



# **ACR101 - 2D Asset Creation: Colour Theory**

**Week 6**

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# Colour Theory

- What is colour theory, exactly?
  - Creates a logical structure for colouring/choosing palettes
  - Just a formalising of the pleasing relationships between colours
- Comprised of three main categories:
  - Colour Wheel
  - Colour Harmony
  - Context of Colour



<https://s-media-cache-ak0.pinimg.com/236x/41/a9/5a/41a95a5ef58430ee4f97ca3f2ala770a.jpg>

# Colour Modes



Saturation



Under saturated

Very saturated

Value

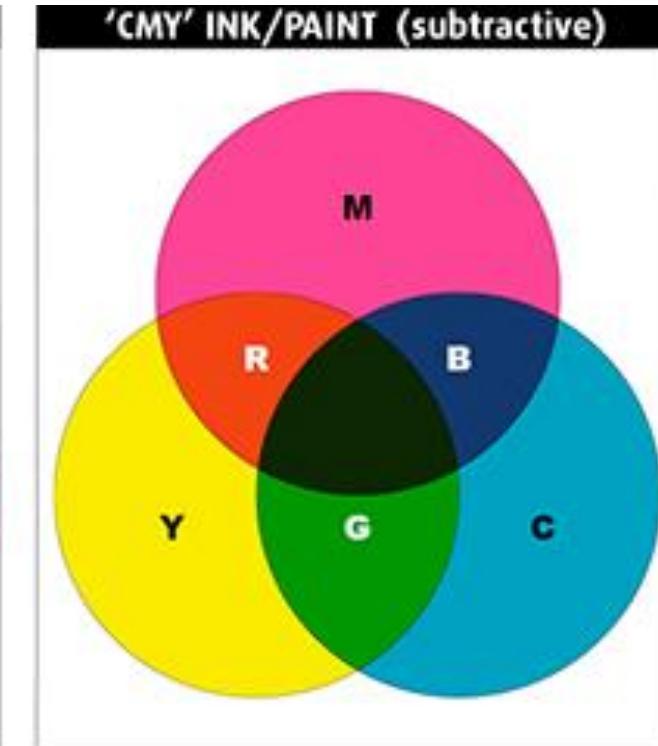
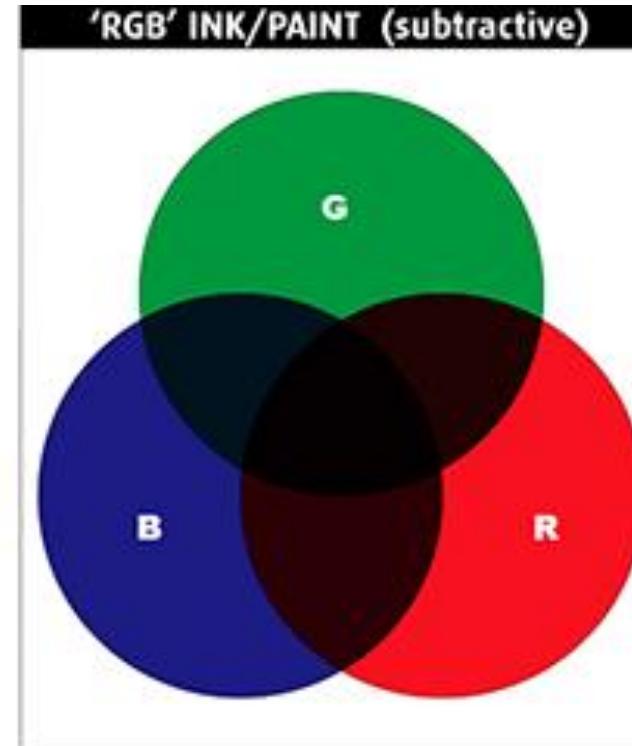
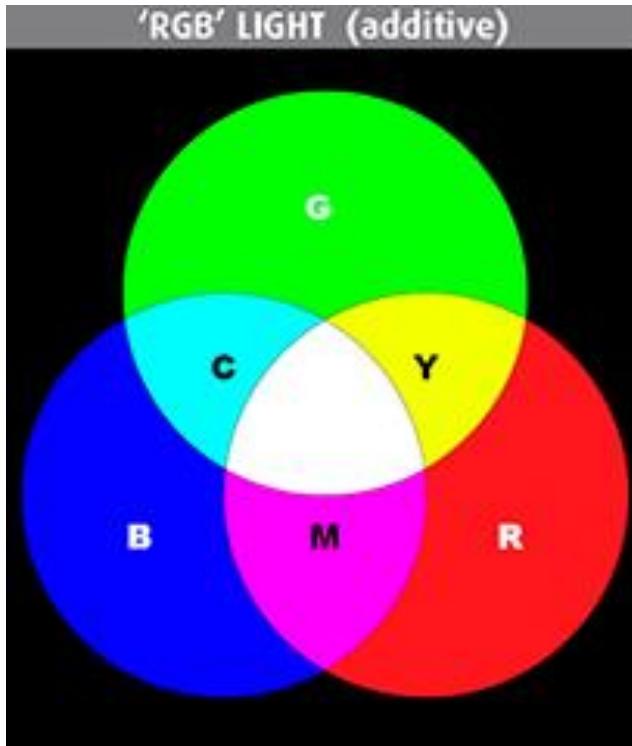


