



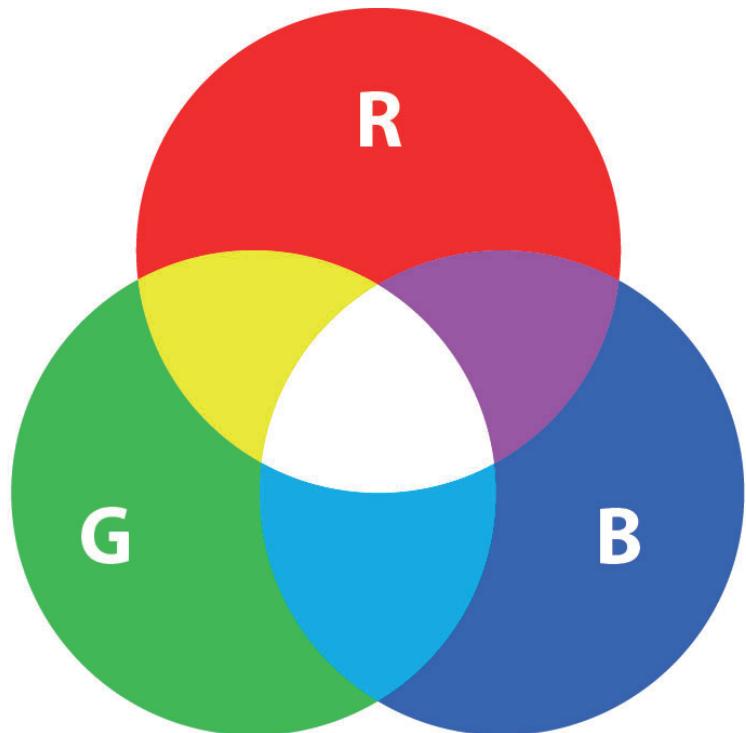
Fundamental notions of concept and color

(420-NCC-ID)

Class 07

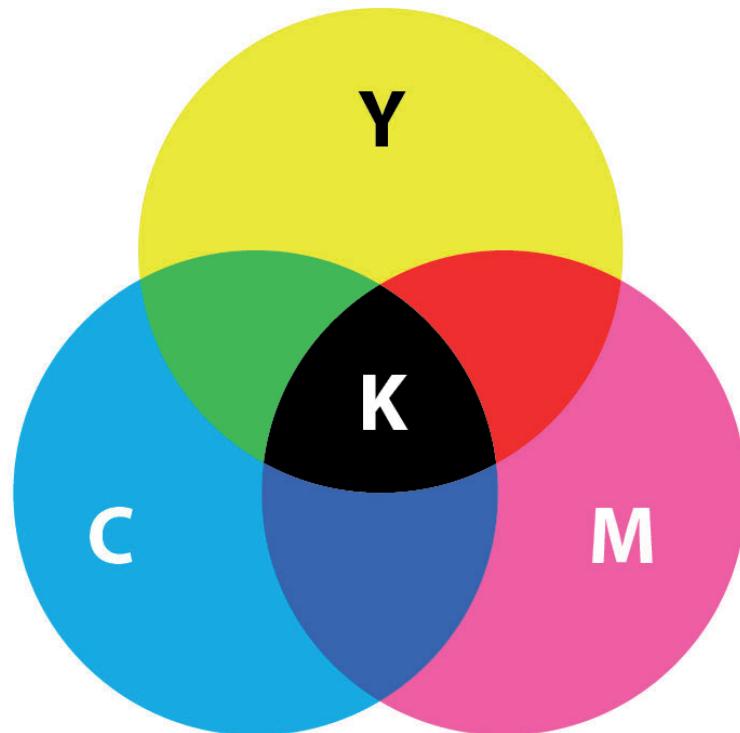
Color theory: color modes

Additive Color Model



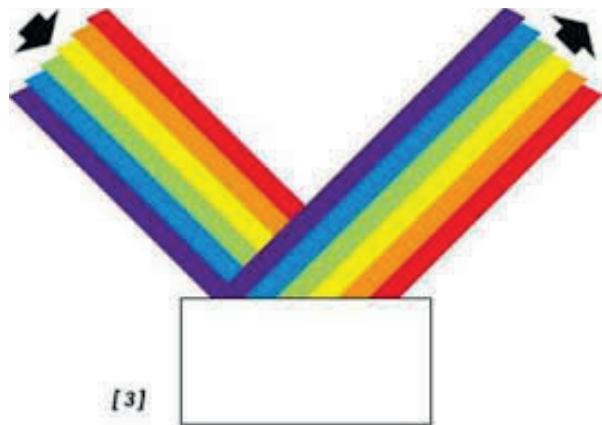
Light blends to
create white.
Monitors, TV's

Subtractive Color Model

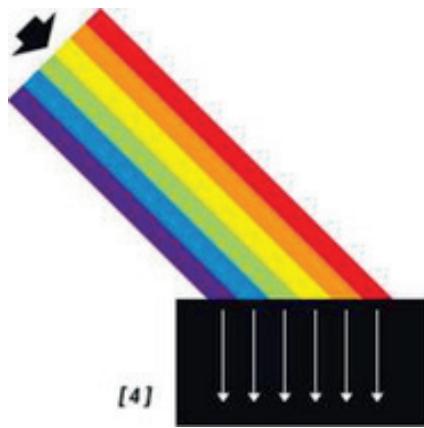


Reflected light from ink
blends to create black.
CMYK commercial print

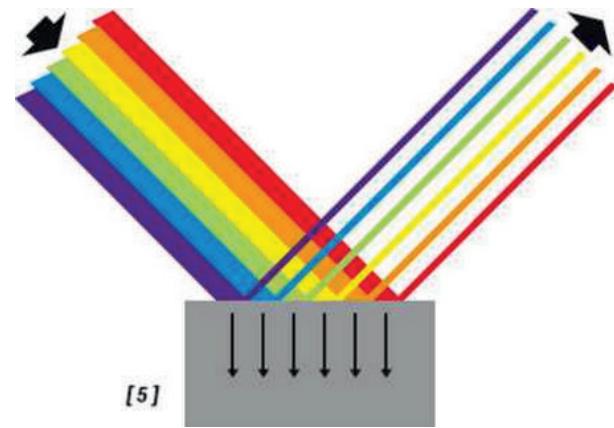
Color theory : color perception



White reflects all the light

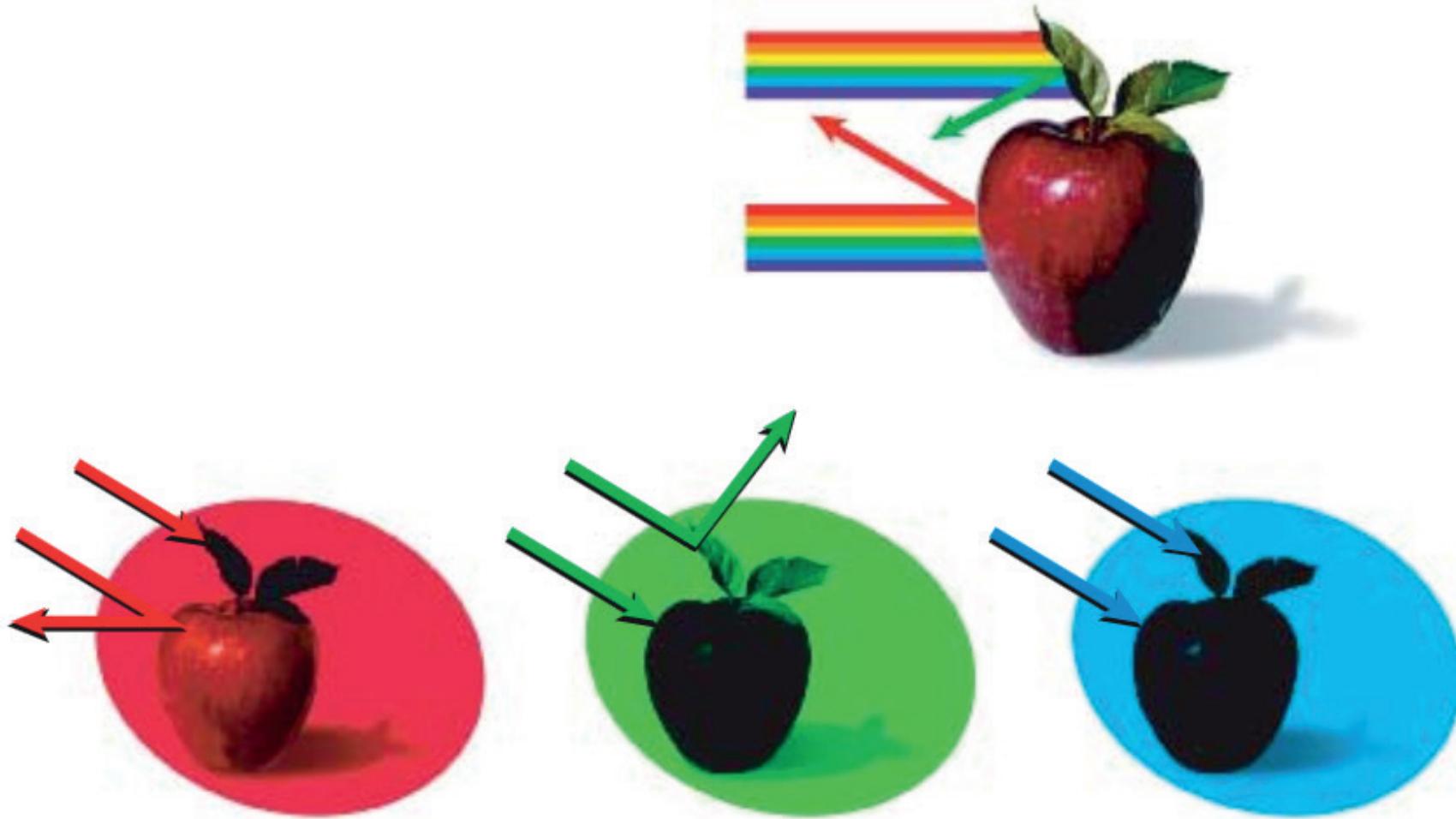


Black absorbs all the light



Gray absorbs light equally

Color theory : color perception

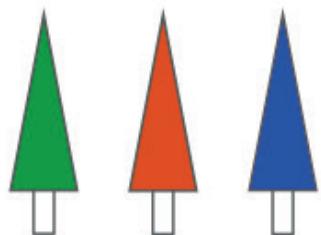
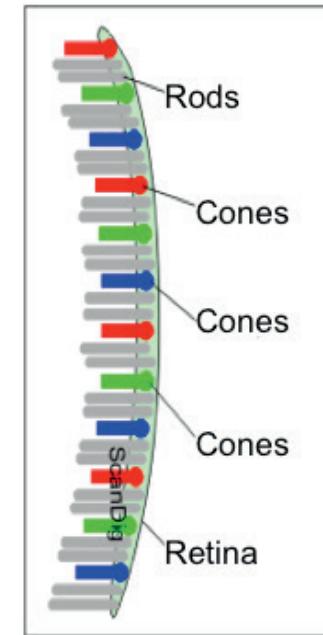
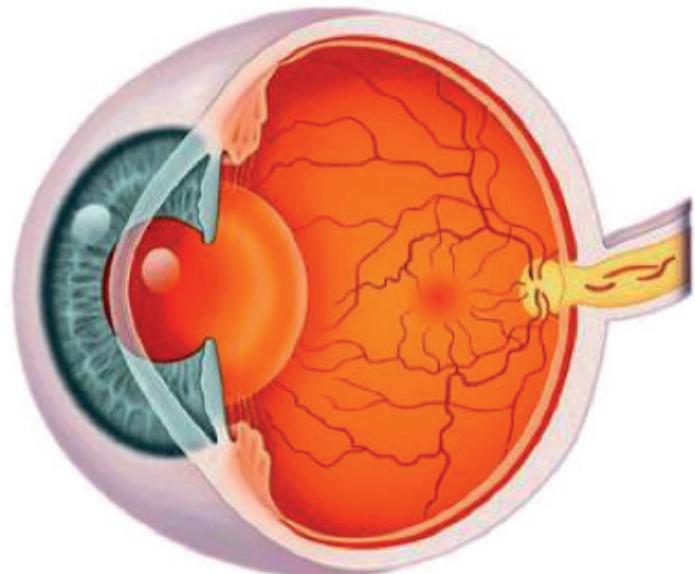


In red light, the apple appears red because it reflects the red light. But the leaves look black.

In green light, the apple appears black because no red light strikes it. But the leaves look green.

