

Principles of Visual Design LCC 2720
Instructor: Brian Schrank

Color Theory



Color Theory Lecture Topics

1. Phenomenology
2. Intent Behind Color Choices
3. Color Affecting Color
4. Synesthesia
5. Classic Color Theory
6. More Intent Behind Color Choices
7. Color Palettes
8. Color Balancing
9. Accents
10. Science of Color



phenomenology



Phenomenology

(Philosophical Method Invented by Husserl)

1. Perceive the world as phenomena.
2. Strip away preconceived notions such as cultural filters (or even language) that warp perception
3. Describe rather than interpret

What Color is This Guy?



What Color is This Guy?

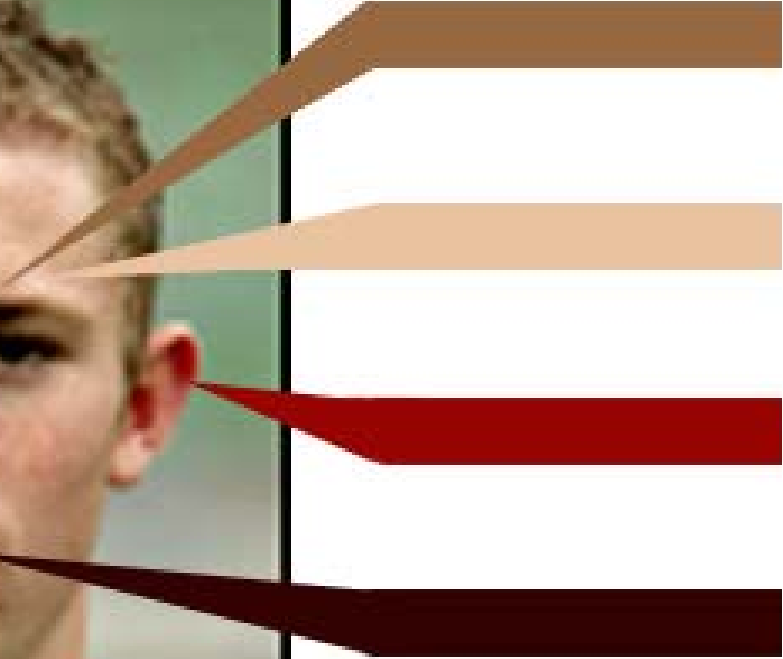


well...

he's not *white*.



What Color is This Guy?



What Color is This Girl?





What Color is This Girl?





What Color is the Grass?

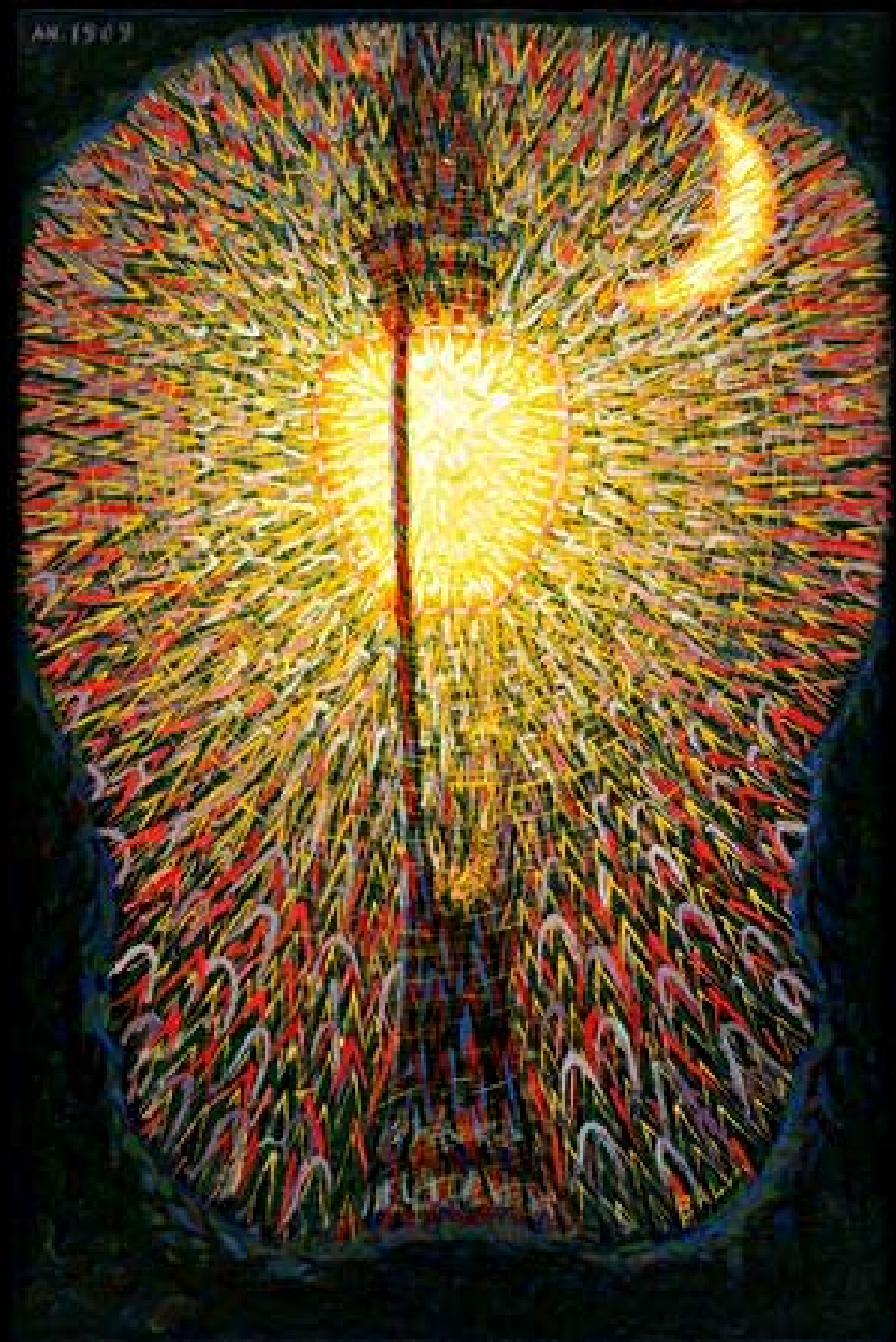




What Color is the Grass?

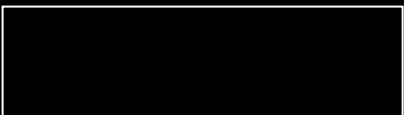
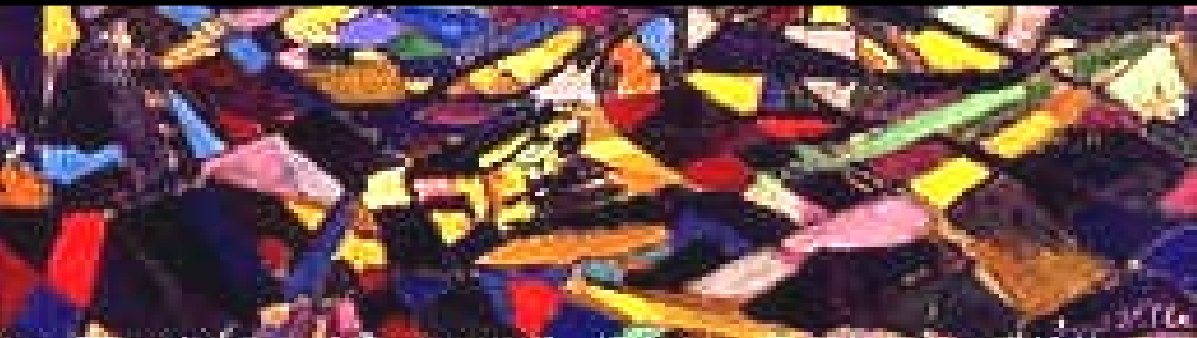


What sensations and colors do you **really** experience when you look into a light?





Thousands of UNAMED colors are filtered into extremely loose word labels such as: WHITE, BLACK, GREEN, BLUE...





It is useful to use phenomenological techniques when analyzing design choices of others.



It is useful to use phenomenological techniques when analyzing the design choices of others.



To do this you explore your unconscious and biological reactions of the design.



Intent Behind Color Choices



Which is the Unaltered Image?



What is the intent behind this color choice?



If this were the color choice what would the intent be?



If this were the color choice what would the intent be?



If this were the color choice what would the intent be?



If this were the color choice what would the intent be?





Which is the Unaltered Image?

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What is the intent behind this color choice?

The Google logo is displayed in its signature multi-colored font: 'G' is blue, 'o' is red, 'o' is yellow, 'g' is blue, 'l' is green, and 'e' is red. A small 'TM' trademark symbol is located to the upper right of the 'e'.

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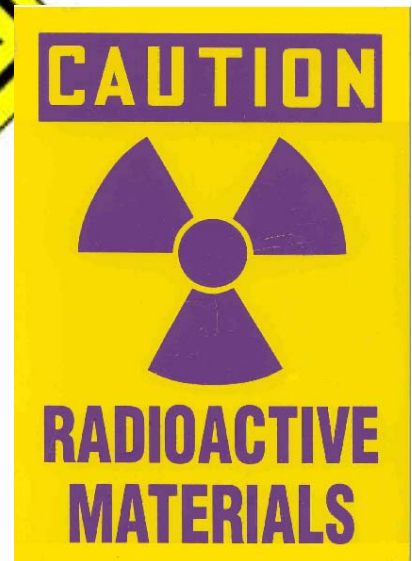
How do these colors shape your “McDonald’s Experience”?



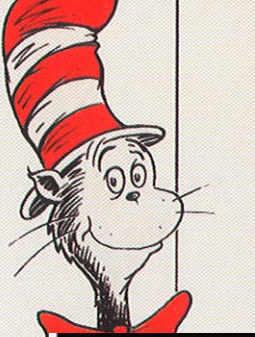
- Eat Fast
- Have a Stimulating Experience



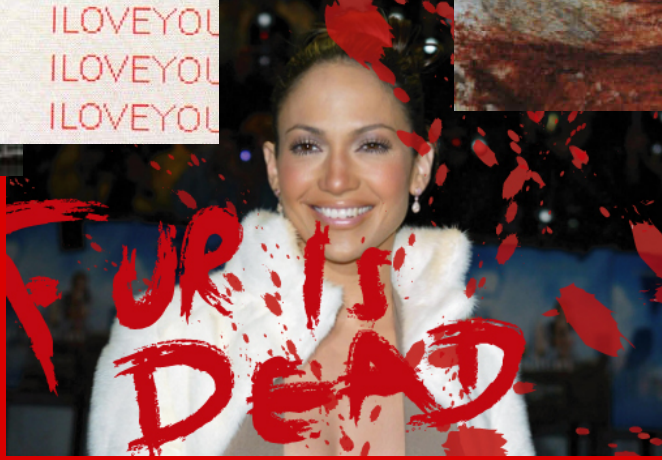
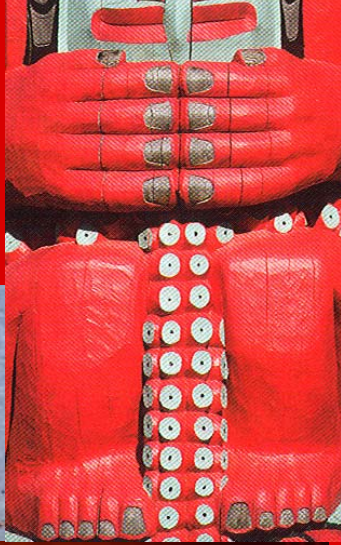
Yellow is also the most popular color to signify **caution**:



Colors are highly contextualized by subject matter



Reply	Reply
Subject	
Re: applica	
ILOVEYOU	
ILOVEYOU	
ILOVEYOU	
ILOVEYOU	
ILOVEYOU	





What is the intent behind these color choices?



How do they inform this design?





To Convey:

- Control over the Period
- Containment (red by white)
- Retaining Sexual Allure



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► Тампоны

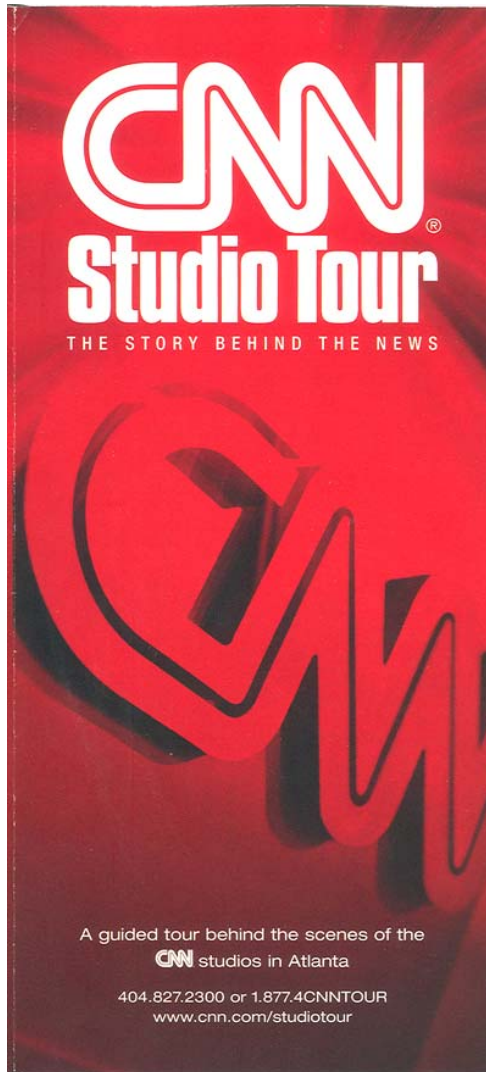
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◀ Назад Далее ▶

Как правильно подобрать необходимый вид тампонов? Чем меньше капелек на упаковке, тем ниже уровень впитываемости. Если вы собираетесь использовать тампон на протяжении всей ночи, убедитесь, что вы поменяли его перед тем как лечь спать, и сразу, после того как проснулись утром. Регулярное использование тампонов безопасно, при условии соблюдения правил использования и гигиены.
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Произвукция Идеальная производвукция История Советы Твой цикл Самочувствие Открытие Новости Напиши нам

What is the intent behind these color choices?



CNN
Studio Tour
THE STORY BEHIND THE NEWS

A guided tour behind the scenes of the
CNN studios in Atlanta

404.827.2300 or 1.877.4CNNTOUR
www.cnn.com/studiotour

The poster features a vibrant red background with a large, stylized, 3D-effect CNN logo in the lower half. The text is white and yellow, providing a high-contrast look.



1 EXHIBIT AREA
CNN comes alive through 20+ years of cutting edge reporting. Interactive exhibits put you into history with CNN's groundbreaking coverage at your fingertips.

2 CONTROL ROOM
Every element of live news coverage comes together in this high-tech re-creation of CNN's control room.

3 SPECIALEFFECTS
Advanced computer technology has become a vital tool for the modern news network. Through audience participation, learn how newsroom personnel help create memorable broadcasts with amazing special effects techniques.

4 NEWSROOM/MAIN
It's all about the story and how it can move lightning-fast. Watch our incredible news staff manage the anchor's desk. Watch our incredible news staff manage their resources in their effort to give complete coverage to the world.

5 OTHER NEWSROOMS
View the facilities that meet the varied needs of CNN's news networks, including Headline News.

6 FINAL
A special presentation for the family concert.

CNN Studio Tour

The brochure is a multi-page spread with a red background. It features six numbered sections, each with a title in large yellow and white text and a brief description. Small inset photos illustrate each section: Anderson Cooper 360° on a set, a control room, a newsroom, a newsroom, a newsroom, and a store. The CNN logo is prominently displayed at the bottom.

What is the intent behind these color choices?



- Feeling of being In the Core
- Intensity of Action -hotness
- Alertness –things are happening

A guided tour behind the scenes of the
CNN studios in Atlanta

404.827.2300 or 1.877.4CNNTOUR
www.cnn.com/studiotour

This is a large, multi-section promotional graphic for the CNN Studio Tour. It features a dark red background with a faint, large image of a person's face. The graphic is divided into six numbered sections, each with a title and a brief description. Section 1 is 'EXHIBIT AREA', Section 2 is 'CONTROL ROOM', Section 3 is 'SPECIAL EFFECTS', Section 4 is 'NEWSROOM/MAIN', Section 5 is 'OTHER NEWSROOMS', and Section 6 is 'FINAL'. Each section includes a small inset image related to the topic. At the bottom, the 'CNN Studio Tour' logo is prominently displayed in yellow and white. Below the logo are three small images: a news anchor at a desk, a busy newsroom, and the entrance to the 'CNN STORE'.

1 EXHIBIT AREA
CNN comes alive through 20+ years of cutting edge reporting. Interactive exhibits put you into history with CNN's groundbreaking coverage at your fingertips.

2 CONTROL ROOM
Every element of live news coverage comes together in this high-tech re-creation of CNN's control room.

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It's all about the story and how it can move lightning-fast the anchor's desk. Watch our incredible news staff manage of resources in their effort to give complete coverage to

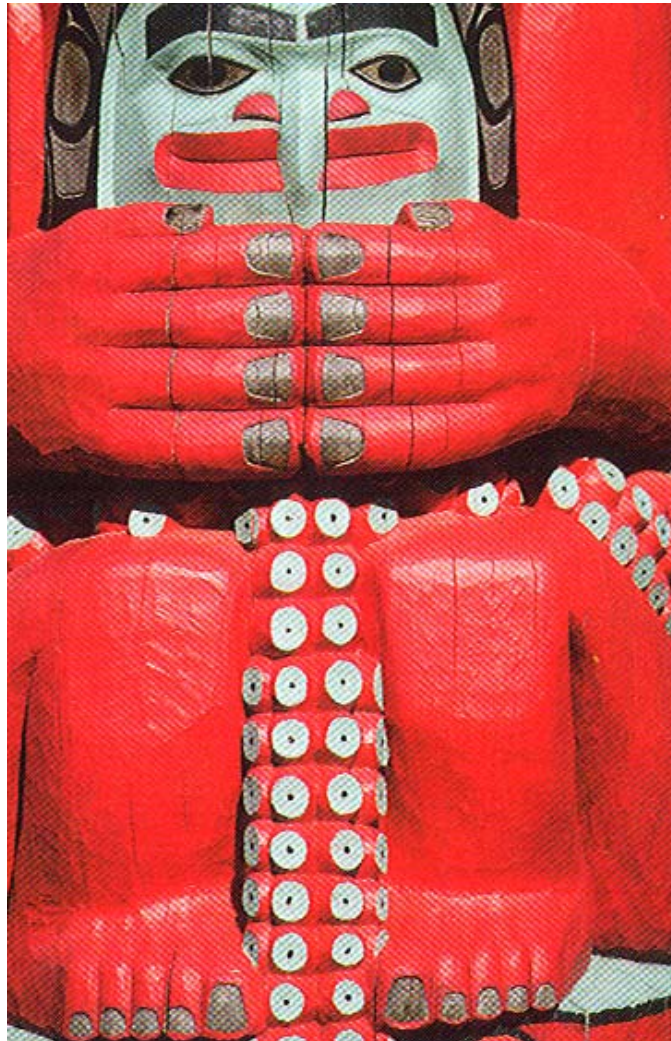
5 OTHER NEWSROOMS
View the facilities that meet the varied needs of CNN's news networks, including Headline News.

6 FINAL
A special presentation for the family concert.

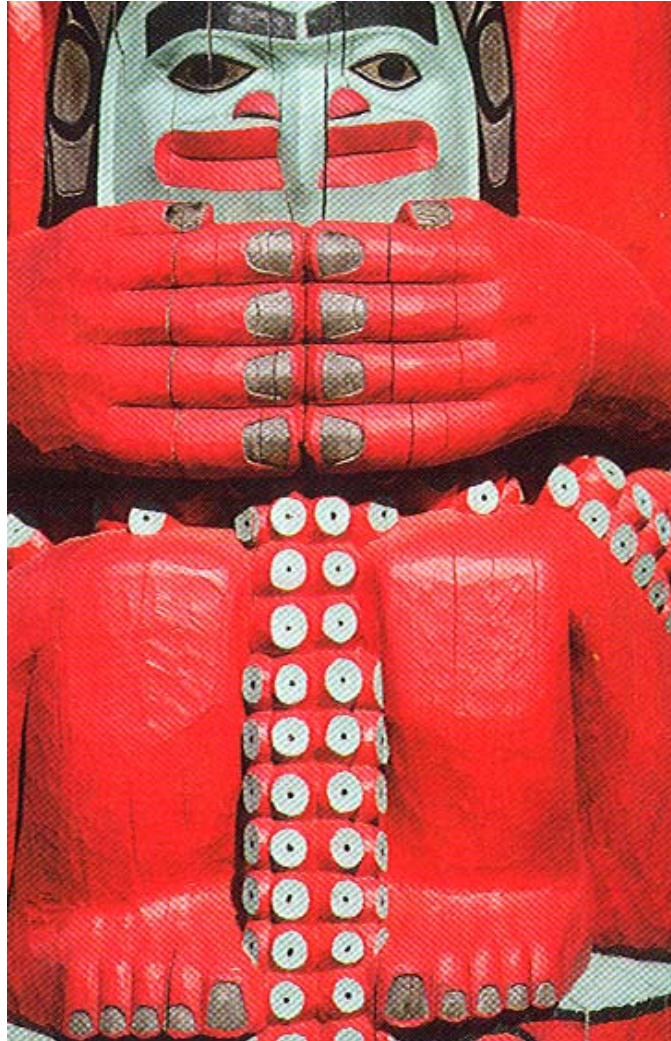
CNN Studio Tour

THE CNN STORE

What is the intent behind these color choices?



What is the intent behind these color choices?



I have no idea, I don't have the necessary cultural experience.



What is the intent behind these color choices for Egyptian Currency?





I have no idea, I don't have the necessary cultural experience.





What is the intent behind these color choices?





Ahh, now I get at least some of it. These colors connote antiquity and evoke feelings of national identity by referring to ancient cultural structures.





Color Affecting Color



Colors aren't only contextualized through subject matter.
They are also contextualized through other colors.



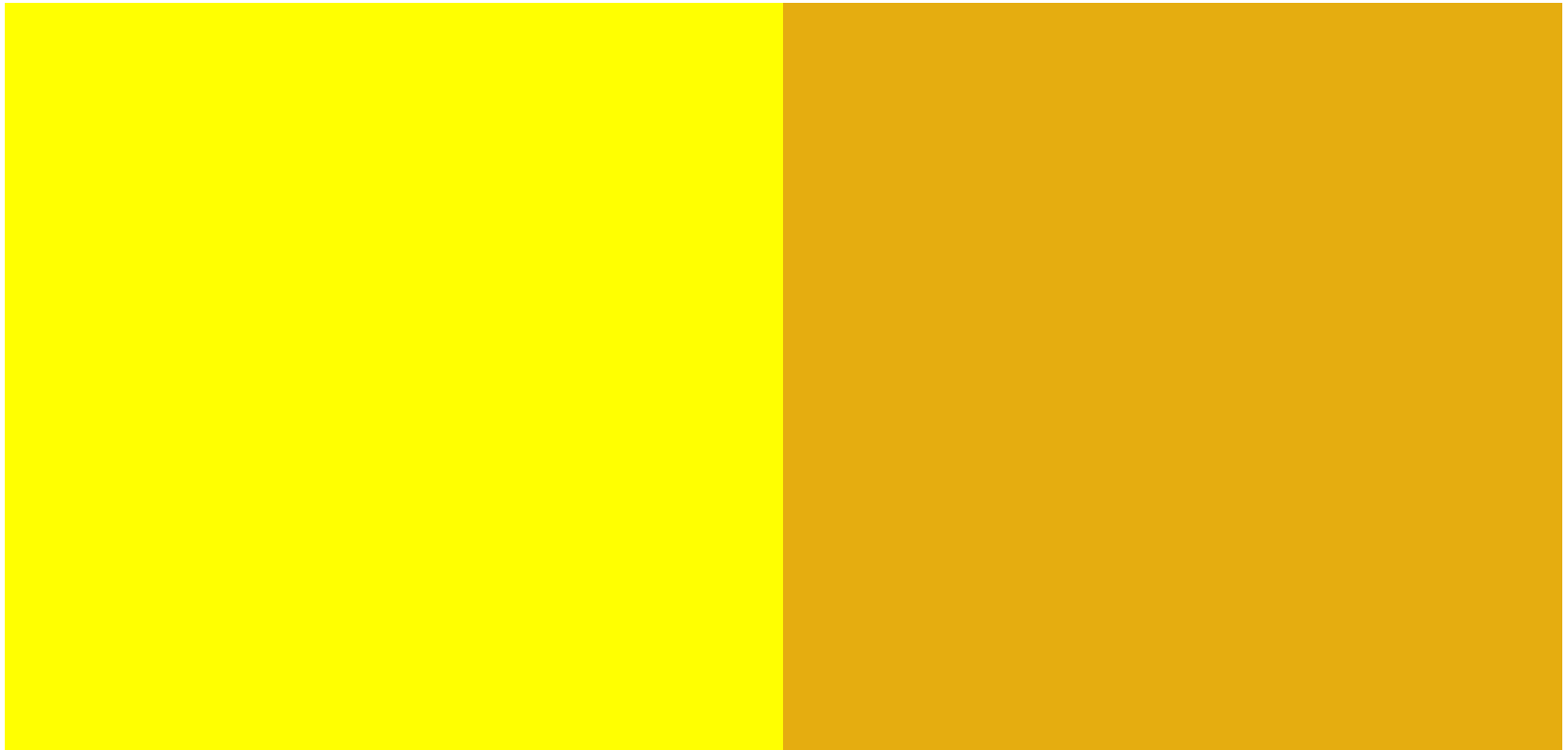
Juxtaposition changes how color is perceived...



Is this a rich butterscotch mocha...



Juxtaposition changes how color is perceived...



Or a Dirty Yellow?

Temporal sequence changes how color is perceived...



Is this a pure grey...



Temporal sequence changes how color is perceived...





Temporal sequence changes how color is perceived...



Or a cool grey?



Synesthesia



Synesthesia

The faculty to receive stimuli through one sense, sight, for example, and perceive it through another, hearing, for example.

Synesthesia



Wassily Kandinsky heard blaring trumpets when he saw bright yellow.



Synesthesia

Milk = Milk

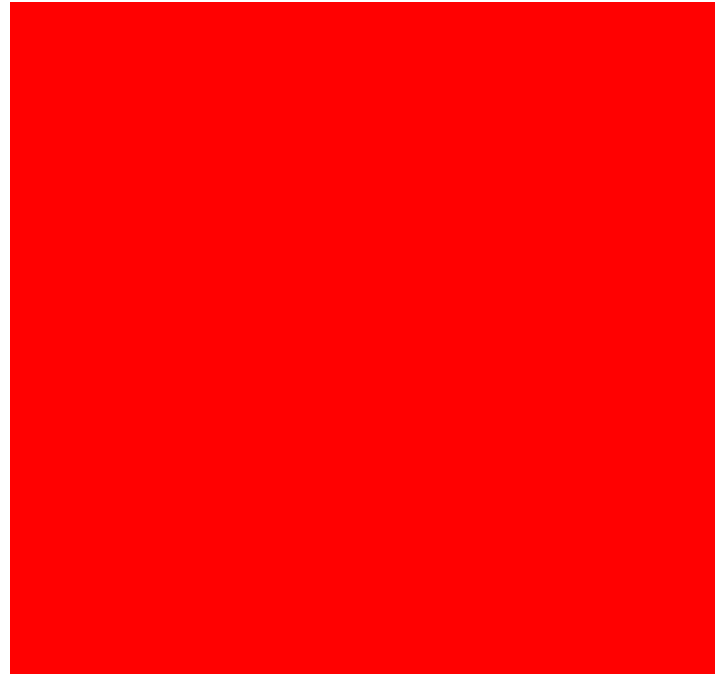


Synesthesia

452-6220 = 452-6220

Synesthesia

“bzzzzzzzzzz” =





We are each a 'synesthese'. It's a subtle condition for most of us...



Which is Kiki and which is Booba?



Okay, okay, but what is the real applicable use of color theory?





Classic Color Theory



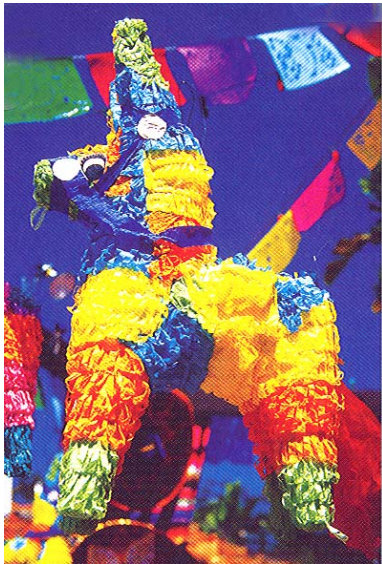
Color Theory Helps Devise Ways to:

LIMIT COLOR PALETTES



Color Theory Helps Devise Ways to:

LIMIT COLOR PALETTES



So everything is not a piñata...



Color Theory Helps Devise Ways to:

LIMIT COLOR PALETTES
&
AND COORDINATE THEM.



But first ask:

Why Add Color at all?

Understanding Comics

Black and white images are like a visual shorthand, where we have to fill and color them in with our imagination.

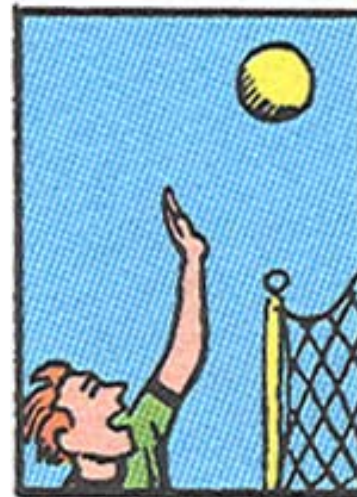


Understanding Comics

Black and white images are like a visual shorthand, where we have to fill and color them in with our imagination.



Colored images force us to see the subjects' shape and form. Color turns things into objects with weight and substance.





