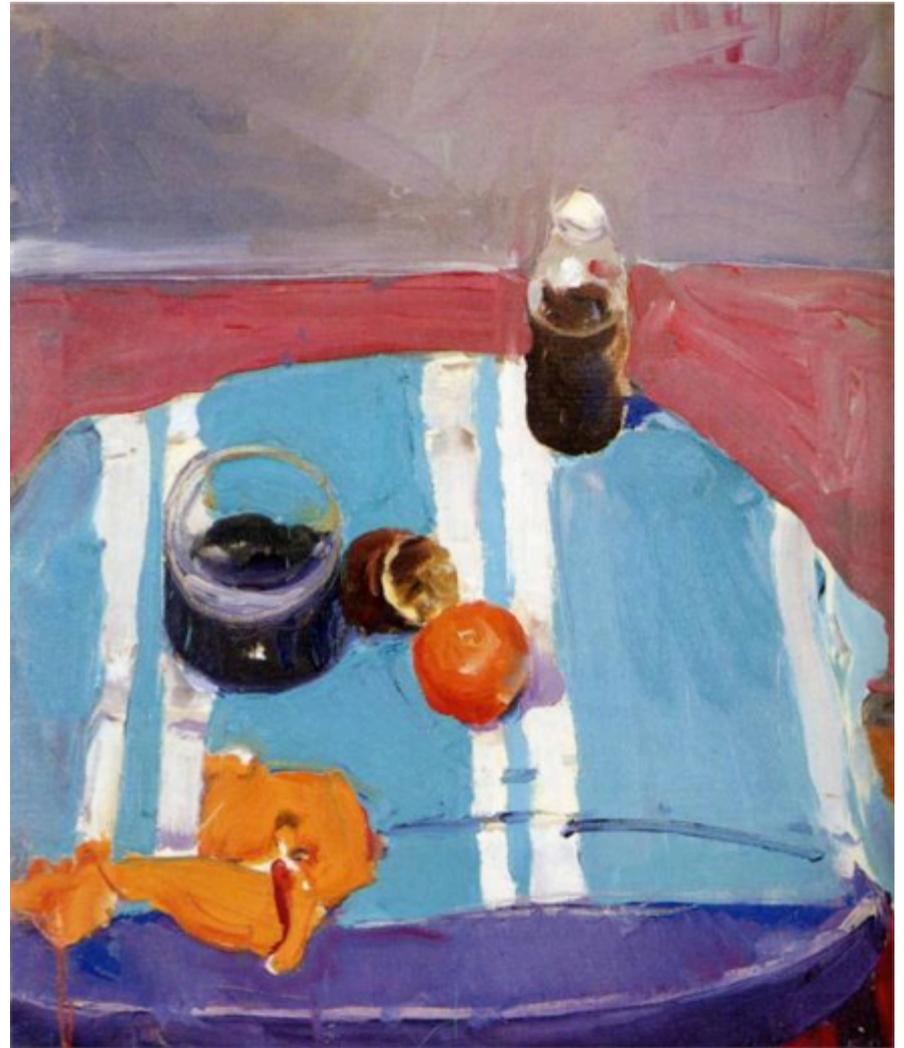


Casanova Table and Side Chairs. Domus
Design Collection, New York.