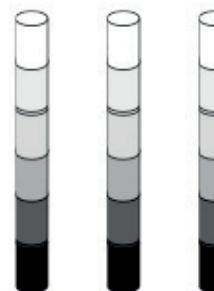
In blue light, both the apple and the leaves appear black.

Color theory: color perception



Cone cells

- Color detectors



Rod cells

- Lightness detectors

Color theory : hue, value and saturation

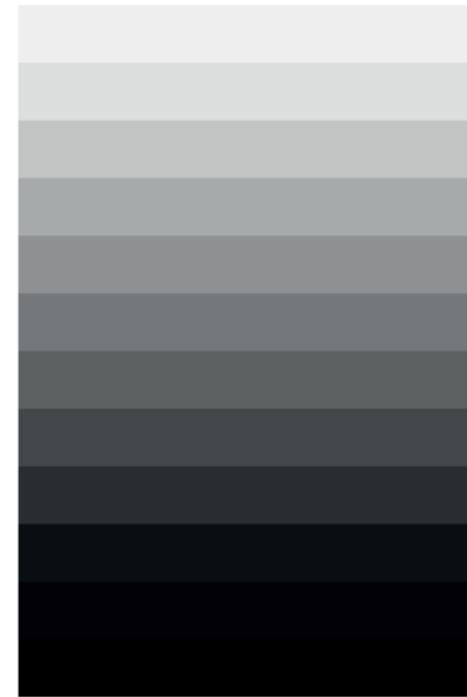
HUE



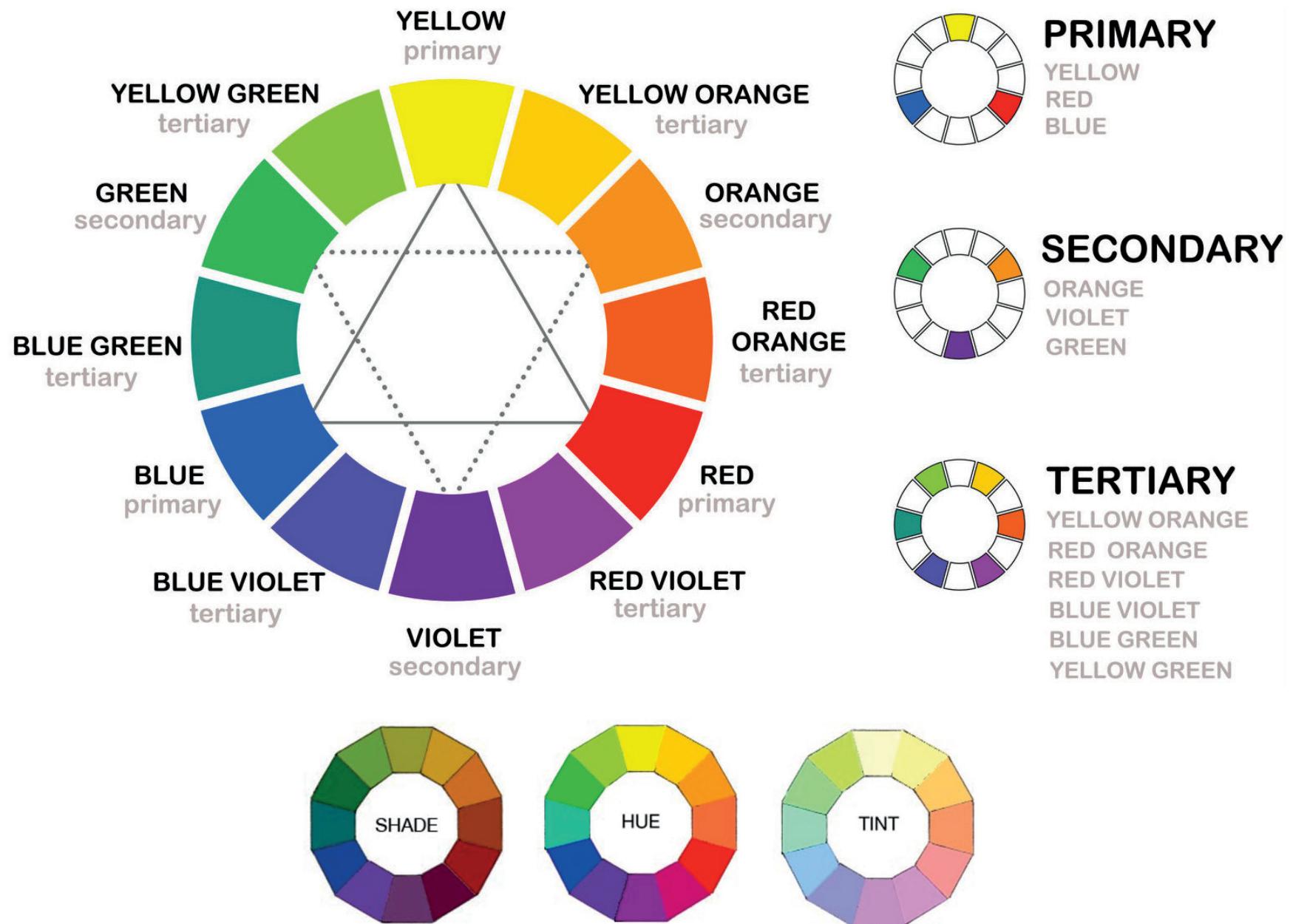
SATURATION



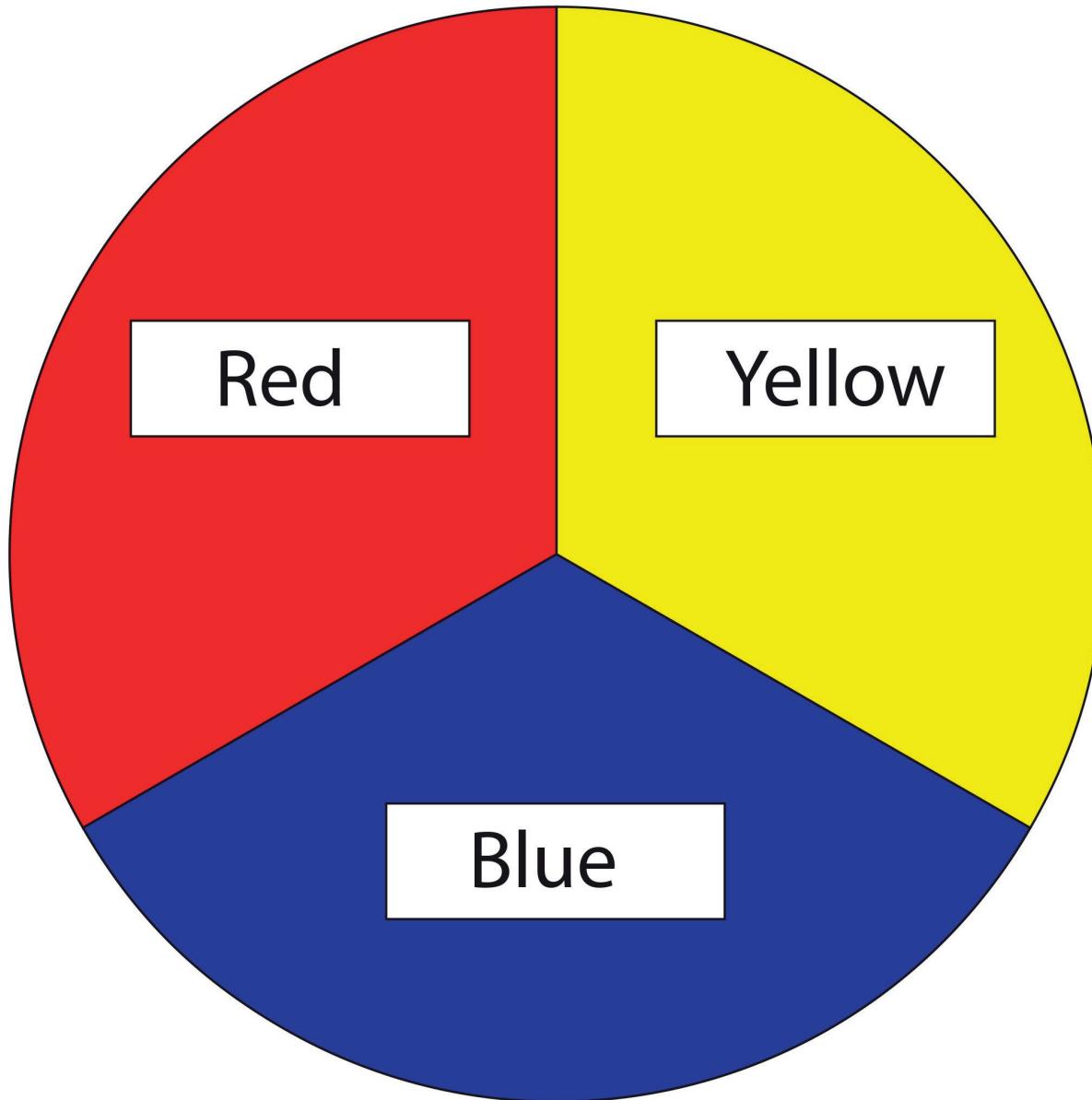
VALUE



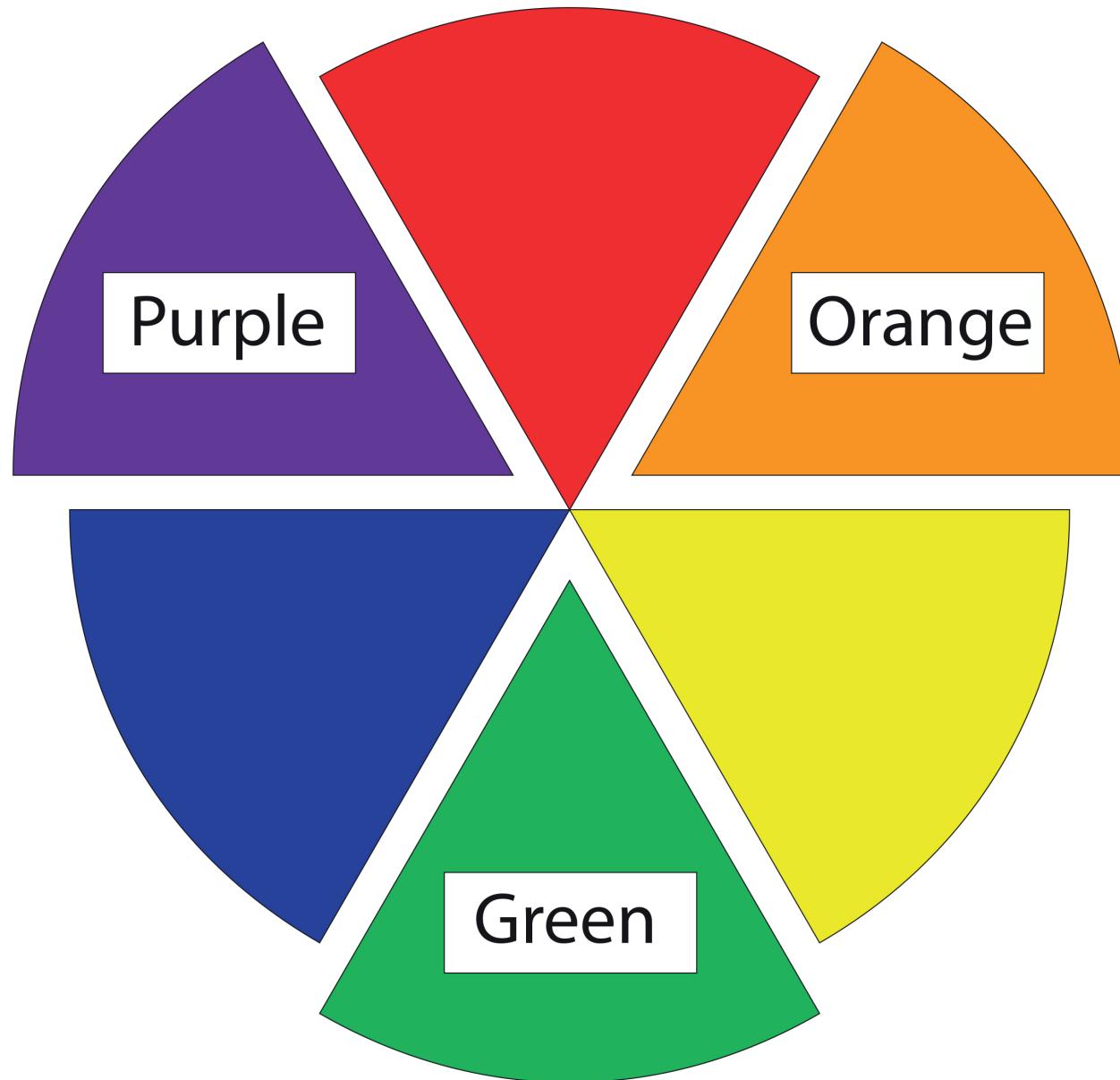
Color theory: color wheel