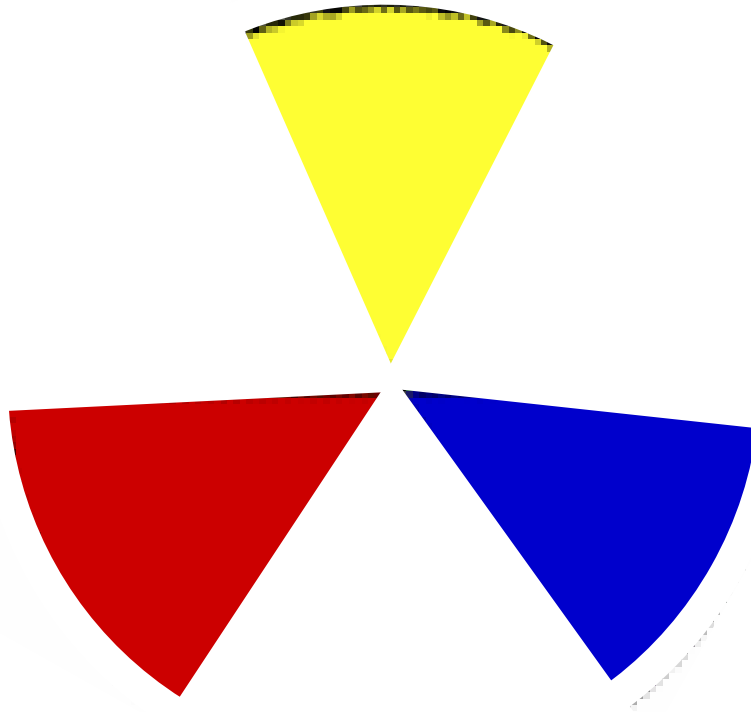


Color Wheel



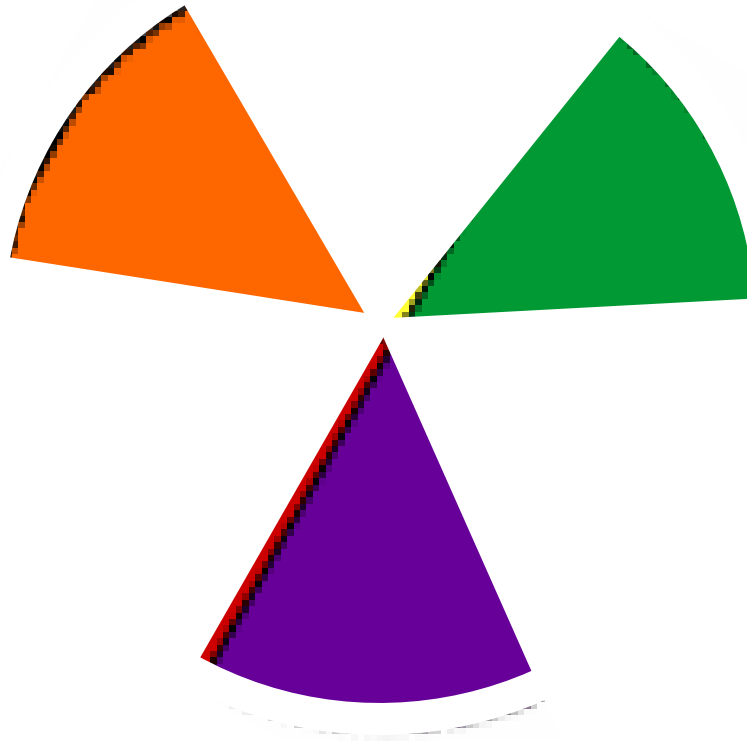


Primary Colors





Secondary Colors



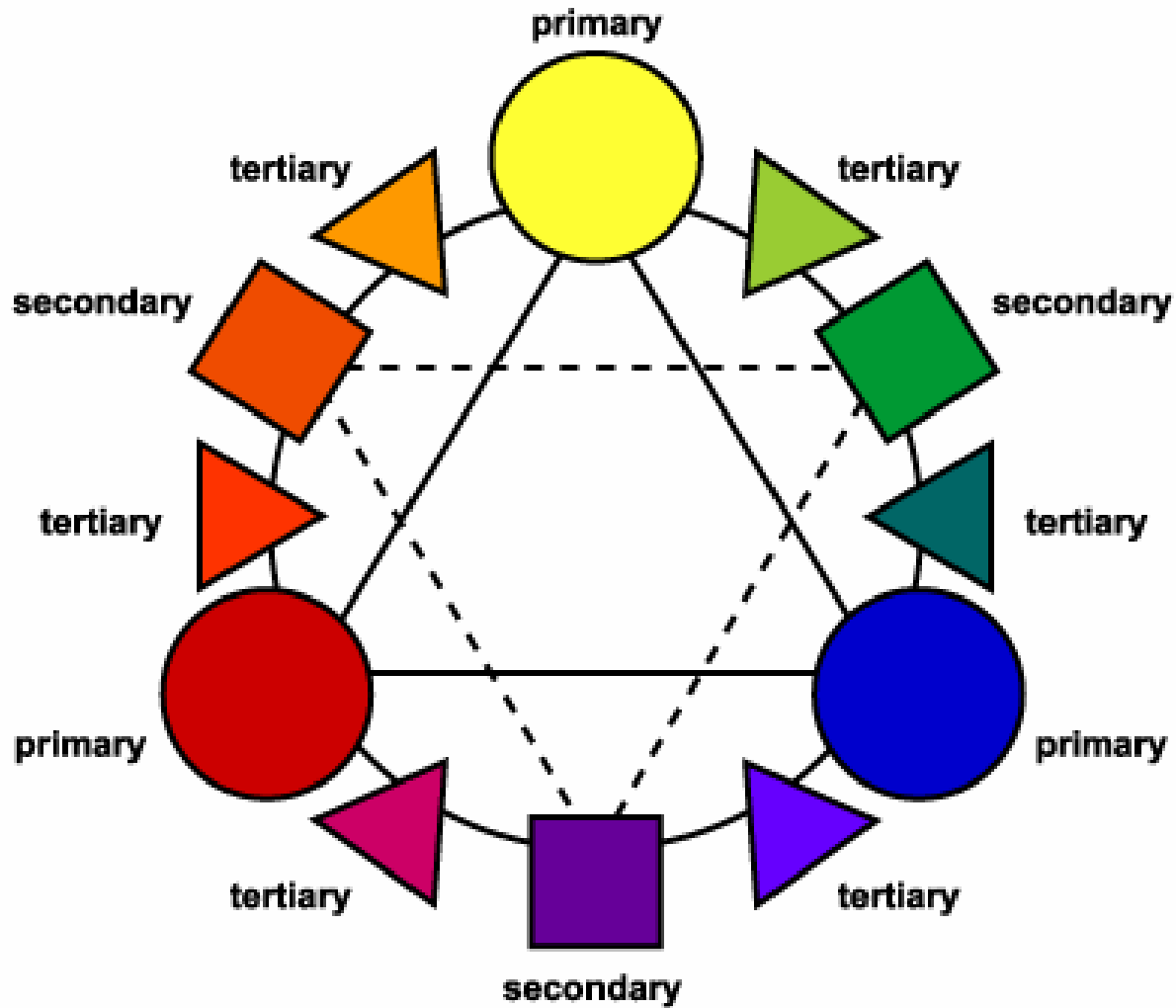


Tertiary Colors



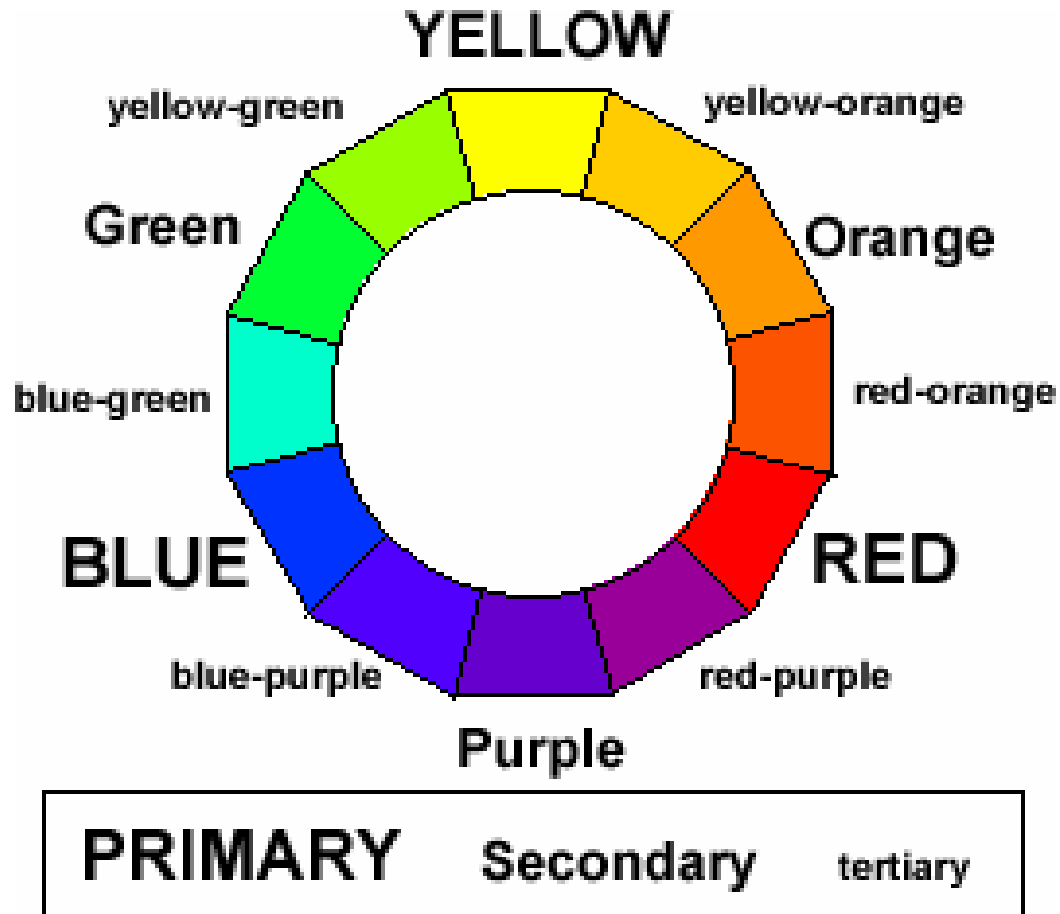


Primary, Secondary and Tertiary Colors



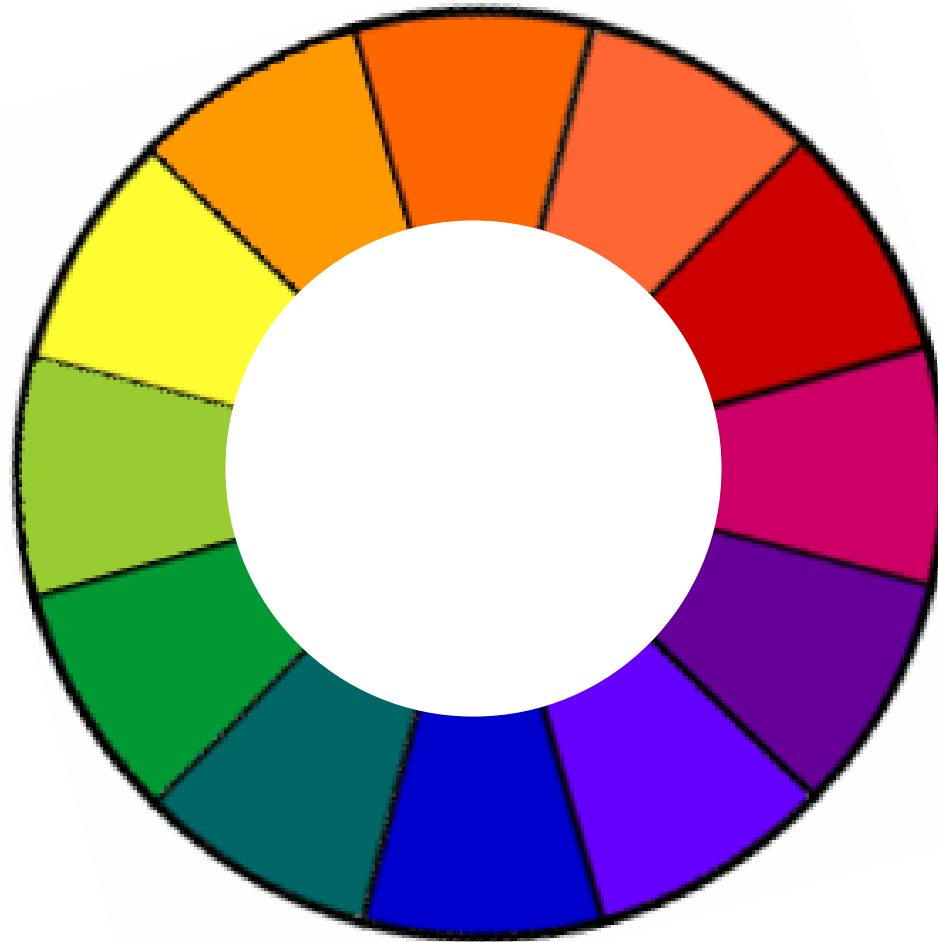


Primary, Secondary and Tertiary Colors





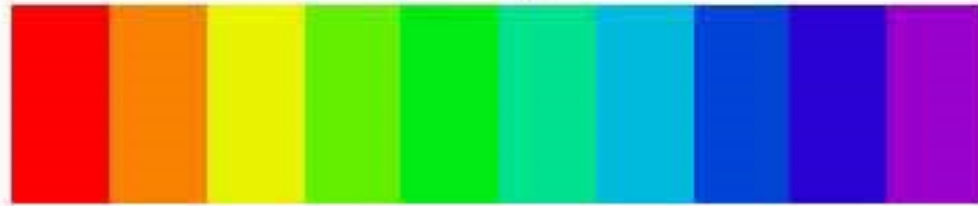
Standard 12-Color Wheel





Three Characteristics of Color

Hue



Saturation



Value



Classic Color Theory predominantly concentrates on Hue rather than Saturation and Value.



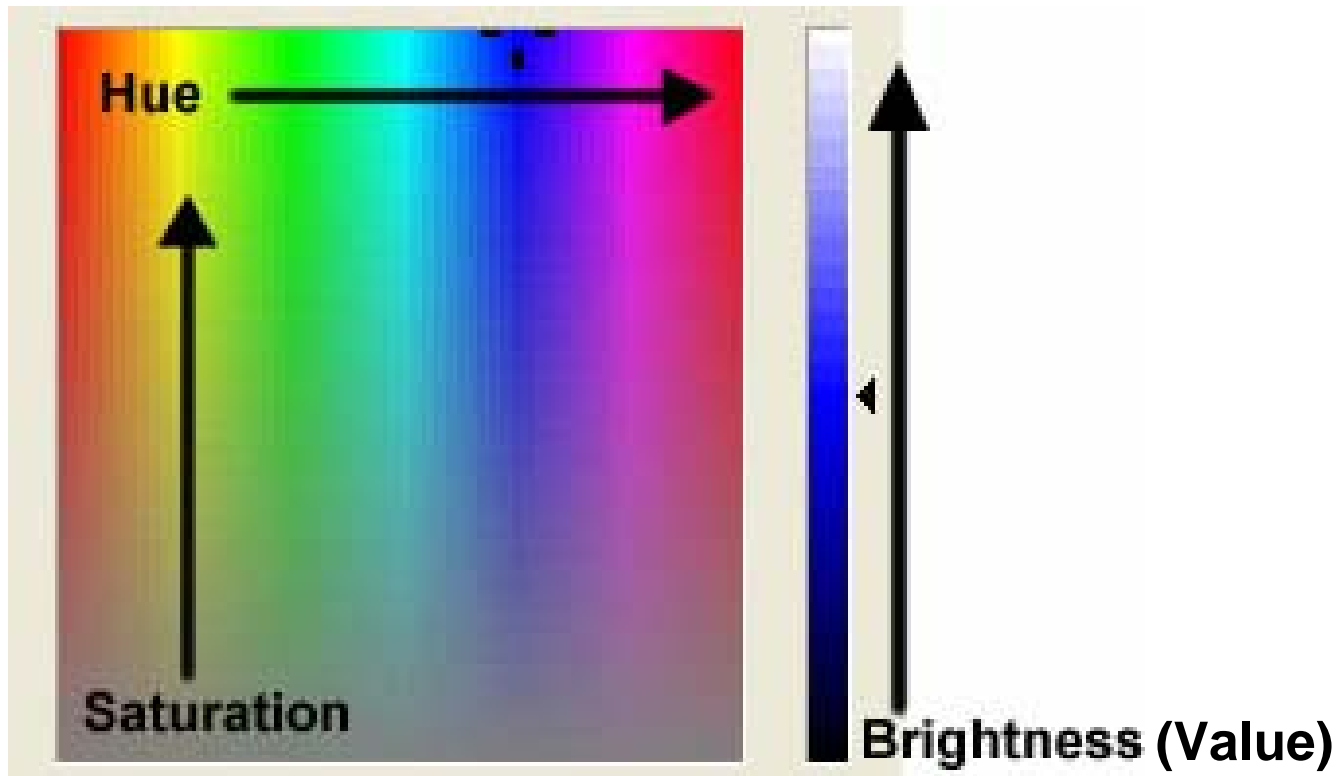
Saturation



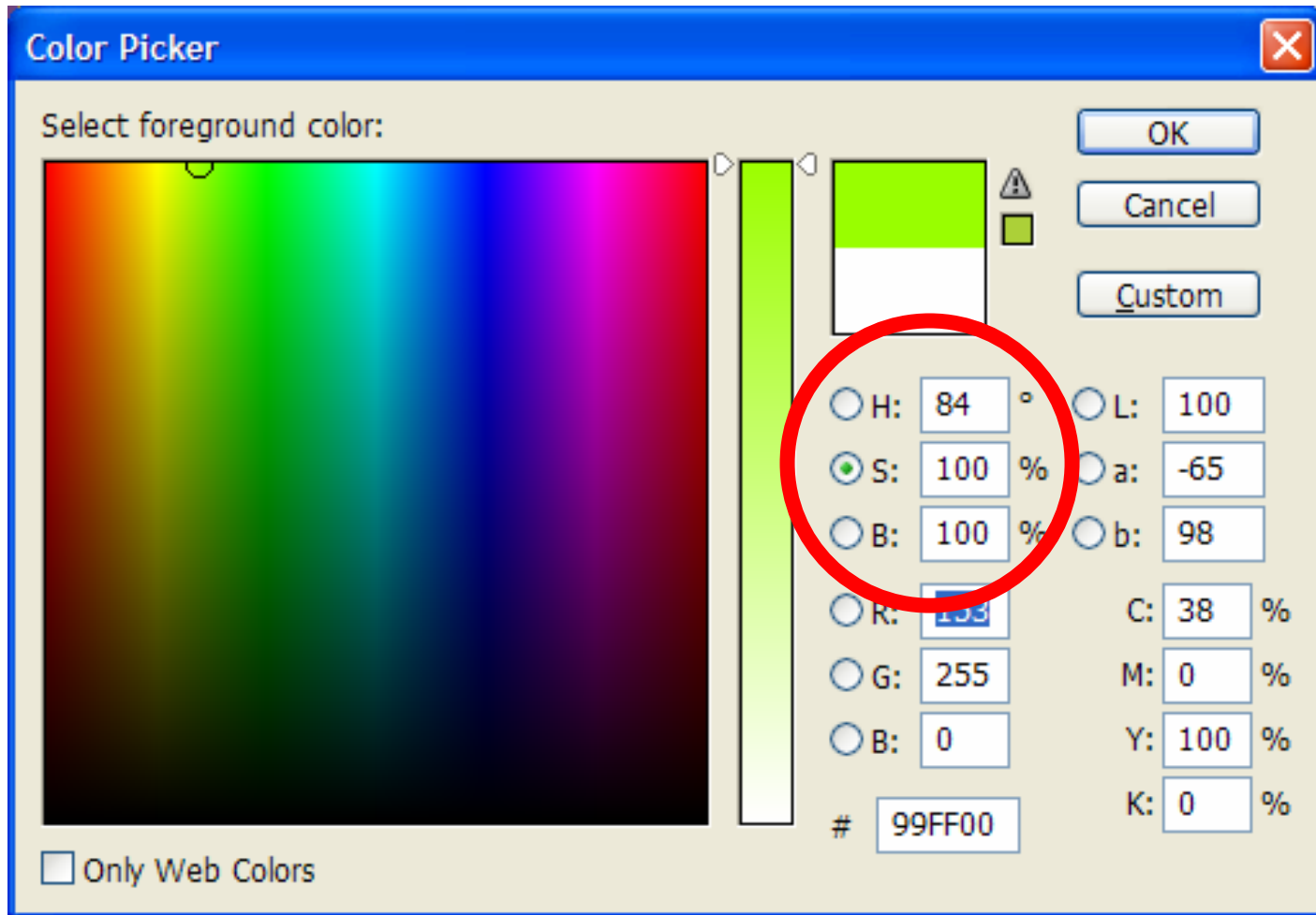
Value



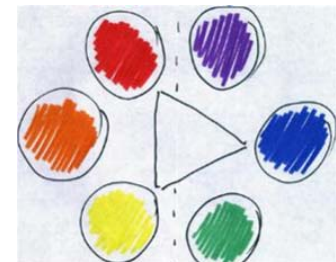
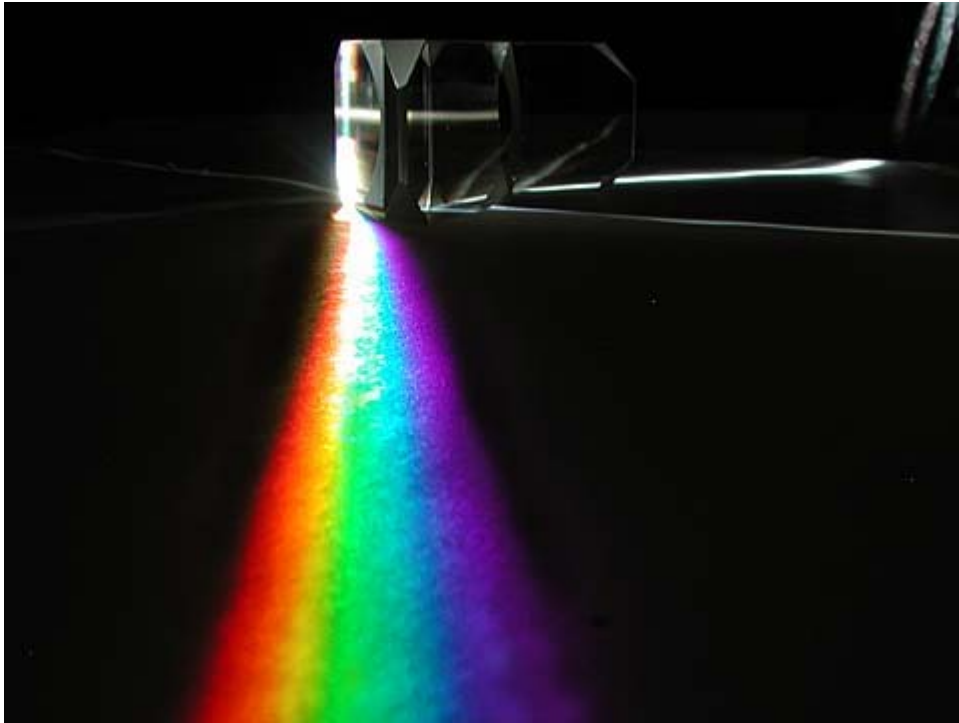
Hue, Saturation and Brightness (Value) in the Photoshop/Illustrator Color Picker



Hue, Saturation and Brightness (Value) in the Photoshop/Illustrator Color Picker

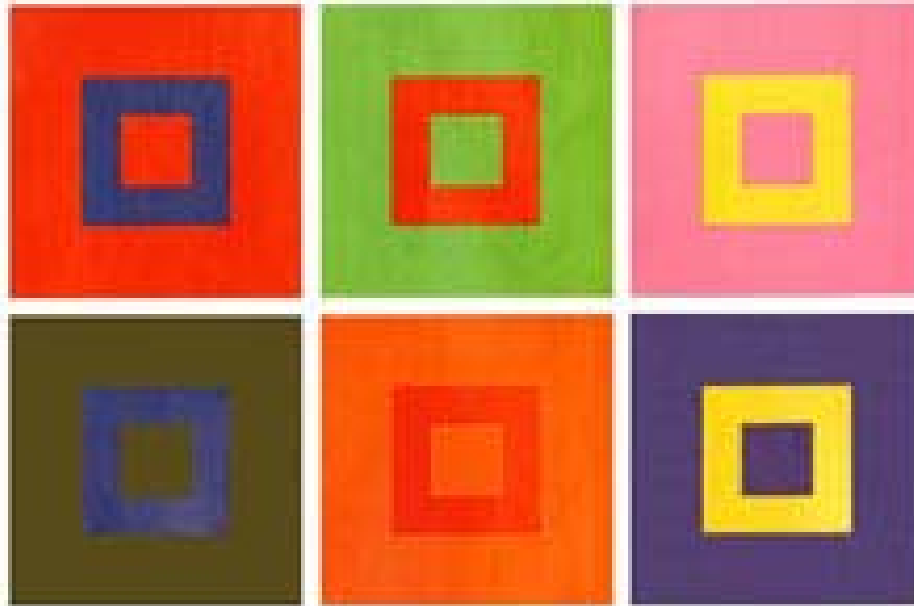


The First Color Wheel



Sir Isaac Newton created the first color wheel resulting from his experiments with refracting light.

Classic Color Theory



Johannes Itten

The Art
of
Color



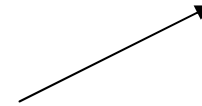
Classic Color Theory Overview

According to color theory, harmonious color combinations use:

Classic Color Theory Overview

According to color theory, harmonious color combinations use:

Any two colors opposite each other on the color wheel.



Classic Color Theory Overview

According to color theory, harmonious color combinations use:

Any two colors opposite each other on the color wheel.

Any group of colors next to each other on the color wheel.



Classic Color Theory Overview

According to color theory, harmonious color combinations use:

Any two colors opposite each other on the color wheel.

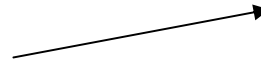
Any group of colors next to each other on the color wheel.

Any three colors equally spaced around the color wheel forming a triangle.



Classic Color Theory Overview

Any four colors forming a rectangle.



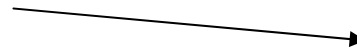


Classic Color Theory Overview

Any four colors forming a rectangle.



The split of one color's complement.

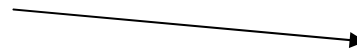


Classic Color Theory Overview

Any four colors forming a rectangle.



The split of one color's complement.



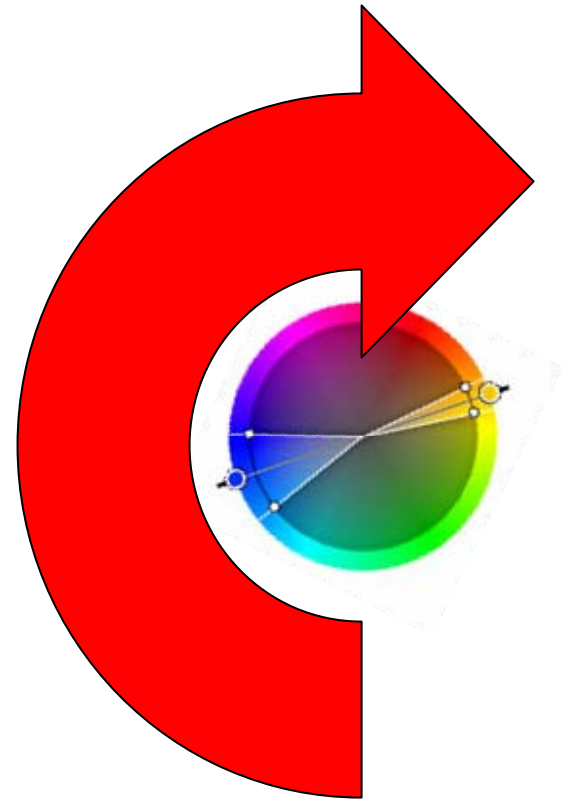
Monochromatic combinations.



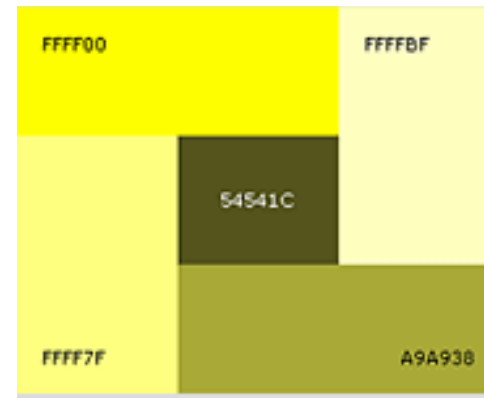
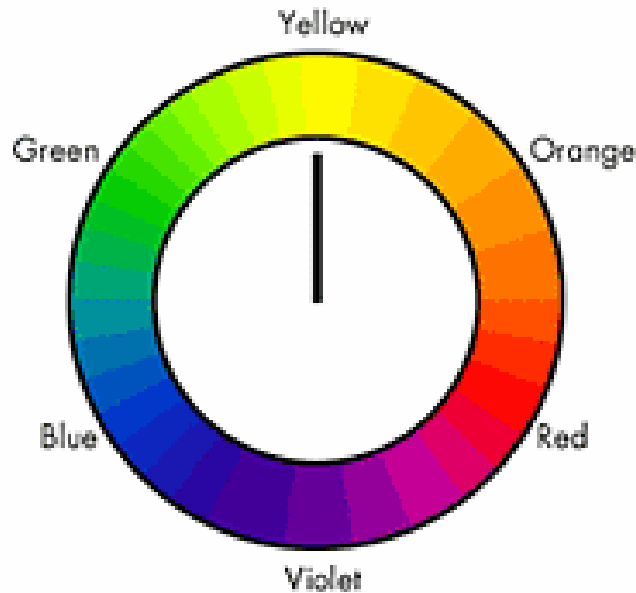


Classic Color Theory Overview

Color schemes remain harmonious regardless of the rotation angle of the configuration.



Monochromatic



Monochromatic color schemes are guaranteed to be harmonious as they are a single color with variations of value and saturation. They have the highest degree of harmony, but the lowest degree of contrast. Since they grab your attention less than any other color combination they're usually used for more reserved, corporate, expensive, or nostalgic types of designs.

However, as all rules are there to be broken.

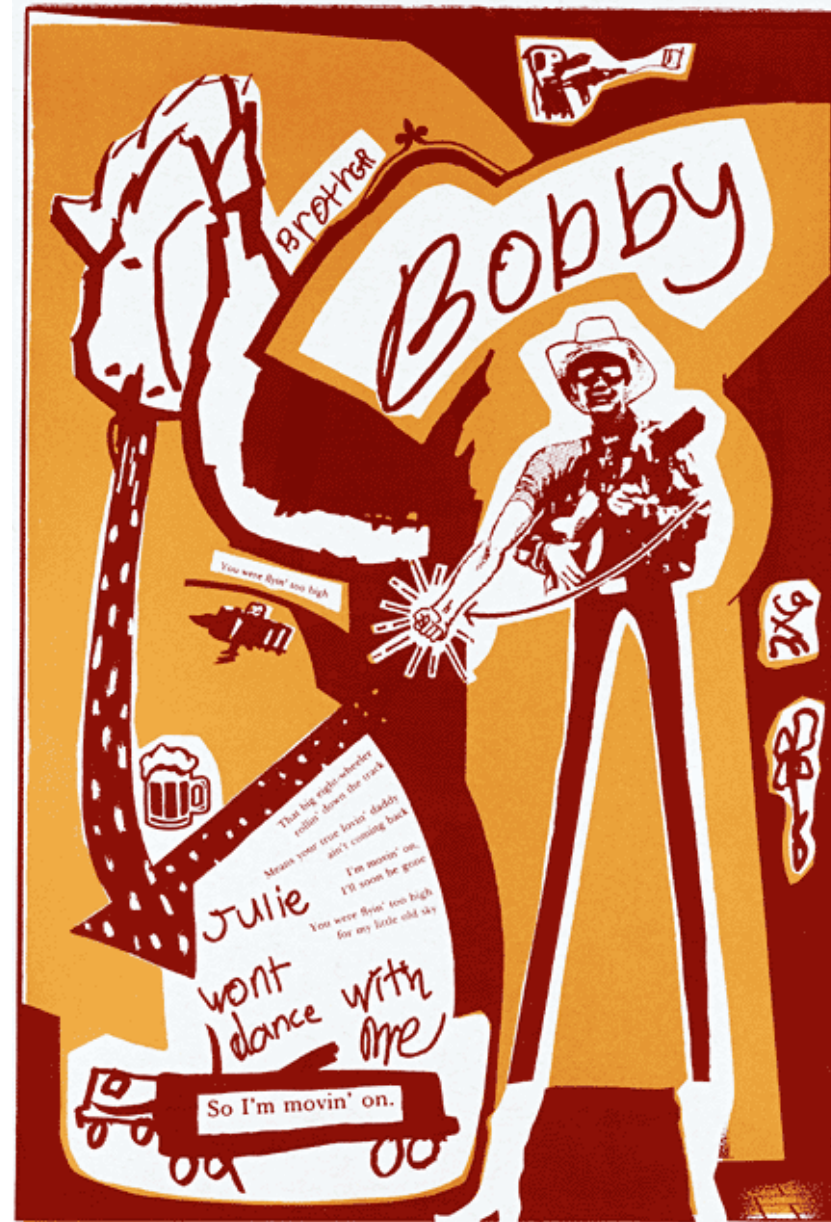
Monochromatic Design

The subtle color scheme of this design makes other elements more prominent. If the colors contrasted each other in their hue we wouldn't notice the strange imagery as much. Being of the same color the imagery seems to share presence.





Monochromatic Design



How does monochromatic design change our perception of it?

Monochromatic Design



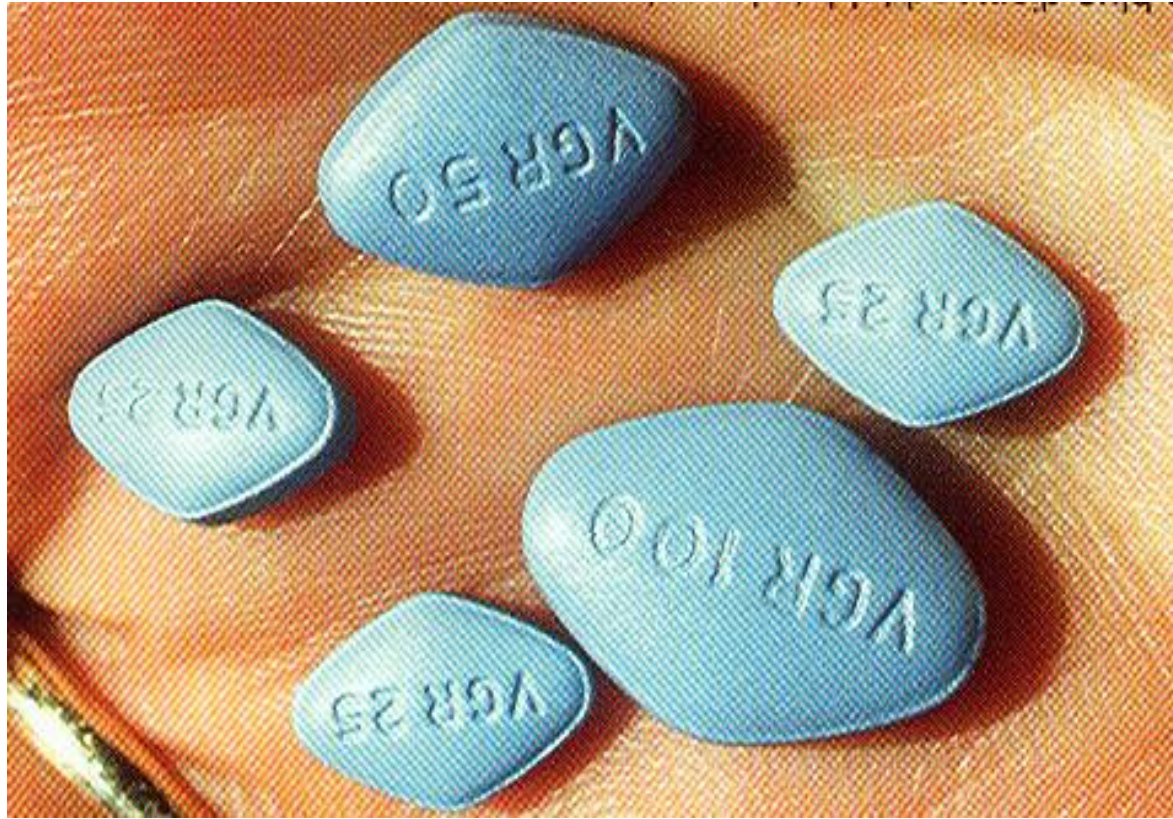
How does monochromatic design change our perception of it?