Low value

High value

<http://netdna.webdesignerdepot.com/uploads/color/hsv-samples.jpg>

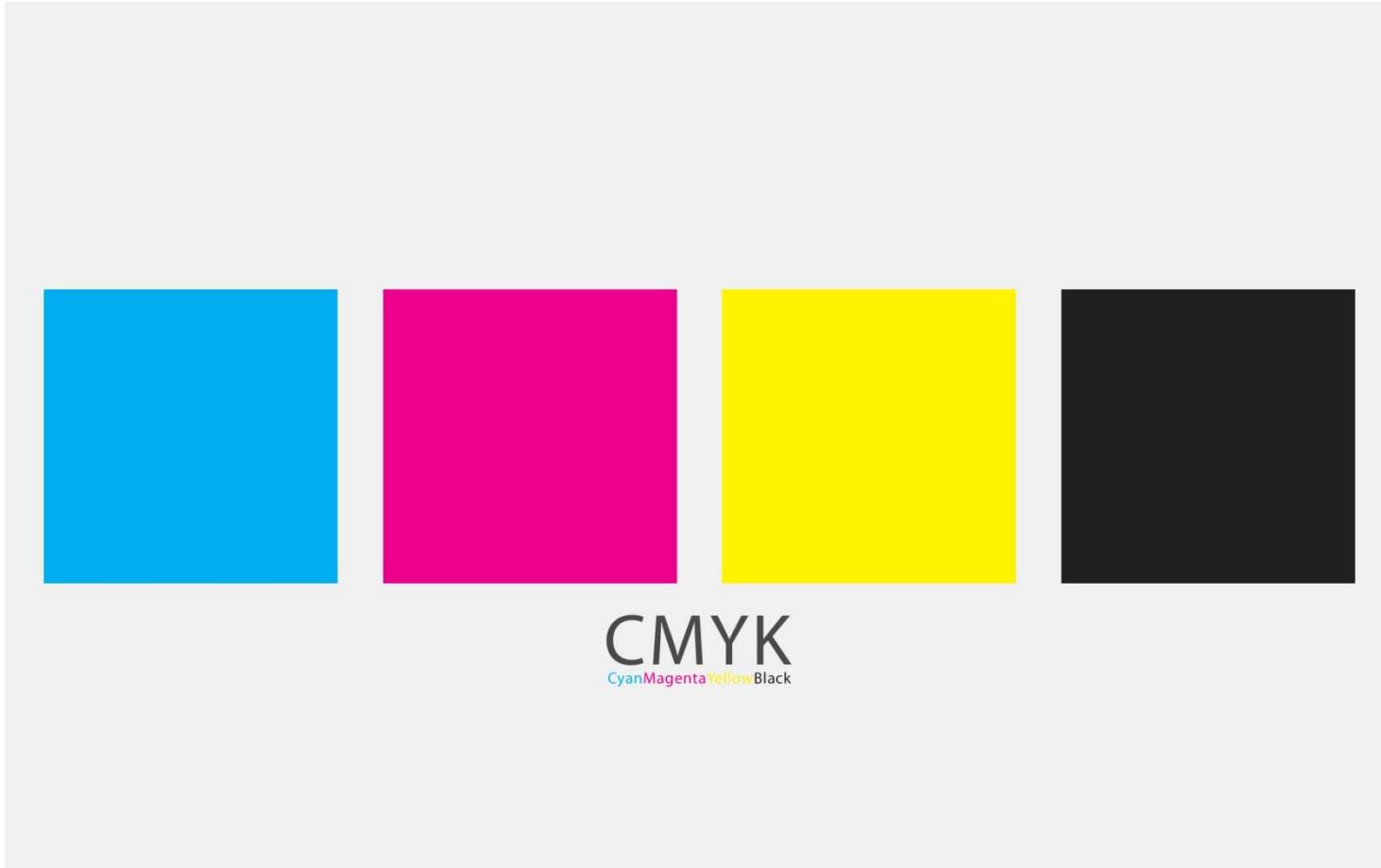
# Colour Types – Subtractive & Additive



© Graeme Cookson / Shutha.org

[http://shutha.org/sites/default/files//uploads/3\\_Courses/3\\_Digital\\_Imaging/CMYK1.png](http://shutha.org/sites/default/files//uploads/3_Courses/3_Digital_Imaging/CMYK1.png)

# Colour Types – CMYK



[http://jettpprint.com.au/wp-content/uploads/2014/02/CMYK\\_\\_\\_A\\_Minimal\\_Wallpaper\\_by\\_keylocker.jpg](http://jettpprint.com.au/wp-content/uploads/2014/02/CMYK___A_Minimal_Wallpaper_by_keylocker.jpg)

# Complementary Colours: Light

- Complimentary colours: across from eachother on the colour wheel, maximise hue contrast.
- Ctrl-click the picture to explore complimentary colours in your web browser.
- Best used with less saturation (or bright/dark) due to extreme contrast.

Colors > Color wheel

## Color wheel

Want to know what colors look good together? Canva's Color Wheel makes color combinations easy.

1. Pick a color  
#78bcd8

2. Choose a color combination  
Complementary

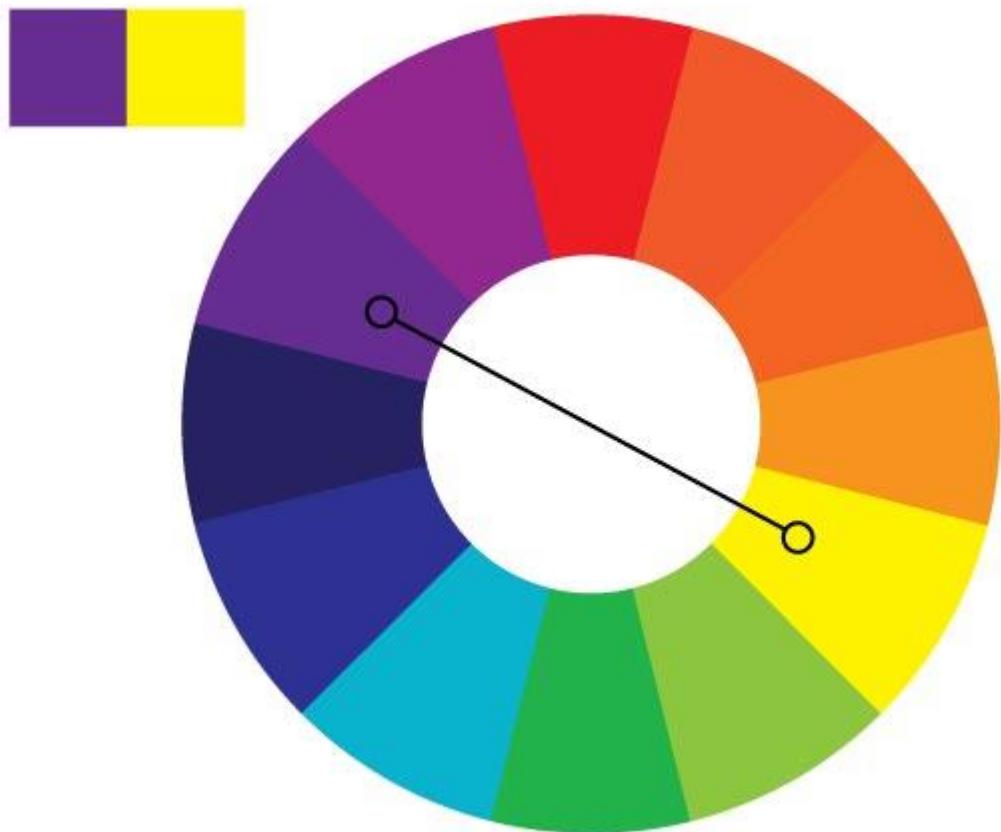
#78BCD8 #D89478

## Color theory and the color wheel

Ever wondered how designers and artists find the perfect color combination?

## RGB Colour (additive)

# Complementaries – Paint (subtractive)



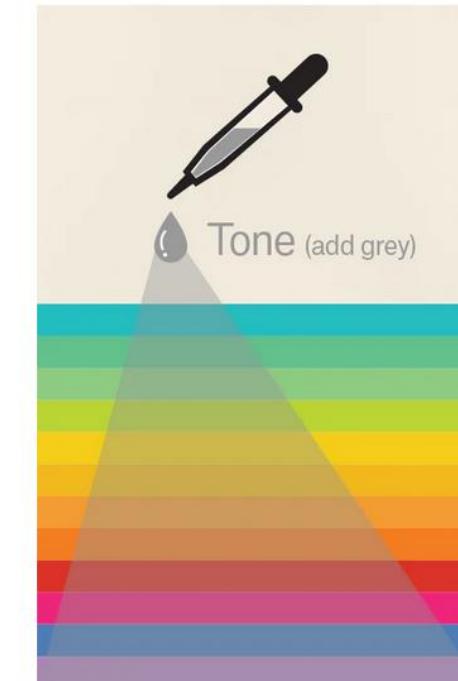
<http://dab1nmslvntp.cloudfront.net/wp-content/uploads/2012/10/complimentary2.jpg>



[http://en.wikipedia.org/wiki/Complementary\\_colors#/media/File:VanGogh-starry\\_night\\_ballance1.jpg](http://en.wikipedia.org/wiki/Complementary_colors#/media/File:VanGogh-starry_night_ballance1.jpg)

# Shades and Tints

- Technically tint is lighter, shade is darker.
- In practice people sometimes use these terms to describe mixing in other colours, changing the hue.
- Let's stick to value to discuss brighter and darker versions of a hue.