Using Simultaneous Contrast



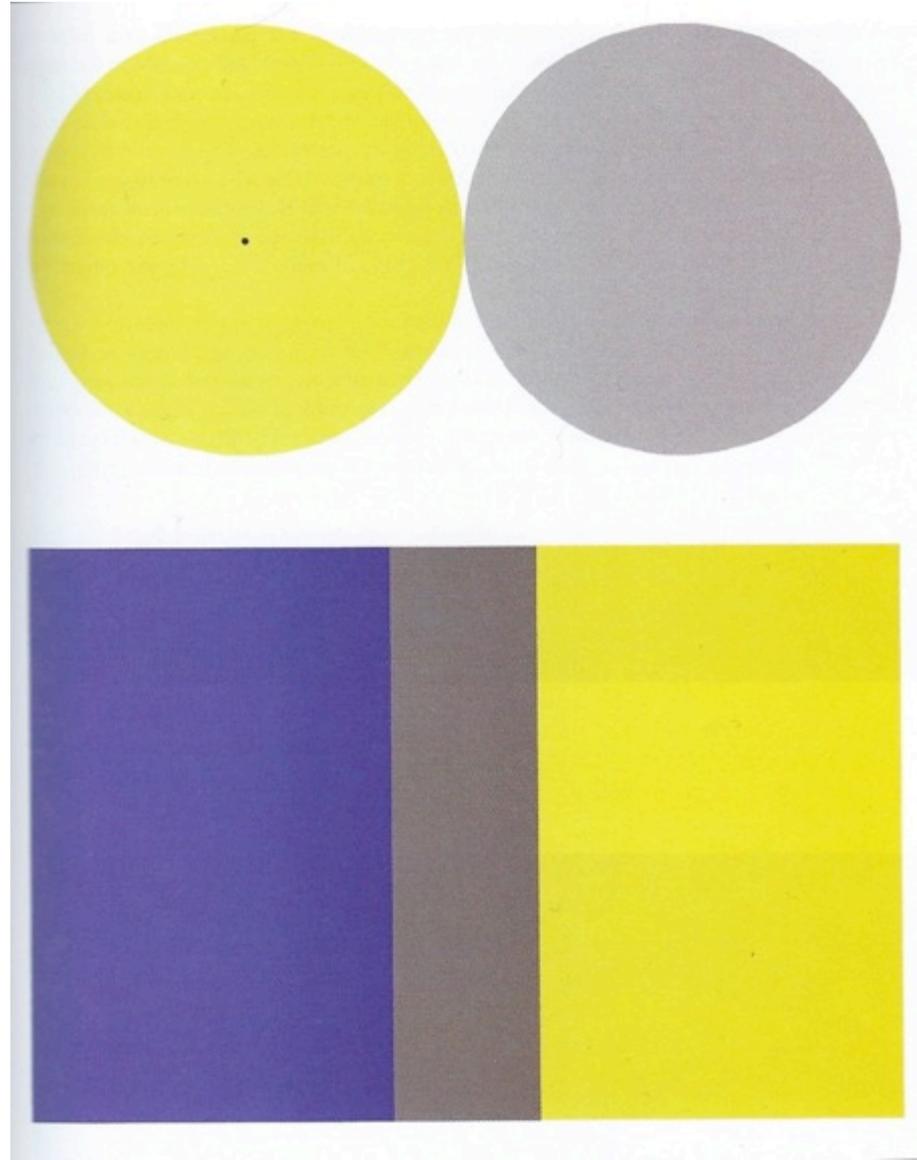
Andy Warhol - Mao



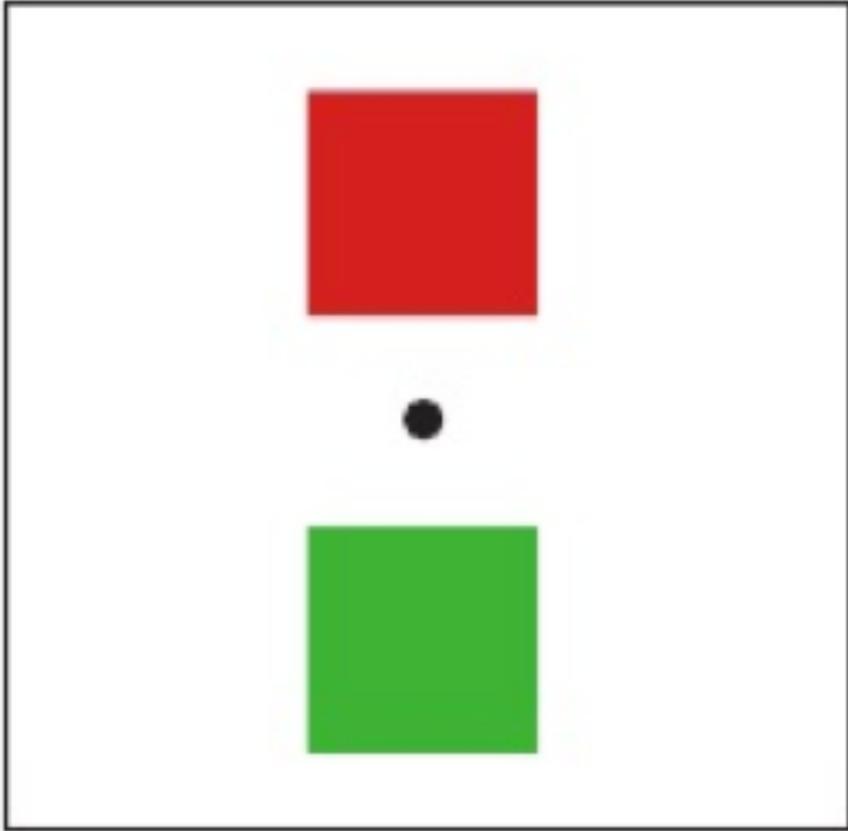
Still Life with Orange Peel, 1955
Richard Diebenkorn