Monochromatic Design

Red, Black and White is the strongest Monochromatic combination.

Monochromatic Design



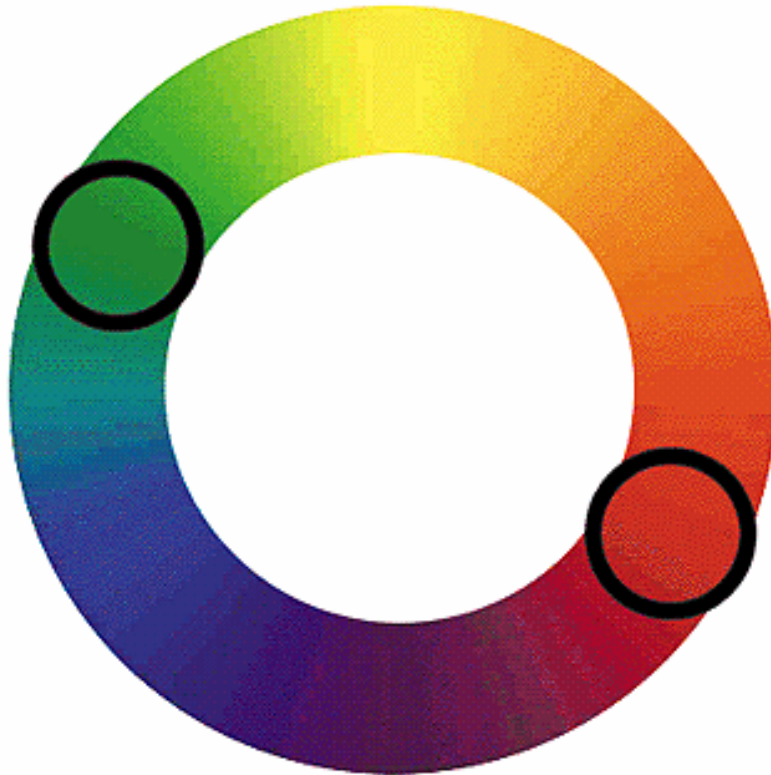


Monochromatic Design



Complementary Colors

Any two colors 180 degrees opposite on the color wheel.





What is the definition of “complement”?



What is the definition of “complement”?
To complete or enhance each other.



What is the definition of “compliment”?



What is the definition of “compliment”?

To praise.



Complementary Colors



Complementary colors have the highest contrast. Because of this they are the boldest combination. Color compositions based on them usually work well, however they can sometimes be tiring to look at due high contrast.

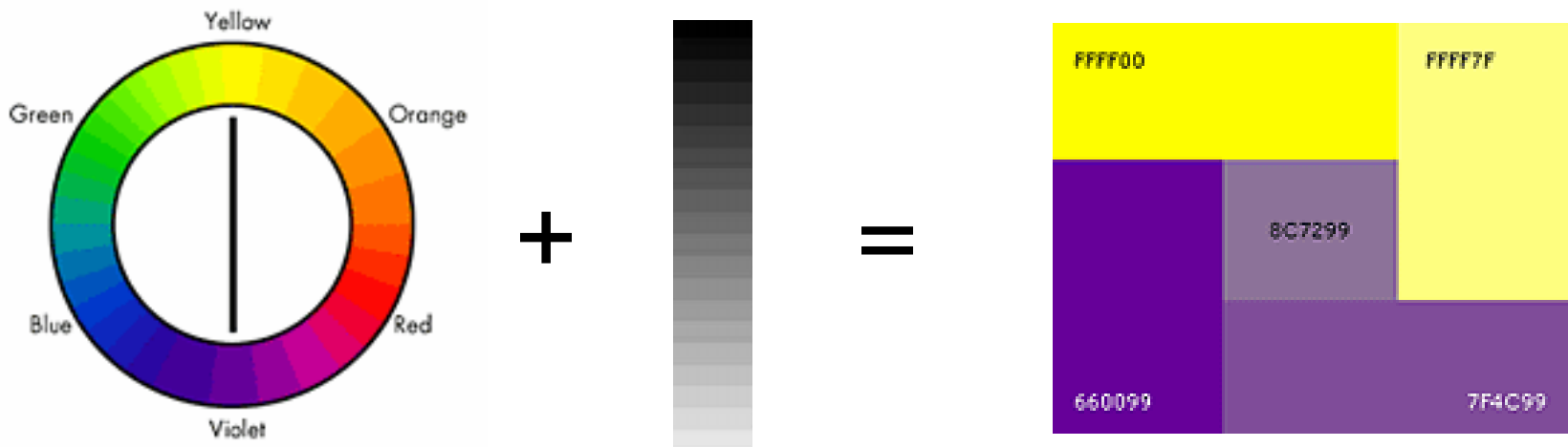


Complementary Colors



Complementary Colors have the highest contrast (in terms of hue, not value).

Complementary Colors



Using Complements as a basis for a color scheme, but allowing variances of value will often help soften a complementary color scheme.



Painters mix Complements to
Achieve Rich Vibrant Grays,
Browns, and Neutral Colors...





Hideous Complementary Colors



Classic color theory doesn't take color **value** into account. So, according to this theory, these two hideous compositions are technically the same as the complementary colors of magenta and green.



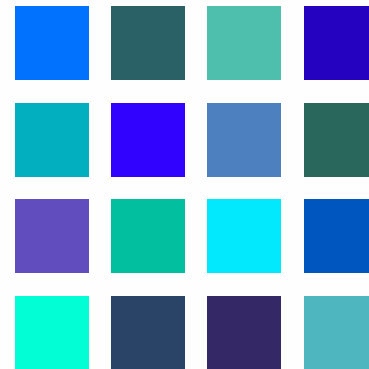
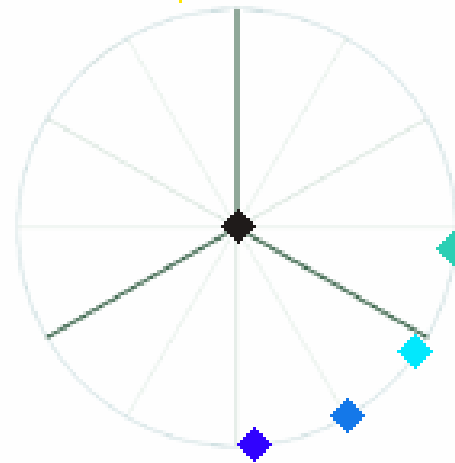
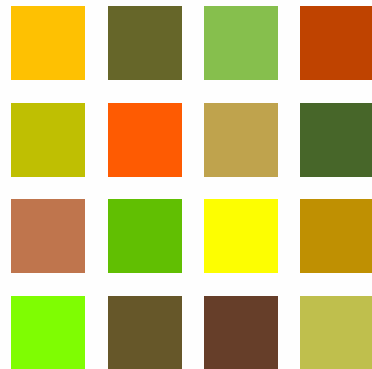
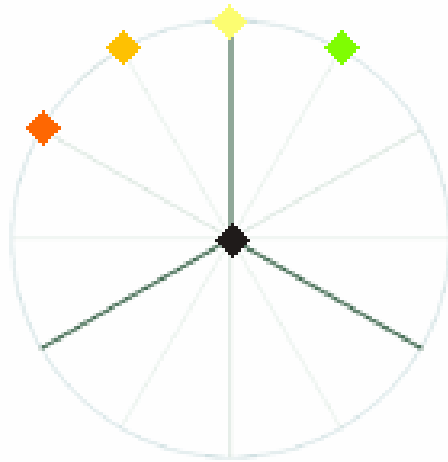
Analogous Colors



These are any number of colors that are adjacent on the color wheel.



Analogous Colors





Analogous Colors

These combinations have an extremely high degree of harmony but low degree of contrast.

Analogous Colors

These can seem very drab. A complementary color could be added here for an accent that would empower the design

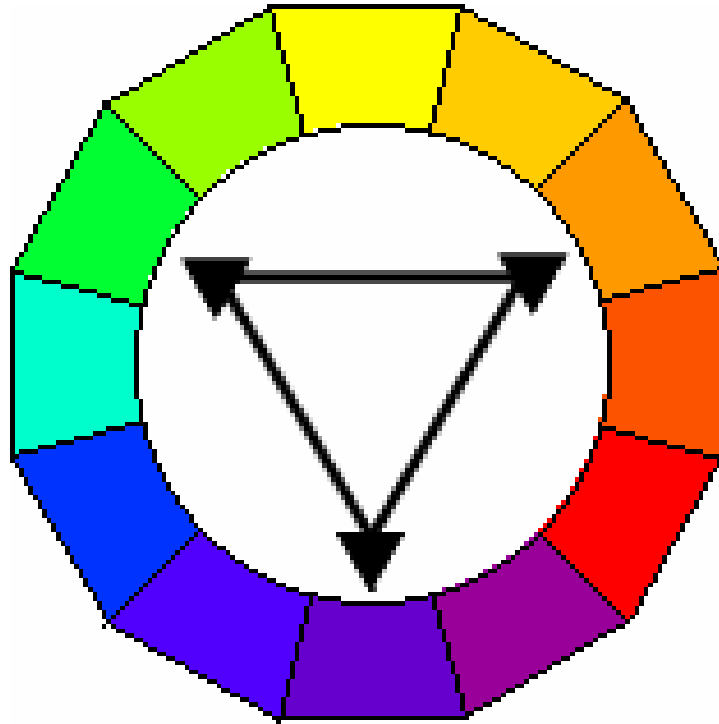


Analogous Colors (with complementary accent)

These can seem very drab. A complementary color could be added here for an accent that would empower the design



Triadic Colors



Triadic colors are any colors 120 degrees (one third of a 360 degree circle) apart on the color wheel.



The Triad of the Three Primary Colors are the most energetic and balanced color combination possible.



The Triad of the Three Primary Colors are the most energetic and balanced color combination possible. This combo draws intense interest. This combo is appealing to children and we've learned to associate this Triad with children.

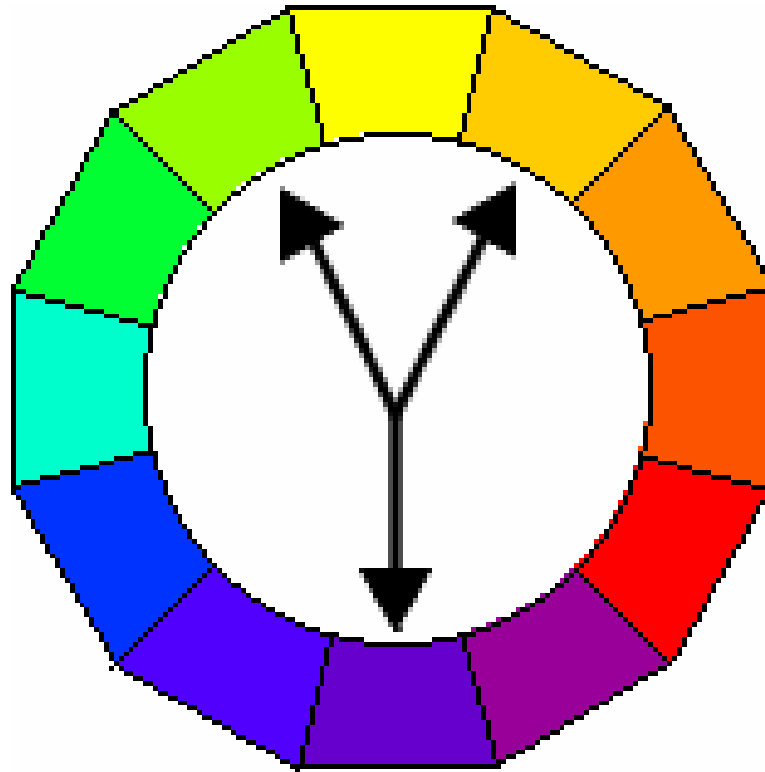


Is this true with the Burger King design as well?



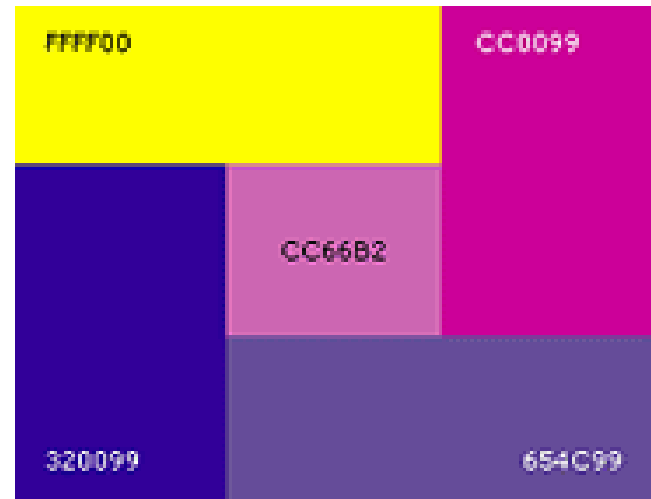
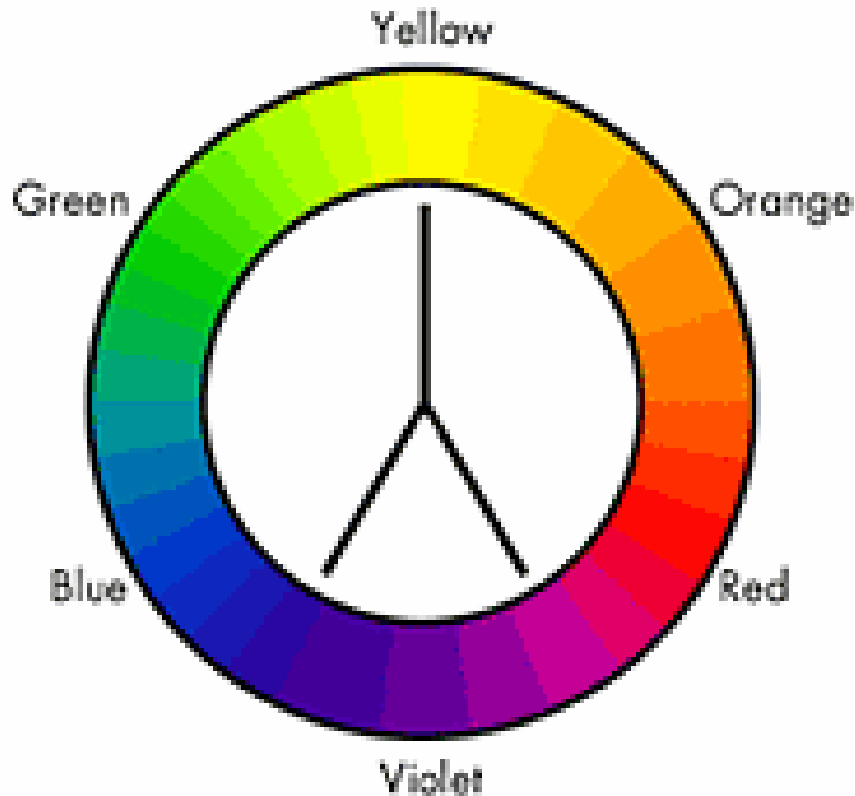


Split Complementary



This is a combination of two colors next to the opposite of the first color.

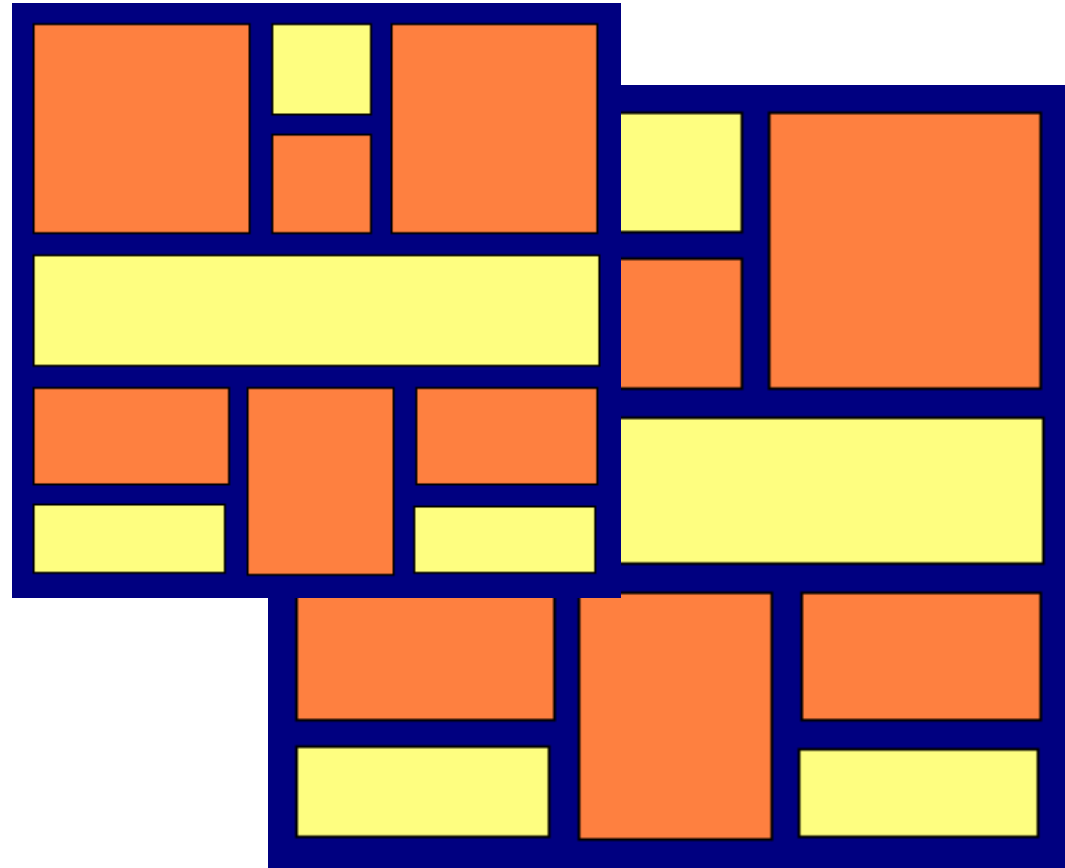
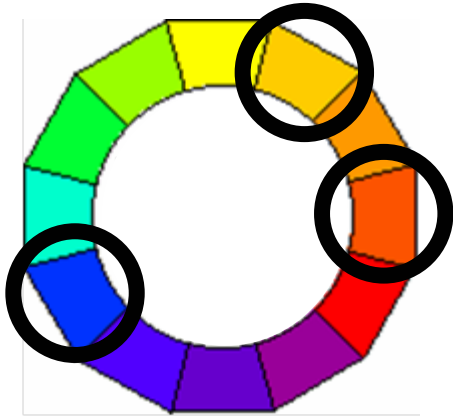
Split Complementary Colors



This structure is dynamic enough to hold interest, but not with an excess of intensity of hue contrast from which the eye tires so easily.

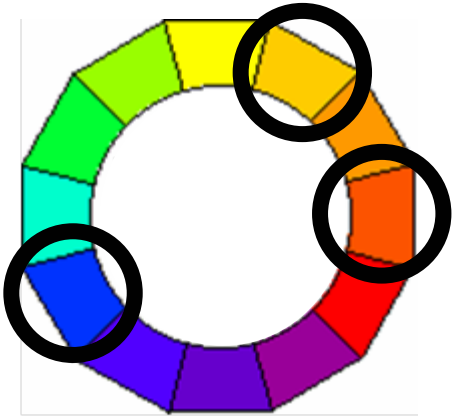


Split Complementary



This combination balances the interests of harmony and contrast, neither dominating the composition

Split Complementary

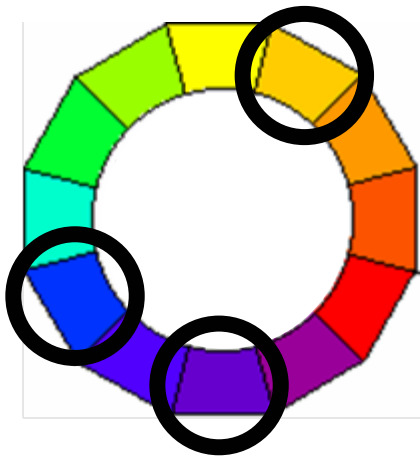


This combination balances the interests of harmony and contrast, neither dominating the composition



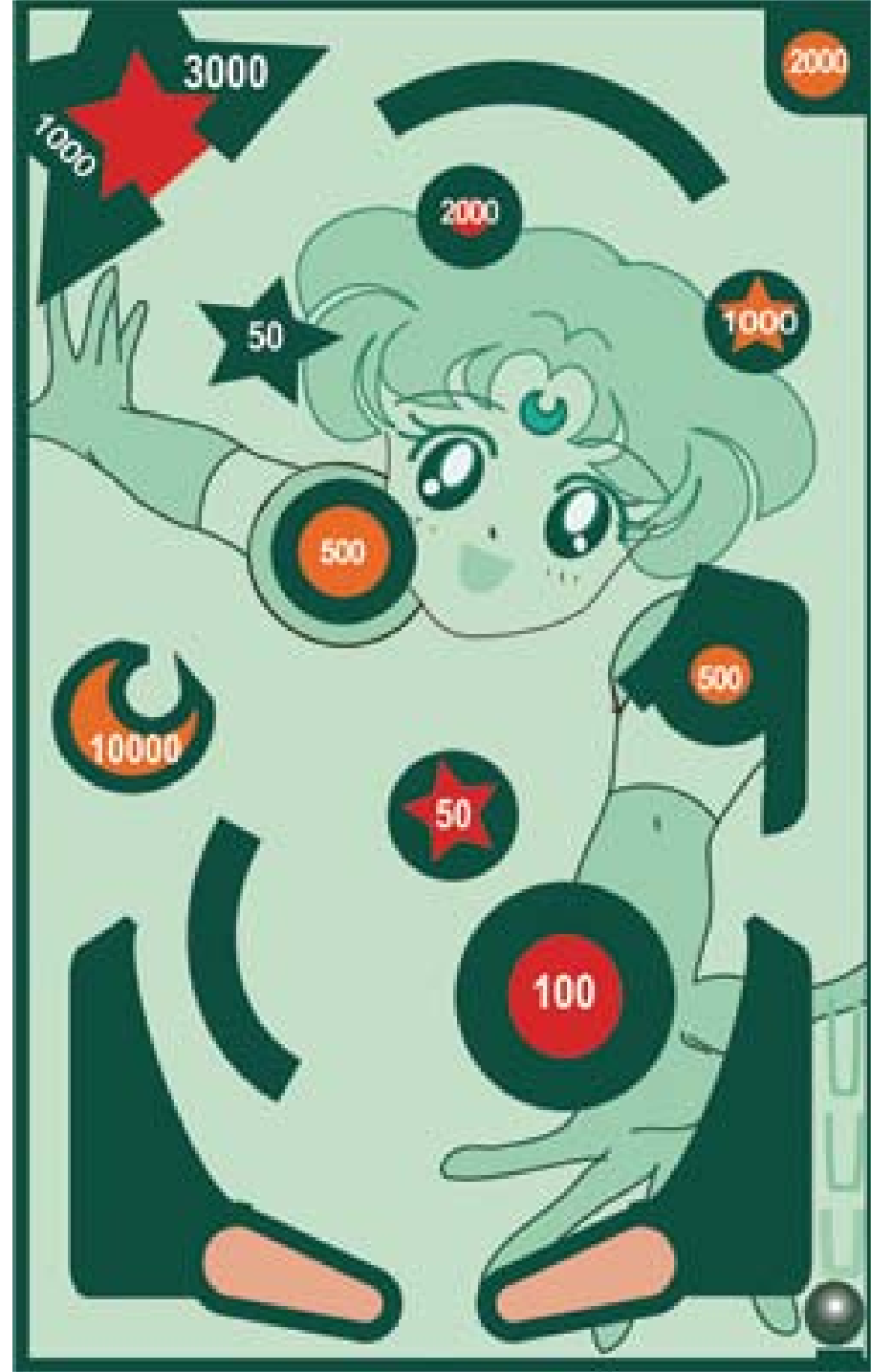
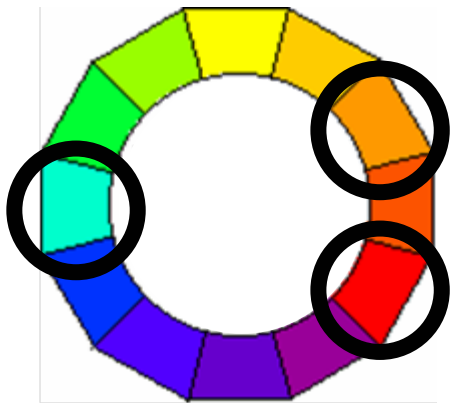


Split Complementary

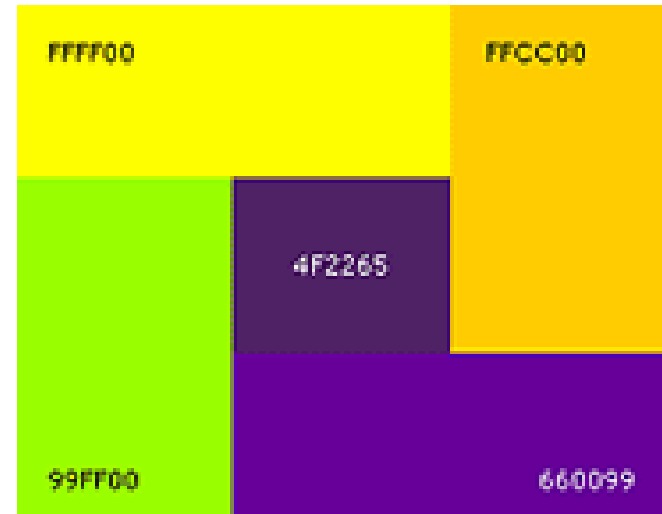
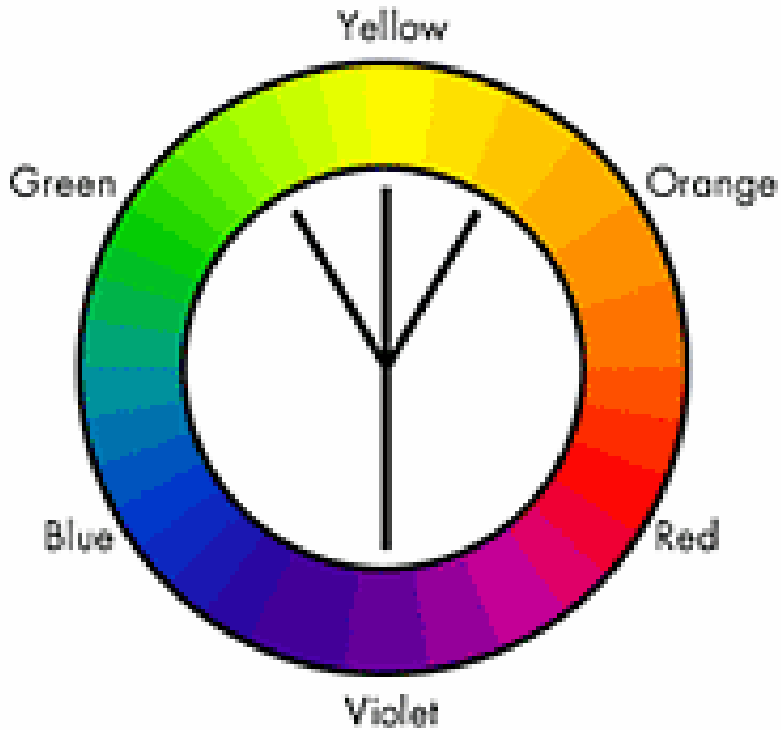




Split Complementary

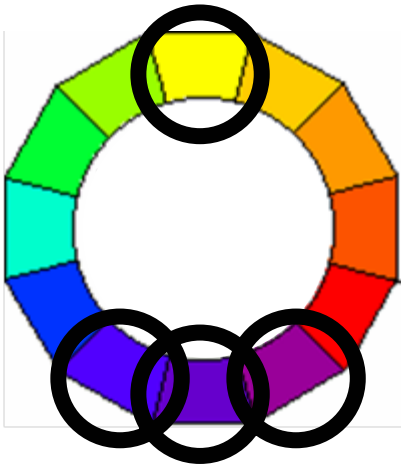


Analogous with a Single Complementary



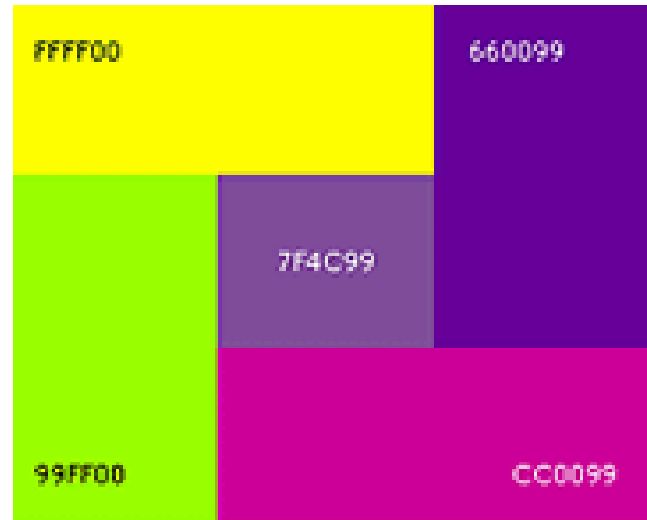
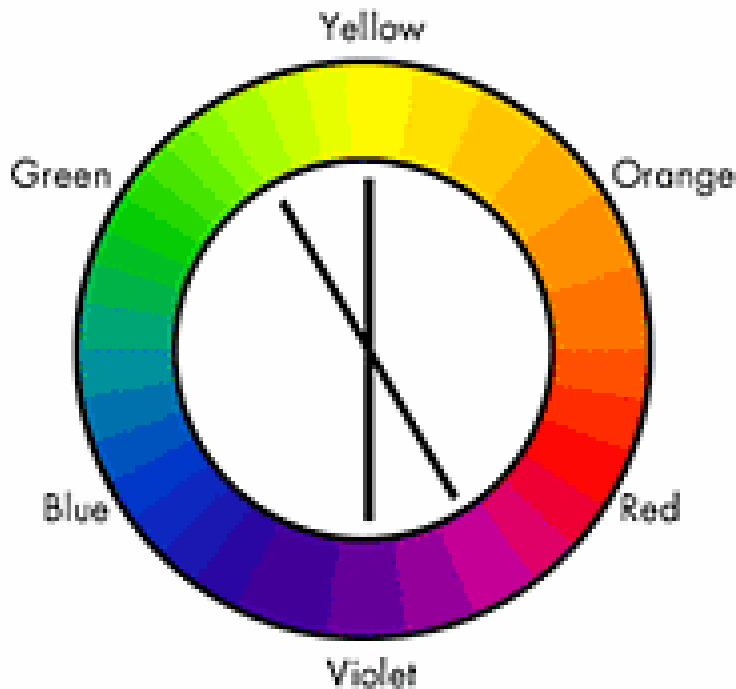
This usually is pretty striking combination as the analogous colors are of the strongest harmony, but the complement of the center color punches the composition with a dramatic accent.

Analogous with a Single Complementary



This usually is pretty striking combination as the analogous colors are of the strongest harmony, but the complement of the center color punches the composition with a dramatic accent.

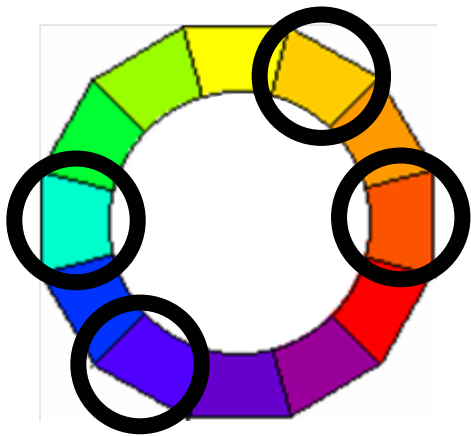
Double Complementary



Double complementary combinations are almost on the verge of breaking down into simply a panoply of color without any structure. However, since we can still intuitively grasp the structure of this combination it will retain a (weakened) harmony.



Double Complementary

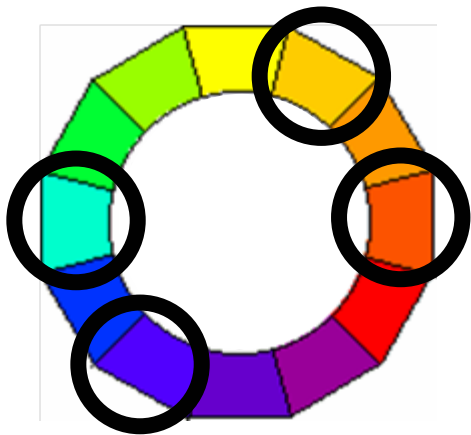




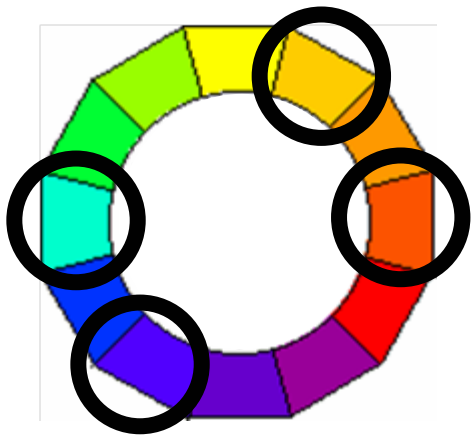
Double Complementary

As opposed to seeing:
Cyan, Blue, Orange and Red

We might basically see: “every color
except green and purple.”