# Colour Harmonies – Analogous Colours

## ANALOGOUS COLORS



[http://30daysweater.com/wp-content/uploads/2014/06/30\\_Day\\_Sweater\\_Analogous\\_Colors\\_Wheell.png](http://30daysweater.com/wp-content/uploads/2014/06/30_Day_Sweater_Analogous_Colors_Wheell.png)

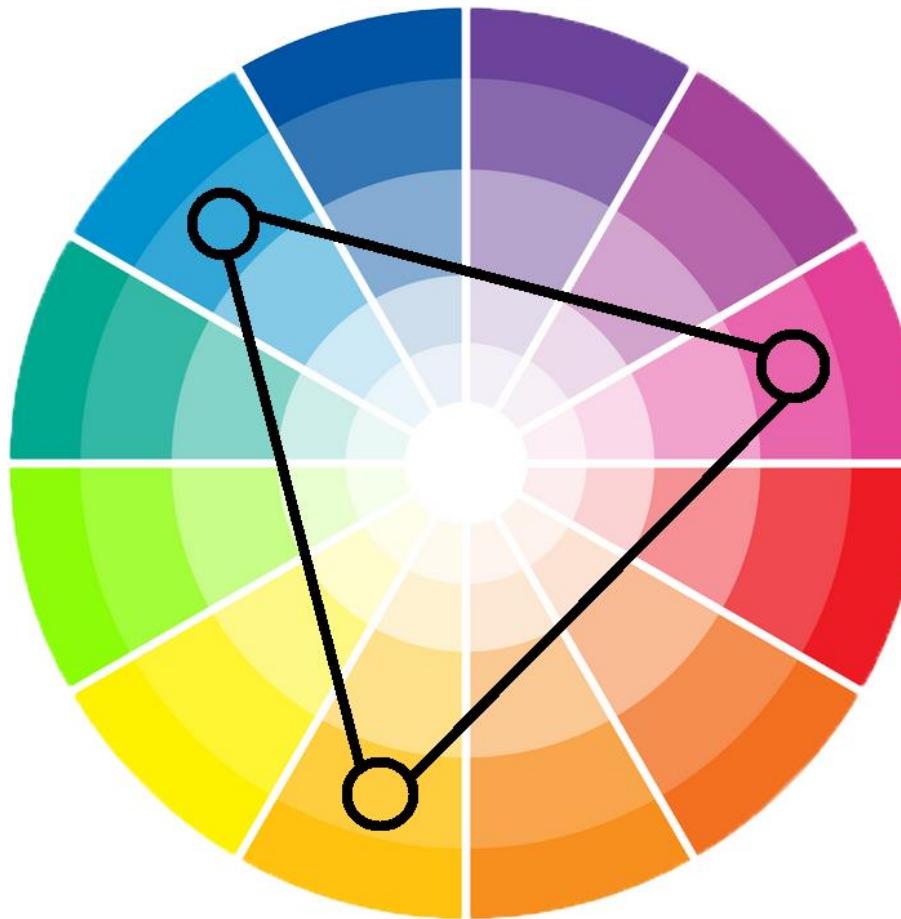
## Analogous Colours – Additive

- You'll mostly see RGB colour wheels as a digital artist, it's how monitors make colour.
- Click the image to play with analogous schemes and more in RGB (additive) and RYB (subtractive)

## Color Calculator ⓘ



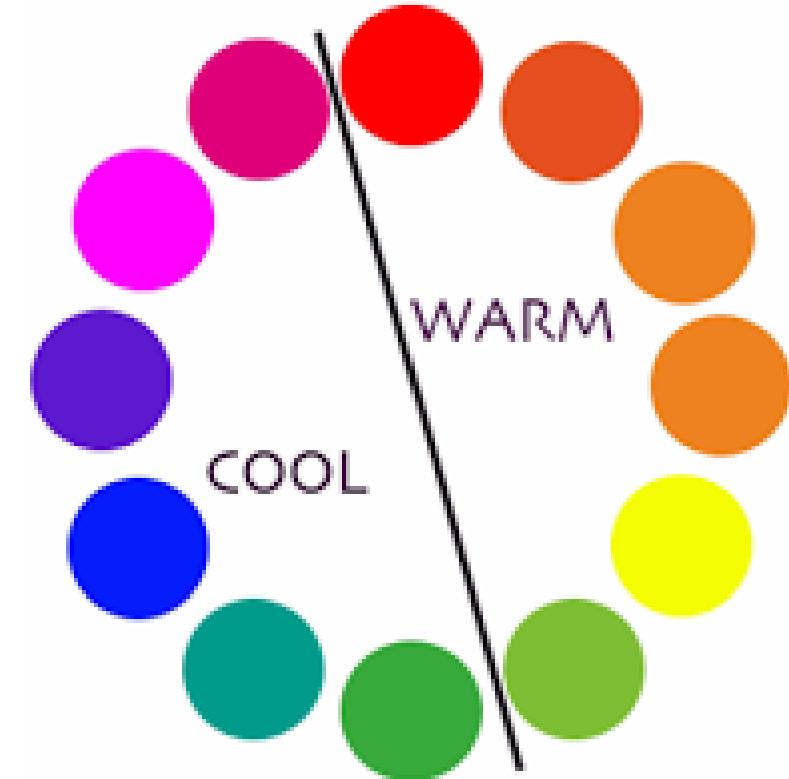
# Colour Harmonies – Triadic Colours



<http://twotales.org/wp-content/uploads/2013/04/Triadic-color-scheme.png>

# How to choose your own palettes

- Limit yourself to a few colours – four or five is a good number.
- Think about **warm + cool, light + dark**. Often picking opposites (dark warm + light cool, dark cool + light warm) makes for a better palette.
- Pick a dominant category. Mostly dark, or mostly warm?
- Pick a series of colours from that category – 3-4.
- Pick 2-3 colours from the secondary, non-dominant category.
- Be careful of **contrast and proportions** - good palettes only work in tandem with good composition!



<http://3.bp.blogspot.com/-a3tgc6RK4a0/TwZjcvWrPkI/AAAAAAAAC4/NWUUEQjlzgk/s200/skin-tone-colors.png>

# Exercise – DIY Palettes

- You don't have to become a colour savant right away.
- Go to <https://color.adobe.com/create/color-wheel>
- Make 5 palettes either in the basic or advanced palette editors.
- You can sign in and save 'em!

The screenshot shows the Adobe Color website at <https://color.adobe.com/create/color-wheel>. The interface includes a top navigation bar with links for CREATE, EXPLORE, TRENDS, and MY THEMES. Below the navigation is a color wheel with various color harmony rules listed on its left side. The selected rule is 'Complementary'. To the right of the color wheel is a preview area showing a vertical color palette with five squares: brown (#B38B4D), orange (#FFDBA1), yellow (#FFD187), blue (#3B7AB3), and light blue (#87C6FF). Below the preview are two rows of color swatches with their corresponding hex codes and RGB values. At the bottom of the page are links for Language (English), Terms of Use, Privacy, User Forums, Community Guidelines, and Copyright information.

Color Wheel Extract Theme Extract Gradient New

Apply Color Harmony Rule

Analogous  
 Monochromatic  
 Triad  
 Complementary  
 Split Complementary  
 Double Split Complementary  
 Square  
 Compound  
 Shades  
 Custom

#B38B4D #FFDBA1 #FFD187 #3B7AB3 #87C6FF

Color	Red	Green	Blue
#B38B4D	179	255	59
#FFDBA1	139	219	209
#FFD187	77	161	135
#3B7AB3	70	100	100
#87C6FF	122	179	255

Color Mode: RGB

Language: English Terms of Use Privacy User Forums Community Guidelines Copyright © 2019 Adobe. All rights reserved.