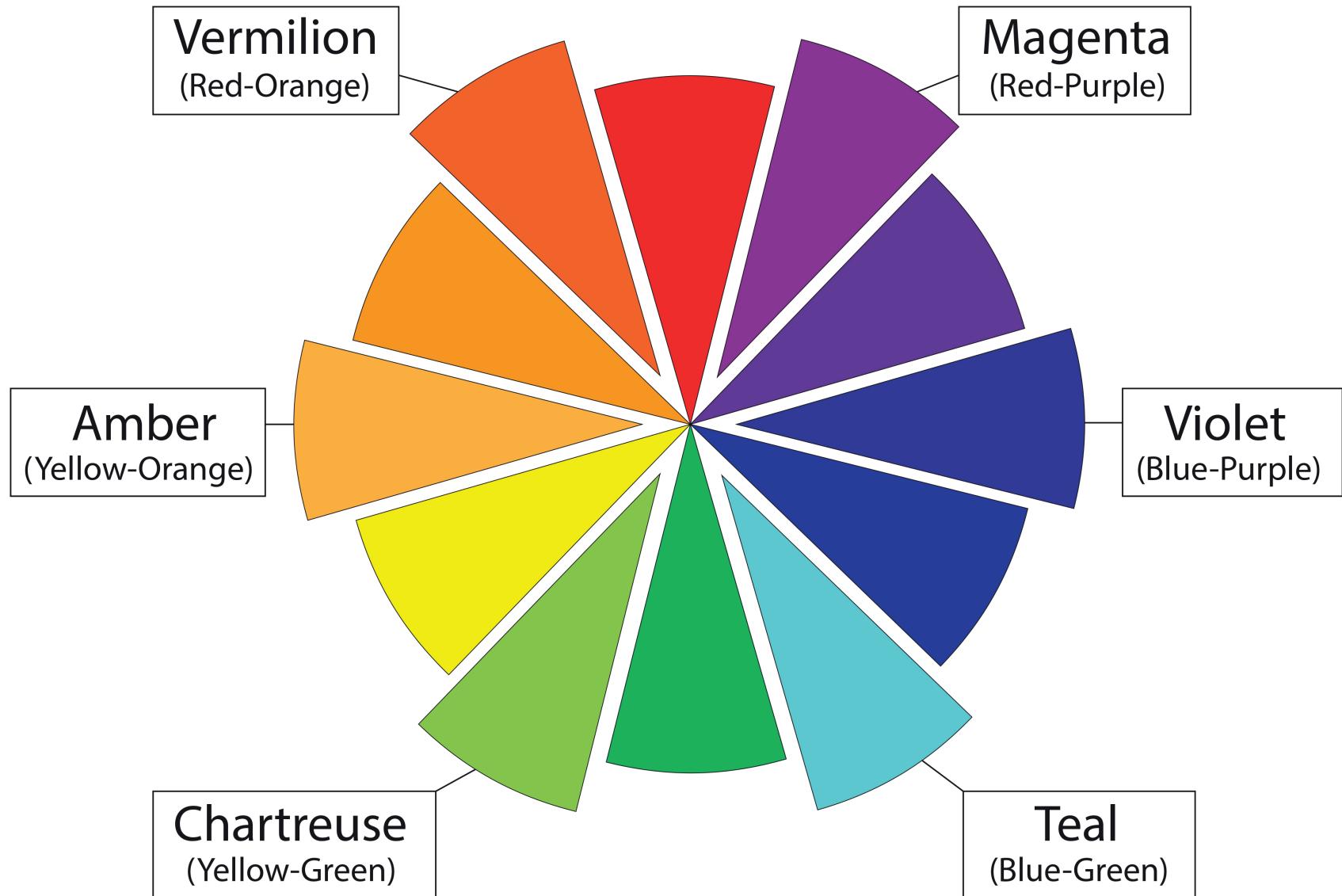
Color theory : primary colors



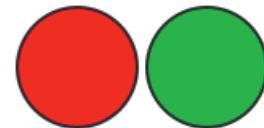
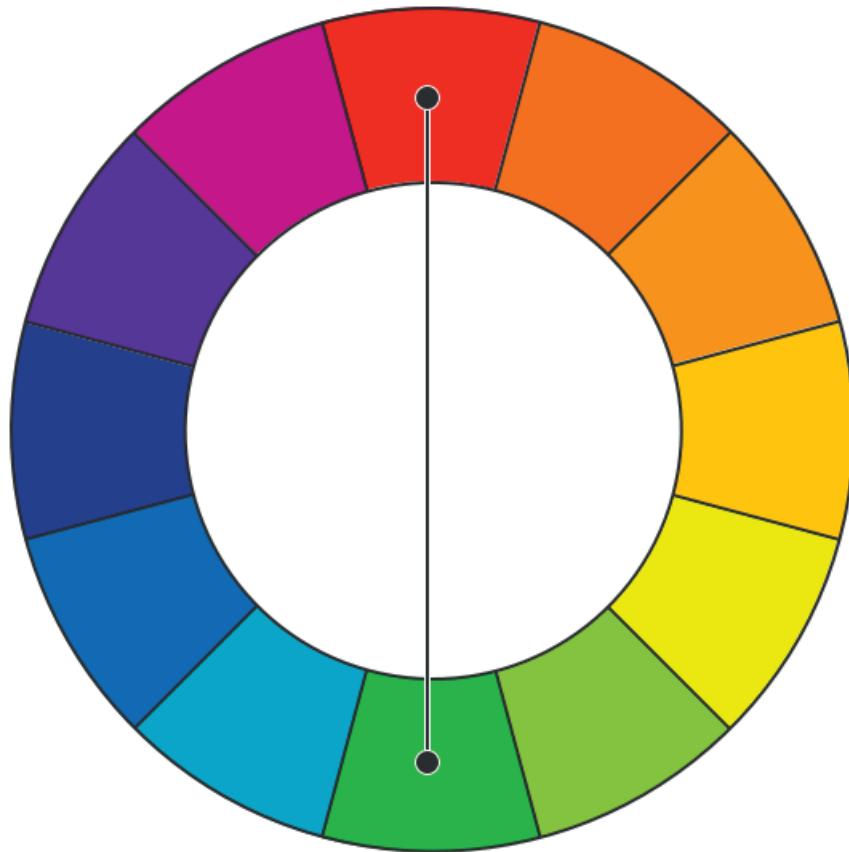
Color theory : secondary colors



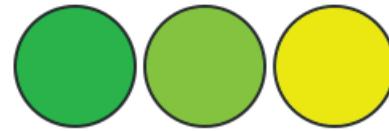
Color theory : tertiary colors



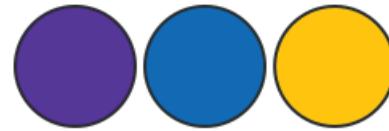
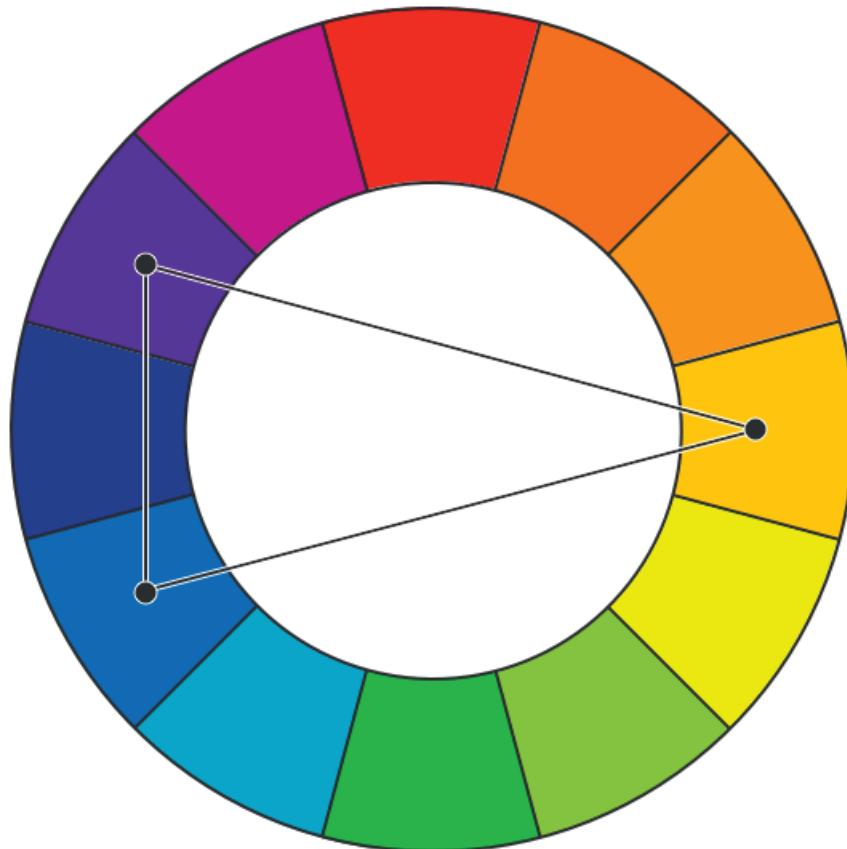
Color schemes: complementary scheme



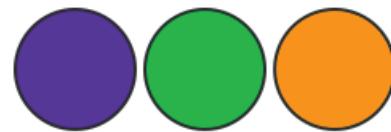
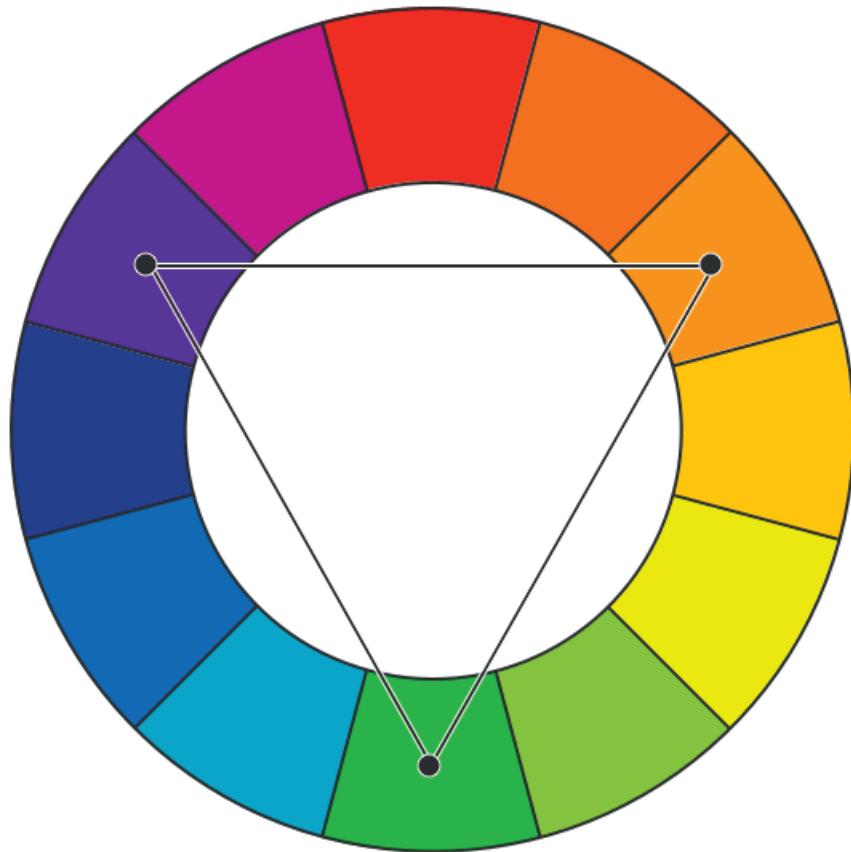
Color schemes: analogous scheme