Afterimage Effect

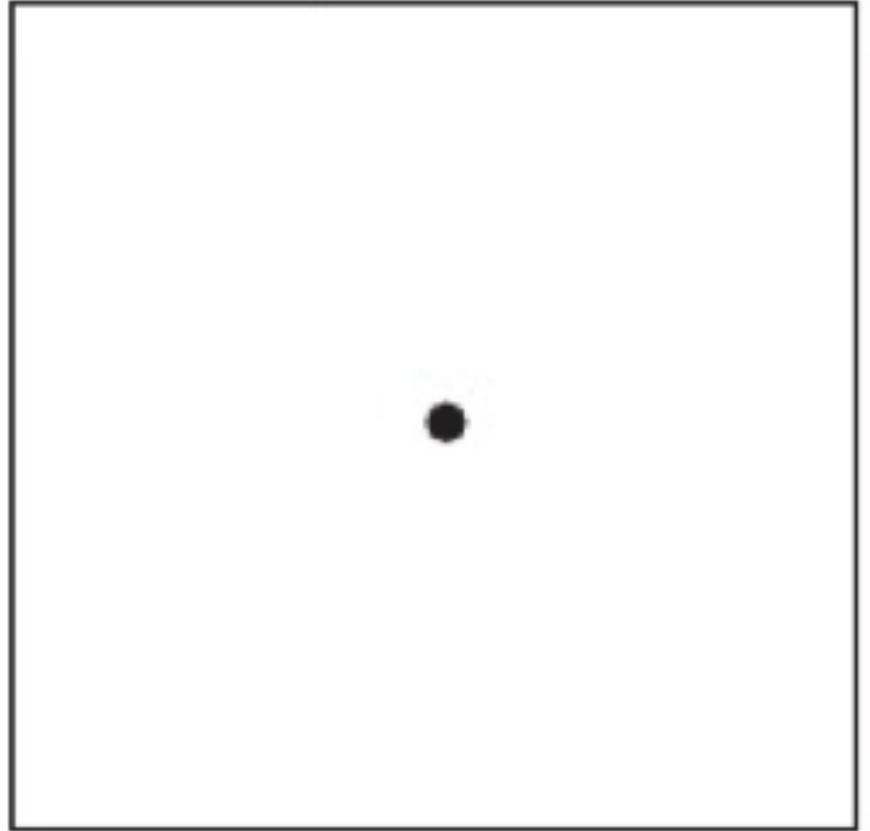
- *Afterimage effect* – when you stare at an intense color and then look away you will see the complementary color



Afterimage Effect



a



b

Color Schemes

1. Monochromatic – one hue plus shades and tints
2. Analogous – several hues that sit next to each other
3. Complementary – Opposite colors on the color wheel
4. Split Complementary – Two colors Adjacent to the complement



Mixing: Split Complements

Split Complements— one color and the two hues adjacent to the complement.

- Split complements function similarly to complementary colors when mixing and as a compositional tool
- More complex color structure and widely used



Split Complements - David Hockney uses greens and blue-greens to help balance the saturated red focal point.



Portrait of an Artist (Pool with Two Figures), 1972
David Hockney

Color Temperature

Color Temperature

- An artist may use warm and cool color relationships to create depth and volume.
- Color temperature is also used to create a strong sense of light



Warm Colors

Red, Orange, Yellow

- Warm colors advance spatially.
- Represents – Fire, Sunlight
- Implies – Happy, energy, anger



Georgia O'Keefe, "Red Canna"

Cool Colors

Blue, Green, Purple

- Cool colors recede spatially.
- Represents – Sky, Water, Grass
- Implies – Sadness, Depression, Night



Archibald J. Motley Jr. 'Getting' Religion.
1948. Oil on canvas, 2' 7 7/8" x 3' 3 1/4"..

Color and Space

Color's Spatial Properties

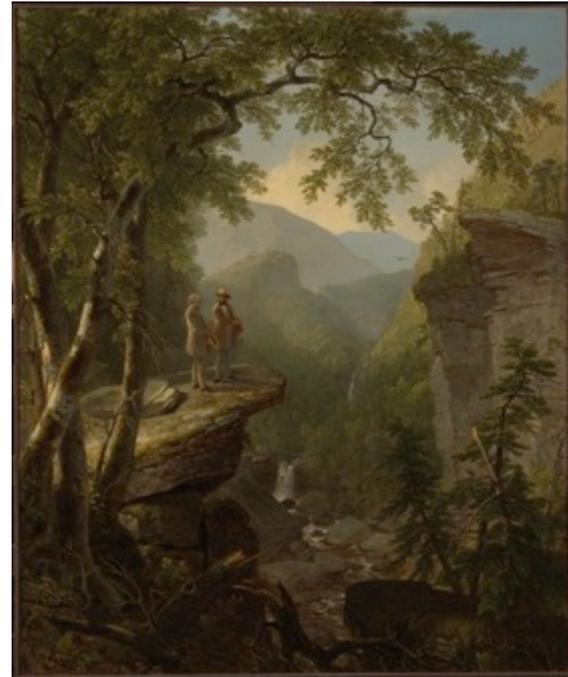
- Color creates depth
- Intense, warm colors come forward, cool colors go back.

Atmospheric Perspective

- As things go back into the distance dust in the air makes them fading to blue-gray.

Using color to Emphasize Flatness

- Color can also be used to flatten space



Asher B. Durand. Kindred Spirits. 1849. Oil on canvas, 3' 8" x 3'.



David Hockney. Mulholland Drive: The Road to the Studio. 1980. Acrylic on canvas, 7' 2" x 20' 3"