# Colour Psychology

- Study of colour as a determinant to human behaviour
- Colour influences perceptions that aren't obvious
- Widely used in marketing and branding to evoke certain feelings in a consumer
- Colours can carry several different meanings – which may differ from culture to culture
- Meanings can be learned meanings or biologically innate meanings



[http://wellington.govt.nz/~media/your-council/news/images/2015/08/greenlight-102114\\_MG\\_1226-content2.jpg?mh=320&mw=320](http://wellington.govt.nz/~media/your-council/news/images/2015/08/greenlight-102114_MG_1226-content2.jpg?mh=320&mw=320)

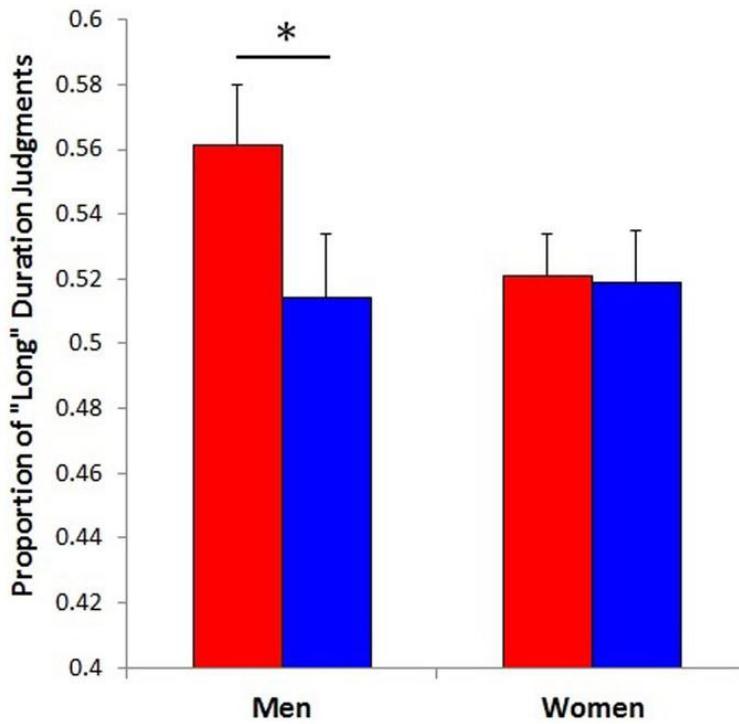
# Colour Psychology



<http://mmagymchd.com/wp-content/uploads/2015/04/taekwondo.jpg>

- some evidence suggest that in combat sports the referees give greater scores to the red side
- This could be due to "subconscious bias" or increased aggression in people wearing red.
- <http://www.livescience.com/2772-referees-prefer-athletes-red.html>

# Colour Psychology



- Perception in duration of time in exposure to certain colours effects both sexes but men more so.
- <http://www.nature.com/articles/srep05899>

# Colour Moods - Red

## Color Meanings & Symbolism: Red

battle political power rage hate lust  
circulation charity voltage Communism  
romanticism strength love intensity fire  
ambition suffering eccentricity extroversion  
desire domination sexuality speed life  
revolution fashion sensuality prostitution  
courage determination sin martyrdom  
urgency friendship patriotism tension  
rescue success charm pain passion  
thrill fervor motion emotion  
sacrifice murder vitality rebellion  
murder brilliance alertness victory  
rebellion aggression danger prohibition  
victory social movement compassion  
danger heat triumph violence  
prohibition heat  
movement beauty  
compassion  
devotion

### Worldly Color Meanings of Red

China & India: good luck, used in dresses, chair, parasol, cup lace, firecrackers in a wedding

Russia & China: revolution, communism

England: buses, phone booths

Spain: bull fighting, flamenco dresses

# Colour Moods - Orange

## Color Meanings & Symbolism: Orange

A word cloud on an orange background containing various positive and neutral words associated with the color orange. The words are in white and light blue text, with larger words indicating more frequent meanings. The words include: coziness, success, change, explosions, temptation, generosity, flexibility, visibility, heat, coziness, flavor, charisma, endurance, exuberance, communication, humanism, independence, action, extravaganza, security, appetite, disorder, society, dryness, exaggeration, communication, friendliness, independence, fun, dominance, joy, health, disorder, fitness, earth, extroversion, fascination, happiness, sunset, practicality, competence, enthusiasm, determination, humor, smile, creativity, motivation, excitement, invitation, wisdom, service, laughter, warning, encouragement, celebration, warmth, radiation, emotion.

### Worldly Color Meanings of Orange

Buddhism: humility, renunciation, desirelessness

China & Japan: love, happiness, plenitude

Other: treason, Halloween

# Colour Moods - Yellow

## Color Meanings & Symbolism: Yellow

A yellow square containing a central word cloud of various words related to the meaning and symbolism of the color yellow. The words are in different sizes and colors (black, blue, and grey) and include: logic, ideas, caution, thought, intelligence, fear, idealism, warning, playfulness, alertness, gaiety, joy, forgiveness, spontaneity, asperation, laughter, activity, warmth, signal, communication, summer, philosophy, happiness, order, brightness, expansion, intuition, wisdom, satisfaction, knowledge, controversy, extroversion, power, youth, confidence, optimism, imagination, uncertainty, expression, innovation, inspiration, stimulation.

### Worldly Color Meanings of Yellow

Egypt: happiness, prosperity

China: Imperial color to worship, the sky

Futbol: yellow card, warning

Other: truth

# Colour Moods - Green

## Color Meanings & Symbolism: Green

A central green square contains a white word cloud of various words associated with the color green. The words are arranged in a non-linear, overlapping fashion across the center of the slide. The words include: grass, health, mucous, adventure, hope, youth, calmness, frankness, sincerity, good, comfort, quietness, neutrality, relaxation, safety, vegetation, sympathy, prosperity, equilibrium, reproduction, spring, aspiration, renewal, friendship, generosity, cleanliness, life, fertility, open, efficiency, freshness, nature, environment, outdoors, security, growth, harmony, freedom, luck, progress, wisdom, moist, vigor, and faith.

*Worldly Color Meanings of Green*  
Islam: Allah in nature  
Northern Europe: The Green Man

# Colour Moods - Blue

## Color Meanings & Symbolism: Blue

A word cloud on a blue background containing various positive and negative meanings associated with the color blue. The words are in white and yellow, with larger words representing more prominent meanings.

Positive meanings include: trust, water, balance, goodness, culture, stability, truth, balance, introspection, self, cooperation, tenderness, harmony, authority, stiffness, reliability, flexibility, maturity, infinity, dignity, intelligence, contemplation, quietness, obedience, responsibility, security, transparency, law, cleanliness, compassion, acceptance, loyalty, frankness, technology, depth, hope, virtue, value, tradition, reflection, unity, depression, protection, quality, piety, and ice.

Negative meanings include: logic, despair, coolness, freshness, sincerity, honesty, peace, transparency, law, sadness, loneliness, compassion, acceptance, loyalty, frankness, technology, depth, hope, virtue, value, tradition, reflection, unity, depression, protection, quality, piety, and ice.