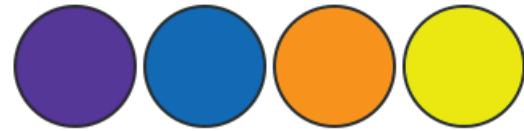
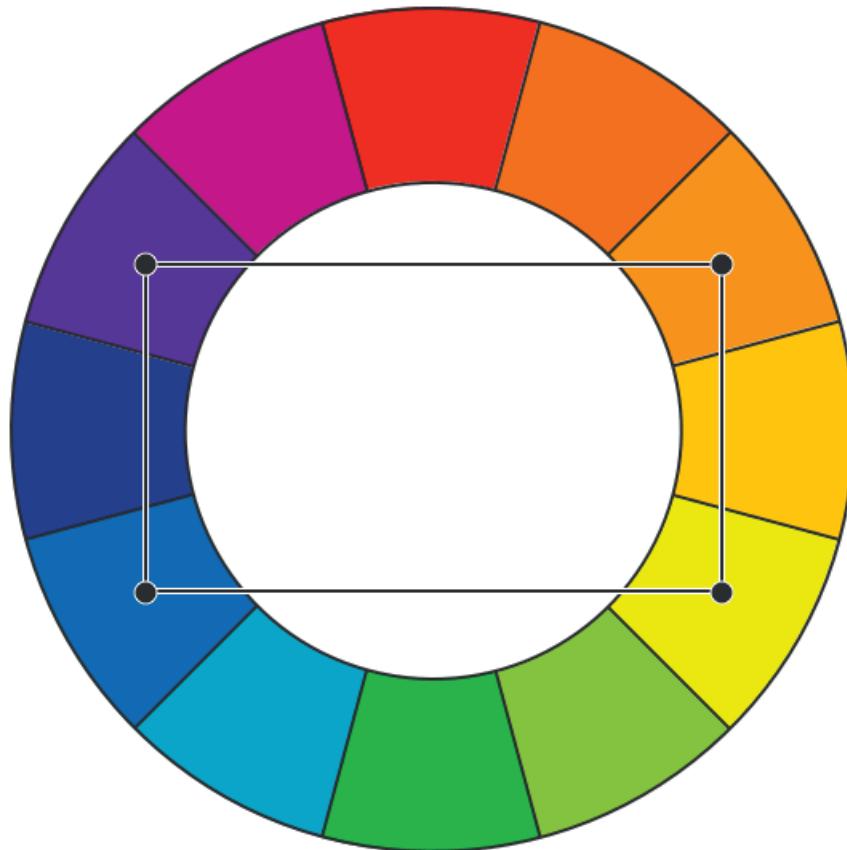
Color schemes: split complementary scheme



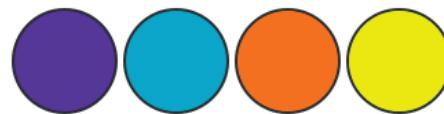
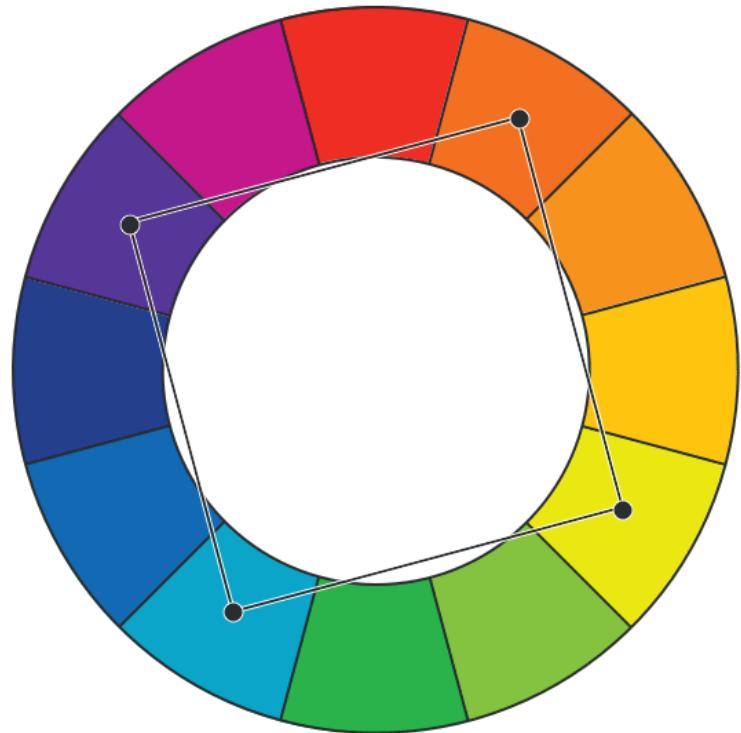
Color schemes : triadic scheme



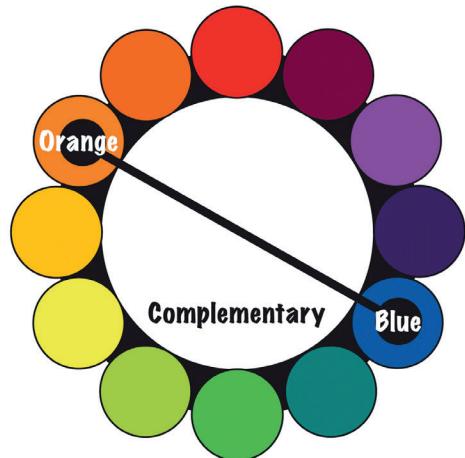
Color schemes : double-split complementary scheme (rectangle)



Color schemes : double-split complementary scheme (square)



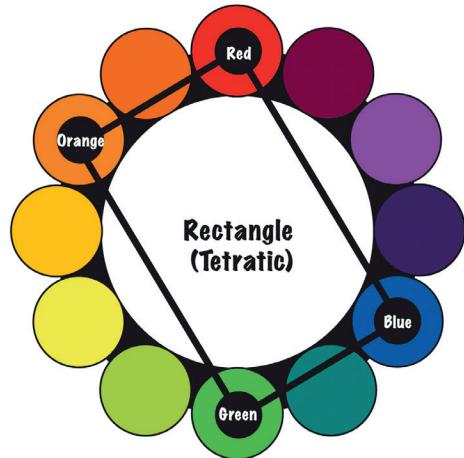
Color theory : color schemes



Complementary color scheme

Colors that are opposite each other on the color wheel are considered to be complementary colors

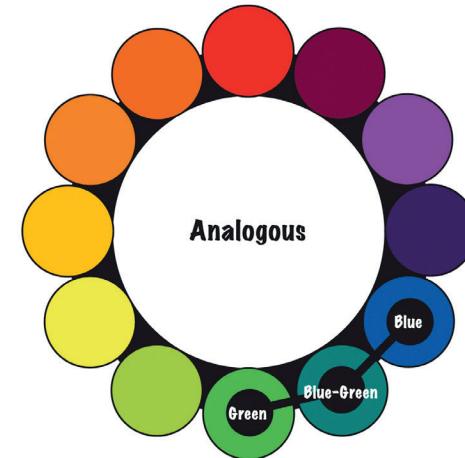
(example: Orange and Blue).



Rectangle (Tetradic) color scheme

The rectangle or tetradic color scheme uses four colors arranged into two complementary pairs.

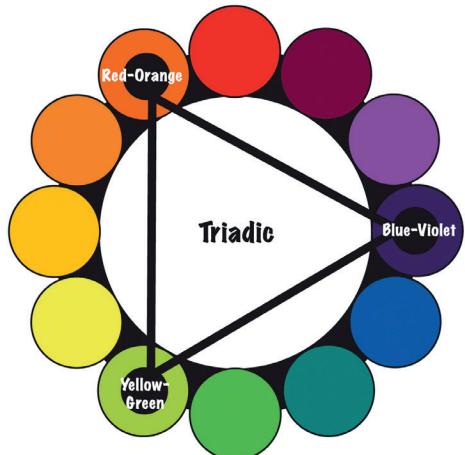
(example: Orange, Red, Blue and Green)



Analogous color scheme

Analogous color schemes use colors that are next to each other on the color wheel.

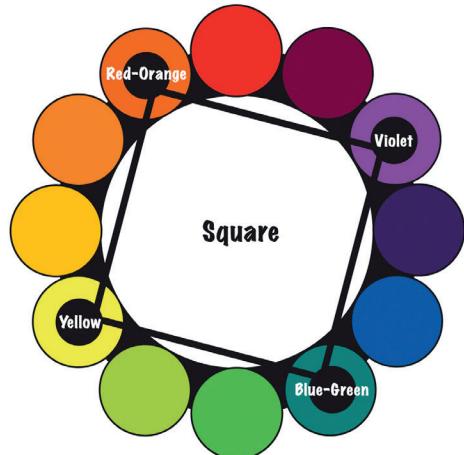
(example: Green, Blue-Green and Blue)



Triadic color scheme

A triadic color scheme uses colors that are evenly spaced around the color wheel.

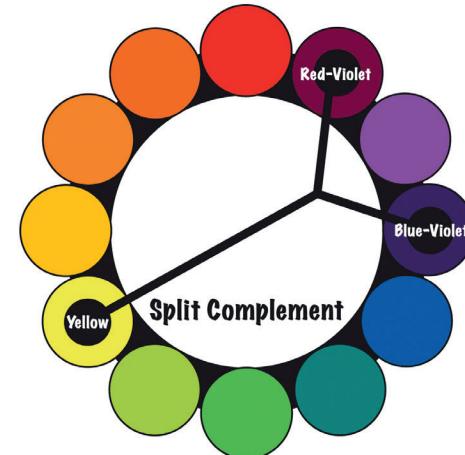
(example: Yellow-Green, Red-Orange and Blue-Violet)



Square color scheme

The square color scheme is similar to the rectangle, but with all four colors spaced evenly around the color circle.

(example: Yellow, Red-Orange, Violet and Blue-Green)

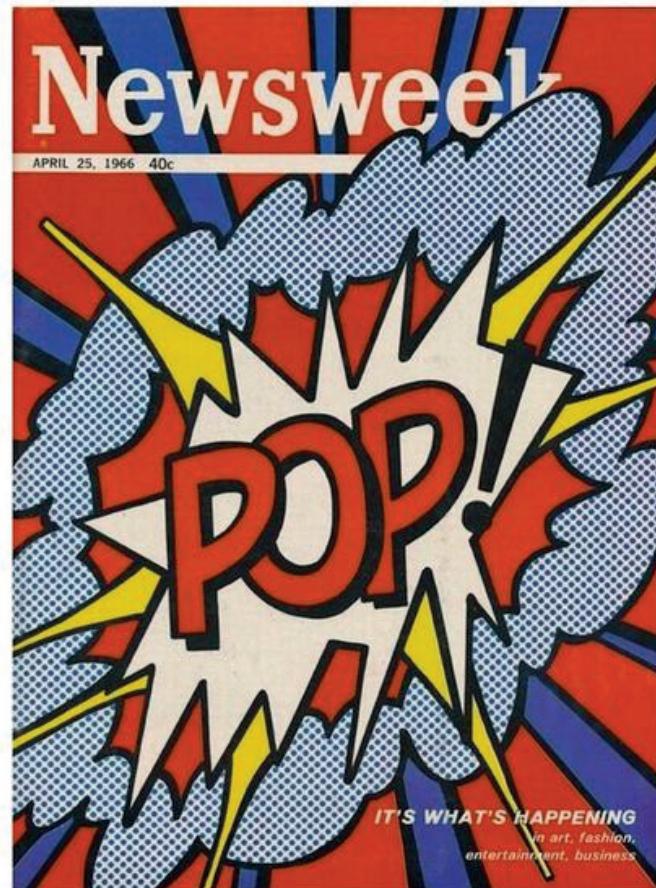


Split-Complementary color scheme

The split-complementary color scheme is a variation of the complementary color scheme. In addition to the base color, it uses the two colors adjacent to its complement.