Double Complementary



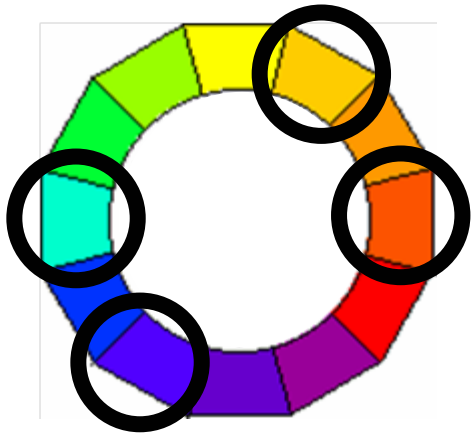
starting
from scratch
celebrating creativity

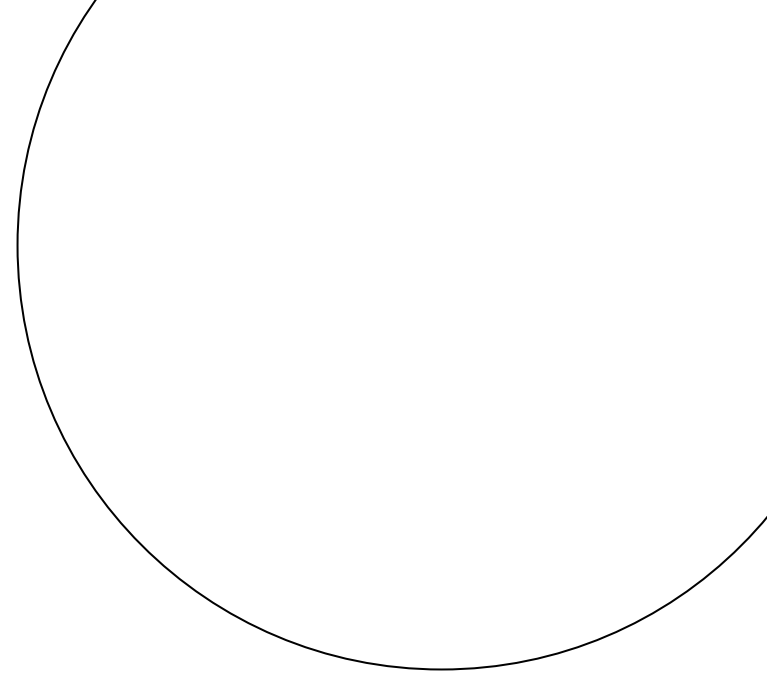
APRIL 27 - MAY 6, 2005

woman
warrior
festival 2005

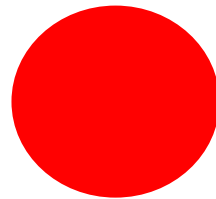
OPENING NIGHT/
WOMAN WARRIOR AWARDS CEREMONY
APRIL 27, 2005, 6 PM, FILM ROW CINEMA
OF COLUMBIA COLLEGE CHICAGO
RECIPIENTS: CHRISTINE CHOY, JULIA ZHU,
LIBBY LAI-BUN CHIU AND YOKO NOGE

Since there are a wide range of colors in this design the **saturation** levels and **values** are both very light to harmonize it.

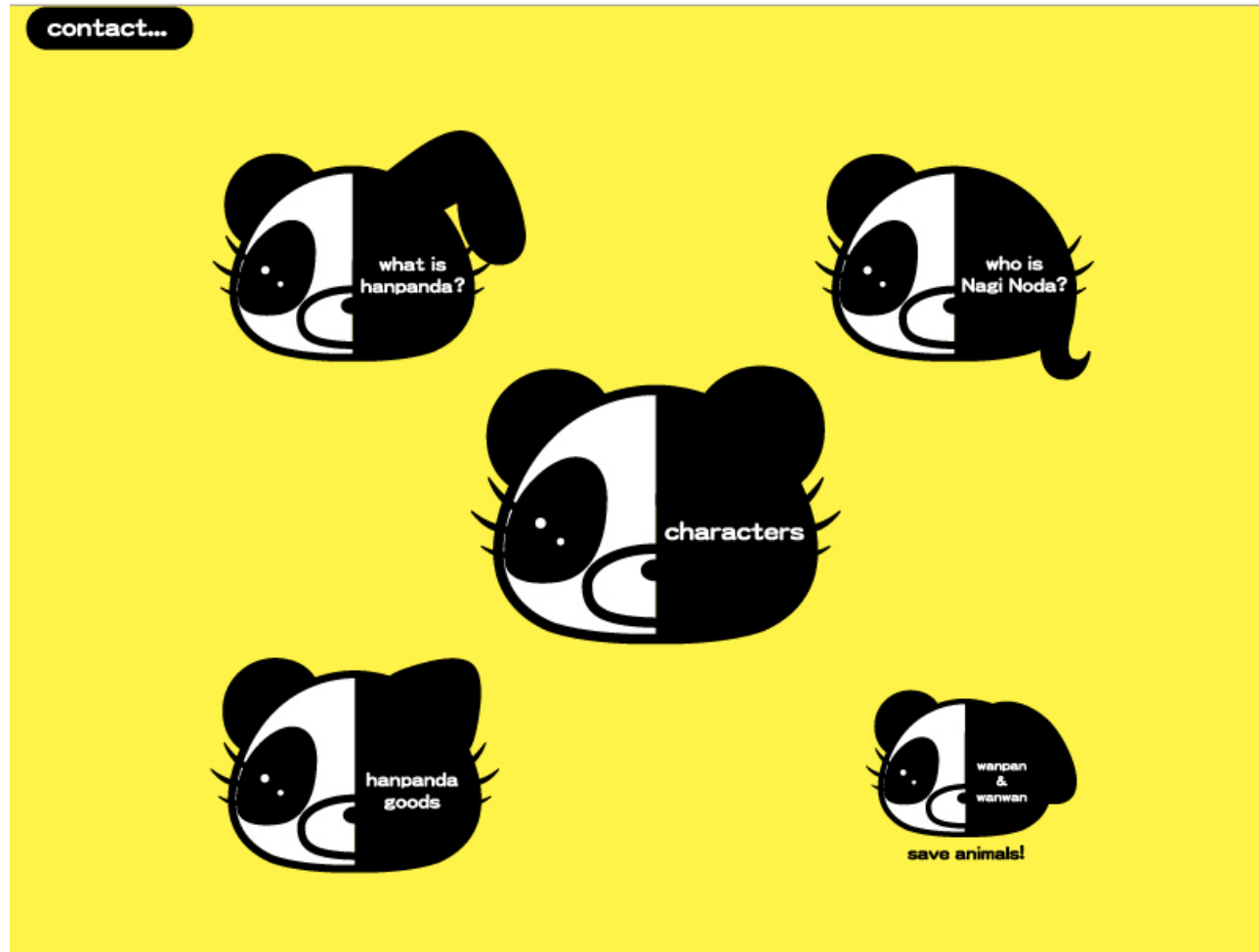




Quick Classic Color Theory Quiz

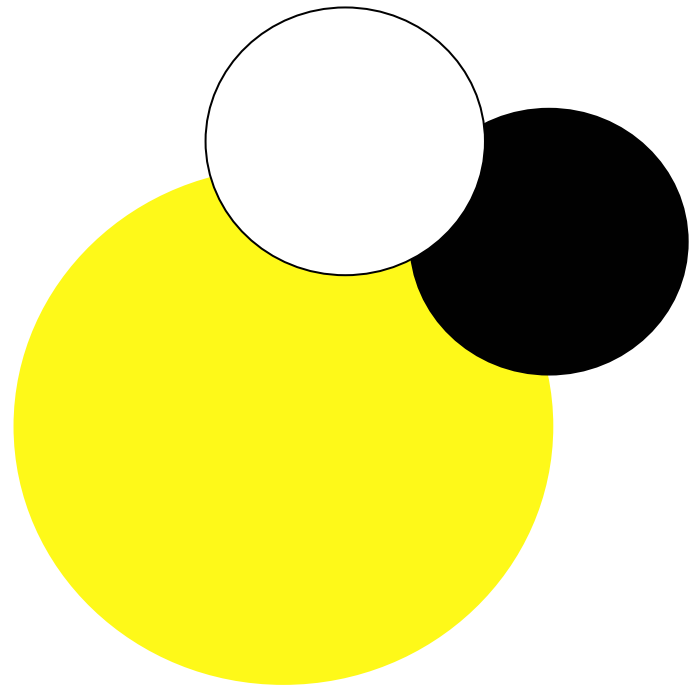


This is a _____ color combination.





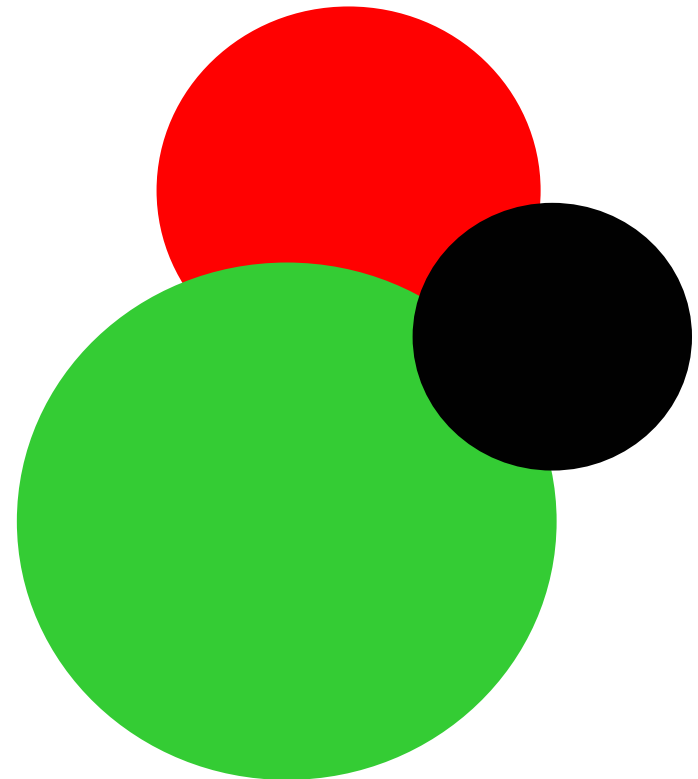
Monochromatic



This is a _____ color combination.

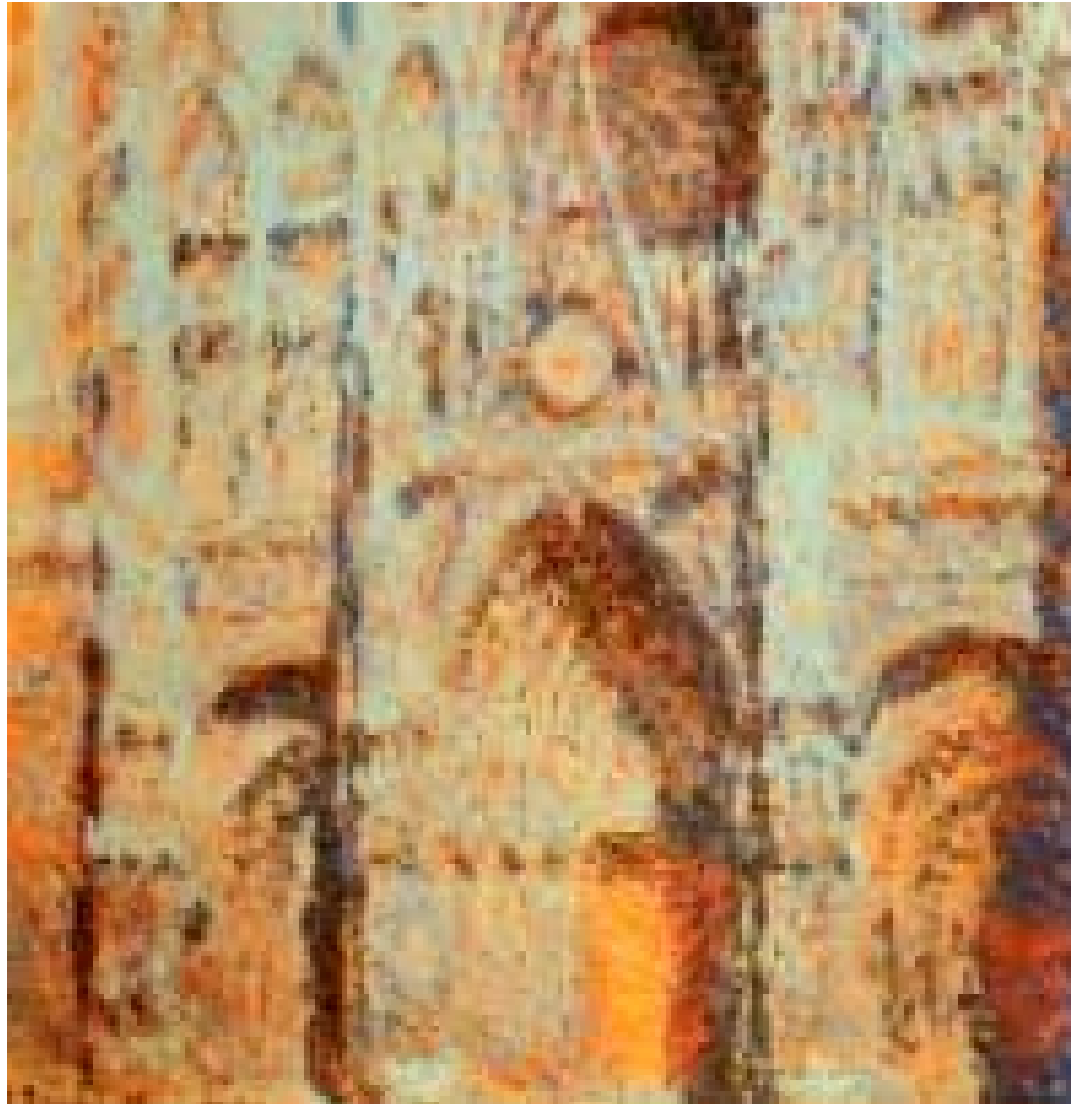
The image shows a screenshot of the Quiznos website. At the top, there is a dark red navigation bar with the text "Sign Up for Special Offers" and "Find a Store Near You: Zip [input] GO". The main content area has a dark background with the Quiznos logo in the top left, which includes the tagline "MMMM...TOASTY!". The central focus is a large graphic for "Thinly-Sliced, Slow-R PRIME RIB". To the left is a vertical green sidebar with navigation links: HOME, OUR MENU, WHO WE ARE, CAREERS, OWN A QUIZNOS, REAL ESTATE, and SHOP QUIZNOS, along with an "EXTRANET LOGIN" button. To the right, there are promotional banners for "QUIZDOUGH Buy Gift certificates" and "FREE Sign up for monthly coupon". At the bottom, there are two boxes: one for "BUY A QUIZNOS FRANCHISE AND BE YOUR OWN BOSS!" with a "Learn more!" link and a reference to "Nations Restaurant News Top 100 - June 2005", and another for "TV SPOTS" featuring a "PRIME RIB" image and links to "Watch the 'Prime Rib Dinner'" and "Download for your iPod".

Complementary



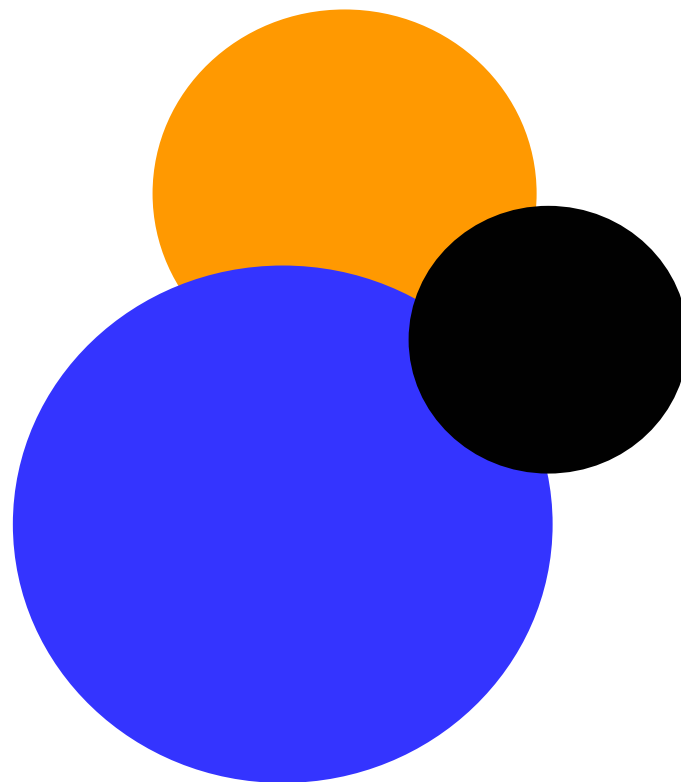
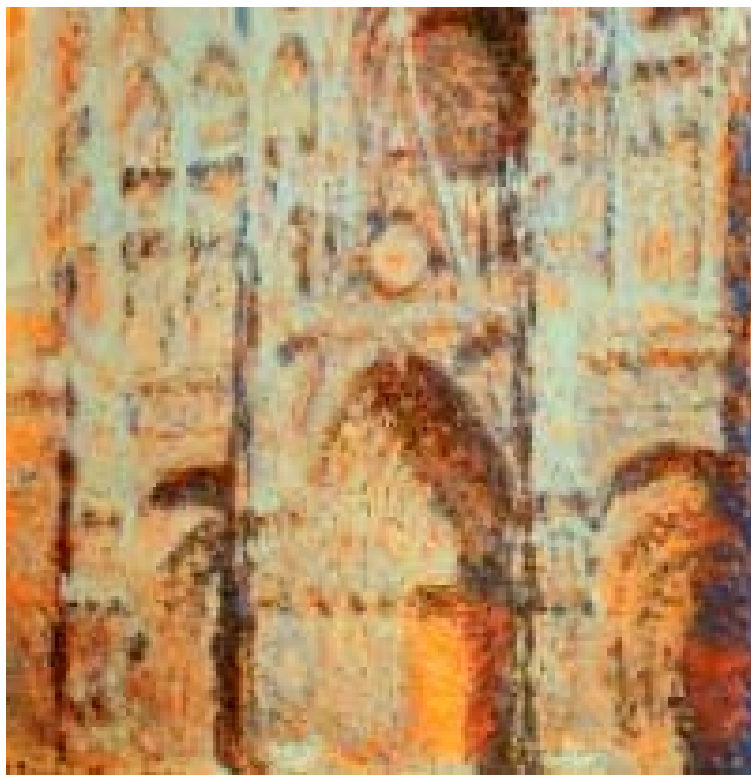


This is a _____ color combination.





Complementary



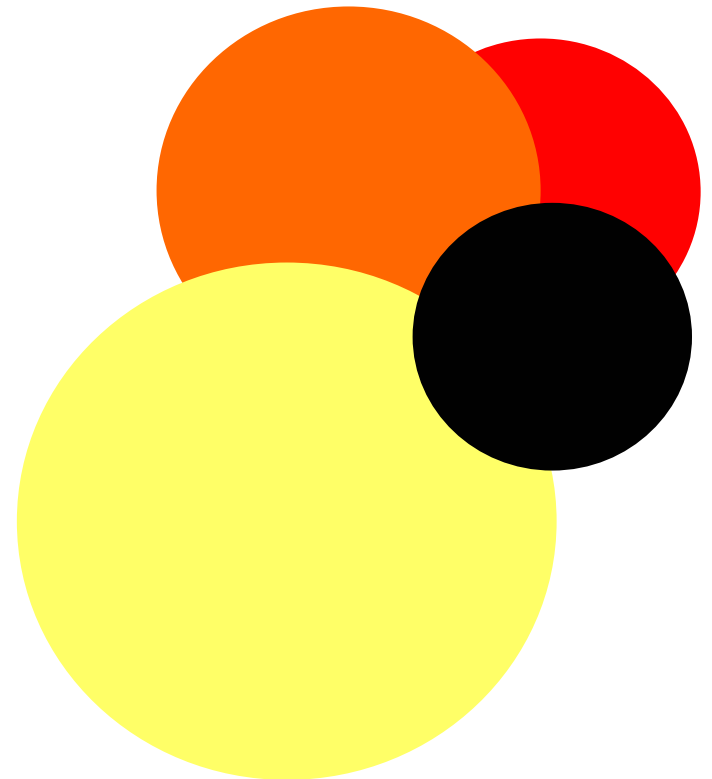


This is a _____ color combination.





Analogous



This is a _____ color combination.



Triadic





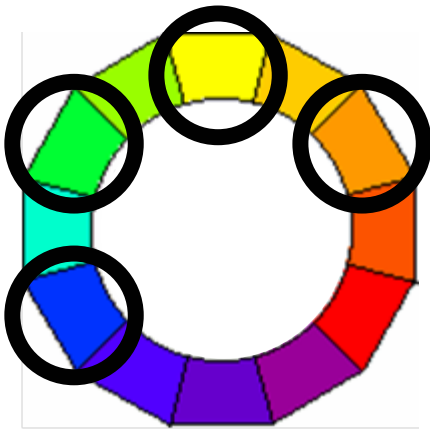
This is a _____ color combination.



Double Complementary



Invent New Color Combination Structures



Of course, you can always invent new combinatory structures. You could call this one ***Alternating Analogous***.

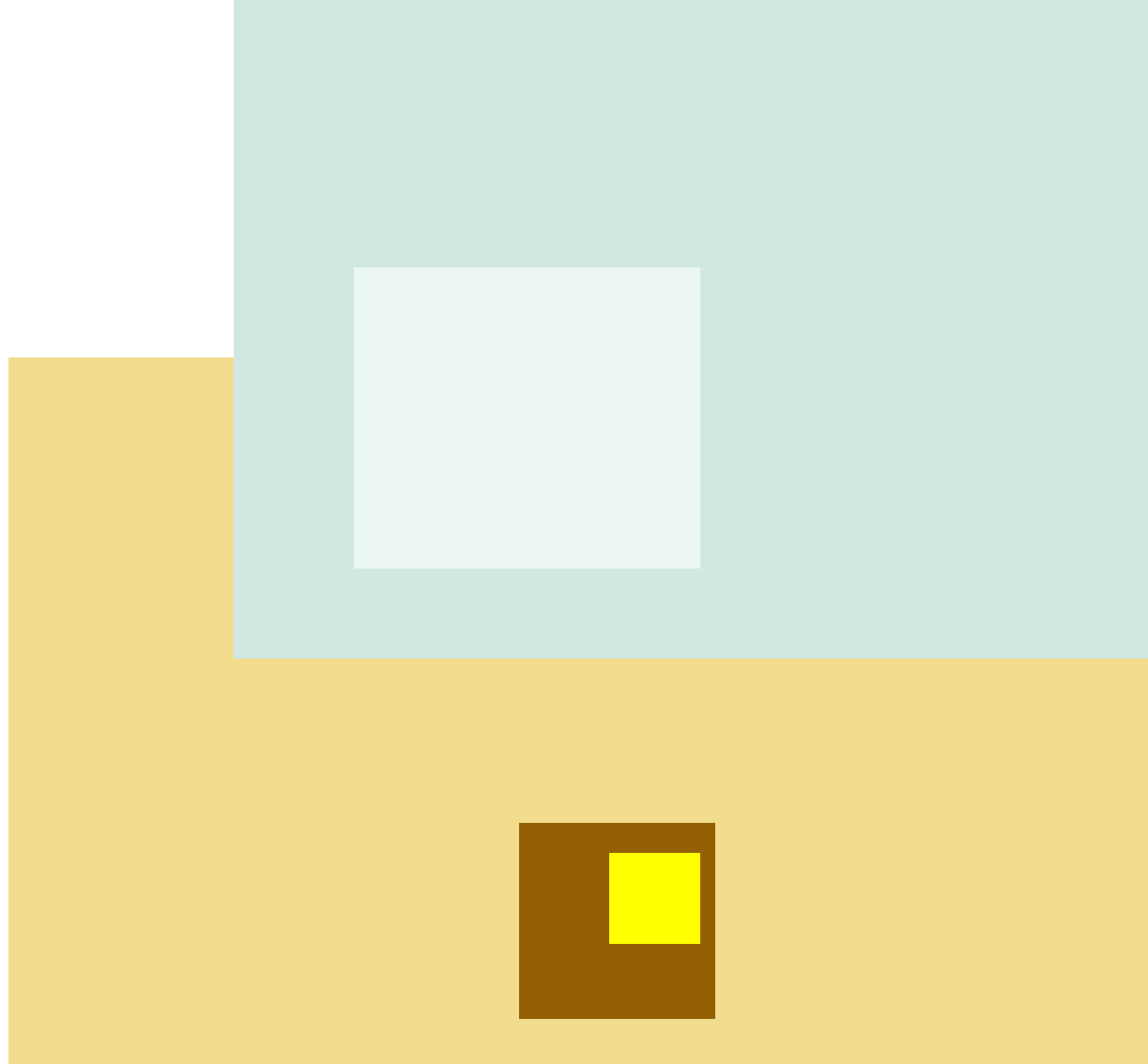


Invent Color Wheels





Invent Color Palettes



It's All About **LIMITING** YOUR COLORS

in order to achieve the desired effect...



More Intent Behind Color Choices



What is the connotation of this color palette?

WE WANT TO ENSURE THAT EVERY PATIENT IS WELL CARED FOR AND HAS THE OPPORTUNITY TO BE ACTIVELY INVOLVED IN HIS OR HER HEALTH CARE. IN ORDER TO EASE YOUR ANXIETY AND MAKE YOUR VISIT MORE COMFORTABLE, HERE ARE A FEW THINGS YOU CAN EXPECT FROM US.



ARRIVAL
Upon arrival, you will be assessed by an experienced Emergency Department nurse to determine the severity of your illness or injury. Your vital signs will be checked and a brief medical history will be taken. This process is called "triage." After triage, you will be treated according to the seriousness of your illness or injury.

TREATMENT ROOM
Once you are taken to a treatment room, you will be asked to put on a hospital gown. A nurse will come to check on you periodically until an Emergency Department doctor arrives.

DOCTOR'S EXAM
An Emergency Department doctor will provide treatment specific to your particular injury or illness. The doctor may sometimes be delayed depending on the conditions of other patients in the Emergency Department. Rest assured we will do everything we can to prevent delays.

TESTING
The Emergency Department doctor may order tests and/or X-rays. We make every effort to bring all tests or procedures to the patient's bedside. However, some may have to be performed in other areas of the hospital. If you do not understand a specific test or have questions about your care, ask your nurse or doctor.

RESULTS AND TREATMENT
Once your test results are available, your doctor will review them with you and discuss a recommended treatment plan. Please keep in mind that it may take several hours to complete treatment before you can be sent home or admitted to the hospital.

ADMISSION OR DISCHARGE
The doctor will determine if you can be sent home or if you need to be admitted to the hospital. They may consult your personal primary care physician or other specialists about your admission or follow-up.



What is the connotation of this color palette?





What is the connotation of this color palette?



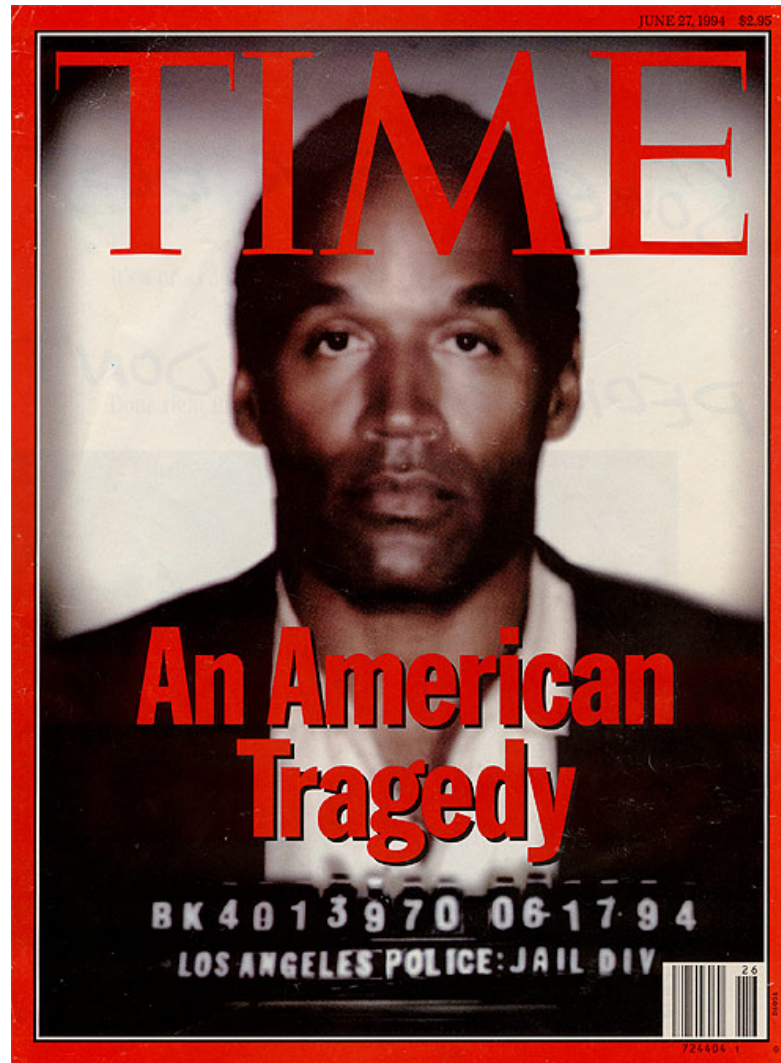
What is the connotation of this color palette?



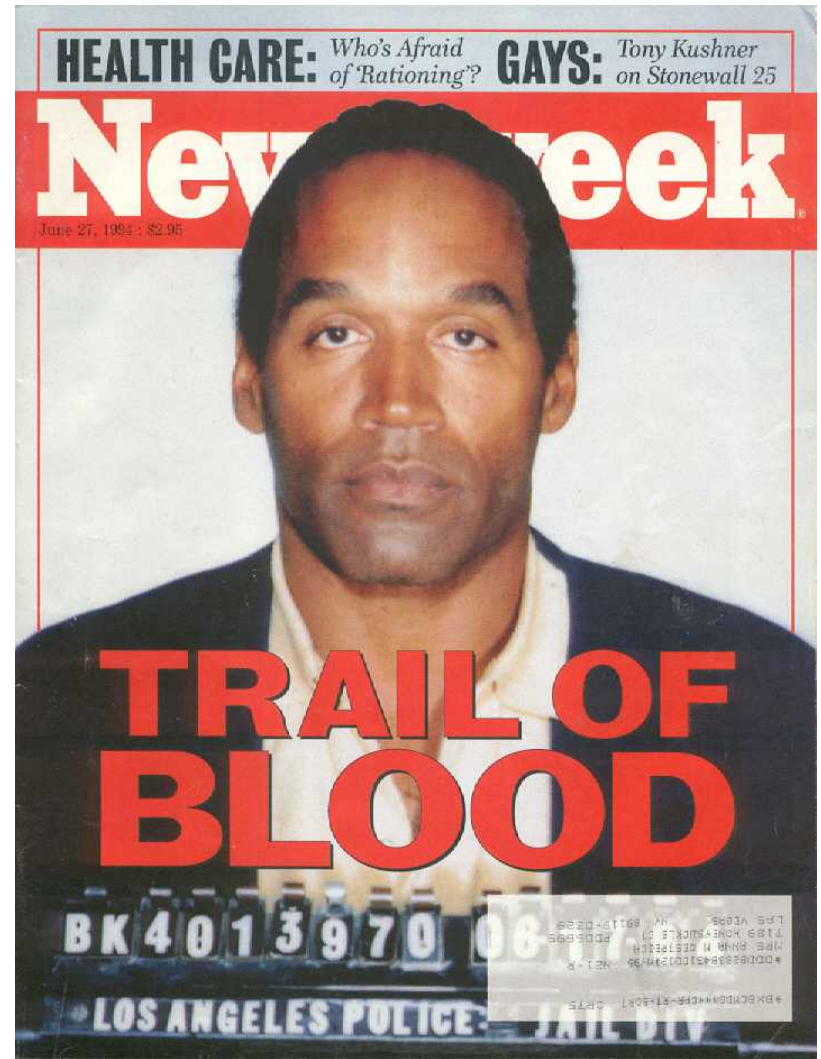
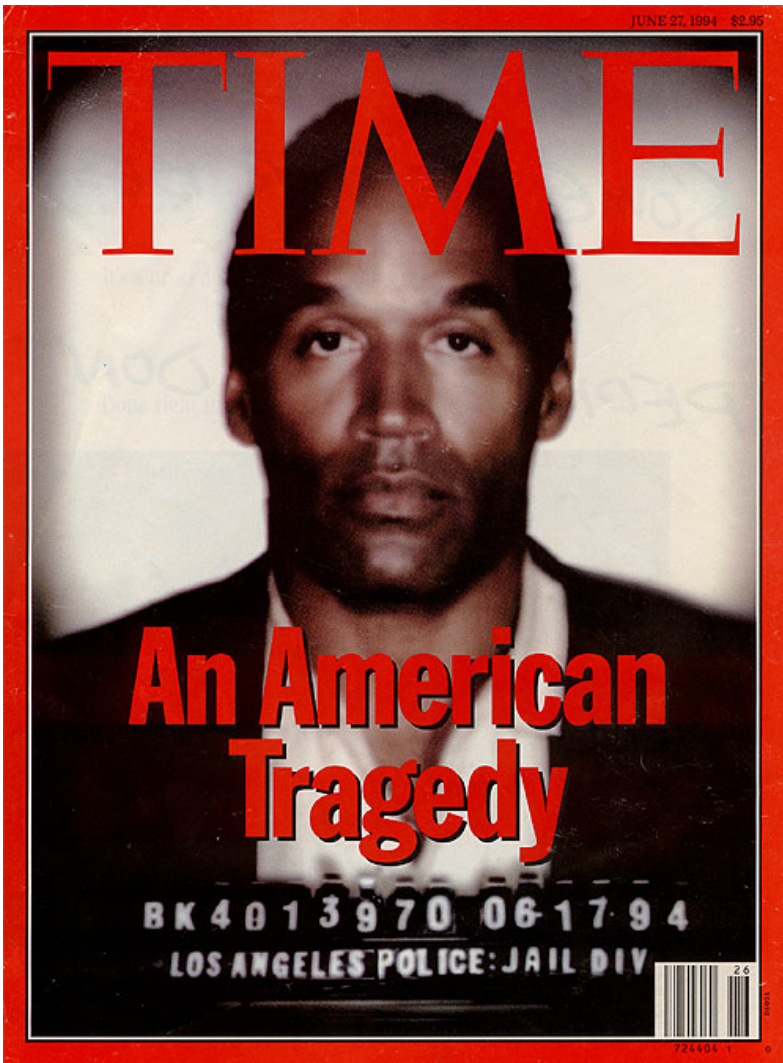
What is the connotation of this color palette?