### Worldly Color Meanings of Blue

Catholicism: Virgin Mary, God Father

Islam: Mosque decorations

UN Flag: peace, cooperation

India: mercy

Jewish: Holiness

# COLOR EMOTION GUIDE

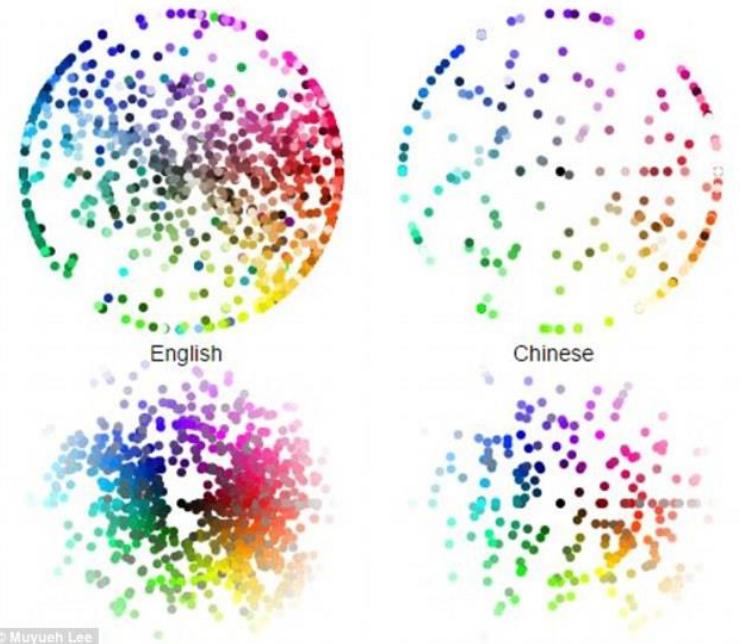


<https://thelogocompany.net/wp-content/uploads/2013/01/Color Emotion Guide22.png>



[http://rocketcreativedesign.net/wp-content/uploads/2015/01/Jul-blog-pic-LogoColours.jpg.pagespeed.ic\\_.BBpJbo8qGz.jpg](http://rocketcreativedesign.net/wp-content/uploads/2015/01/Jul-blog-pic-LogoColours.jpg.pagespeed.ic_.BBpJbo8qGz.jpg)

# Colour Cultures and Languages



- Research suggests having more words to define colour increases the eyes/brains capacity to discern colours
- <http://www.boreme.com/posting.php?id=30670.VD1P6mddXh5#.VtGOCvl95pg>

[http://i.dailymail.co.uk/i/pix/2014/11/25/237EB50800000578-2849065-image-13\\_1416934639421.jpg](http://i.dailymail.co.uk/i/pix/2014/11/25/237EB50800000578-2849065-image-13_1416934639421.jpg)

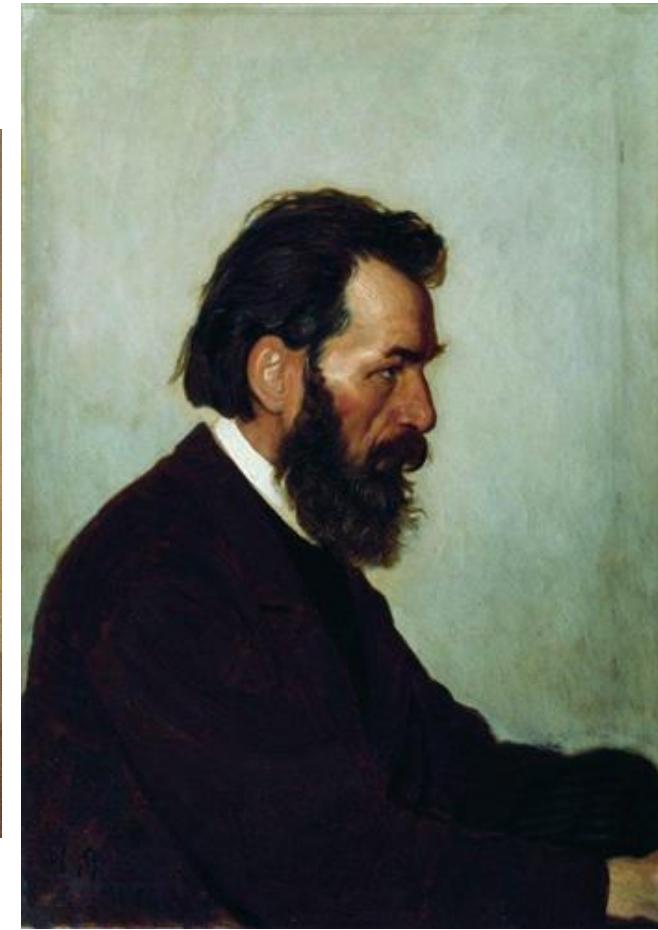
# Value Contrast



[William Merritt Chase](#)  
Lydia Field Emmet  
1900  
61 x 50.8 cm  
Oil on canvas  
Signed upper right: Wm. M. Chase  
Santa Barbara Museum of Art  
Bequest of Margaret Mallory  
<https://www.pubhist.com/w26173>



Frank Frazetta  
death dealer  
<http://fantasy.mrugala.net/Frank%20Frazetta%20-%201996/Frank%20Frazetta%20-%20Calendrier%201996%20-%20006.jpg>



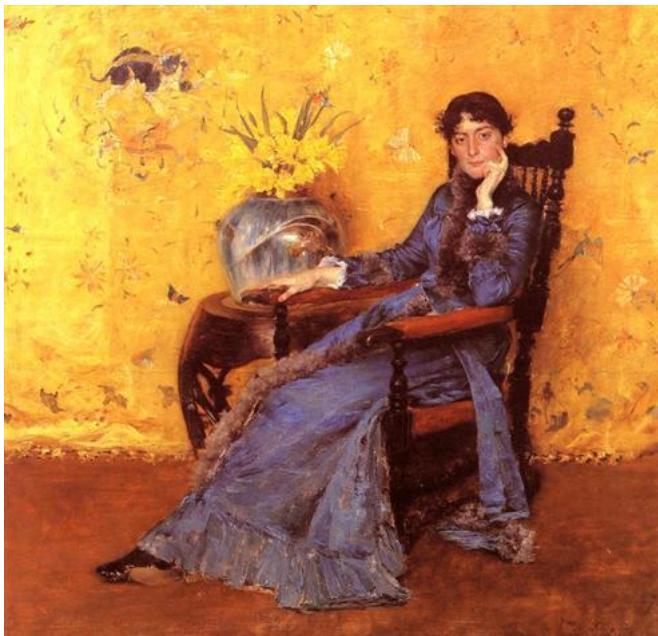
Portrait of A.I. Shevtsov  
[Ilya Repin](#) 1869  
[http://www.wikiart.org/en/ilya-repin/portrait-of-a-i-shevtssov-1869?utm\\_source=returned&utm\\_medium=referral&utm\\_campaign=referral](http://www.wikiart.org/en/ilya-repin/portrait-of-a-i-shevtssov-1869?utm_source=returned&utm_medium=referral&utm_campaign=referral)

# Saturation Contrast



Portrait of Dante  
[Ilya Repin](#)

[http://www.wikiart.org/en/ilya-repin/portrait-of-dante?utm\\_source=returned&utm\\_medium=referral&utm\\_campaign=referral](http://www.wikiart.org/en/ilya-repin/portrait-of-dante?utm_source=returned&utm_medium=referral&utm_campaign=referral)



Artist: [William Merritt Chase](#)  
Completion Date: 1883

[http://www.wikiart.org/en/william-merritt-chase/portrait-of-miss-dora-wheeler-1?utm\\_source=returned&utm\\_medium=referral&utm\\_campaign=referral](http://www.wikiart.org/en/william-merritt-chase/portrait-of-miss-dora-wheeler-1?utm_source=returned&utm_medium=referral&utm_campaign=referral)



Dinner Table at Night  
John Singer Sargent

<http://www.canvasreplicas.com/images/Dinner%20Table%20at%20Night%20John%20Singer%20Sargent.jpg>