(example: Yellow, Red-Violet and Blue-Violet)

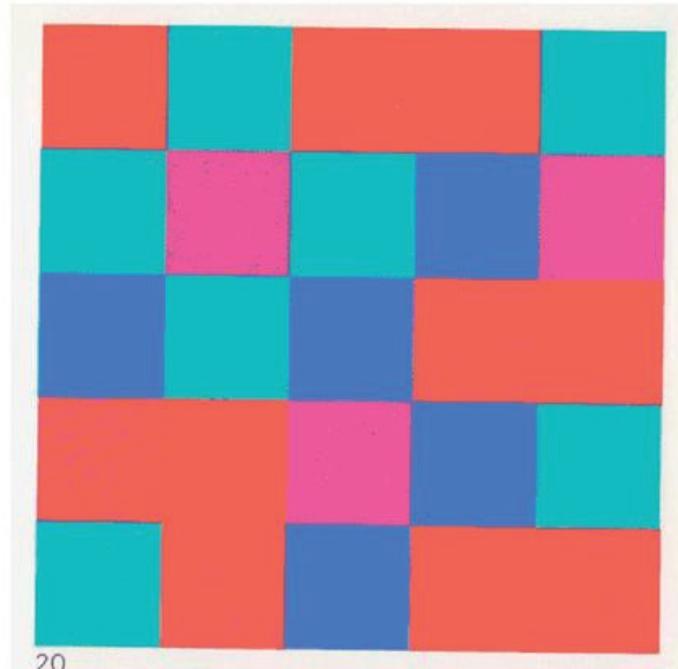
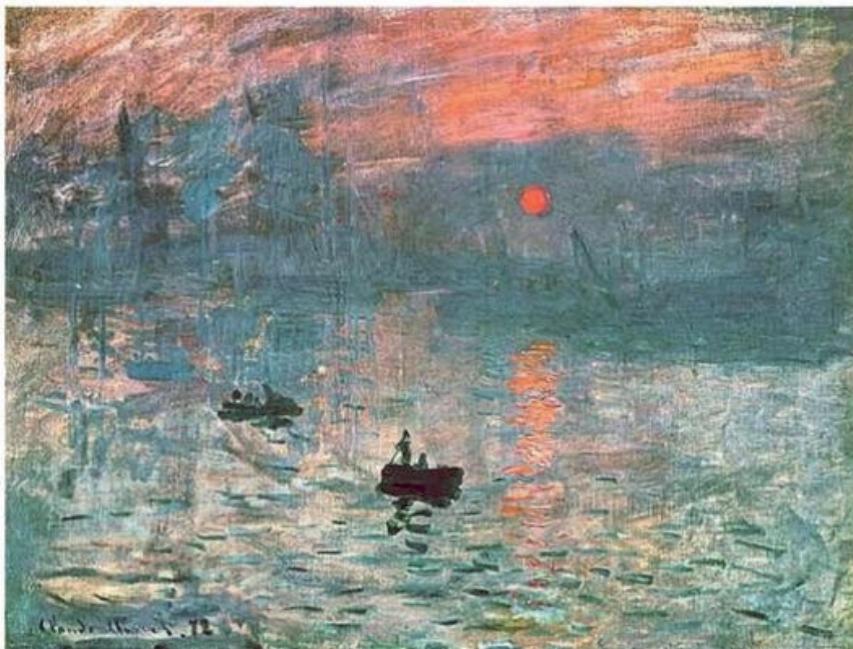
Color theory: pure color (hue) contrast



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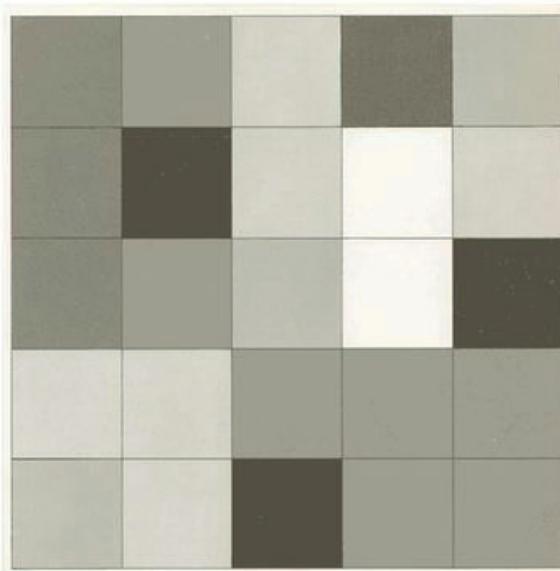
ense

Color theory: cool/warm contrast

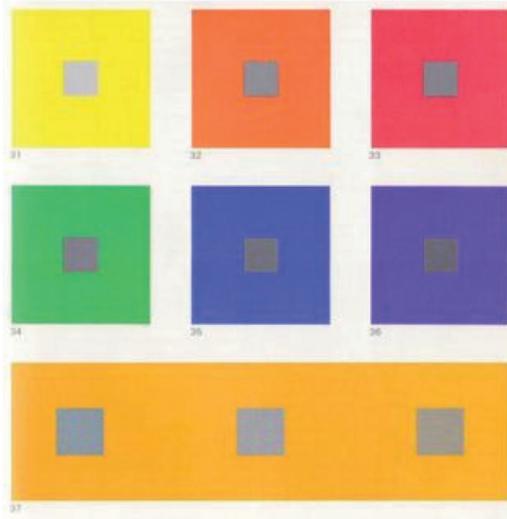


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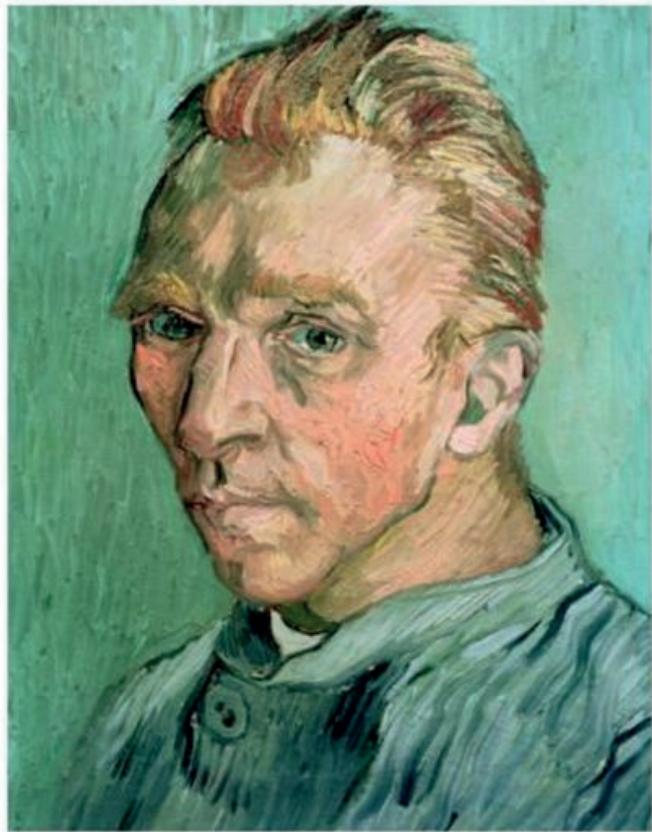
Color theory : light-dark contrast



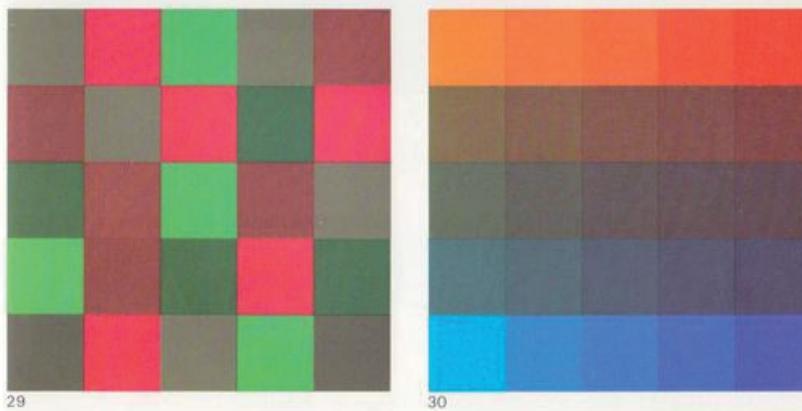
Color theory : simultaneous contrast



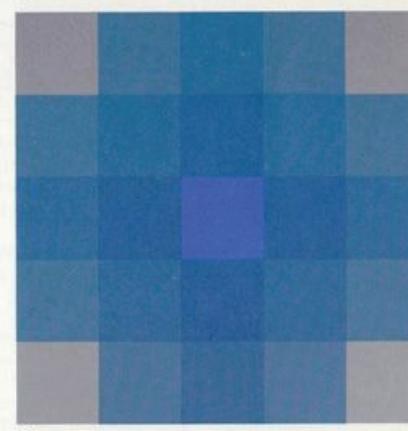
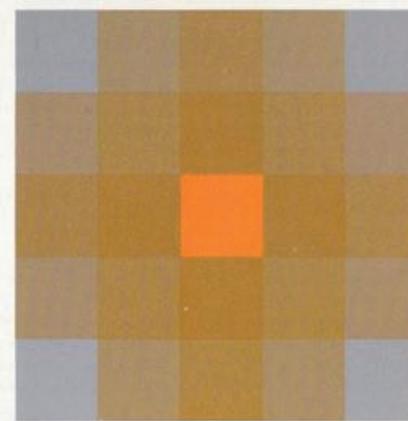
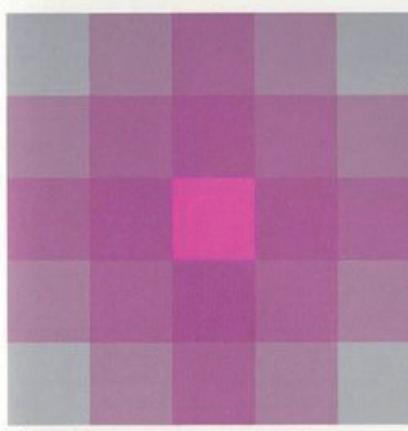
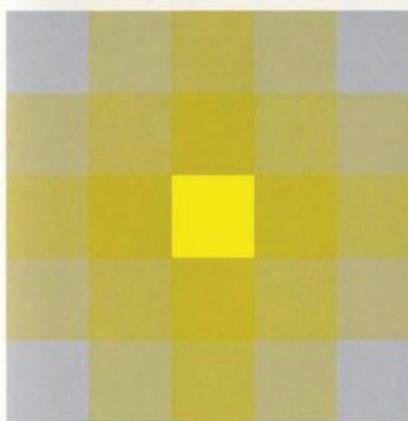
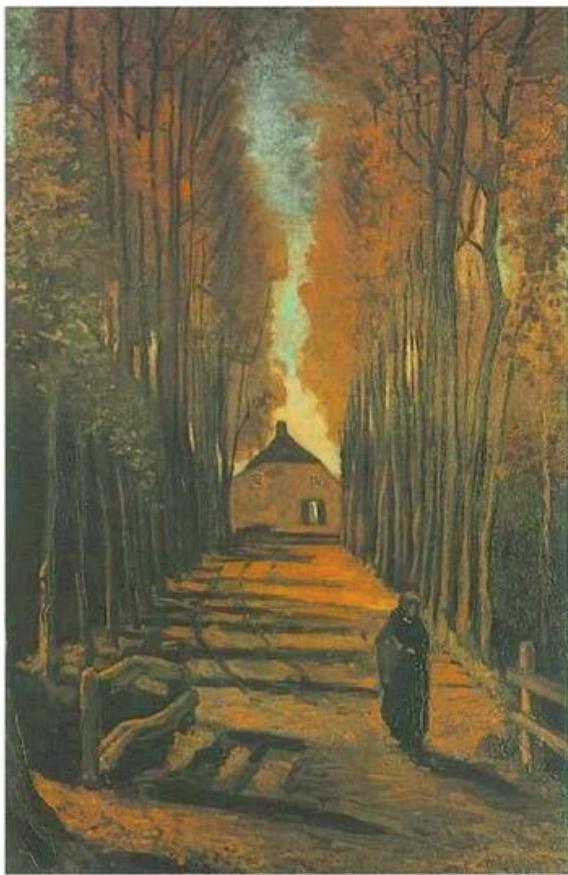
Color theory: complementary contrast



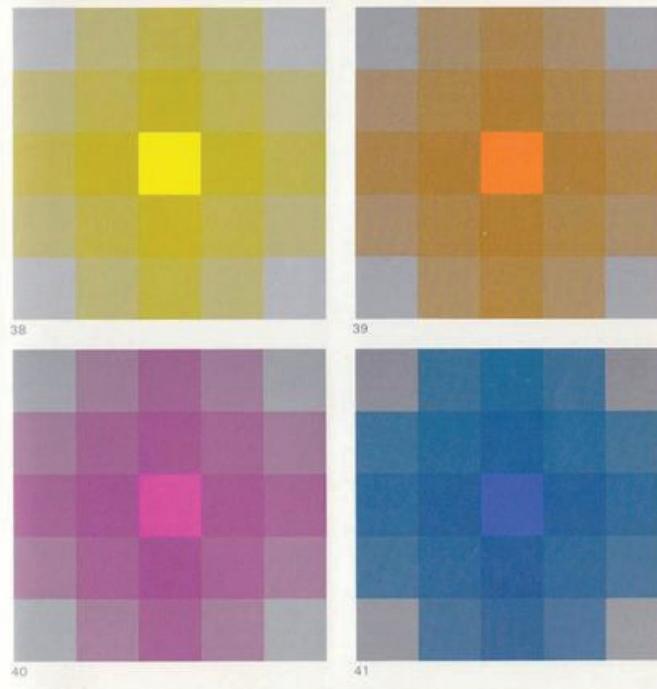
AllPosters



Color theory : saturation contrast (1)