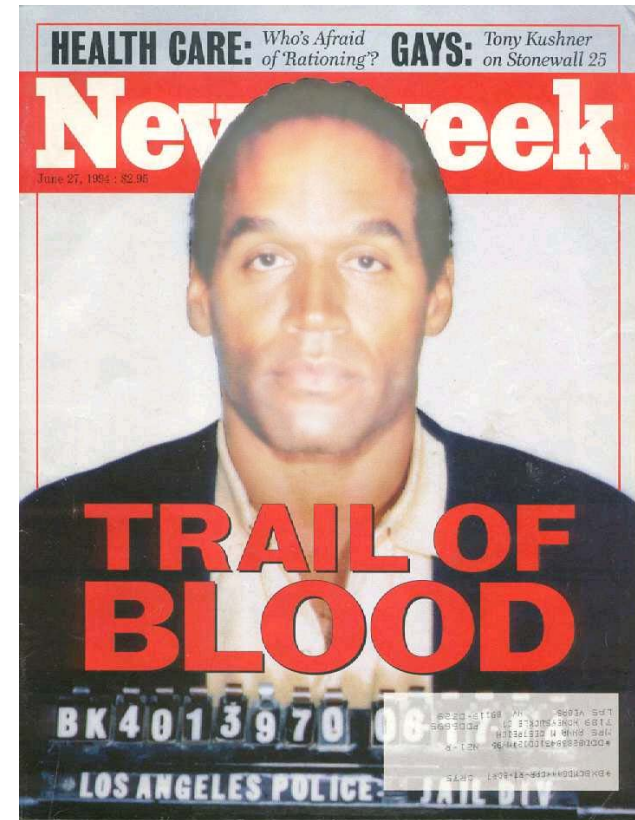
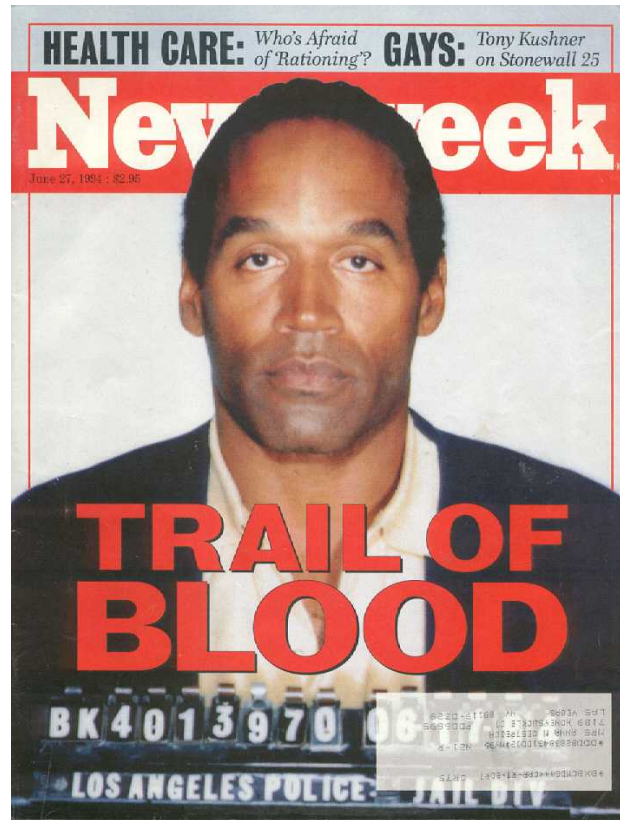
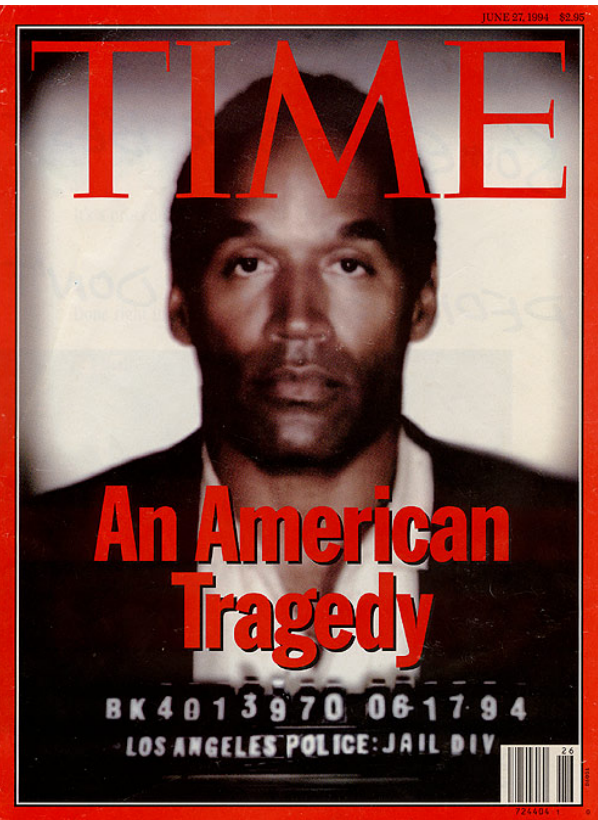
What is the connotation of this color palette?



What are the connotations of these color palettes?



What are the connotations of these color palettes?

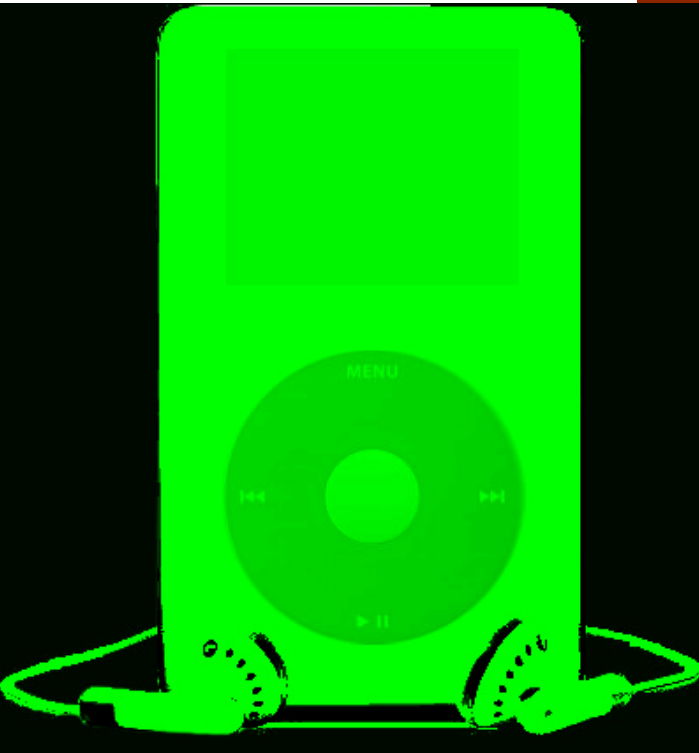


What is the connotation of this color palette?





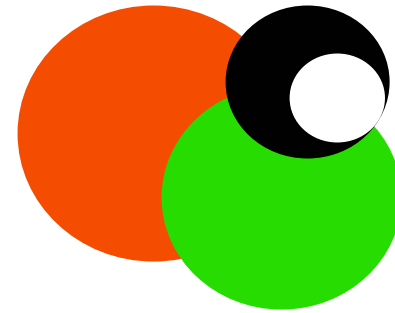
What are the connotations of these new color palettes for iPod?



What is this Design's Color Palette and Its Connotation?



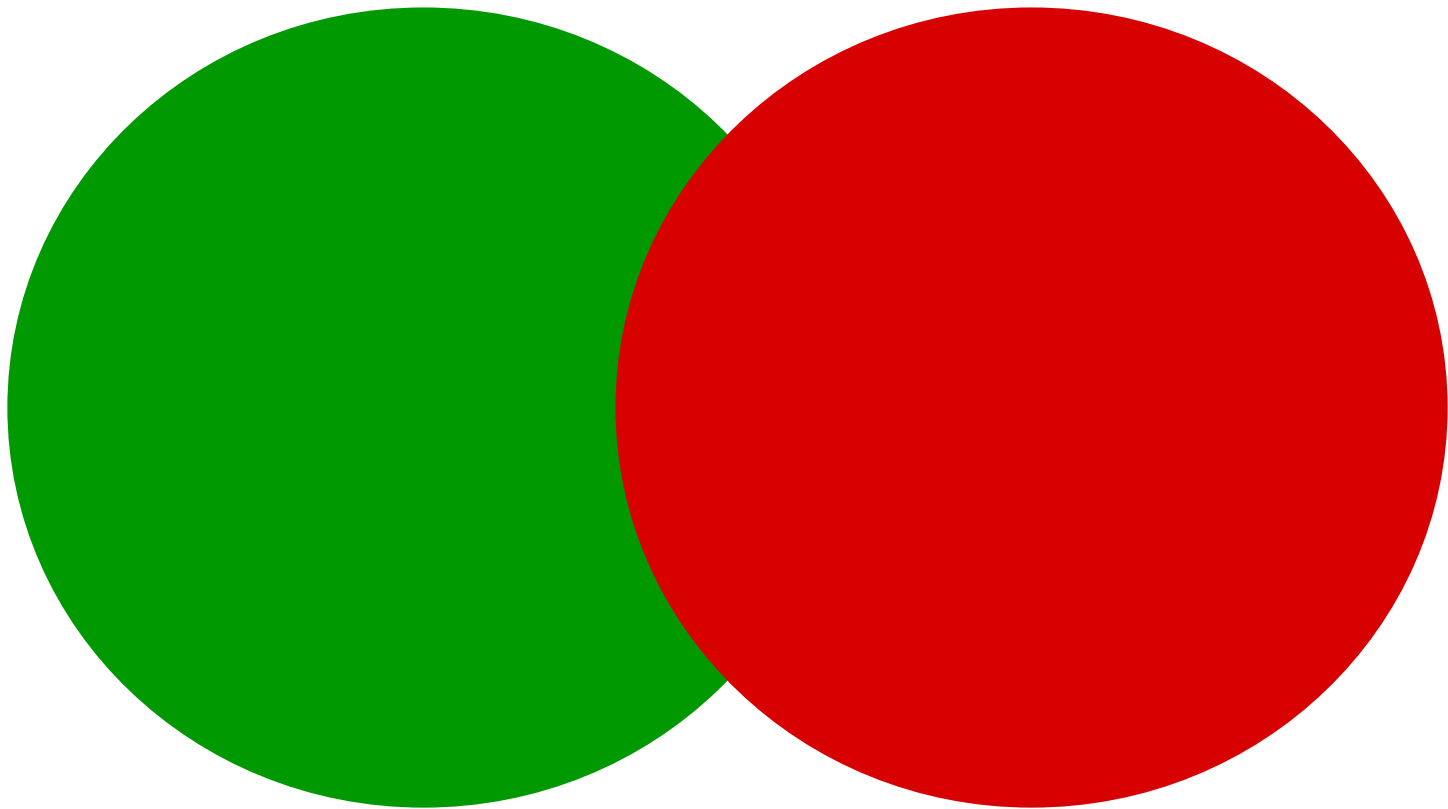
What is this Design's Color Palette and Its Connotation?



Green (which usually connotes *life*) seems like such an ironic color choice that I assume it's intentional. Therefore I associate this complementary (or near complementary) color palette with humor and self-consciousness.

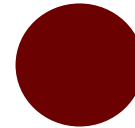
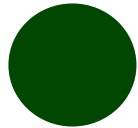
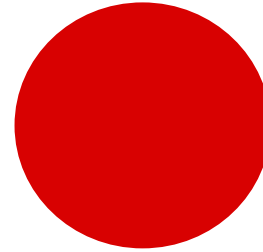
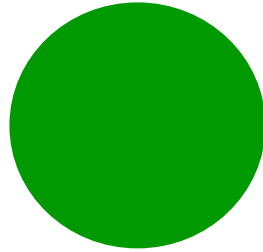


What is the Usual Connotation of Green/Red Complementaries?





How often is this really the case?





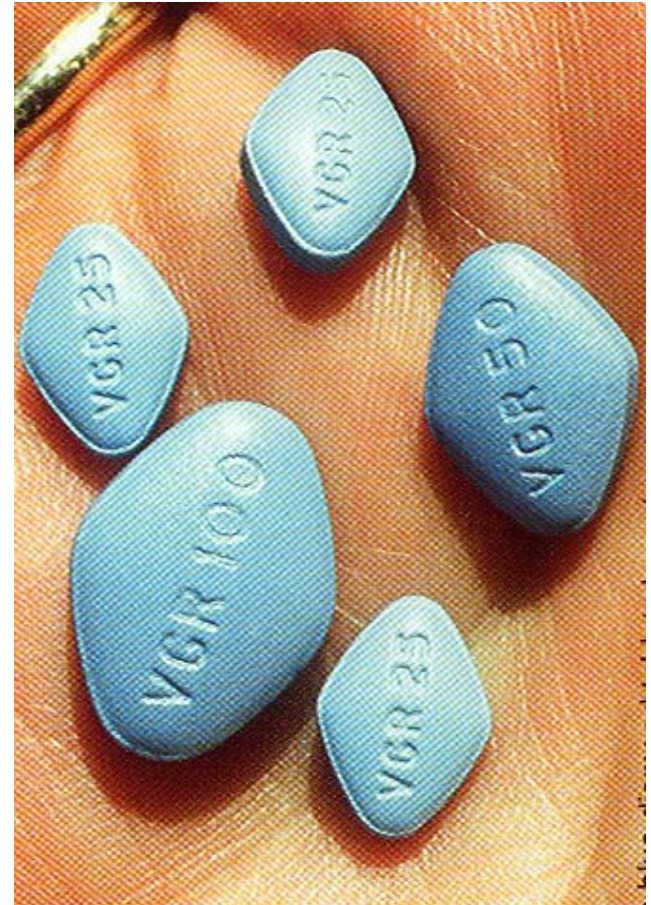
How often is this really the case?





The 'Branding' of Color is Exactly What many Companies and Artists Try to Do.

In pharmaceuticals what pill does this type of turquoise signify?





The 'Branding' of Color is Exactly What many Companies and Artists Try to Do.

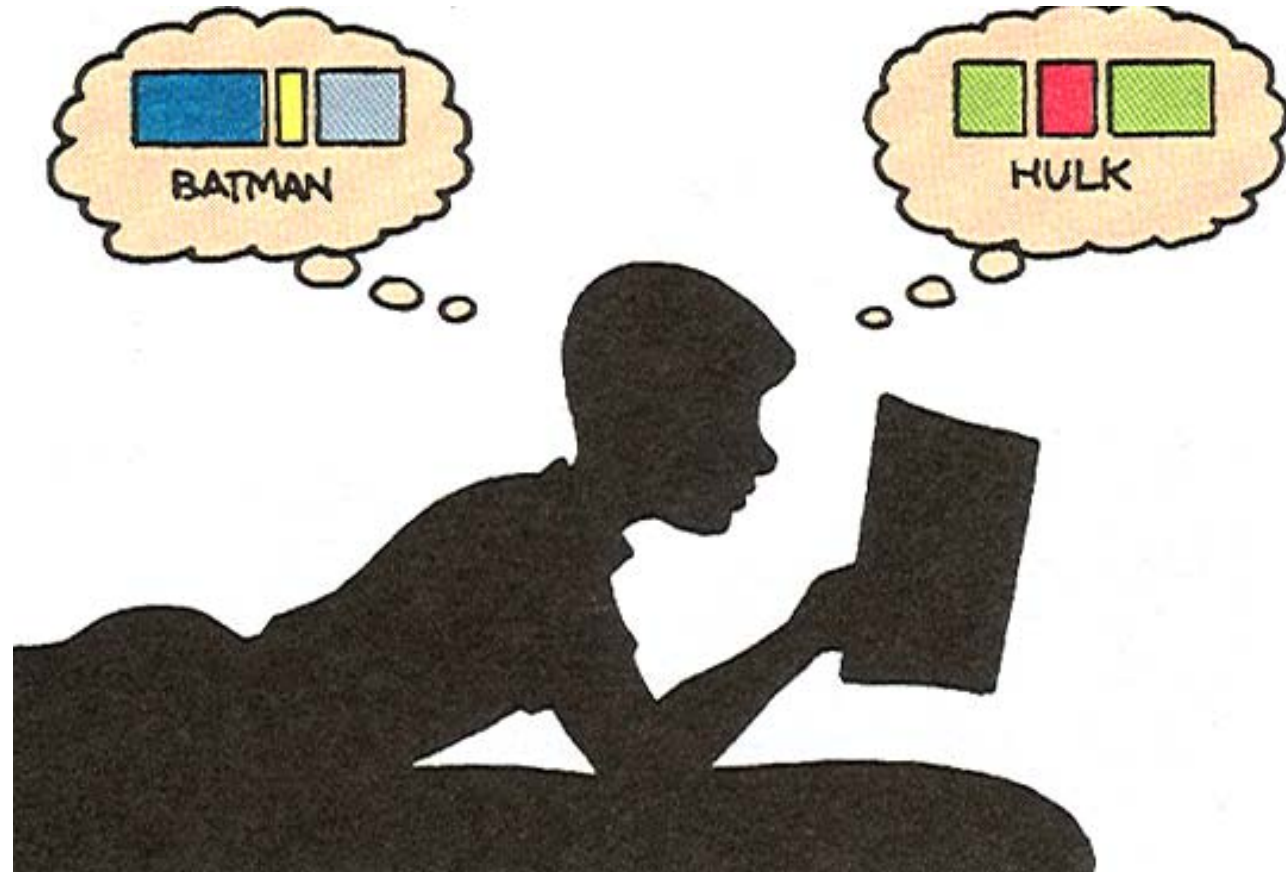


=

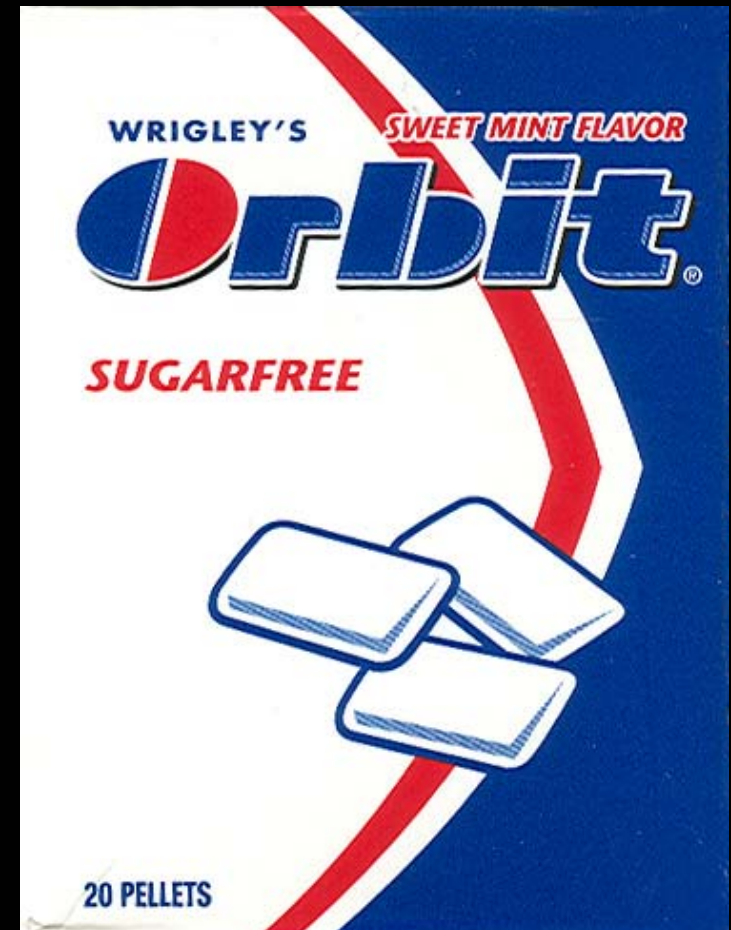




The 'Branding' of Color is Exactly What many Companies and Artists Try to Do.



The 'Branding' of Color is Exactly What many Companies and Artists Try to Do.



What product brand is this gum package cross-referencing?



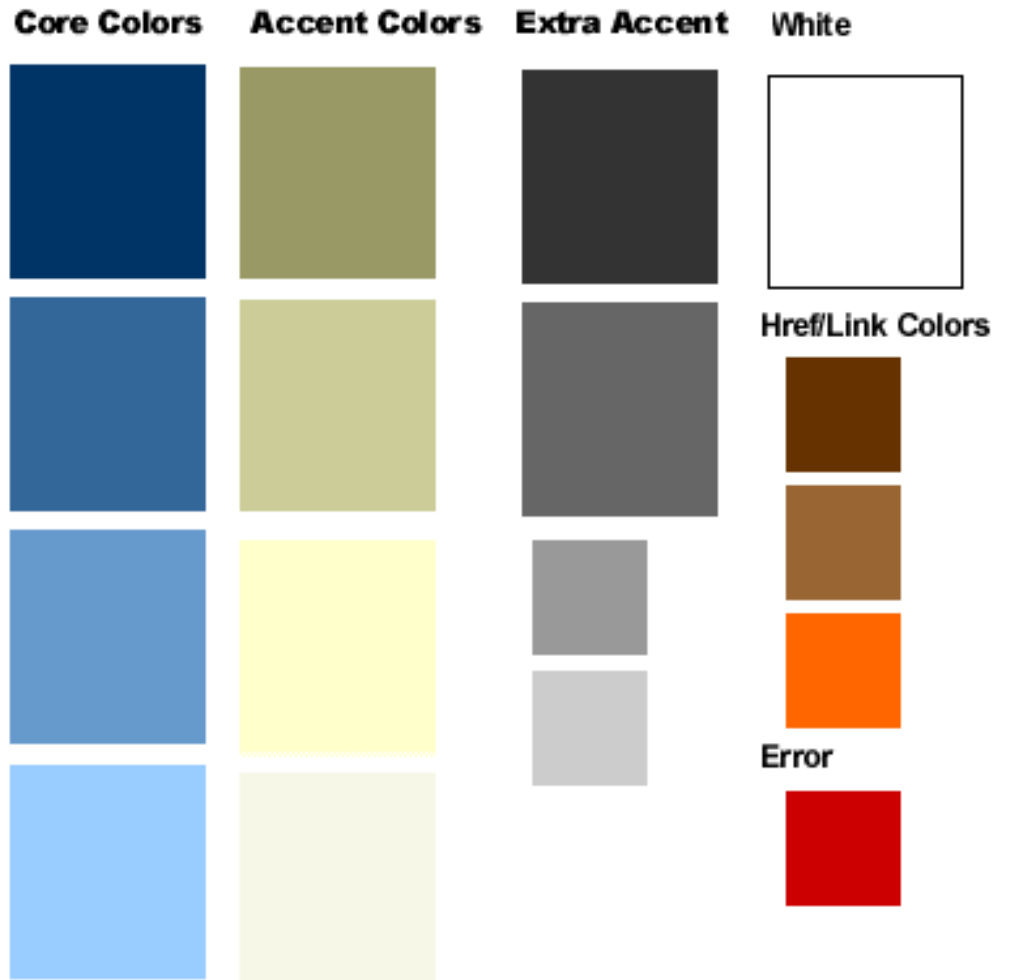
Color Palettes



What types of things are Color Palettes made for?

What types of things are Color Palettes made for?

- Websites



What types of things are Color Palettes made for?

- Websites
- Architecture

FEATURING MORE THAN 750 PALETTES



THE COLOR PALETTE PRIMER



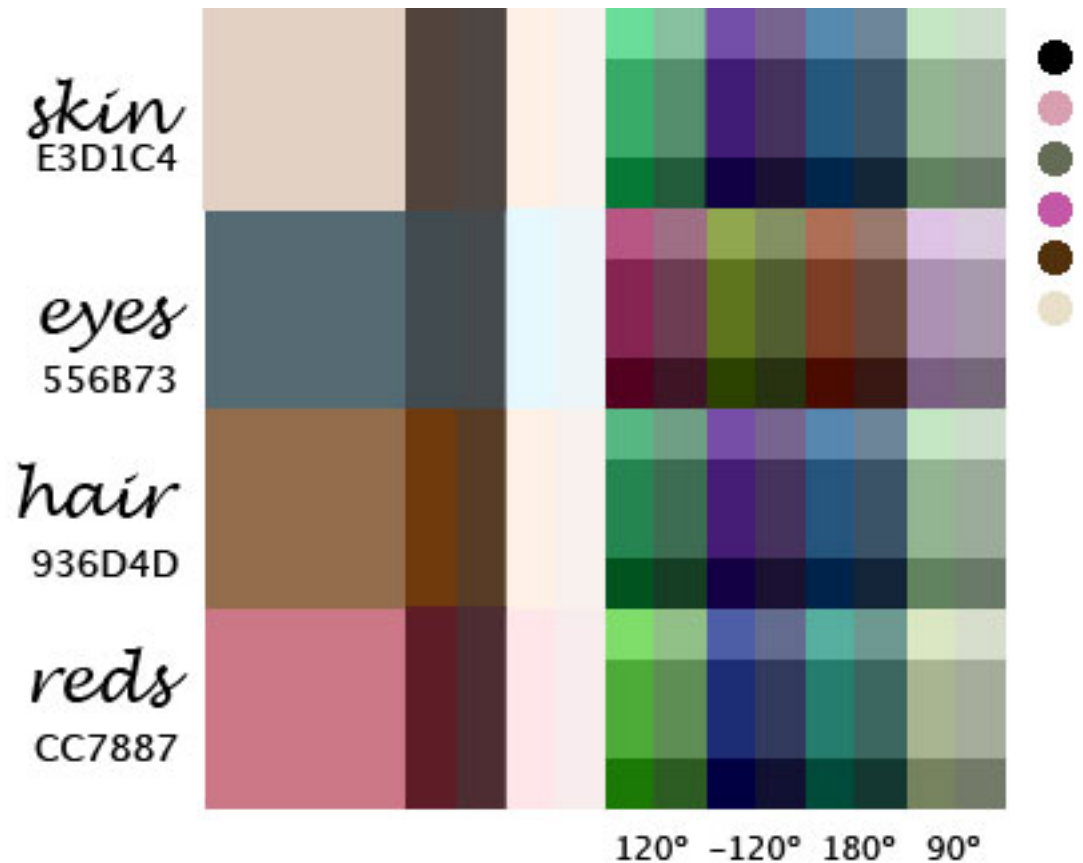
A GUIDE TO CHOOSING IDEAL COLOR
COMBINATIONS FOR YOUR HOME



JOANN ECKSTUT

What types of things are Color Palettes made for?

- Websites
- Architecture
- Characters



What types of things are Color Palettes made for?

- Websites
- Architecture
- Characters



What types of things are Color Palettes made for?

- Websites
- Architecture
- Characters
- Anything that has a visual component

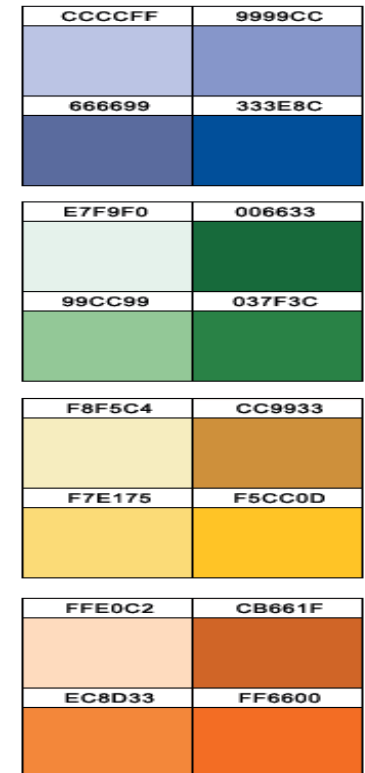
Primary Palette:

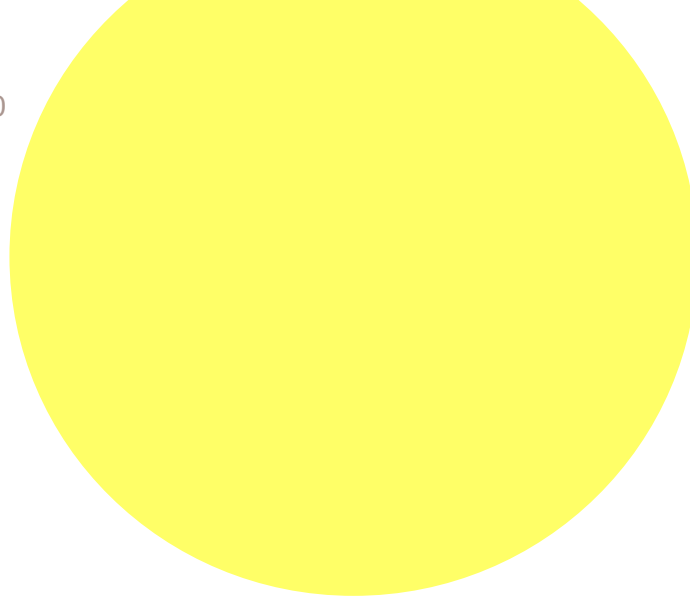


Step Down, Alert, and Neutral Colors:

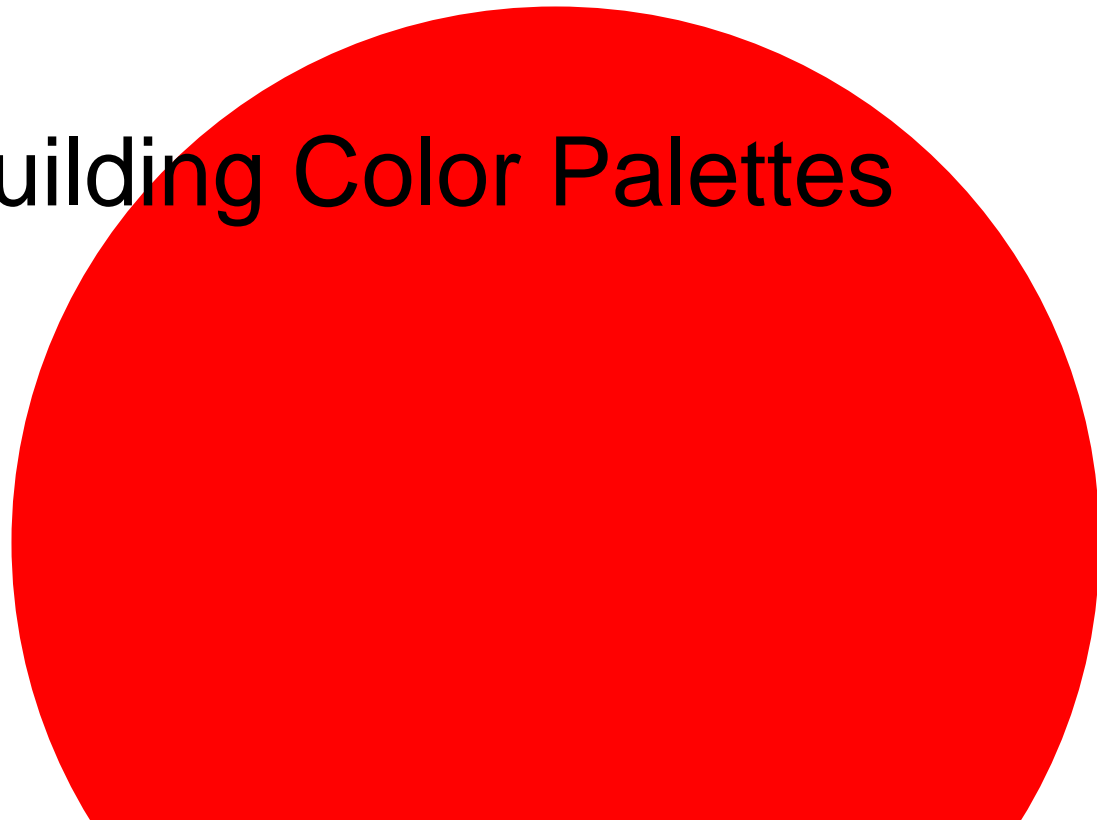
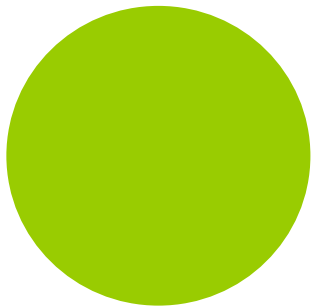


Extended Palette:





Technique for Building Color Palettes



Technique for Building Color Palettes

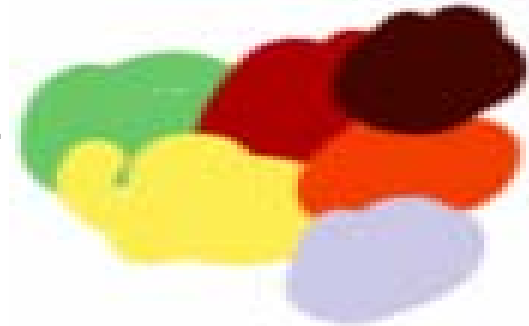
1) Select Image of Interest



2) Open it in Photoshop and tweak/exaggerate the colors
Using Levels, Curves or Hue/Saturation



3) Using the eyedropper, swatch some colors off it.