# Hue Contrast



La Ghirlandata  
Dante Gabriel Rossetti (1828-1882)

<https://i.ytimg.com/vi/JrHOPQsHGvE/maxresdefault.jpg>



Frank Frazetta  
Jaguar God II

<http://static1.squarespace.com/static/55f4aa90e4b044a1a3403b43/t/56757f8ba2bab87a7441fd9e/1450540941453/>



Artist: [William Merritt Chase](#)  
Completion Date: 1886

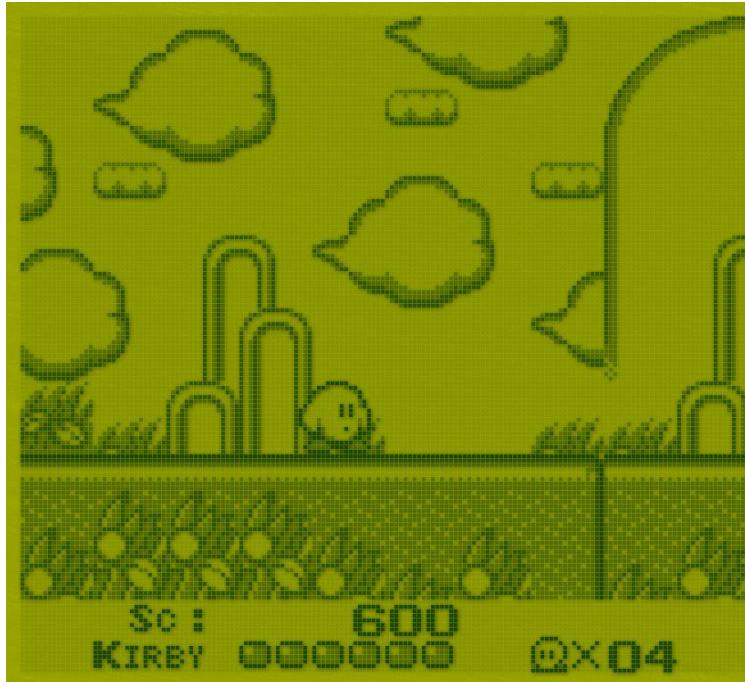
<http://www.wikiart.org/en/william-merritt-chase/terrace-prospect-park>

# Limited Palette



The Massacre at Chios  
Eugene Delacroix

<https://www.artsy.net/artwork/eugene-victor-ferdinand-delacroix-eugene-delacroix-scenes-from-the-massacre-at-chios/download/eugene-victor-ferdinand-delacroix-eugene-delacroix-scenes-from-the-massacre-at-chios-1822-1824.jpg>



<http://vignette2.wikia.nocookie.net/emulation-general/images/c/ce/Gb.png/revision/latest?cb=20130717183918>



Shadow of Colossus

[https://vice-images.vice.com/images/content-images/2015/02/02/shadow-of-the-colossus-a-decade-on-isnt-quite-the-classic-you-recall-933-body-image-1422906490.jpg?resize=1000:\\*&output-quality=75](https://vice-images.vice.com/images/content-images/2015/02/02/shadow-of-the-colossus-a-decade-on-isnt-quite-the-classic-you-recall-933-body-image-1422906490.jpg?resize=1000:*&output-quality=75)

# Colour and Mood



<https://i.ytimg.com/vi/FI5I5CUTqh4/hqdefault.jpg>



<http://justrpg.com/wp-content/gallery/diablo-2-lod-overview/diablo-2-assassin.jpg>



[http://www.digiseller.ru/preview/264150/p1\\_1983258\\_a6a6cbd7.jpg](http://www.digiseller.ru/preview/264150/p1_1983258_a6a6cbd7.jpg)

# Colour and Mood



<http://images.bit-tech.net/blog/2009/09/i-m-so-sick-of-world-war-ii/1.jpg>



<http://cdn.pcgamesn.com/sites/default/files/best%20world%20war%202%20games%20pc%20company%20of%20heroes%20lasknd.png>



<http://pspmcia.ign.com/psp/image/article/818/818139/medal-of-honor-heroes-2-20070905071929948-000.jpg>



<http://www.warhistoryonline.com/wp-content/uploads/2014/11/The-Top-10-World-War-II-Games-on-PC-6.png>



[http://www.heartsofiron4.com/assets/screenshots/hearts\\_of\\_iron\\_4\\_20140808\\_04-98ff8f2d44be9910e6dd9220bf14600c.jpg](http://www.heartsofiron4.com/assets/screenshots/hearts_of_iron_4_20140808_04-98ff8f2d44be9910e6dd9220bf14600c.jpg)



<http://media.moddb.com/images/games/1/13/12716/screen2.jpg>

# Colour and Mood



<https://www.kleientertainment.com/sites/default/files/games/dont-starve/gallery/ds16.png>



<http://www.ztgd.com/wp-content/gallery/raymanoriginsgc11/RaymanOrigins03.jpg>

# Colour and Mood



[http://cdn.akamai.steamstatic.com/steam/apps/61730/ss\\_5aec03fce8153e414e73138079e6c7c1e7601893.600x338.jpg?t=1447356419](http://cdn.akamai.steamstatic.com/steam/apps/61730/ss_5aec03fce8153e414e73138079e6c7c1e7601893.600x338.jpg?t=1447356419)



<http://www.ztgd.com/wp-content/gallery/raymanoriginsgc11/RaymanOrigins03.jpg>



<http://www.oriblindforest.com/wp-content/uploads/galleryimages/8X3BM5C1L4S4iYjL.jpg>