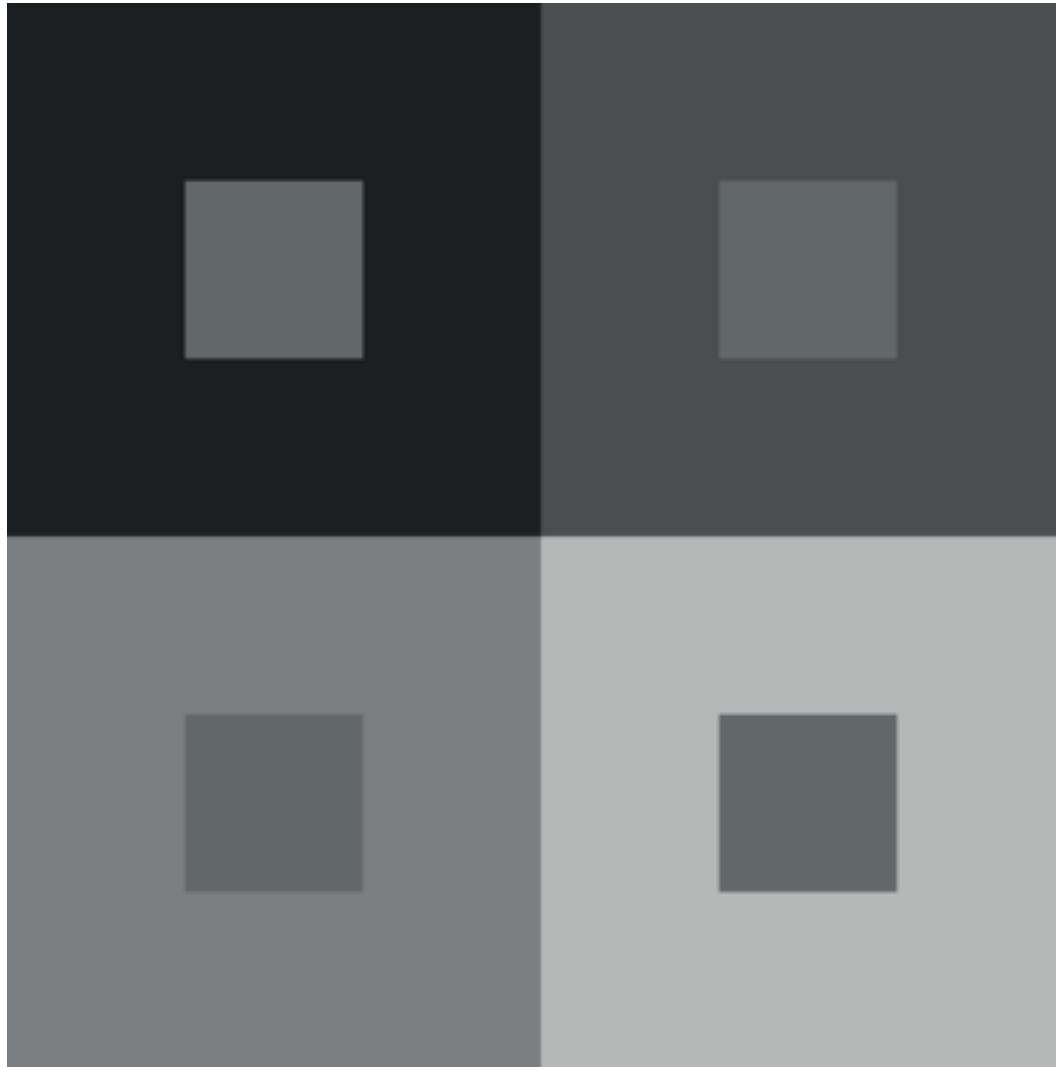
Color theory : saturation contrast (2)



Saturation Contrast 2

Contrast of saturation is the contrast between pure, intense colors and dull, diluted colors.

Color illusions: luminosity contrast



**Every small squares are exactly the same shades of grey,
but they appear lighter on a dark background and darker on a light background.**

Color illusions: luminosity contrast



The gray rectangles are exactly the same shades of grey,
but it appears lighter on dark background and darker on light background

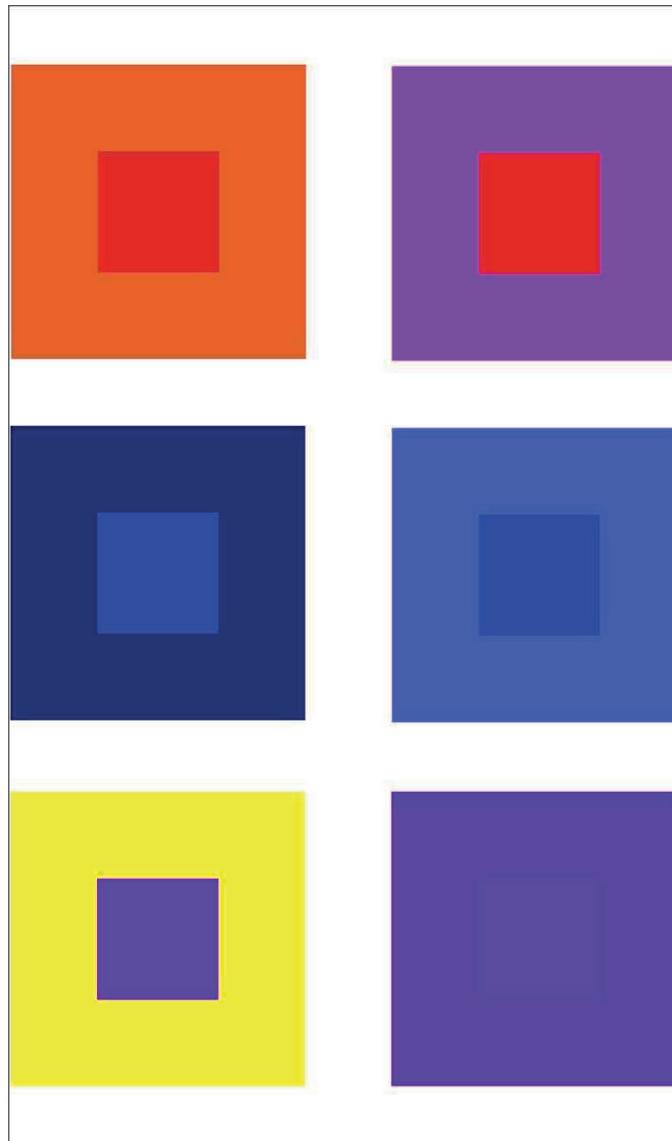
Color illusions: luminosity contrast



Same illusion, here.

The rectangle is evenly grey, but it appears lighter over a lighter background.

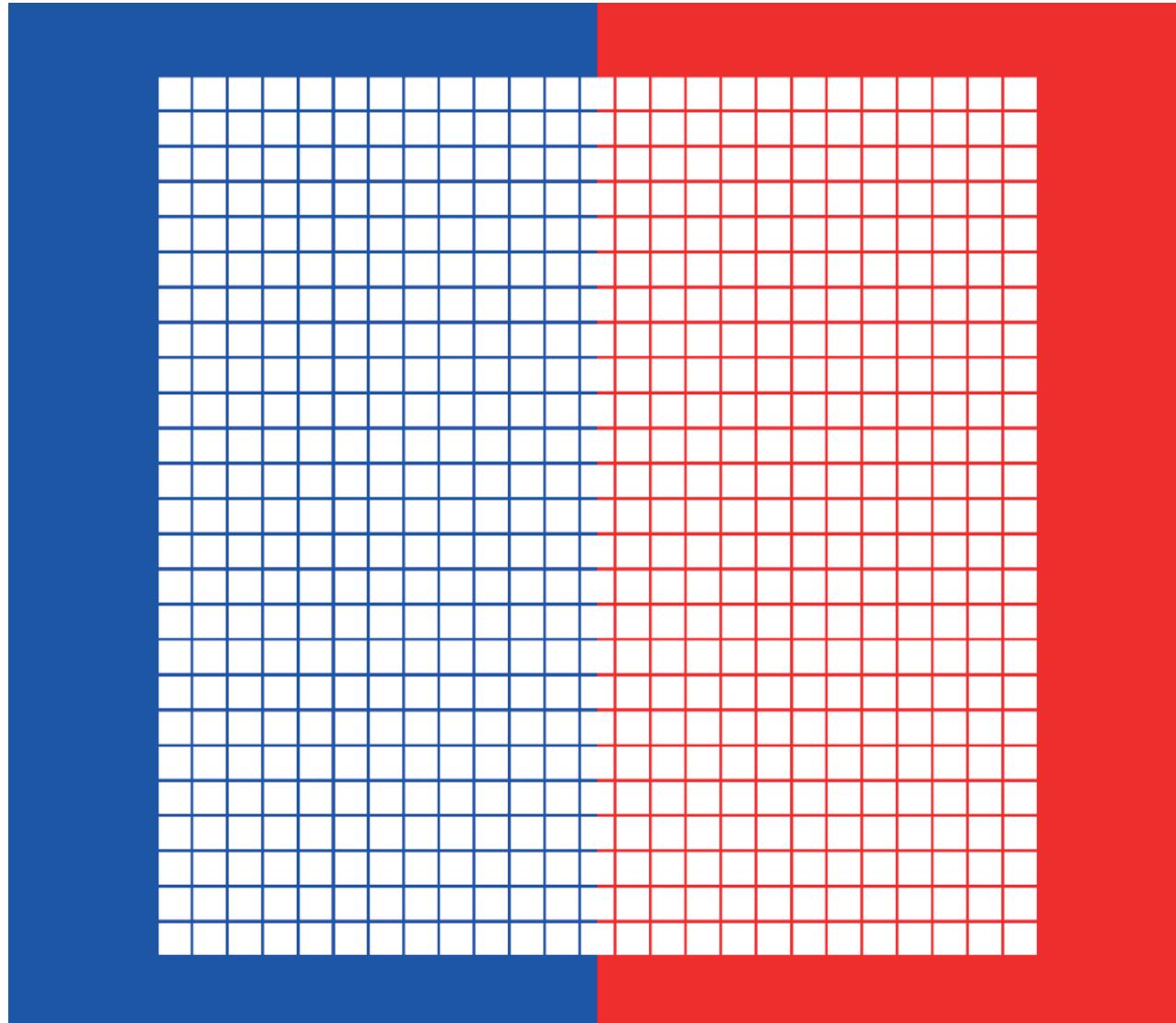
Color illusions: saturation contrast



On dull background, an element seems more saturated

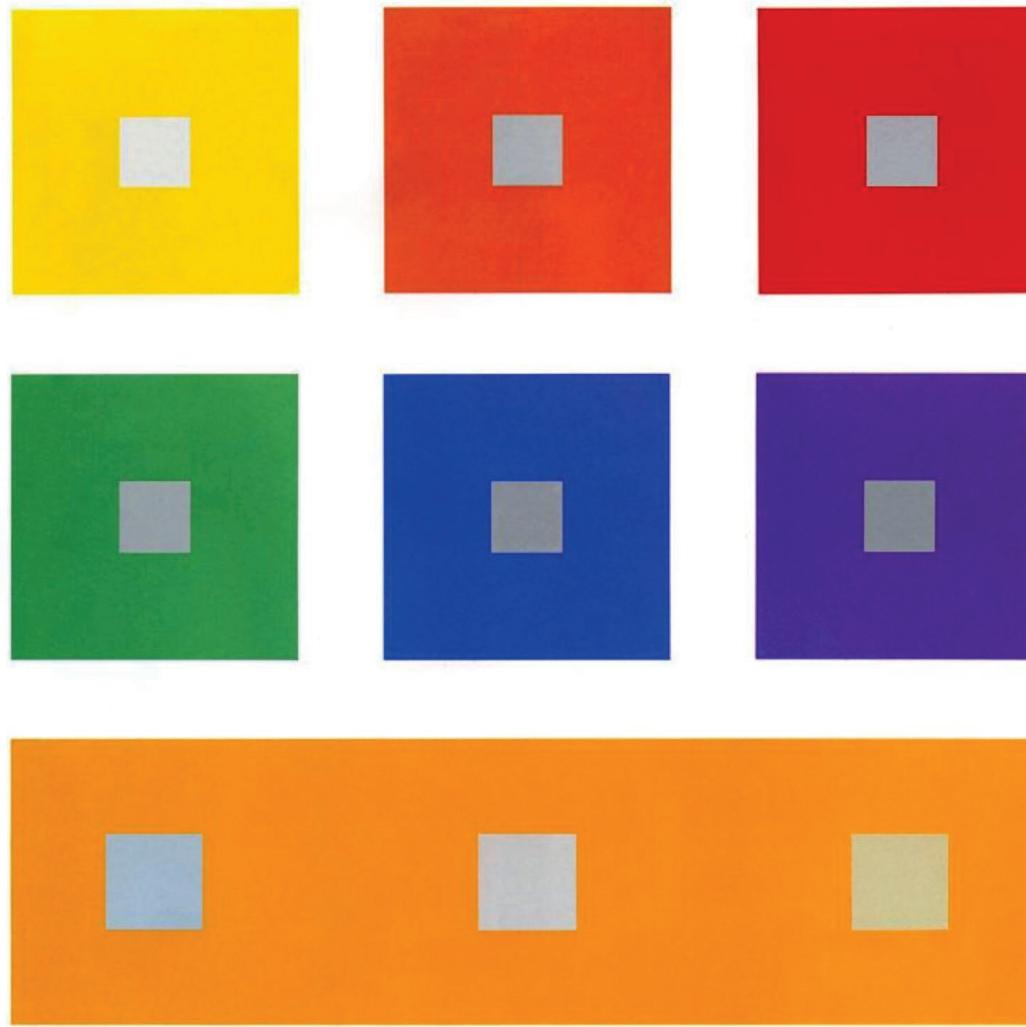
On saturated background, an element seems more dull