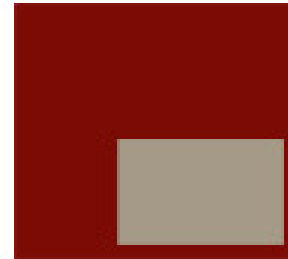


Technique for Building Color Palettes



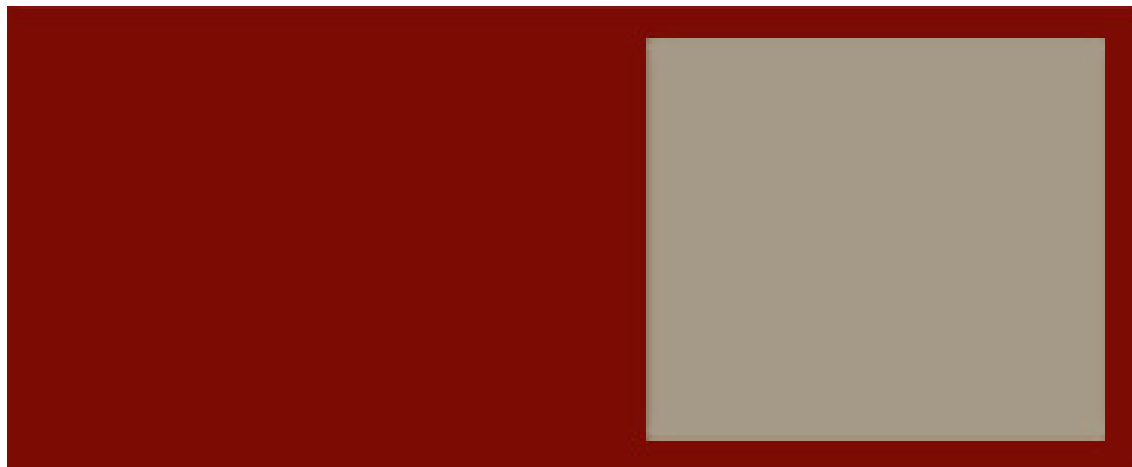
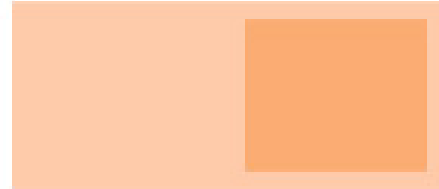


Technique for Building Color Palettes





Technique for Building Color Palettes



Technique for Building Color Palettes



Accent



Sub-Dominant

Dominant

Don't forget to play with and alternate the dominants, subdominants and accents colors

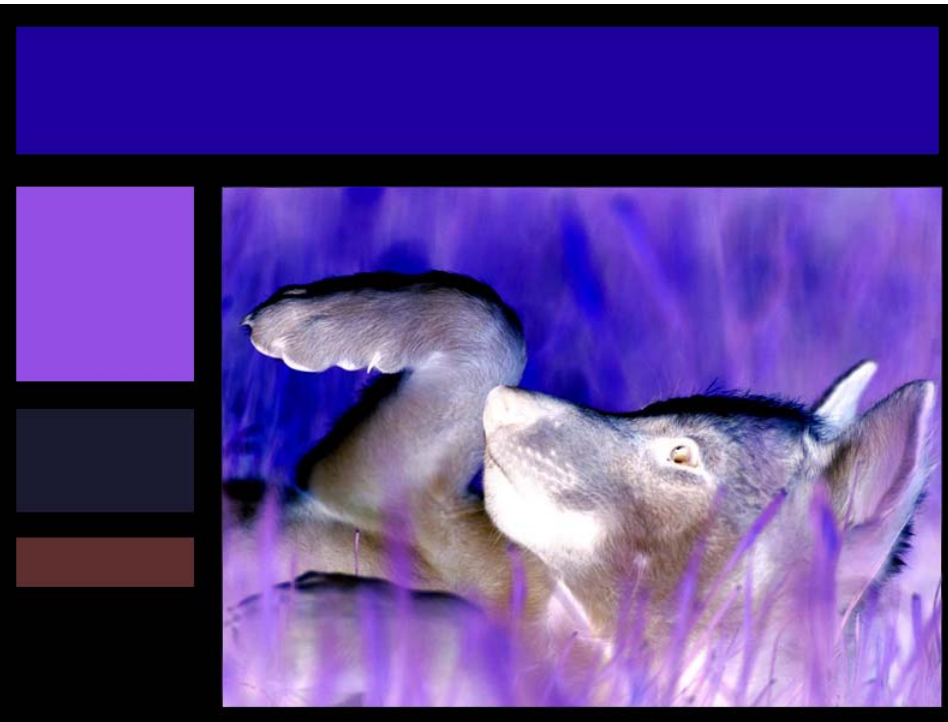


Technique for Building Color Palettes





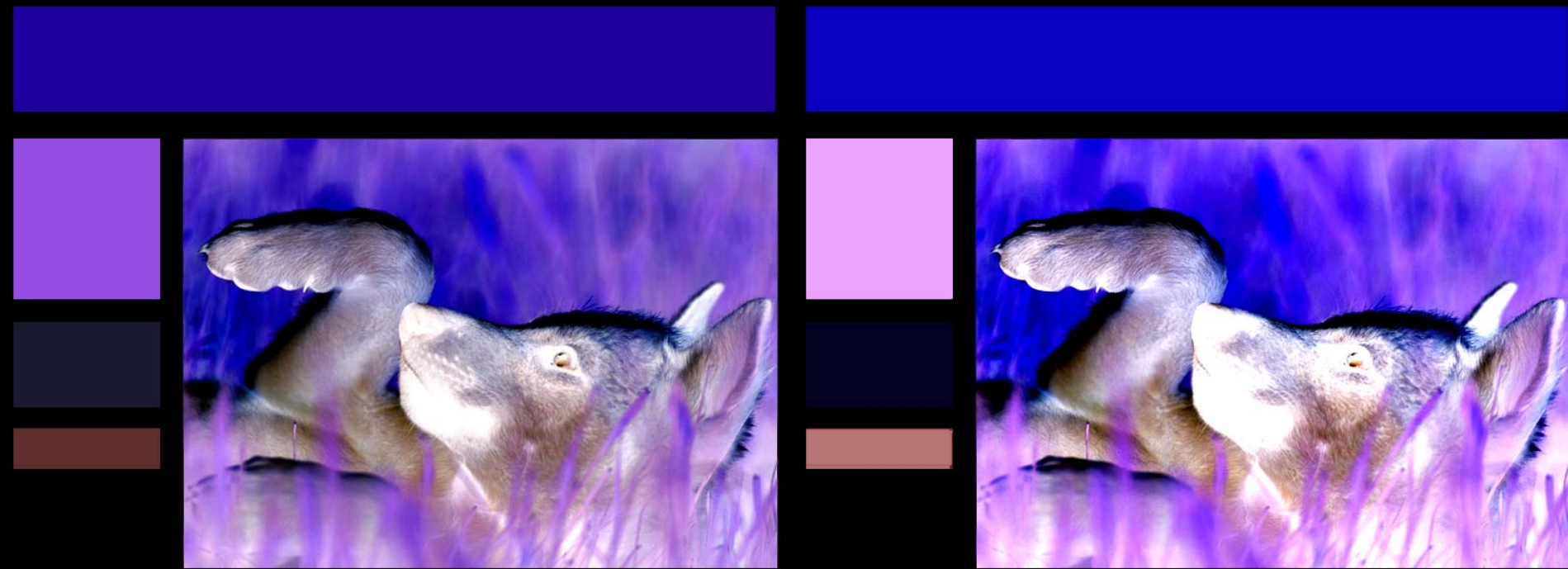
Technique for Building Color Palettes



Inverting Images can yield interesting results as well.



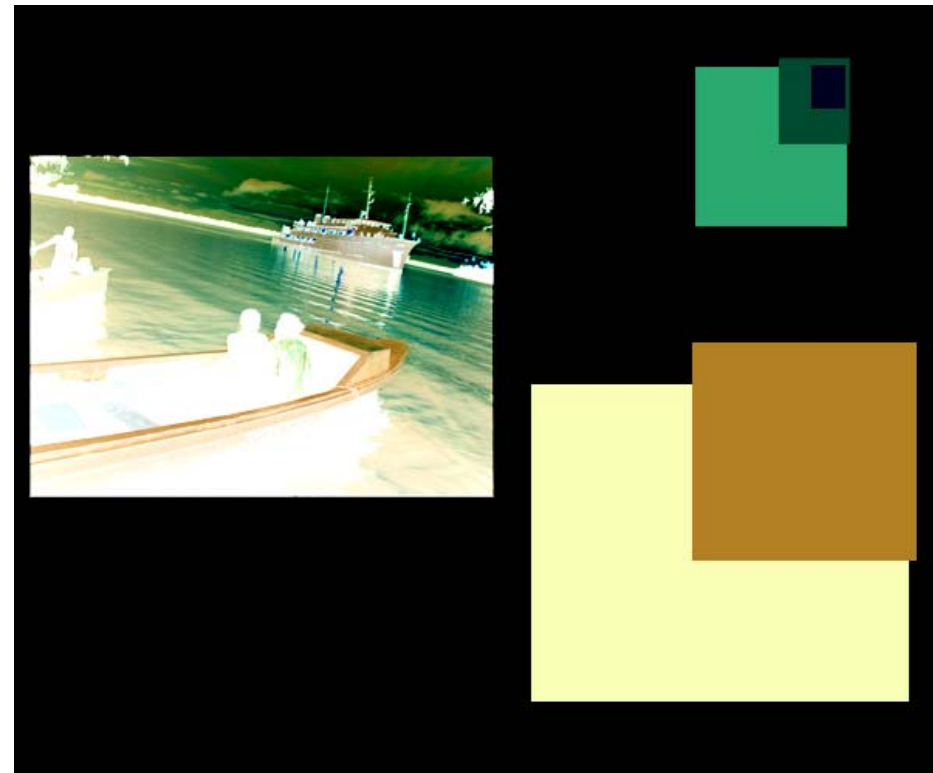
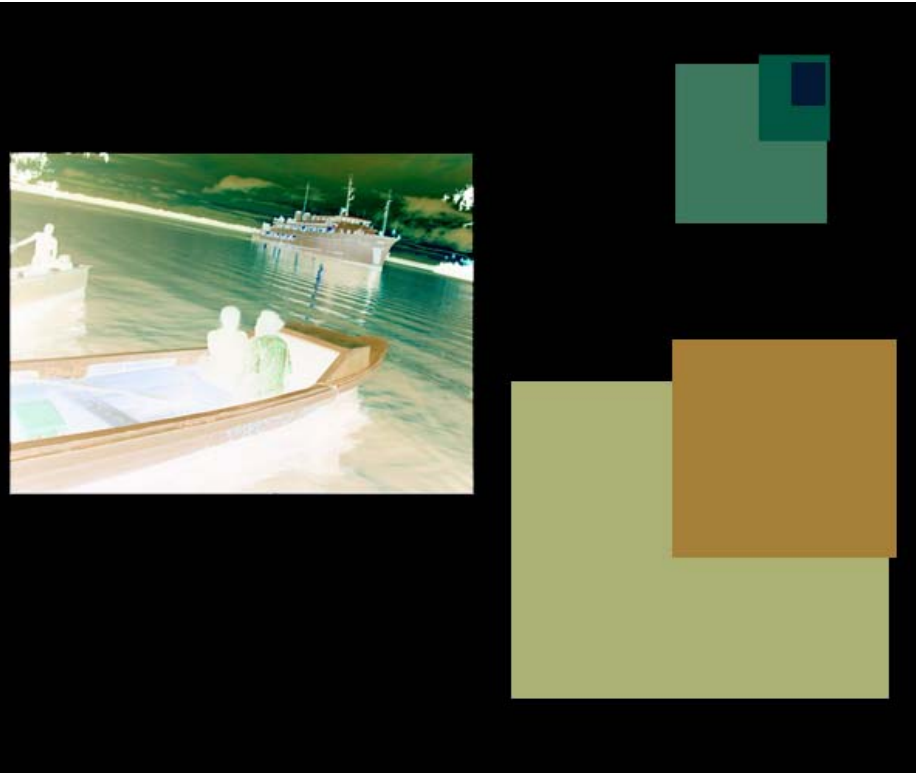
Technique for Building Color Palettes



Tweaking the levels, hue, etc., might be necessary to get the desired effect.



Technique for Building Color Palettes



Tweaking the levels, hue, etc., might be necessary to get the desired effect.



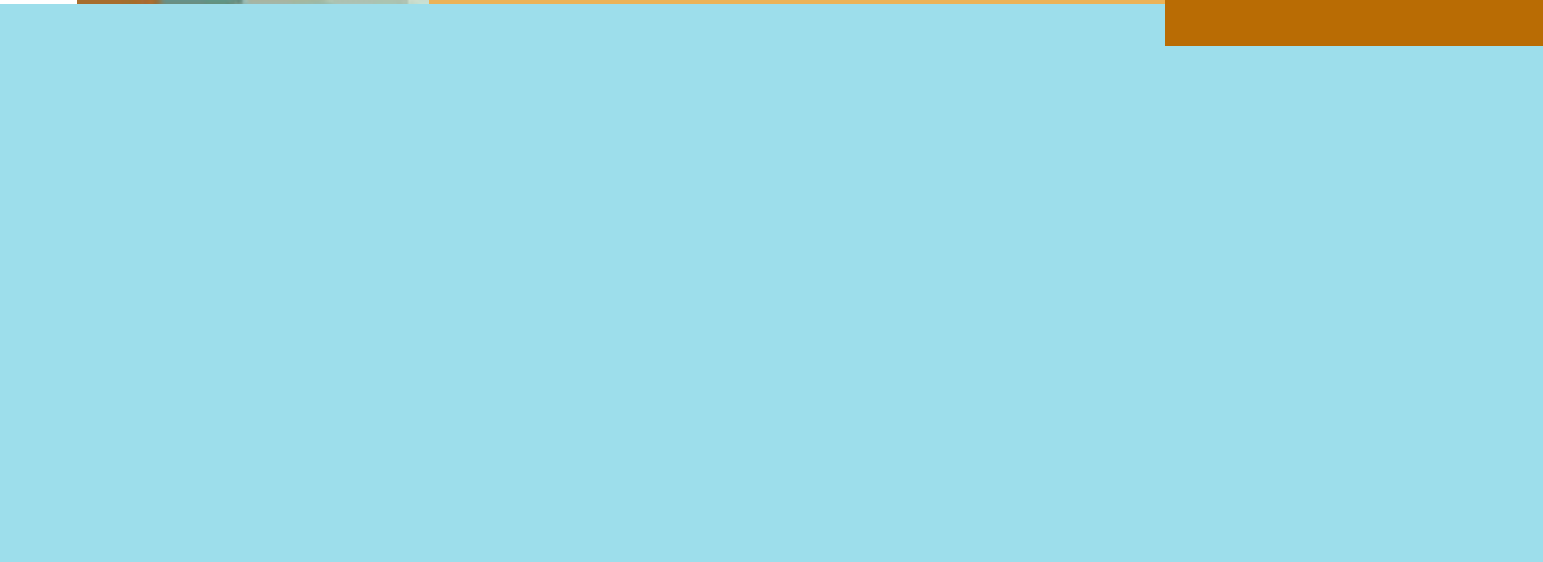
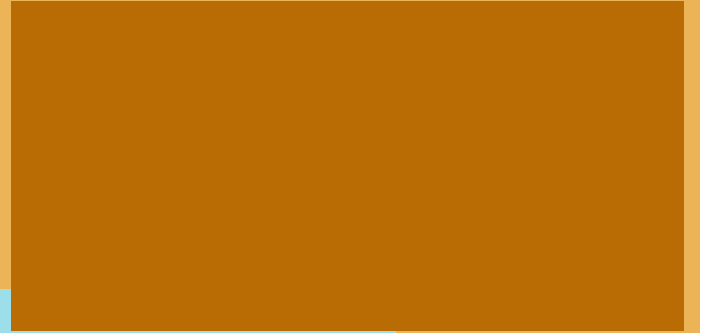
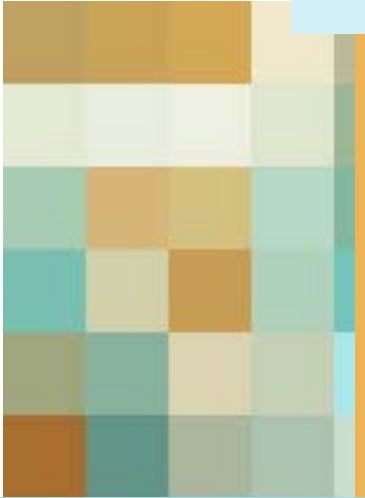
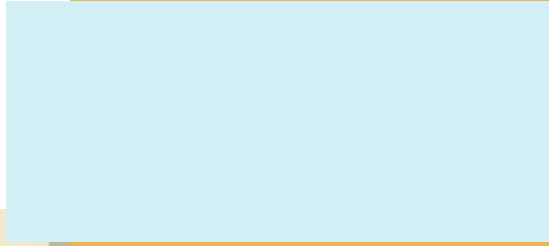
Technique for Building Color Palettes





Technique for Building Color Palettes









Color Palette Generator

Enter the URL of an image to get a color palette that matches the image. This is useful for coming up with a website color palette that matches a key image a client wants to work with.

URL of image:



dull	vibrant
 #443322	 #220000
 #aa6644	 #bb5522
 #bbccff	 #ddffff
 #bbbbcc	 #ddeeff
 #bb8866	 #ee9955

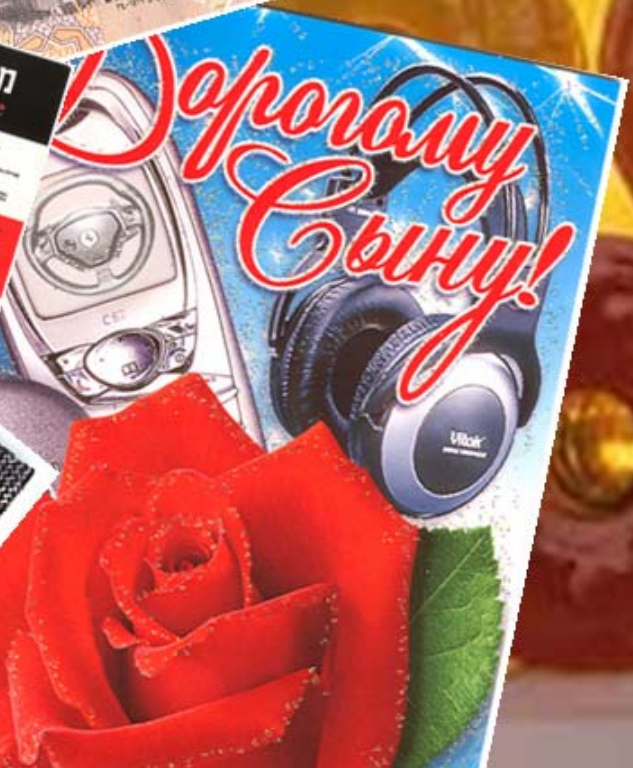


Number One Technique for Building Color Palettes

RESEARCH!!!

Number One Technique for Building Color Palettes

RESEARCH!!!





Color Balancing

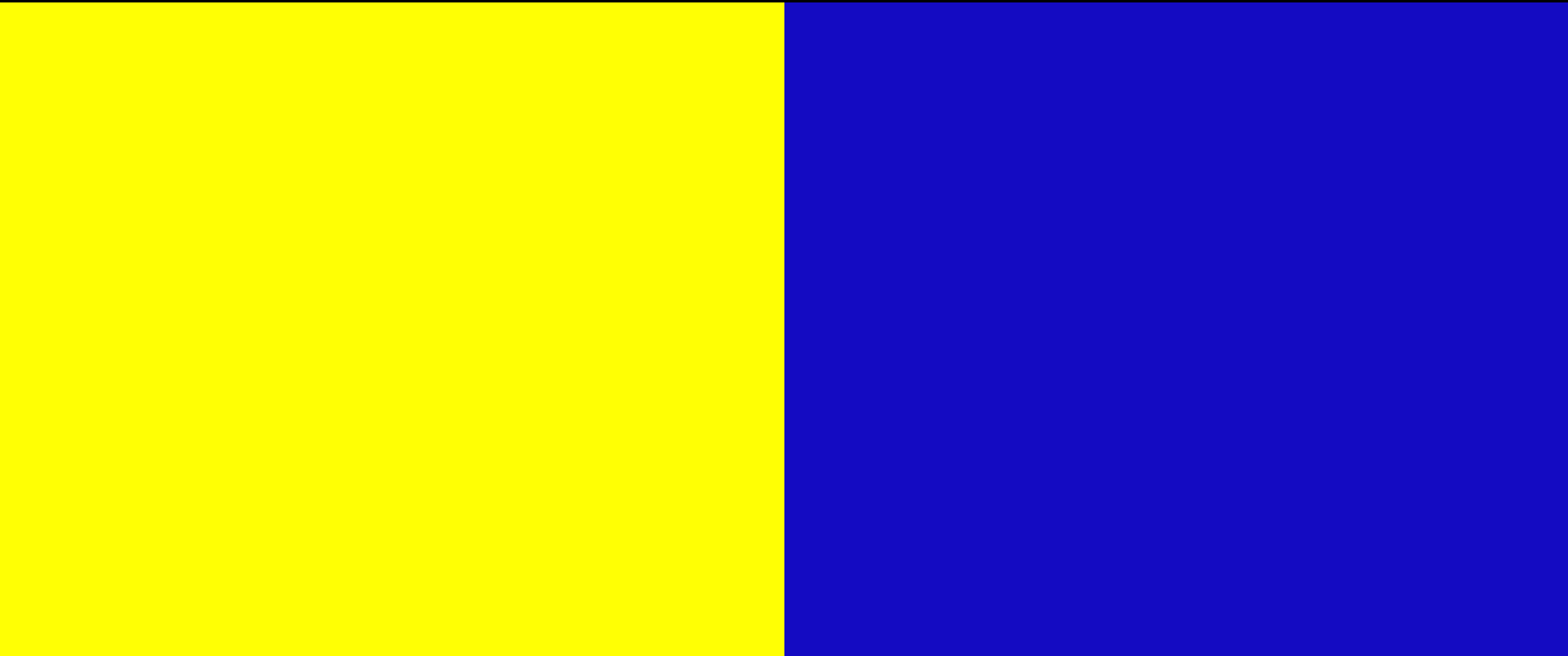


Color Balancing

Each color also has its own visual weight.

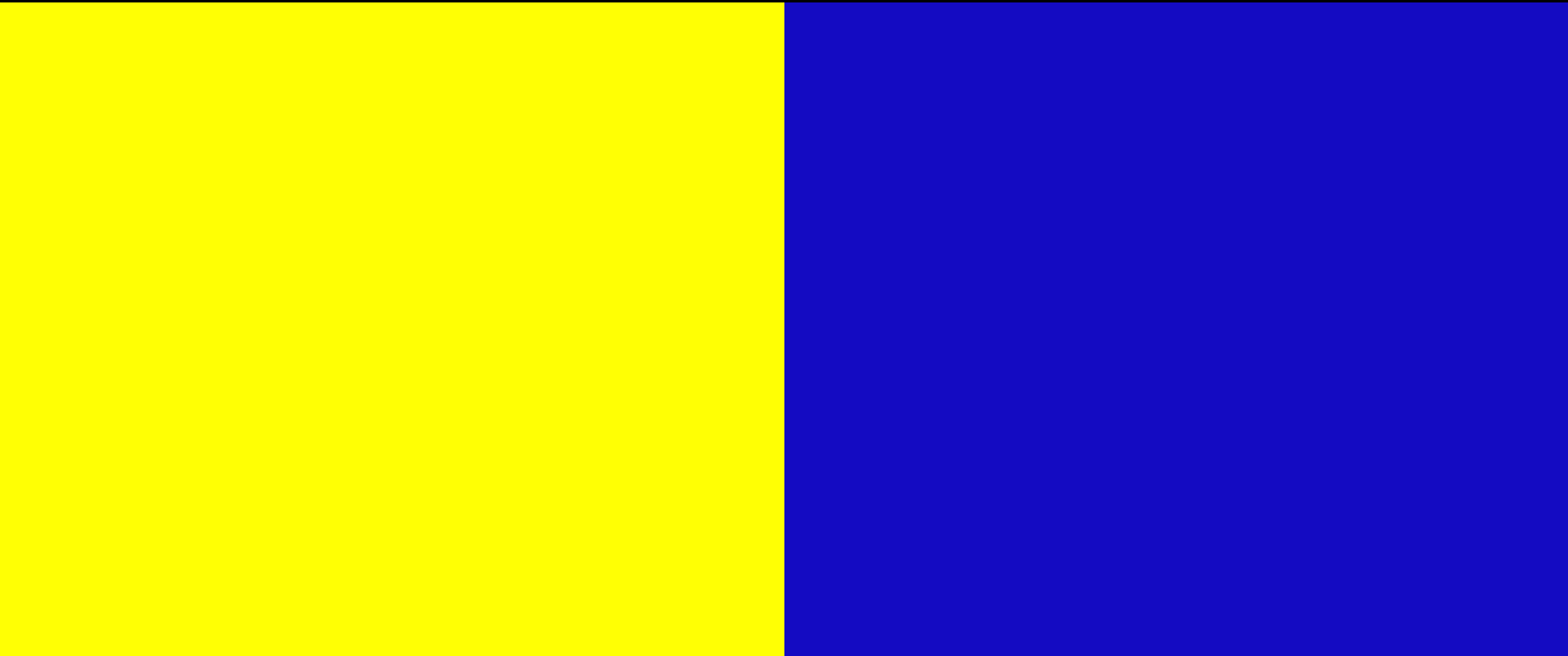
Color Balancing

Different colors have different levels of influence on drawing the eye. For example...



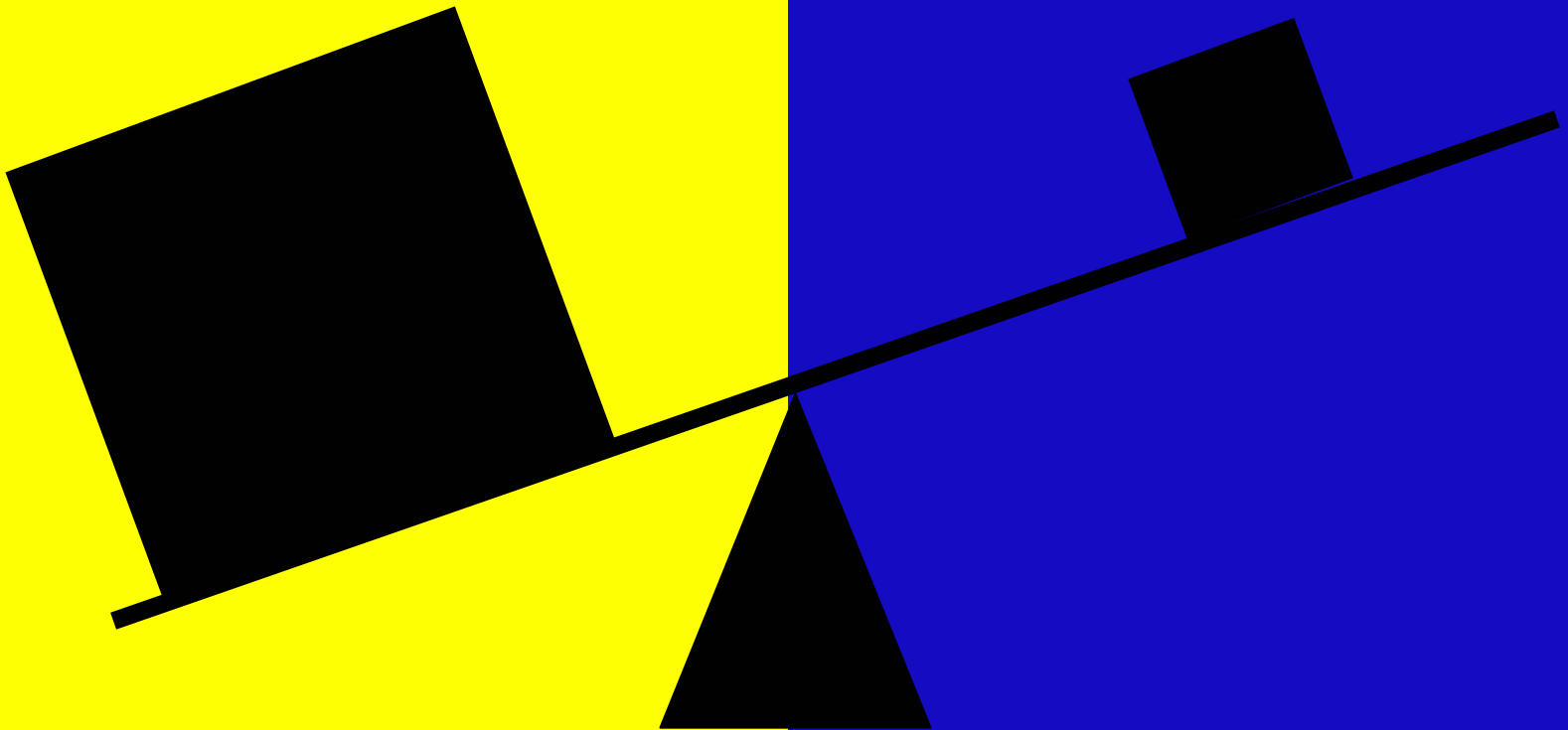
Color Balancing

The yellow is screaming for attention while the blue patiently waits for your eye.



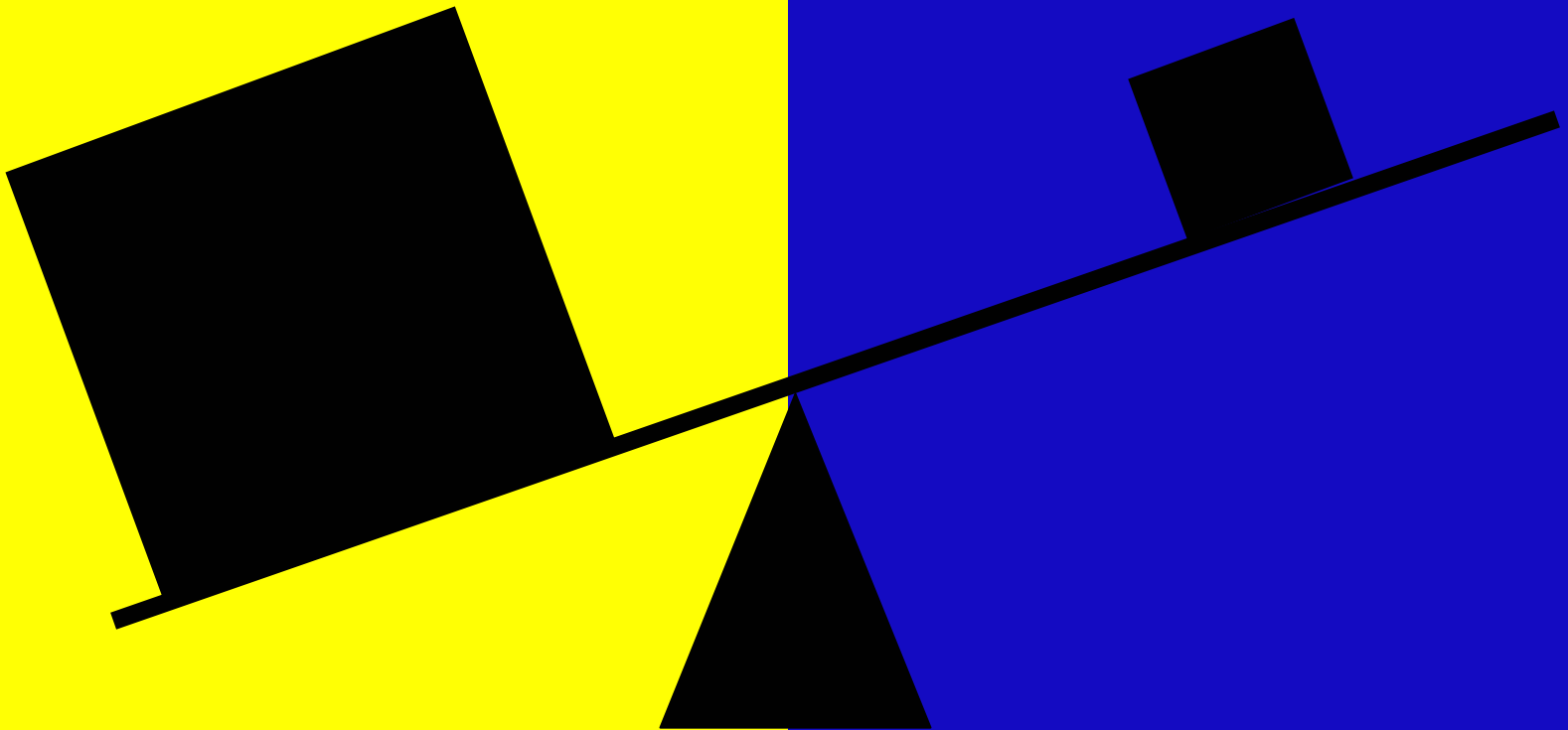
Color Balancing

So this is an unbalanced color composition.