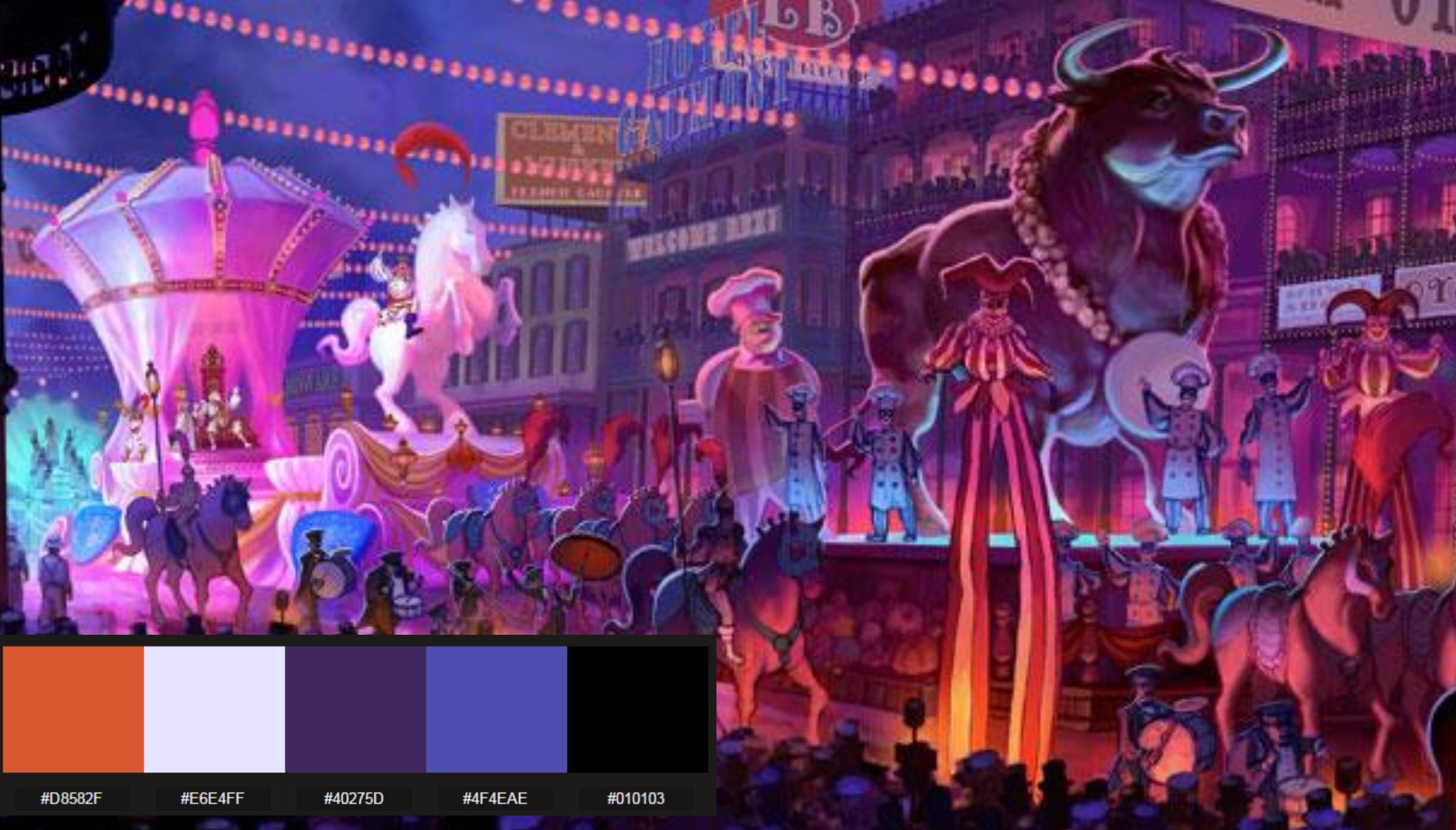
#819A8C

#F9F1AD

#D7B663

#0B0000

#916632



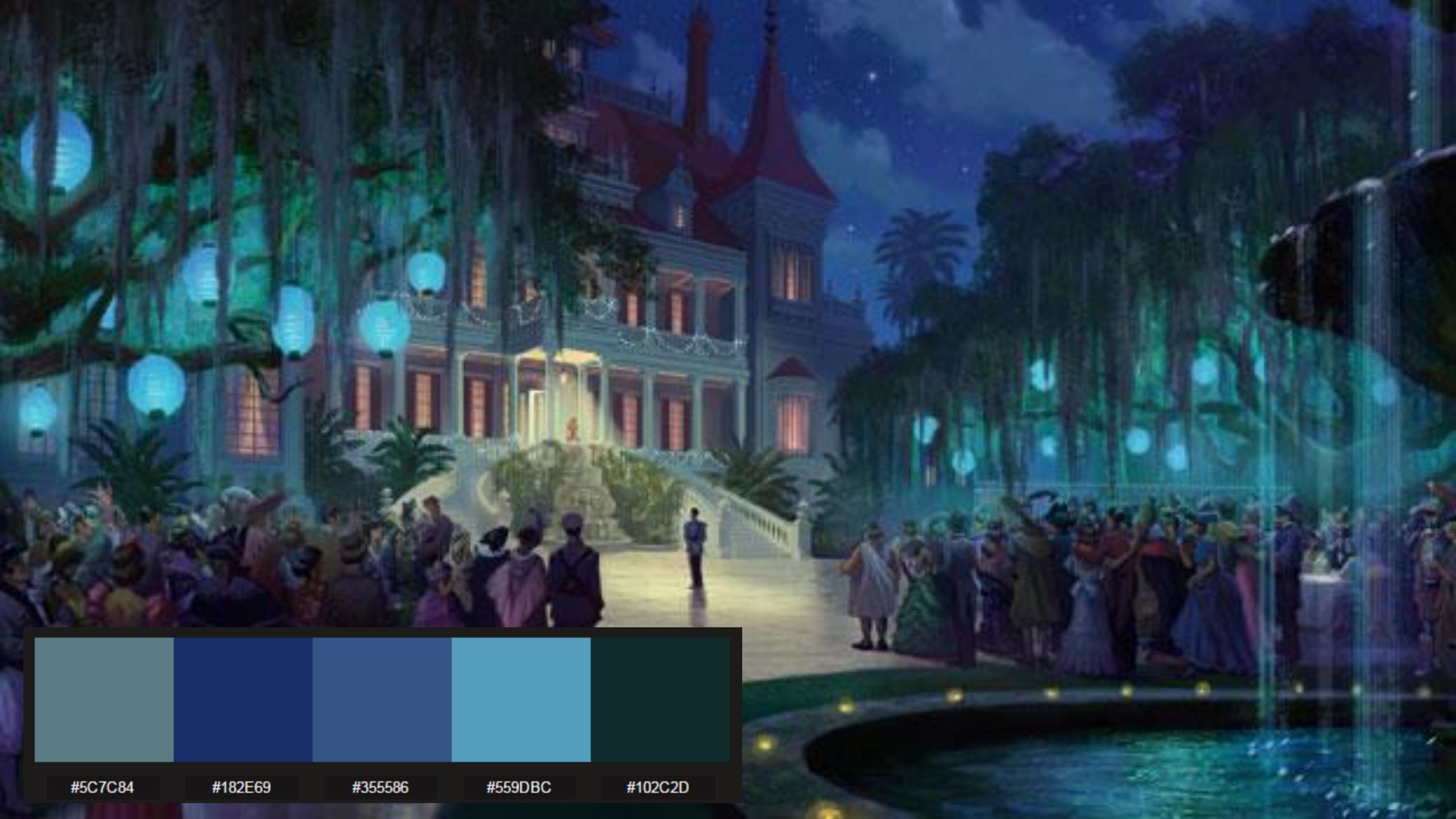
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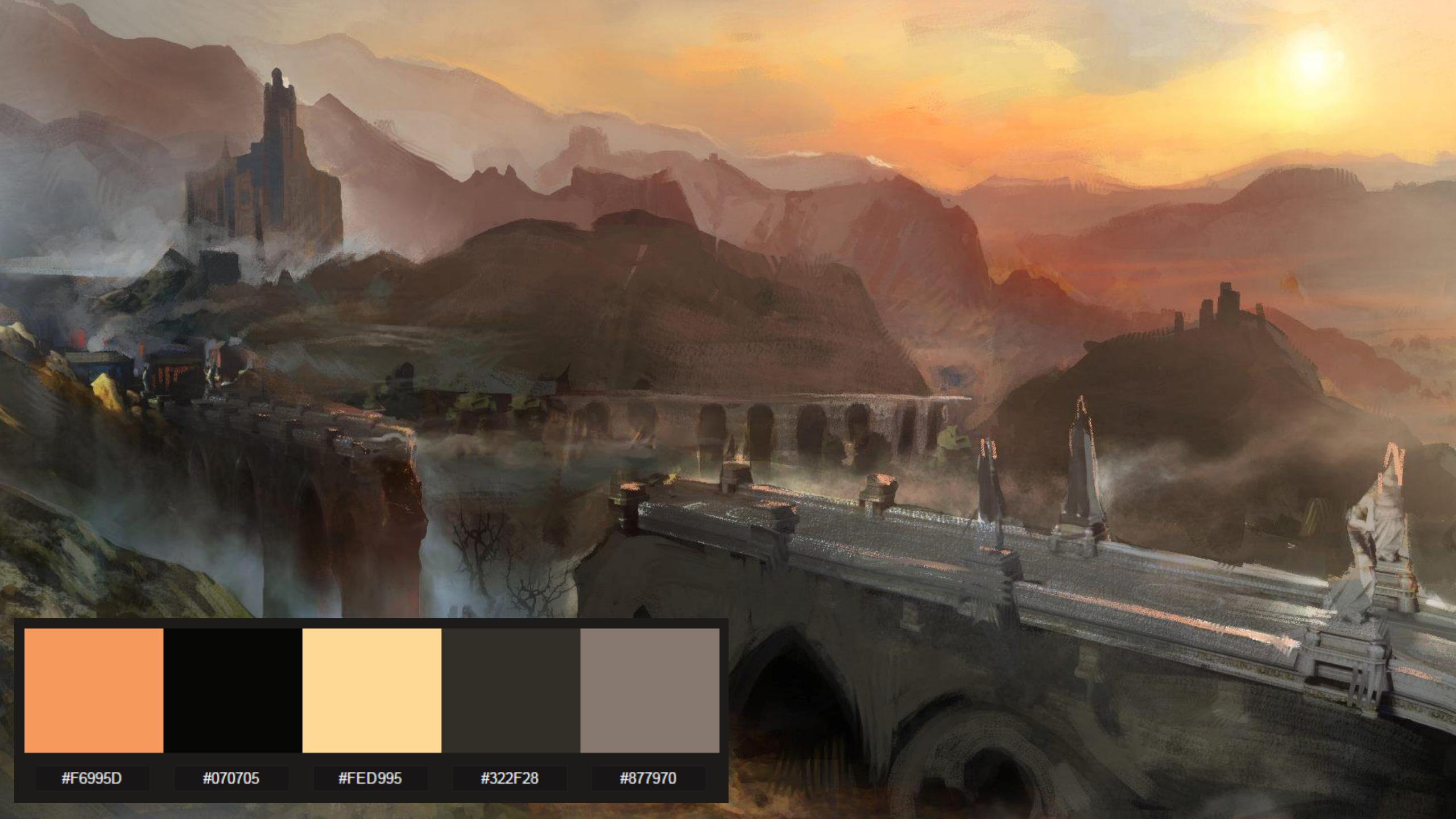
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#F6995D