Color illusions: tint contrast



The white squares are the exact same color,
but it appears colder over a blue background and warmer over a red background

Color illusions: simultaneous contrast



The gray squares are all exactly the same color
but they look tinted by the background color

Color illusions: residual image



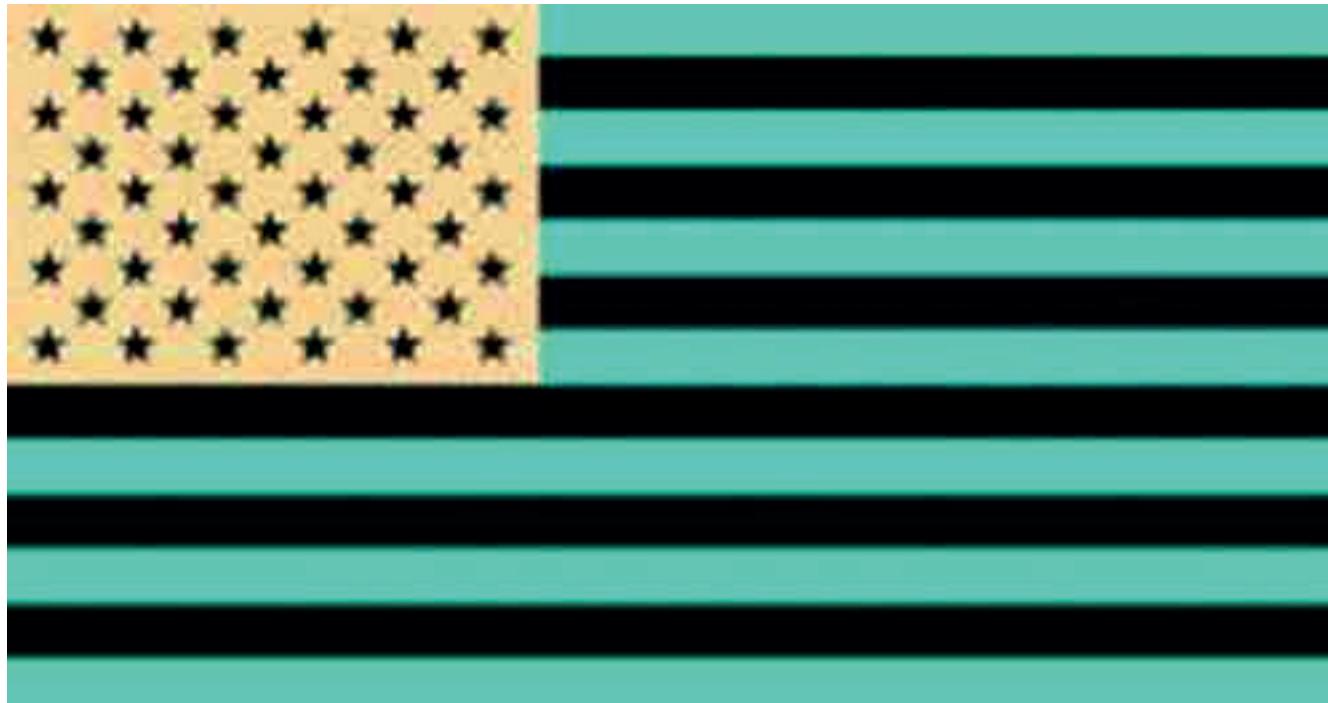
Fix the center of the image for 30-60 seconds,
close your eyes, then stare at a light white surface.

Color illusions: residual image



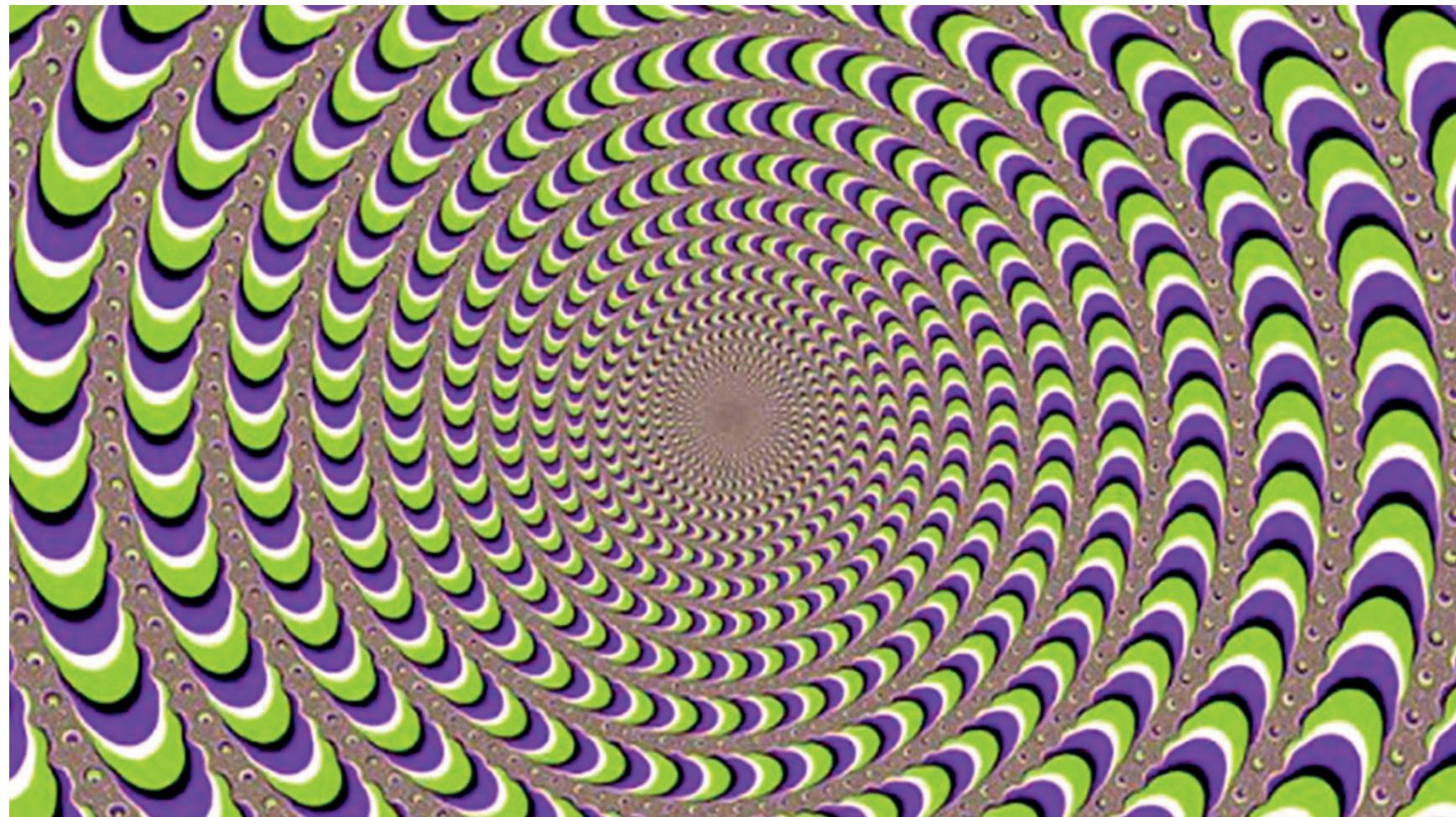
Fix the red dot of the image for 30-60 seconds,
close your eyes, then stare at a light white surface while blinking your eyes repeatedly.

Color illusions: residual image



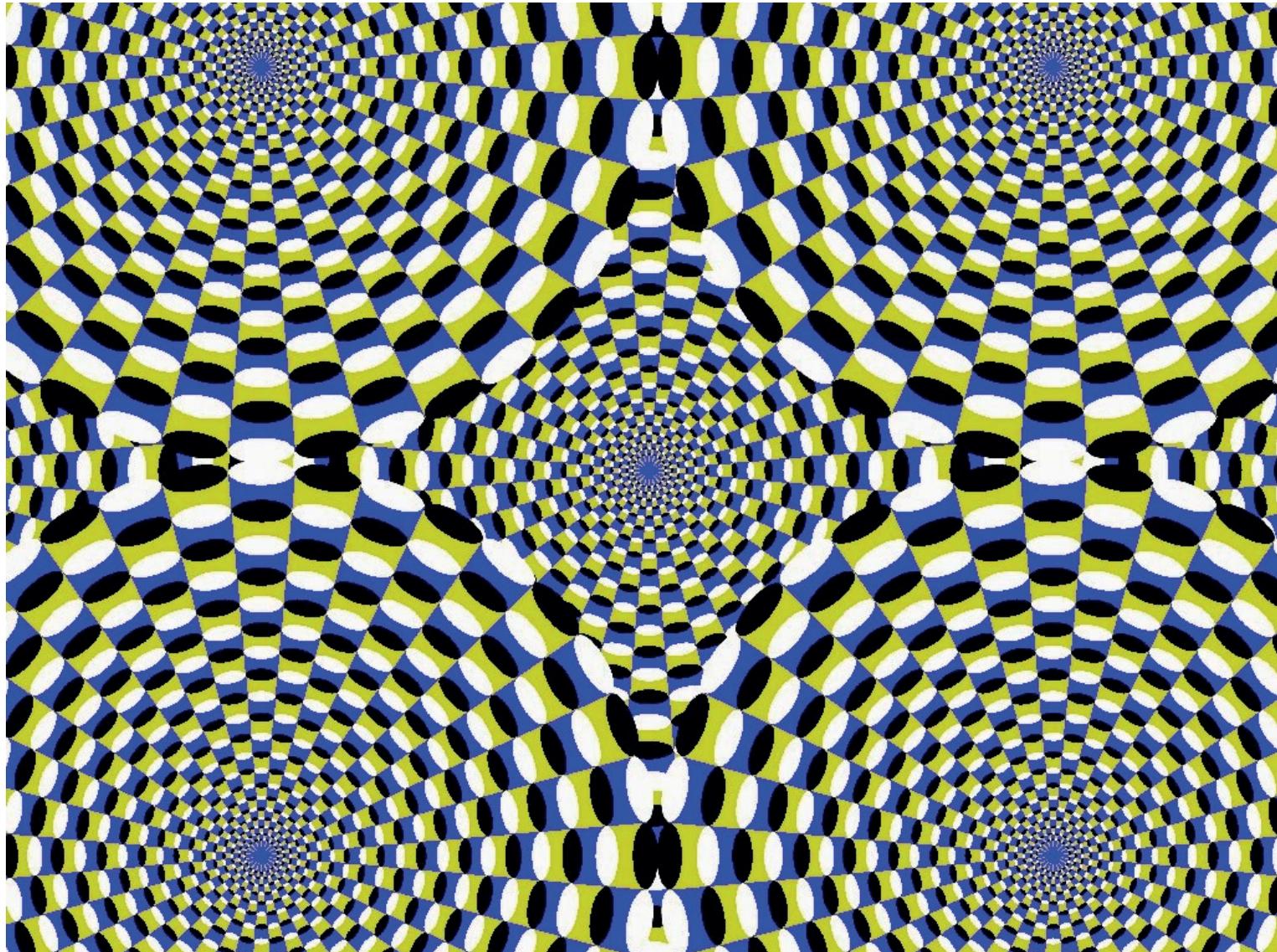
Fix the center of the image for 30-60 seconds,
close your eyes, then stare at a light white surface.