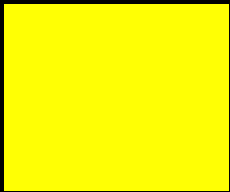
Color Balancing

So how can we balance this composition out?



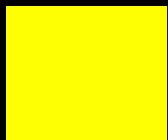
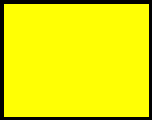
Color Balancing

We could try this.



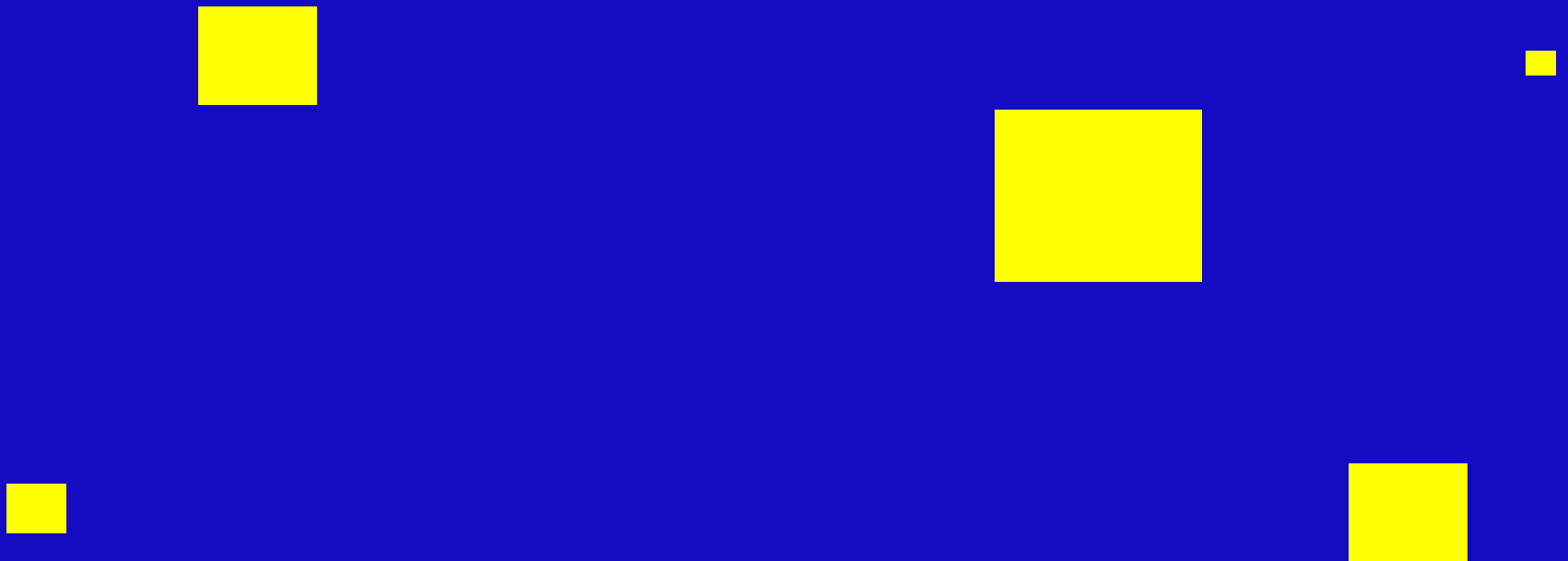
Color Balancing

Or this.



Color Balancing

Or this.





Accents

Accent Colors



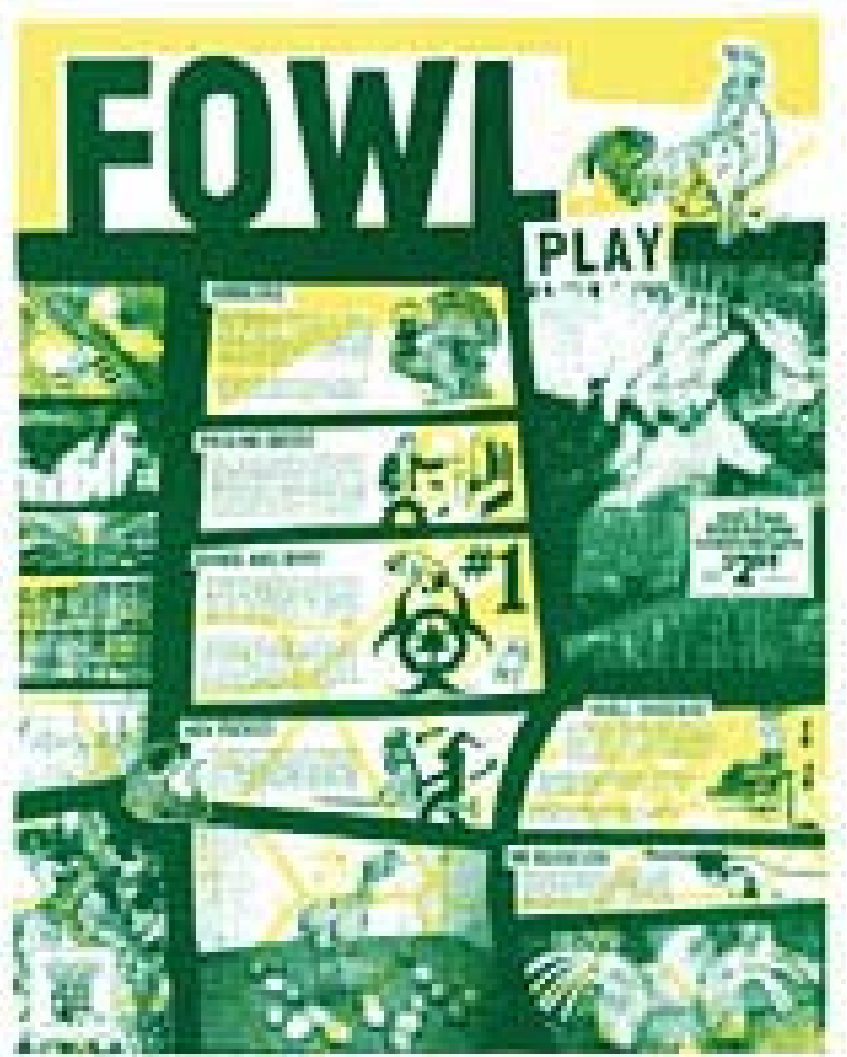
Accent colors define a composition by drawing attention due to their anomaly in the design. Most effective designs have carefully calculated combination of accent and dominant colors.

Accent Colors



Accent colors define a composition by drawing attention due to their anomaly in the design. Most effective designs have carefully calculated combination of accent and dominant colors.

Accent Colors



Accent colors define a composition by drawing attention due to their anomaly in the design. Most effective designs have carefully calculated combination of accent and dominant colors.

Accent Colors

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412-841-6209

Accent Colors



Accent Colors

THIS IS WHY



THE COW


=



SO THEN, WHY NOT...

- ◆ Because there are so many
- ◆ Because they taste good
- ◆ Because they're stupid
- ◆ Because it's tradition
- ◆ Because it's protein

THE HUMAN



- ◆ Tradition—cannibalistic cultures favor these cuts
- ◆ To help fight the world overpopulation crisis
- ◆ Delicious grain-fed meat

THE HORSE





- ◆ It's tradition with the French who can't get enough of them
- ◆ There are dumb animals—no matter how cows or pigs are
- ◆ Other countries eat U.S. horses... we're shipping away good meat

THE DOG




- ◆ A lot easier to slaughter than cows are
- ◆ Puppies taste like prime veal—impress your friends with your sophistication
- ◆ Chinese have been eating them forever... are we gonna let them one-up us like that?

THE CAT

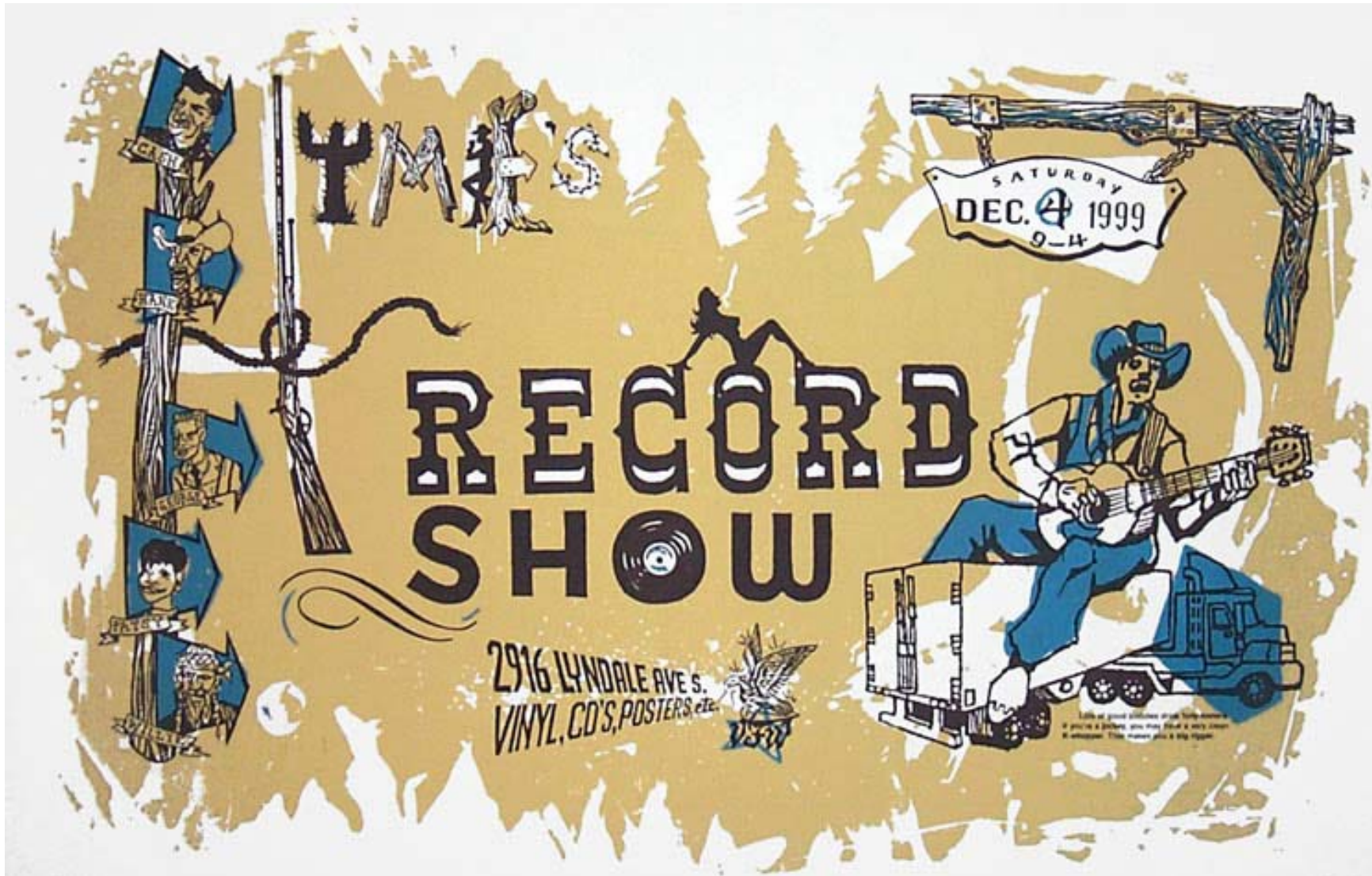
- ◆ Good source of protein; low in fat
- ◆ Could be grown as fat as turkeys... a new meat to give "thanks" for!
- ◆ Too many running around... time to start "thanking" out the population.

HONEY SUCCLE BUTT ROAST \$138 1 LB. 50% OFF



061476 055404

Accent Colors





Selective emphasis on VALUE or SATURATION can also serve as an accent. For example...



In videogames characters often have stronger **VALUE** contrast ratios than their environment

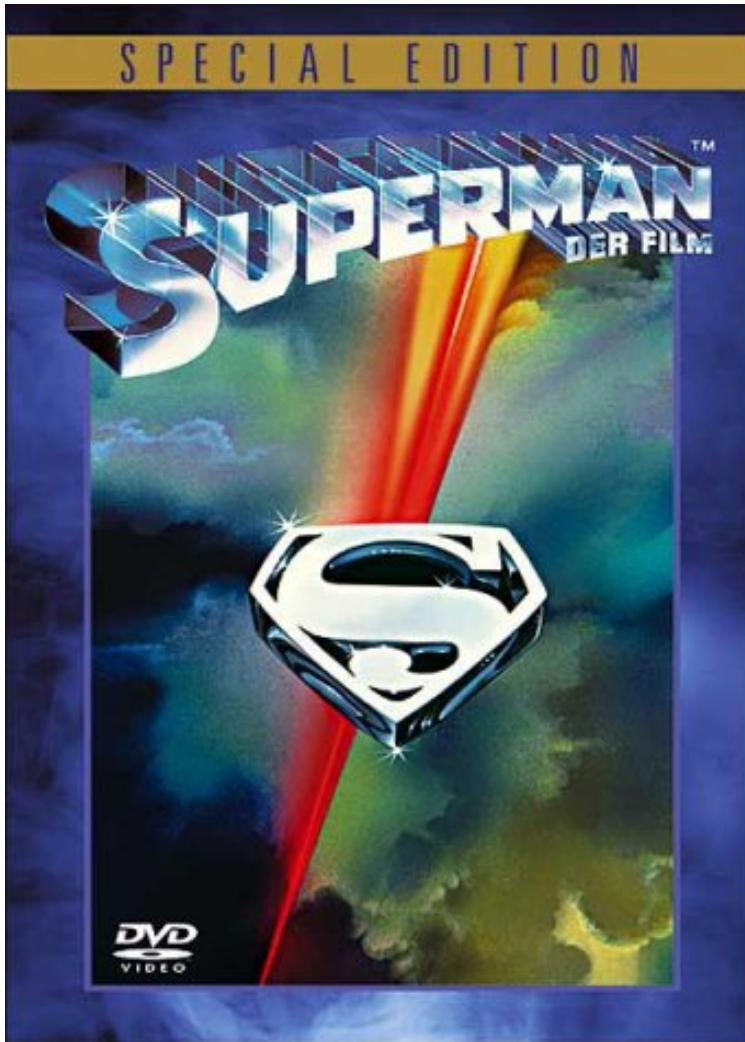




Or artists will sometimes outline videogame characters in black to separate them from the background.



By De-emphasizing Color (by lowering Saturation or raising or lowering value) **Other Aspects** Become Accented





By De-emphasizing Color (by lowering Saturation or raising or lowering value) **Other Aspects** Become Accented





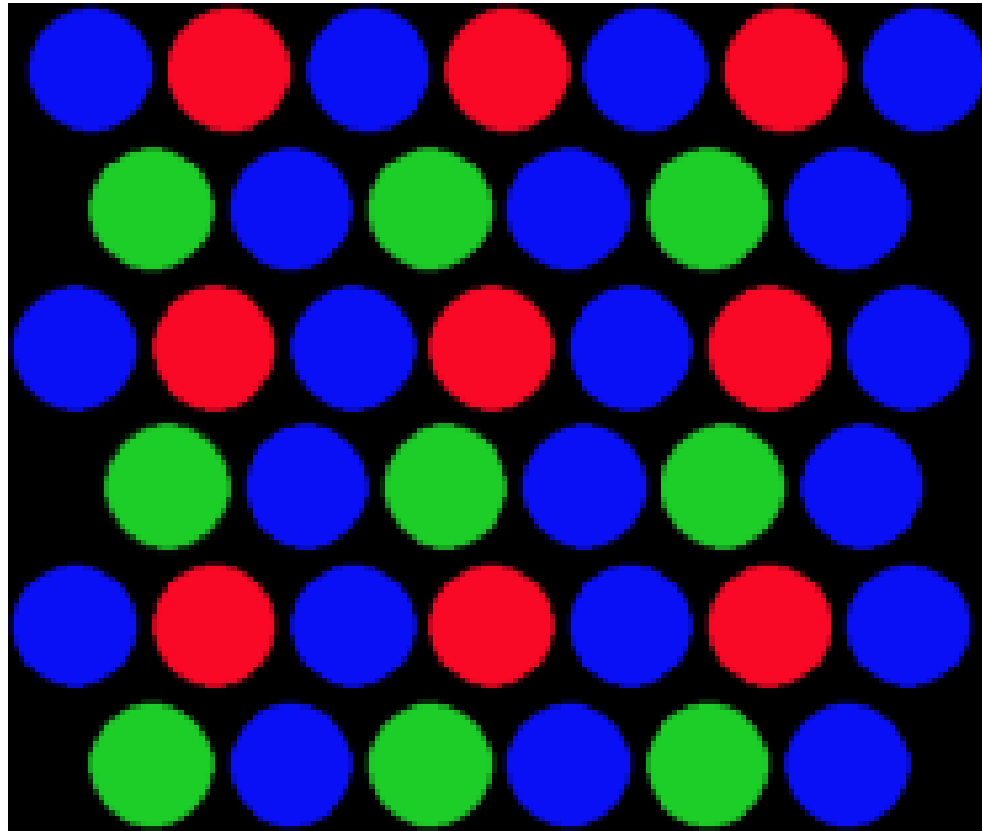
By De-emphasizing Detail, Color Can Become Emphasized.



Science of Color

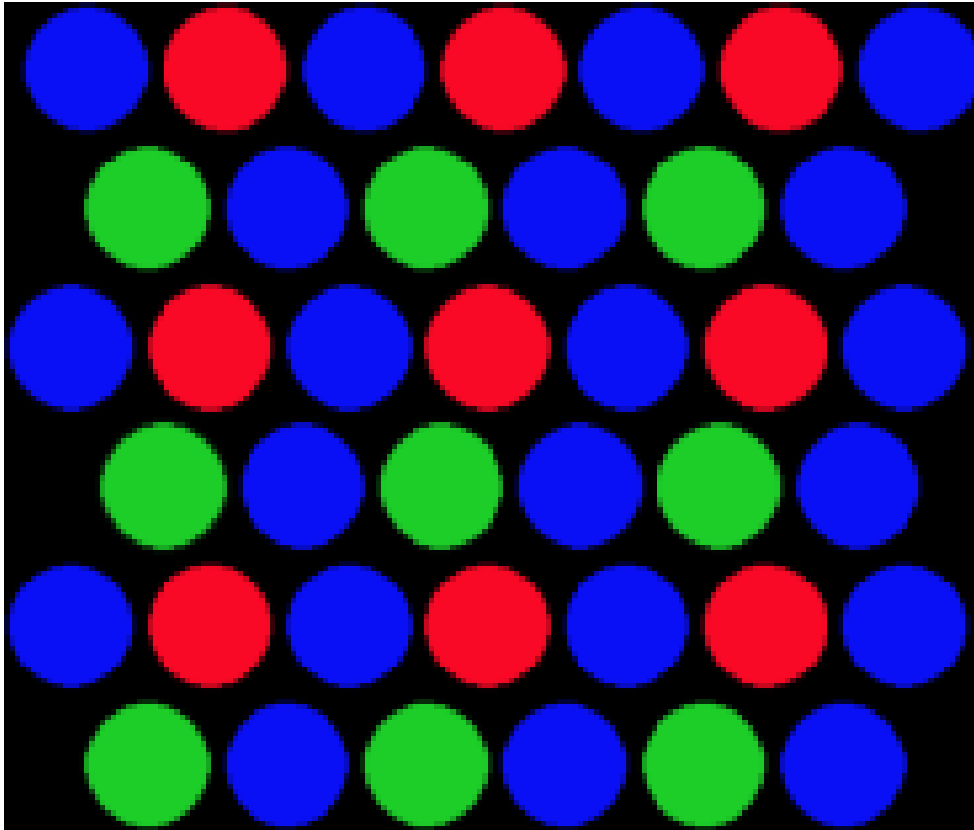


RGB



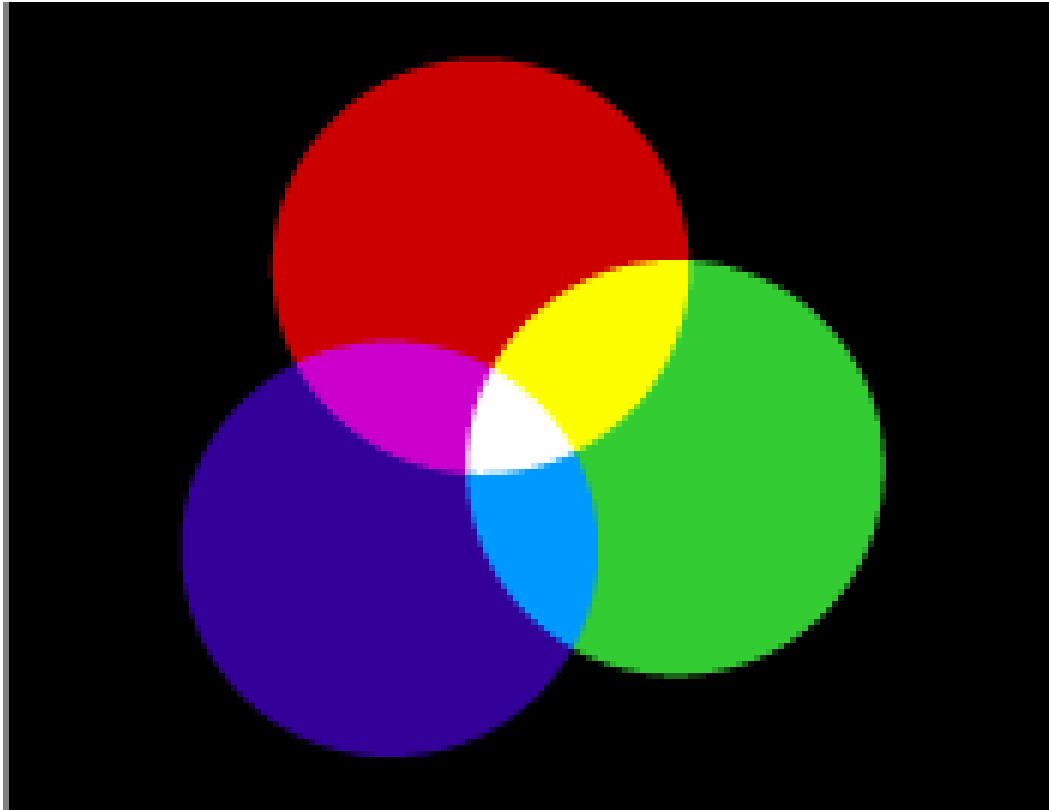
Red Green and Blue

RGB (additive color process)



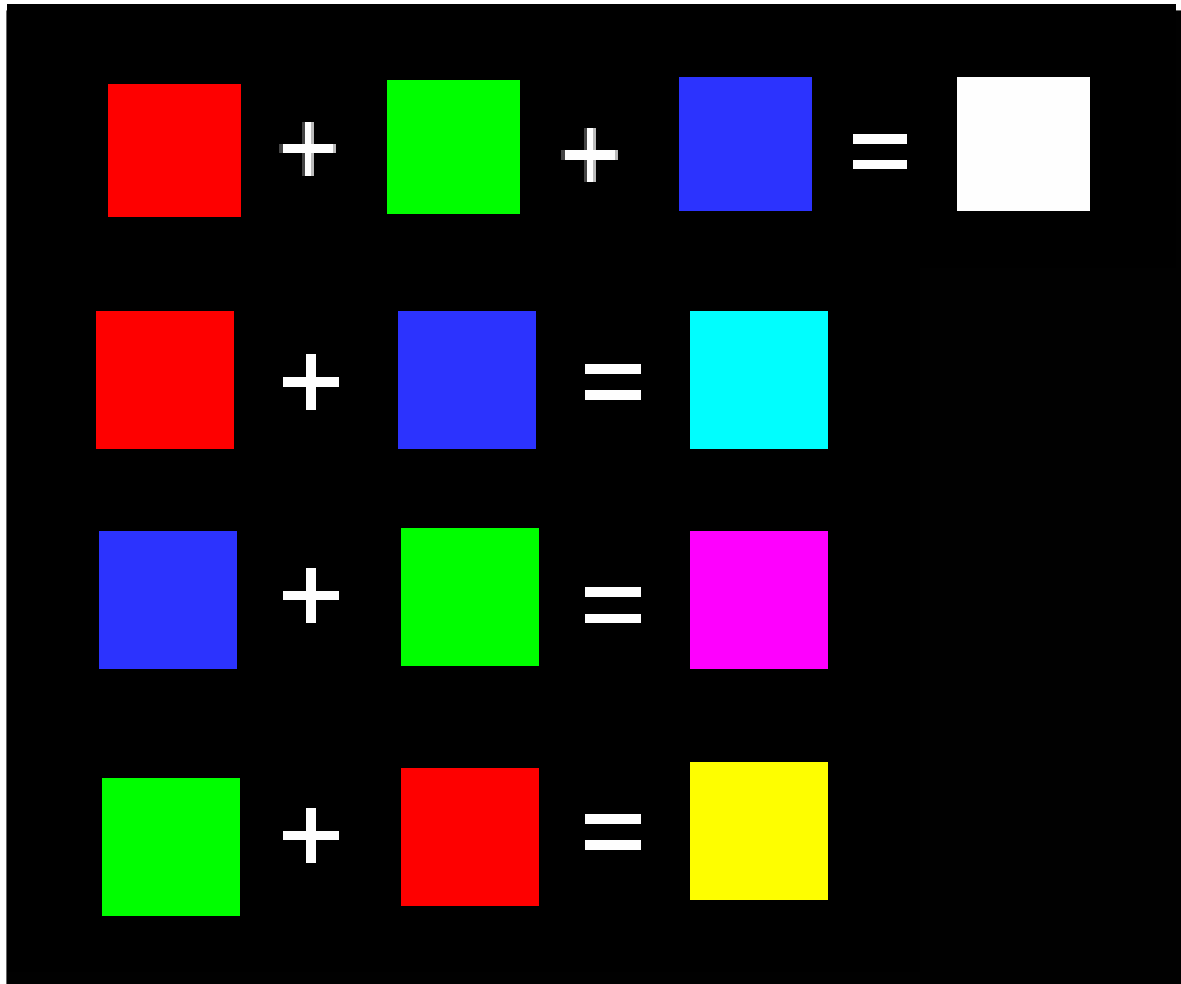
On RGB monitors small phosphoric dots combine to form color.

RGB (additive color process)

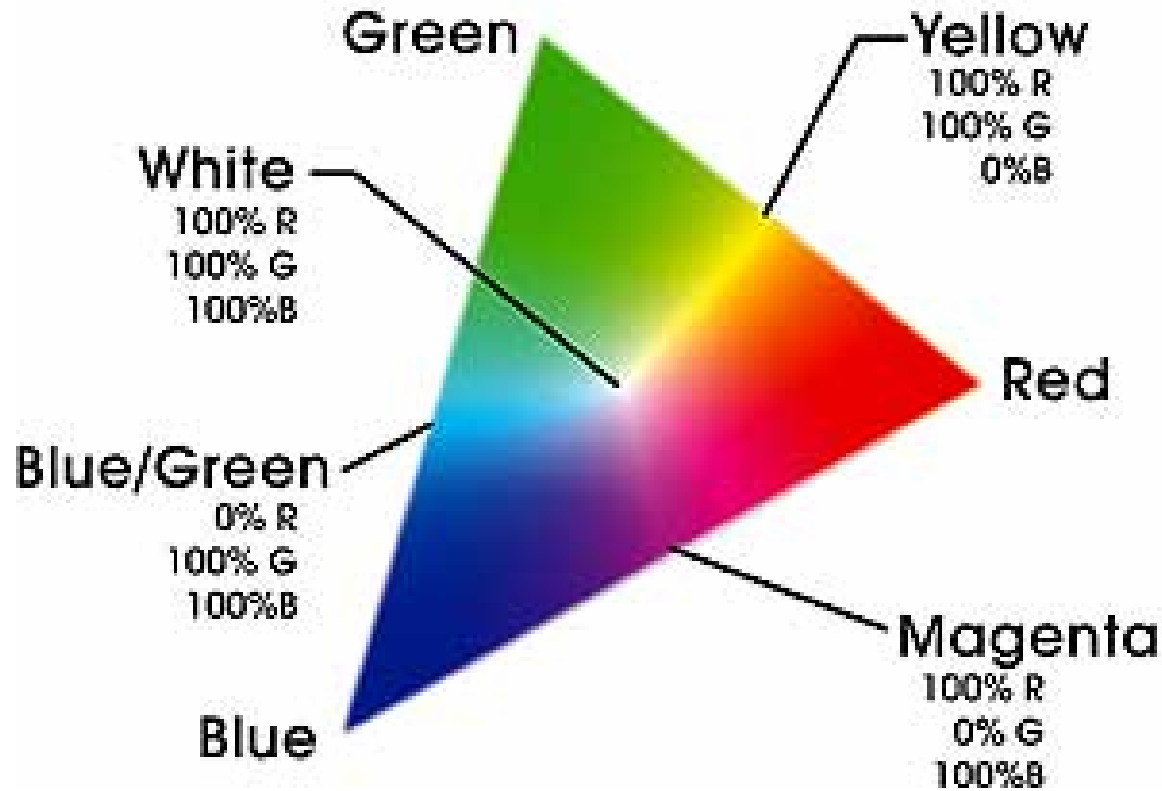


Red, Blue and Green light combines to form White.