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#FED995

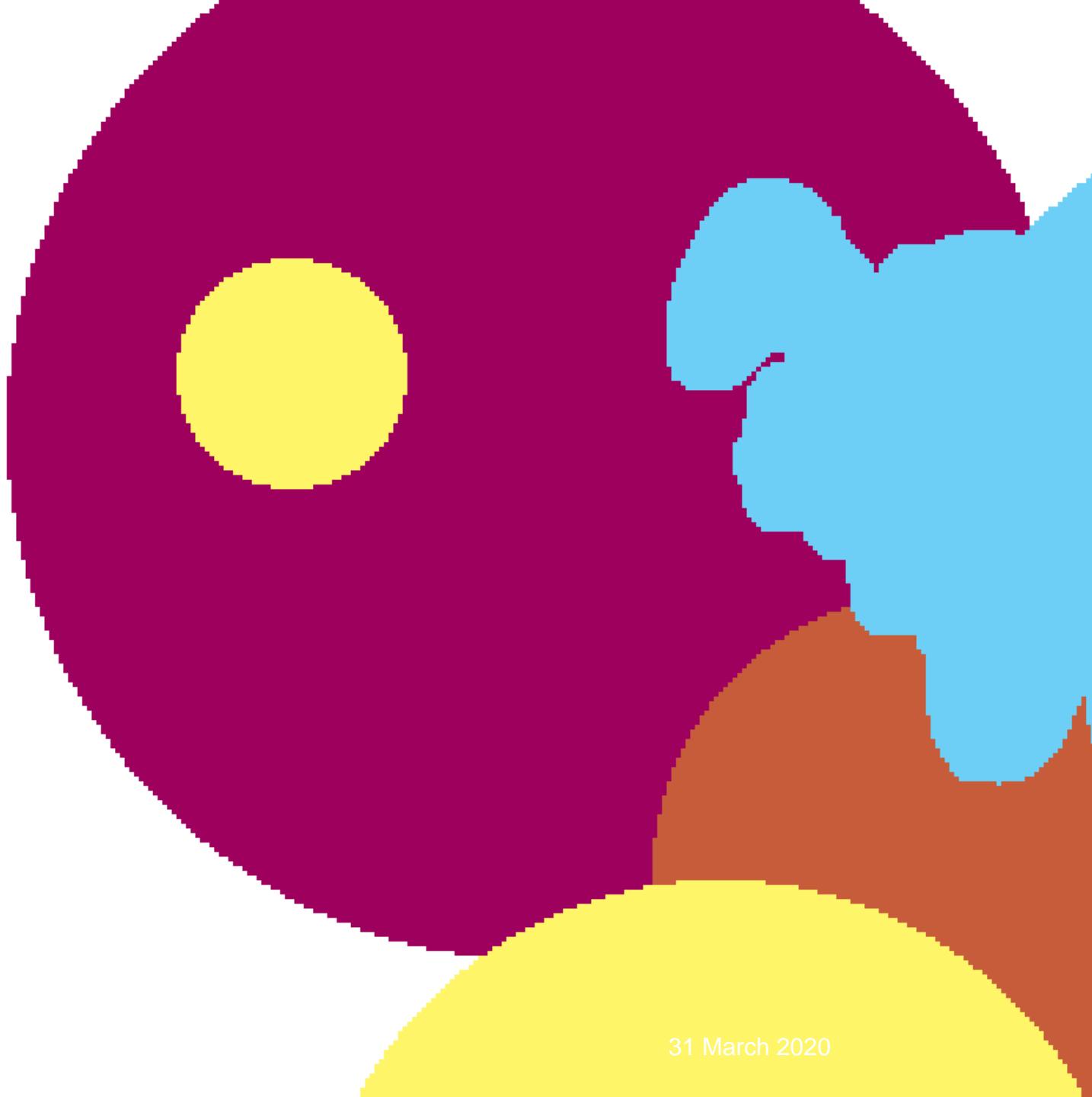
#322F28

#877970



# Demo: Aliased Painting

- Turning off anti aliasing for fast colour editing.
- [Download demo file](#)



# Exercise – Character Palette

- Return to <https://color.adobe.com/create/color-wheel>
- Make 3 potential palettes for your character
- Consider what colours imply about your character
- Take a drawing of your character (turnaround?) and colour it with a palette.

The screenshot shows the Adobe Color website at <https://color.adobe.com/create/color-wheel>. The interface includes a top navigation bar with links for CREATE, EXPLORE, TRENDS, and MY THEMES. Below this is a secondary navigation bar with tabs for Color Wheel, Extract Theme, Extract Gradient, and a New button. A sidebar on the left lists color harmony rules: Analogous, Monochromatic, Triad, Complementary (which is selected), Split Complementary, Double Split Complementary, Square, Compound, Shades, and Custom. To the right of the sidebar is a large color wheel with several colored dots indicating specific color swatches. Below the color wheel is a horizontal row of five color swatches with their corresponding hex codes: #B38B4D, #FFDBA1, #FFD187, #3B7AB3, and #87C6FF. Underneath each swatch are two rows of color sliders for RGB values (Red, Green, Blue) and HSL values (Hue, Saturation, Lightness). At the bottom of the page are links for Language (English), Terms of Use, Privacy, User Forums, Community Guidelines, and Copyright © 2019 Adobe. All rights reserved.