Color theory : Other optical illusions



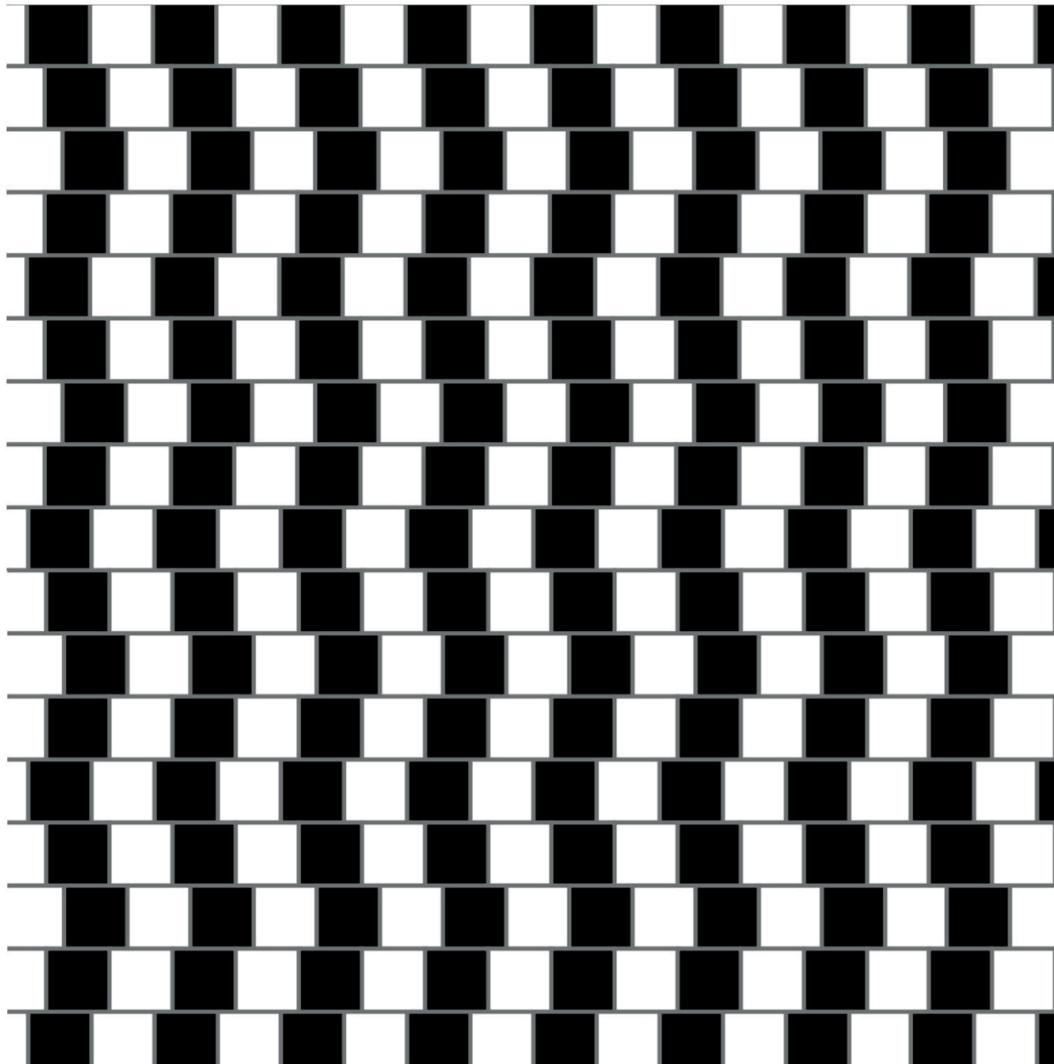
This image is not animated. It is still.

Color theory : Other optical illusions



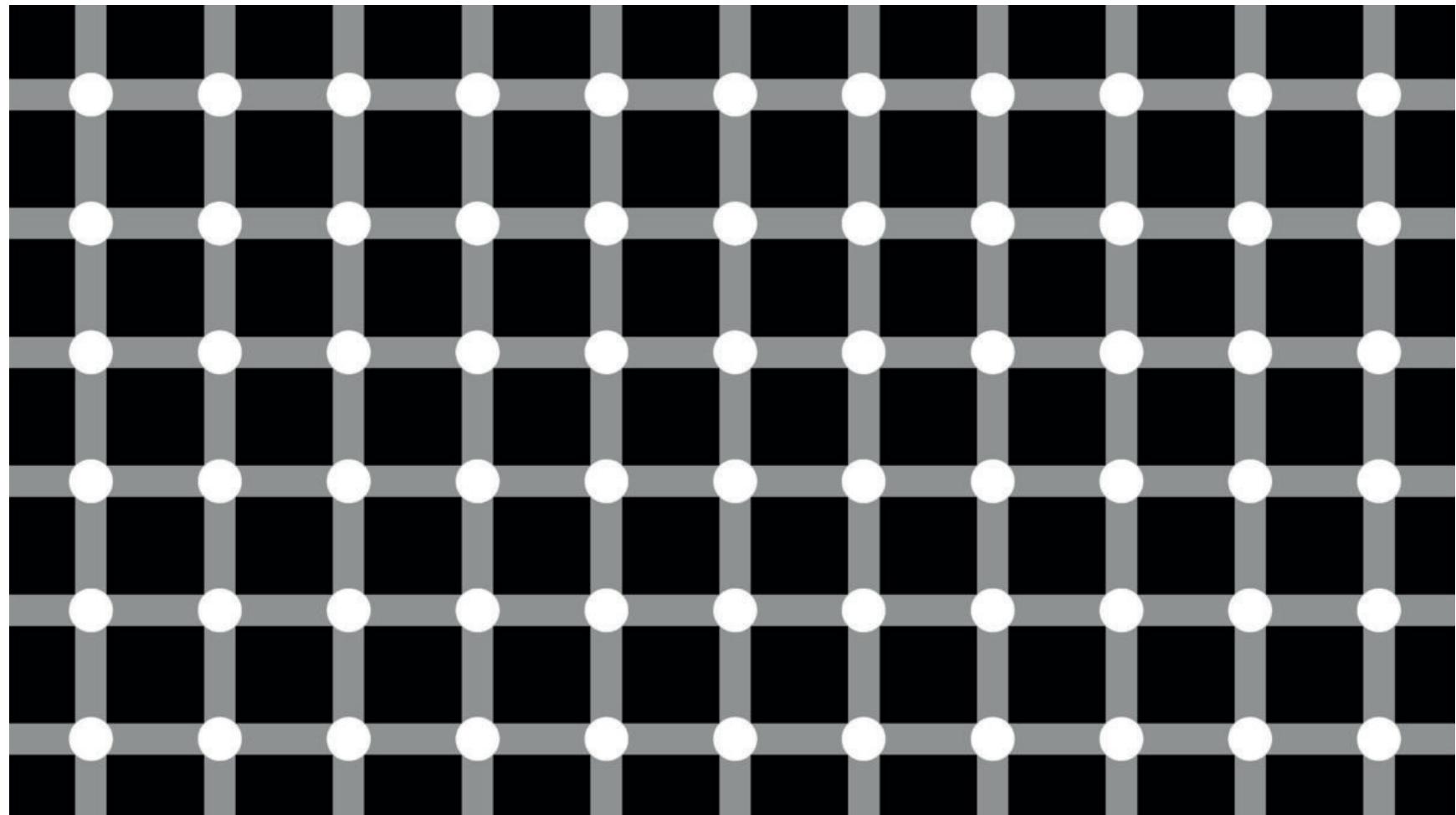
This image is not animated. It is still.

Color theory : Other optical illusions



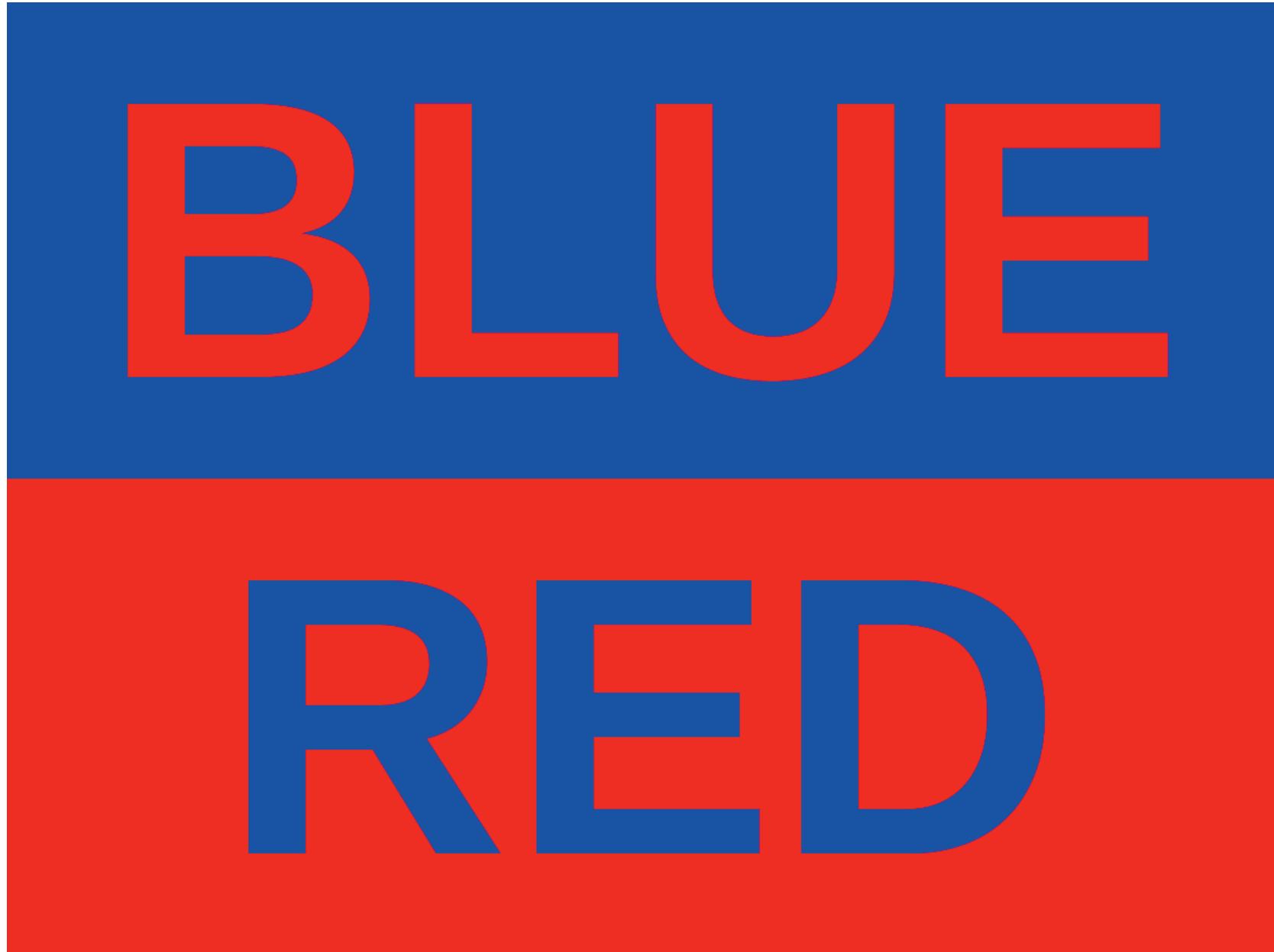
All the grey horizontal lines are perfectly straight.

Color theory : Other optical illusions



Can you count the number of black dots?

Color theory: warm colors appear foreground (float)



Color theory : tints appear closer than shades



General color symbolism

Green	• calm, soothing, reassurance, peaceful, health, growth, life, healing, money
Blue	• credible, reliable, professional, trust, strength, peace, confidence, integrity
Purple	• curative, protective, thoughtful, wise, imaginative, royal, luxury, dignity
Yellow	• enlightening, abundance, caution, clarity, warmth, optimism, cheerful, friendly
Orange	• energizing, desire, warmth, cheerful, confident
Red	• demanding, passionate, exciting, youthful, danger, daring, urgency
Gray	• balance, neutral, calm, stability, security, strong, character, authority, maturity
Black	• sophistication, power, formality, mystery
White	• freshness, hope, goodness, light, purity, cleanliness, simplicity, coolness
Pink	• romance, compassion, faithfulness, beauty, love, sensitivity
Gold	• wealth, success, status, generous, living, wisdom, charisma, optimistic
Brown	• stable, reliable, approachable, genuine, organic