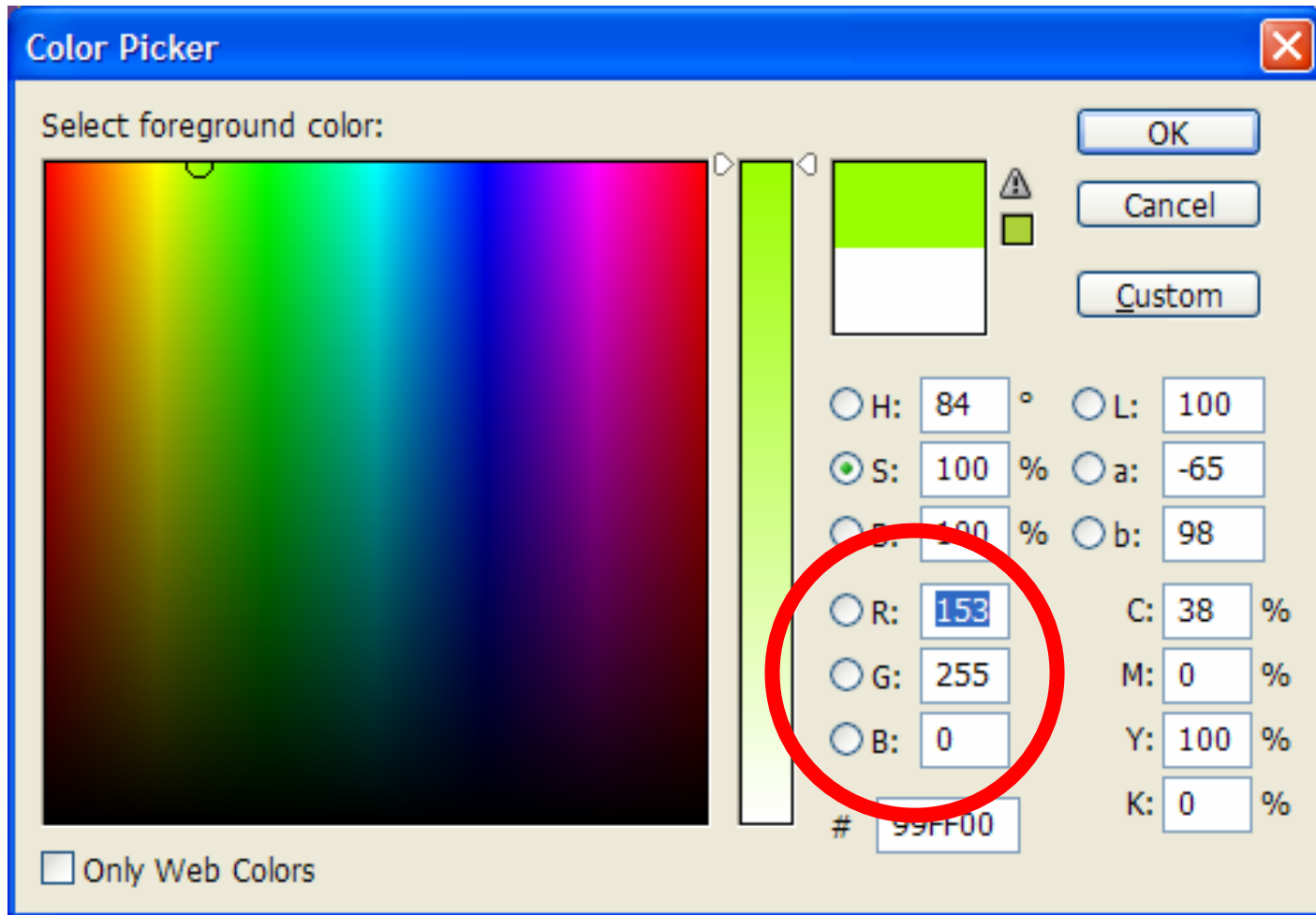
RGB (additive color process)



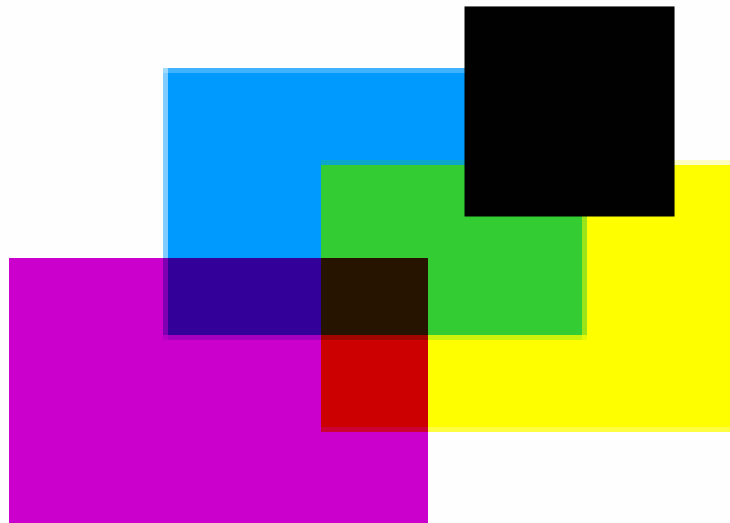
RGB (additive color process)



RGB in the Photoshop/Illustrator Color Picker



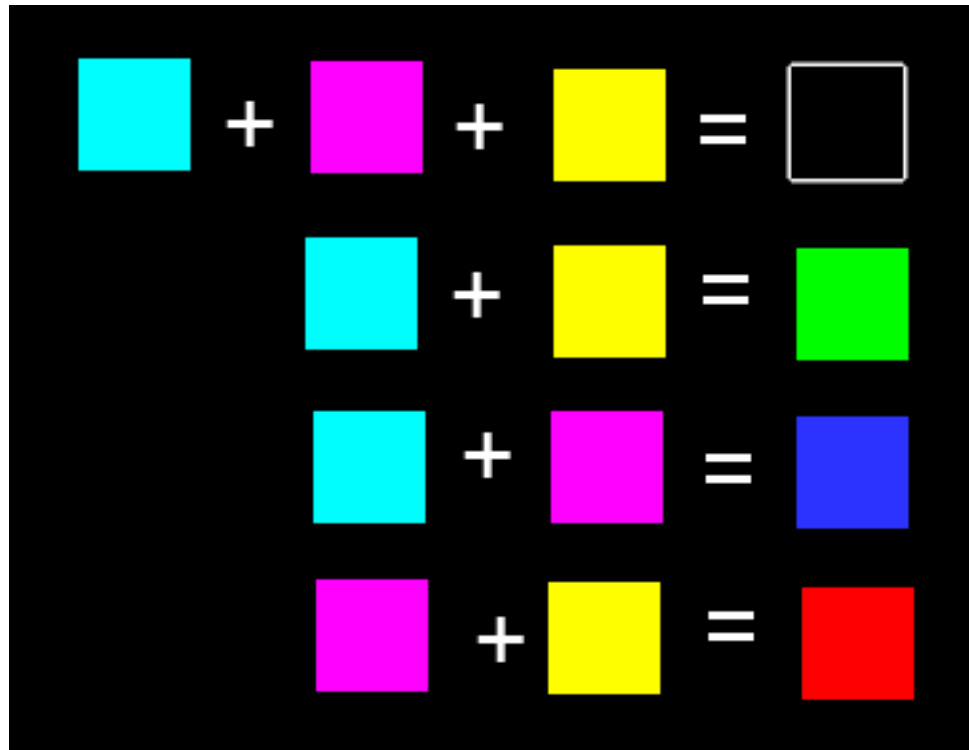
CMYK



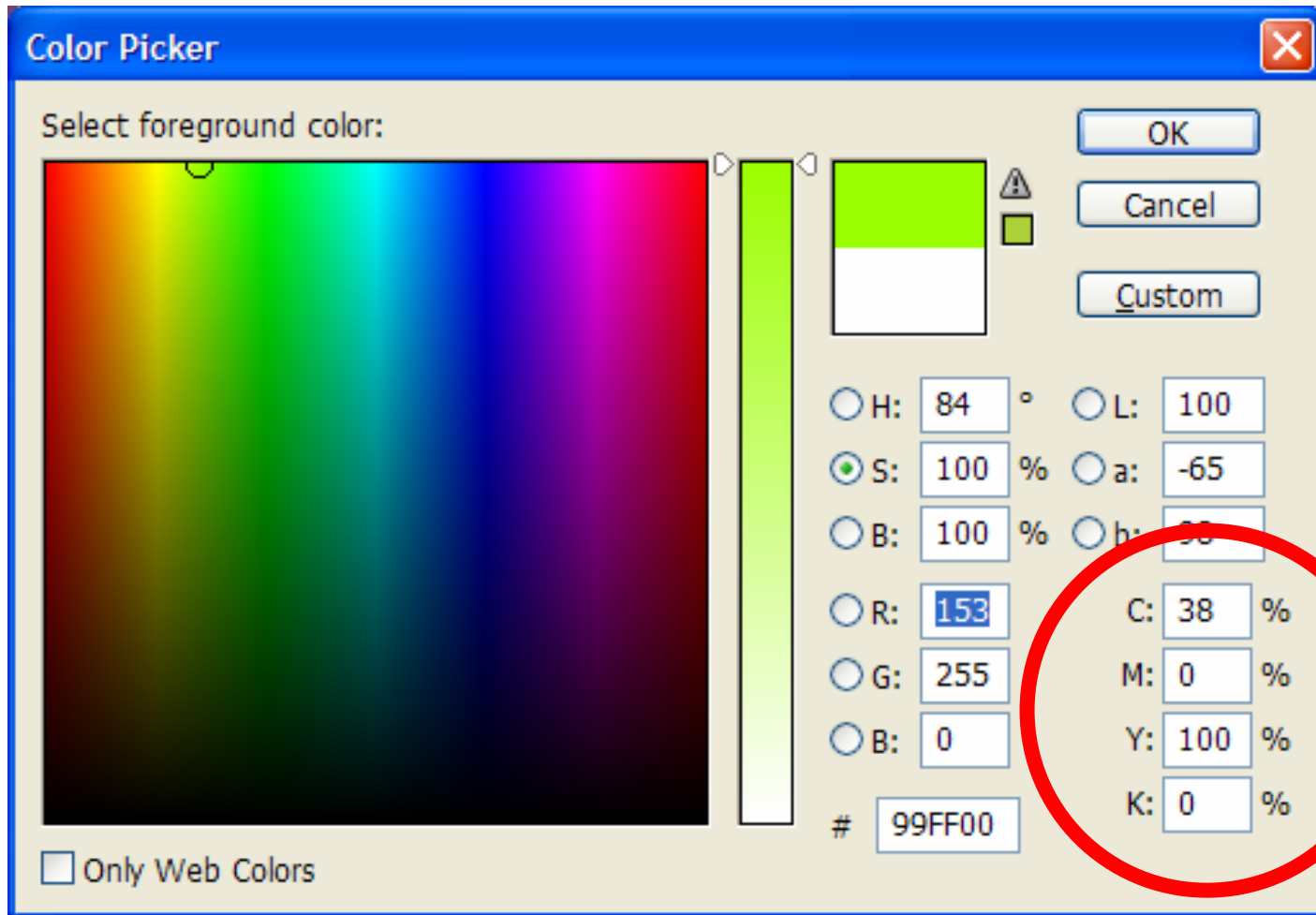
Used in the printing process:
Cyan, Magenta, Yellow and Black

CMYK

(subtractive color process)



CMYK in the Photoshop/Illustrator Color Picker





The Web Uses a “Hexidecimal” Numerical System for Colors

The 216-Color Webmaster's Palette

Here are the colors most easily supported by browsers on the web. You can use 216 colors from this set for backgrounds, text and graphics will give you with the best of them. A consistent appearance across operating systems, user sessions and browser versions. This is particularly true of color comparisons with textual color positions that can display only one different color at a time.

Each color chip has been chosen with a hexadecimal HTML color code. Copy these into the code field of any web page editor. Codes are listed in the background color of the page.

To color text, use only one of these codes in your code. If you use #000000, #FFFFFF, #FF0000, #0000FF, or #00FF00, you need not be concerned by color browser issues.

Proportional colors are those that are equally spaced in hue, saturation, and brightness.

Dark color chips are also marked with the amount of contrast. This can be used for guidelines only and can be used to help you choose the right color for your design.

Brightness	Vividness	Hue
● Pure	● Vivid	● Red
● Light	● Faded	● Orange
● Medium	● Dull	● Yellow
● Dark	● Weak	● Green
● Obscure	● Gray	● Teal
● Black		● Cyan
		● Azure
		● Blue
		● Violet
		● Magenta
		● Pink

The 216 colors are arranged in 18 groups of 12 colors each, each with 120 for light, 180 for medium, and 210 for dark. The code for each color is shown in the background color of the chip.

Compare chips for shades of color using the RGB model. Web pages.

The colors are arranged here primarily for ease of use.

At the WebCenter web site:

- Webmaster's Color Laboratory:** Click on the color wheel to pick out a web-ready color scheme. See the colors with a toolset with text and background combinations.
- Search Collections:** WebCenter color wheel picks are available for many popular graphics programs.
- Palette and color information:** points to the site.

www.visibone.com

Decimal 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Hex 0 1 2 3 4 5 6 7 8 9 A B C D E F

Some Hex Colors

Red

1		660000
2		993333
3		CC3333
4		CC6666
5		FF0000
6		FF3333
7		FF6666
8		FF9999
9		FFCCCC

Yellow

1		666600
2		999900
3		CCCC00
4		CCCC99
5		FFFF00
6		FFFF33
7		FFFF66
8		FFFF99
9		FFFFCC

Blue

1		000099
2		333399
3		3333CC
4		6666CC
5		0000FF
6		3333FF
7		6666FF
8		9999FF
9		CCCCFF

Red-Orange

1		993300
2		CC3300
3		CC6600
4		FF3300
5		FF6600
6		FF6633

Yellow-Green

1		336600
2		339933
3		66CC00
4		33FF00
5		99FF00
6		99FF66
7		CCFF00
8		CCFF66
9		CCFF99

Blue-Violet

1		660099
2		9933CC
3		9966CC
4		CC33FF
5		CC00FF
6		CC66FF
7		CC99FF

Yellow-Orange

1		CC9966
2		CC9933
3		CC9900
4		FFCC00
5		FFCC33
6		FFCC66
7		FFCC99

Blue-Green

1		006600
2		339999
3		00CC99
4		66CCCC
5		00FFCC
6		33FFCC
7		66FFCC
8		99FFCC
9		CCFFFF

Red-Violet

1		660033
2		993366
3		CC3399
4		CC6699
5		FF0099
6		FF00CC
7		FF6699
8		FF66CC
9		FF99CC

Orange

1		996633
2		CC6633
3		FF9900
4		FF9933
5		FF9966

Green

1		006600
2		009900
3		00CC00
4		99CC99
5		00FF00
6		33FF33
7		66FF66
8		99FF99
9		CCFFCC

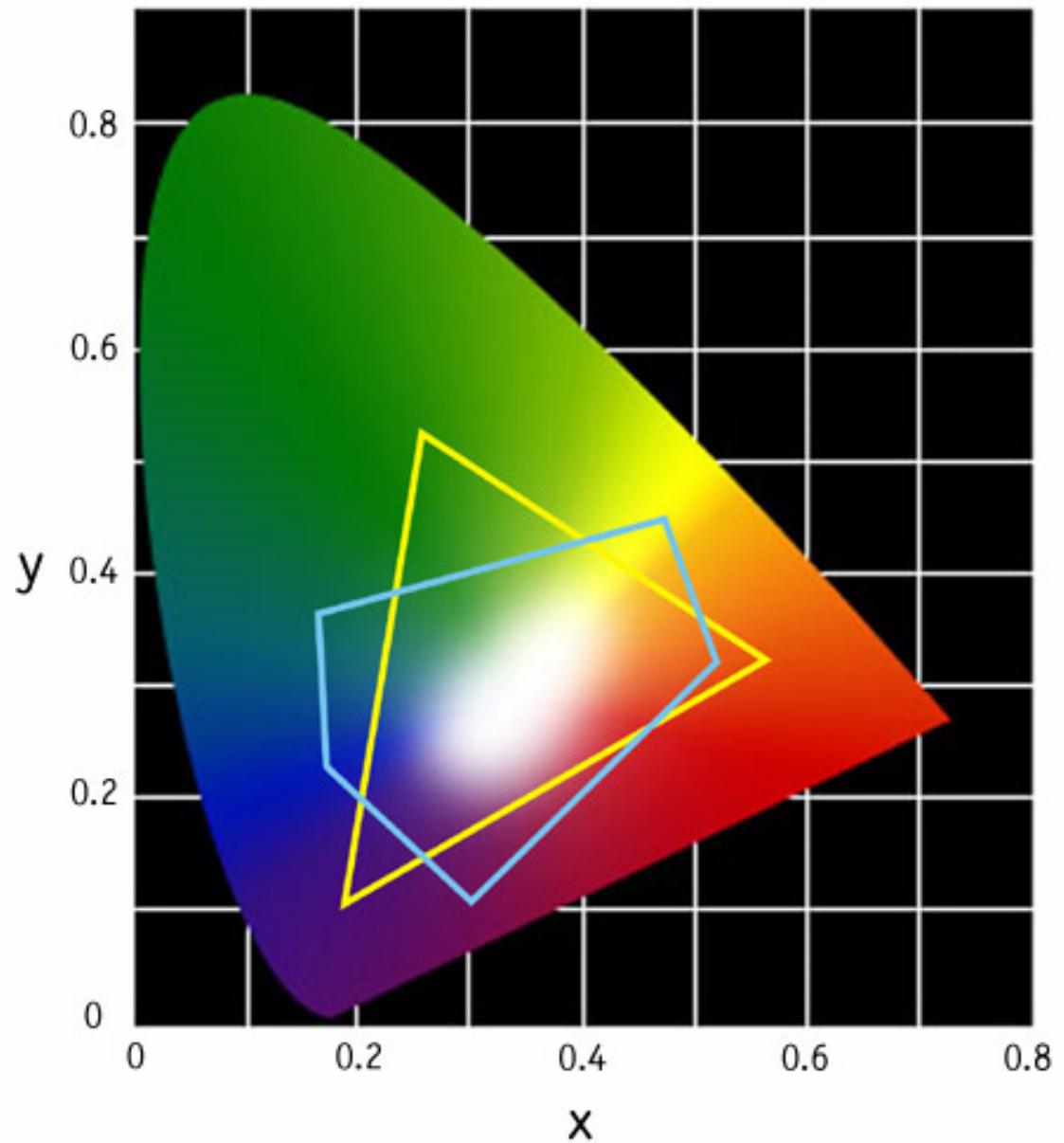
Violet

1		663366
2		993399
3		996699
4		CC33CC
5		FF00FF
6		FF33FF
7		FF66FF
8		FF99FF
9		FFCCFF

Black

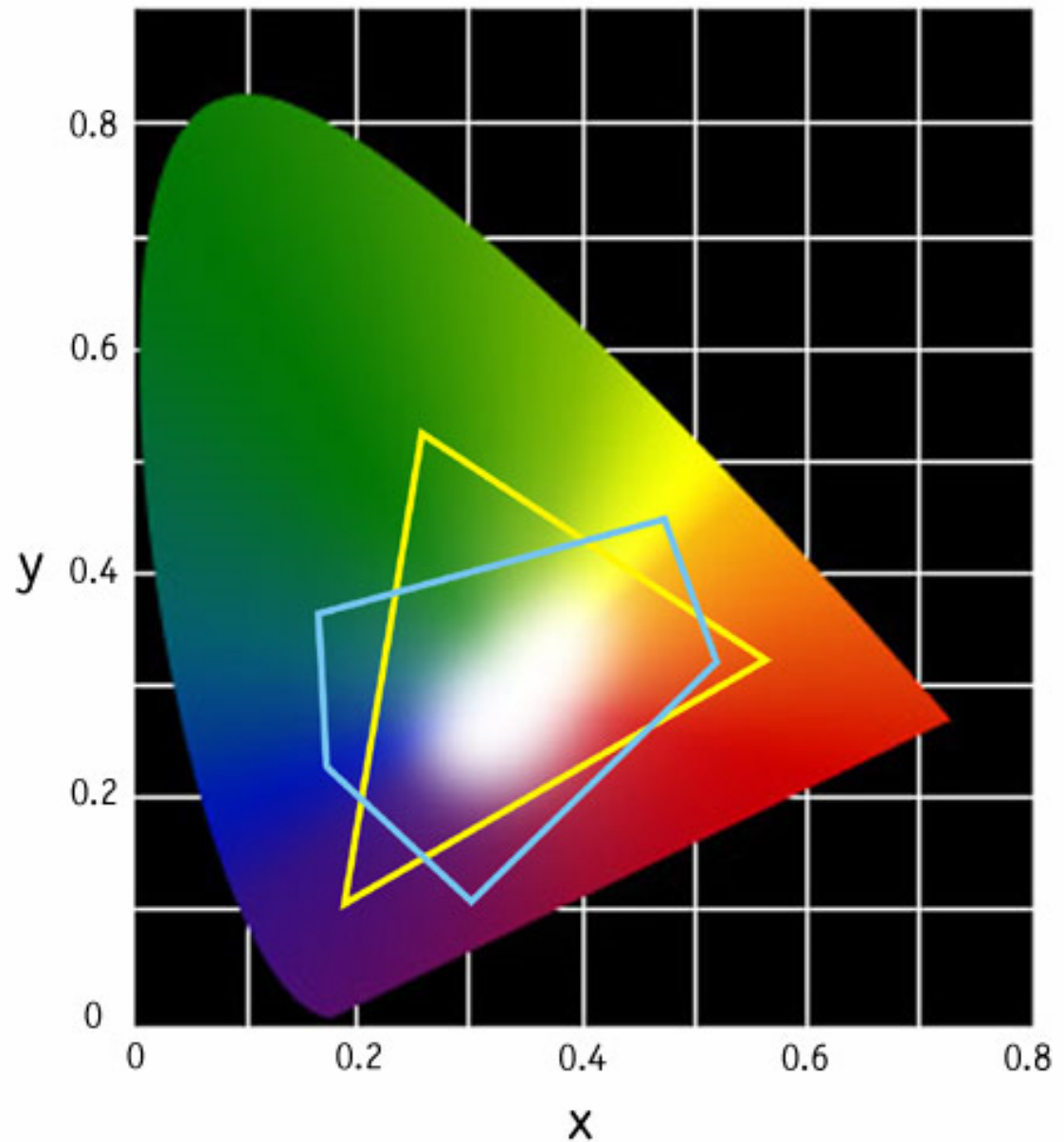
1		000000
2		333333
3		666666
4		999999
5		CCCCCC
6		FFFFFF

Color Gamut



Is the full range of colors that can be recorded or output by a particular medium. In other words, its “Color Space”.

Color Gamut



The yellow line = the color gamut for an average RGB monitor.

The cyan line = the color gamut for average CMYK printing.

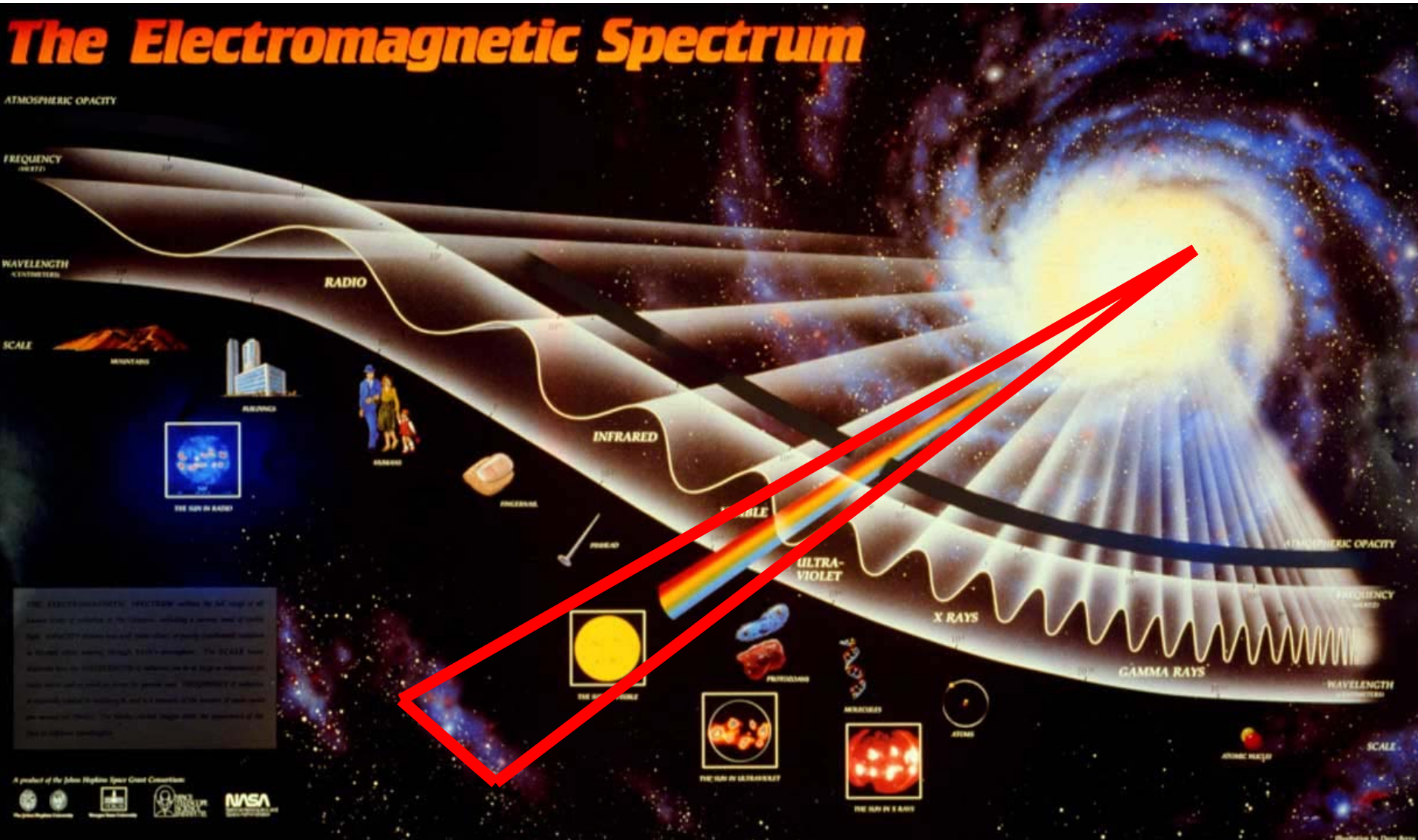


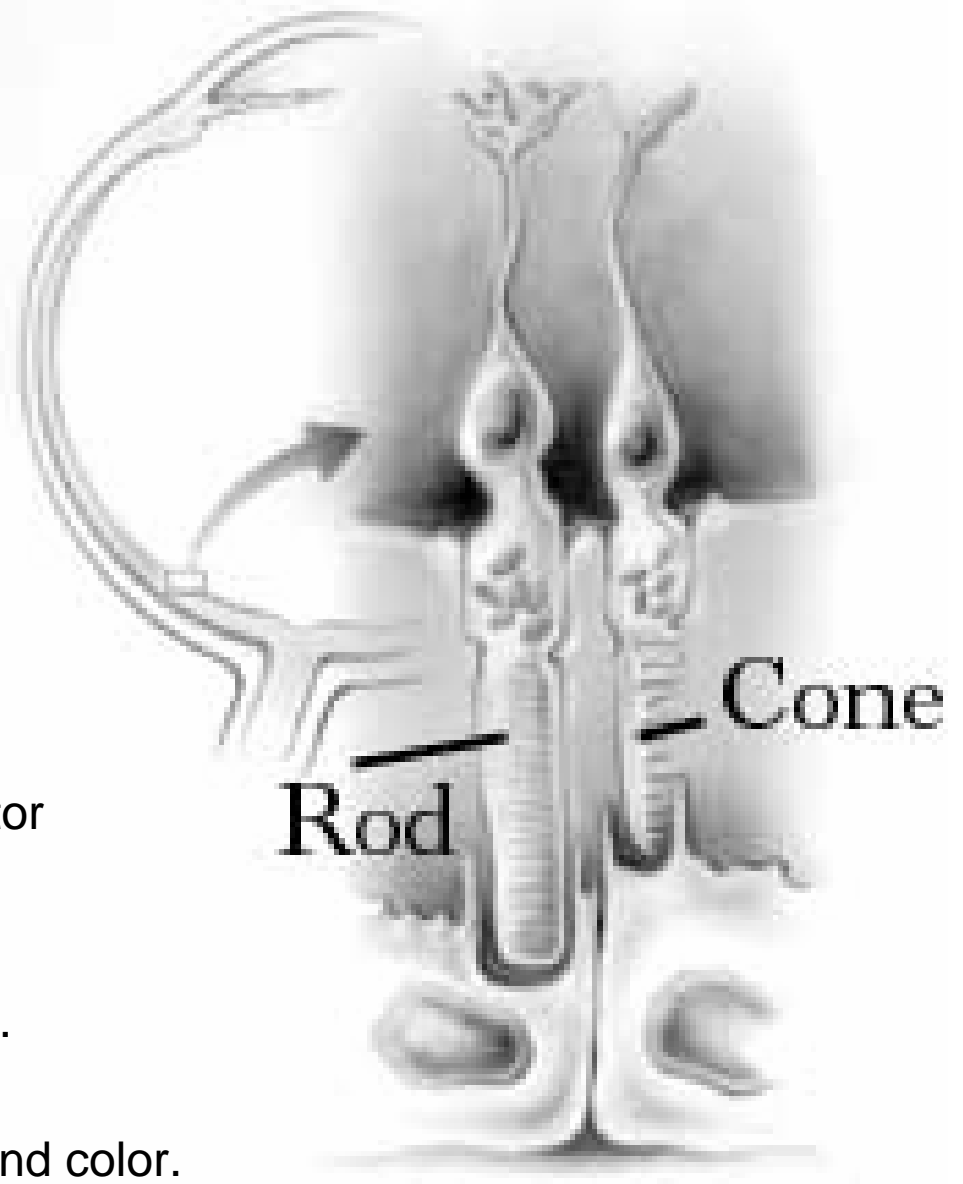
Human Color (Visible Light) Gamut





Human Color Gamut



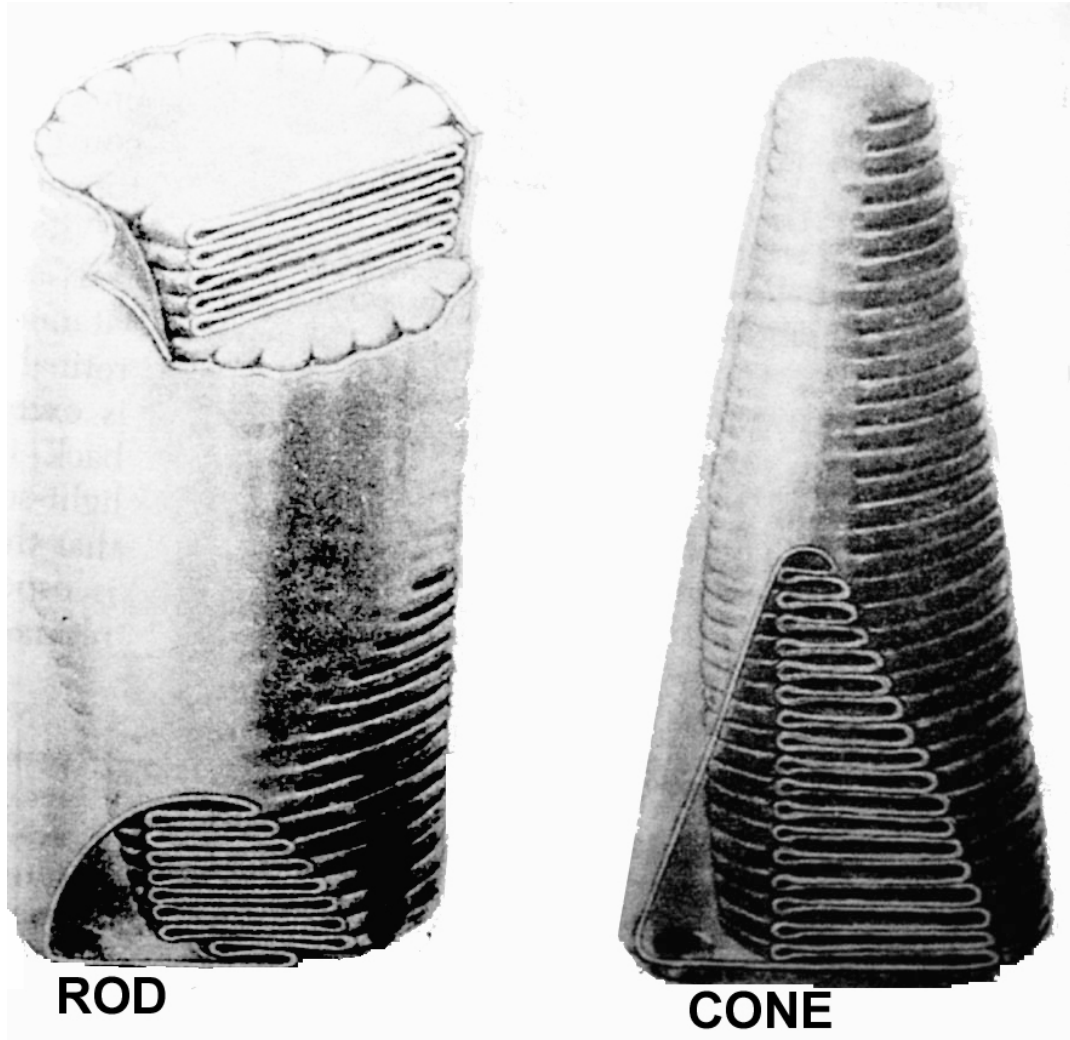


We have two types of Photoreceptor cells inside our eye:

Rods: Which responds to dim light.

Cones: Which responds daylight and color.

Their names were given for a clear reason...



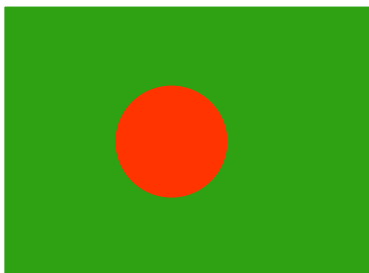
Animals such as dogs have more Rods than we do but less Cones. What does this mean?



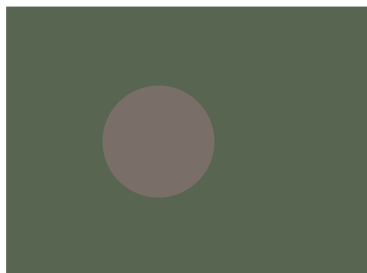


- 1) They have better night vision.
- 2) In darkness they have greater sensitivity to differences in color Value, but not Hue.

This is why they have trouble seeing a red ball in green grass. They aren't color blind, but are color impaired compared to humans.



Red ball in the grass to you...



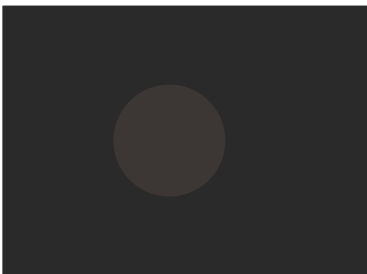
and to your dog.



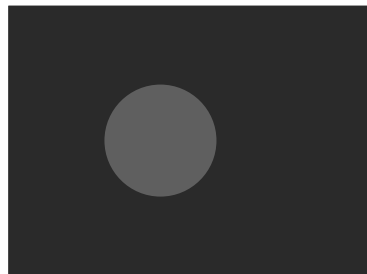


- 1) They have better night vision.
- 2) In darkness they have greater sensitivity to differences in color Value, but not Hue.

This is why they have trouble seeing a red ball in green grass. They aren't color blind, but are color impaired compared to humans.



Red ball in the grass at night to you...



and to your dog.

