



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

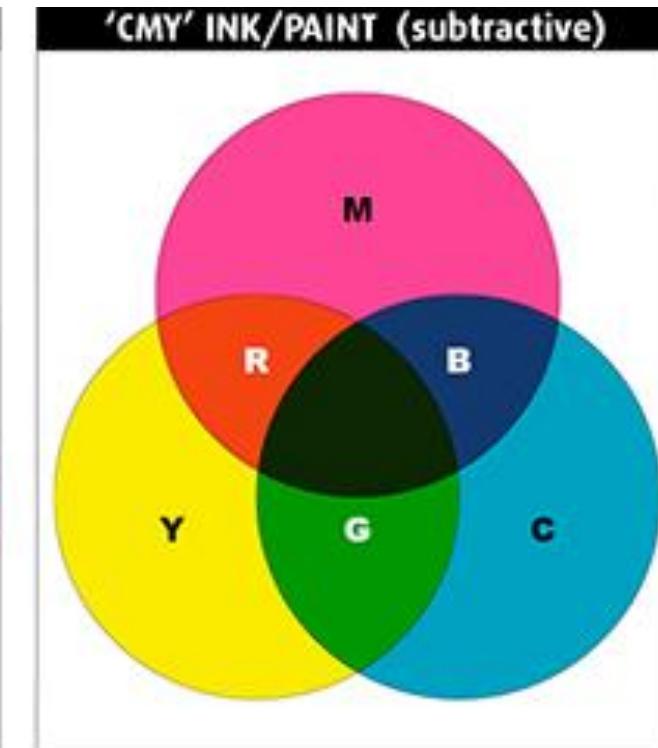
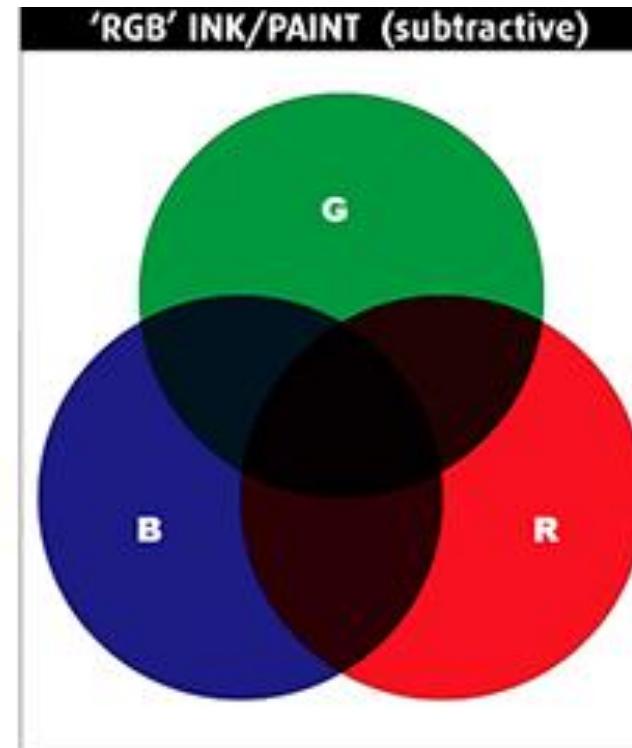
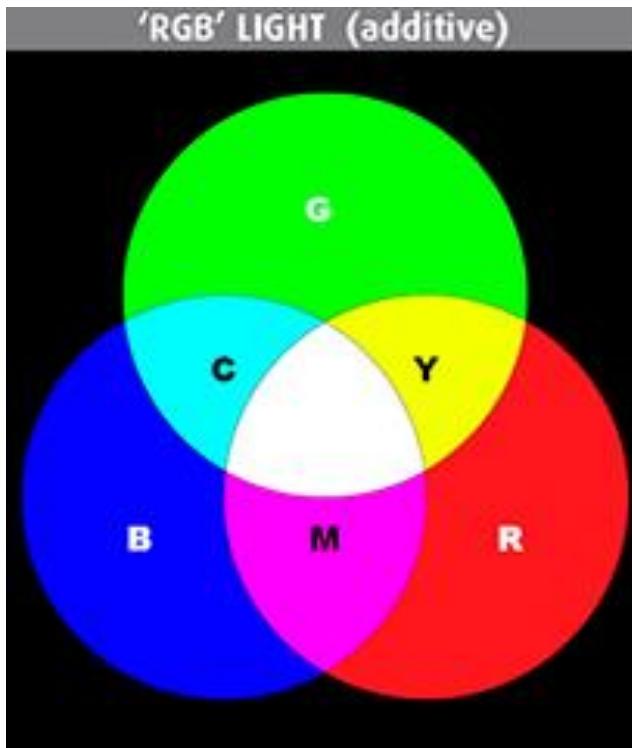


Low value

High value

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

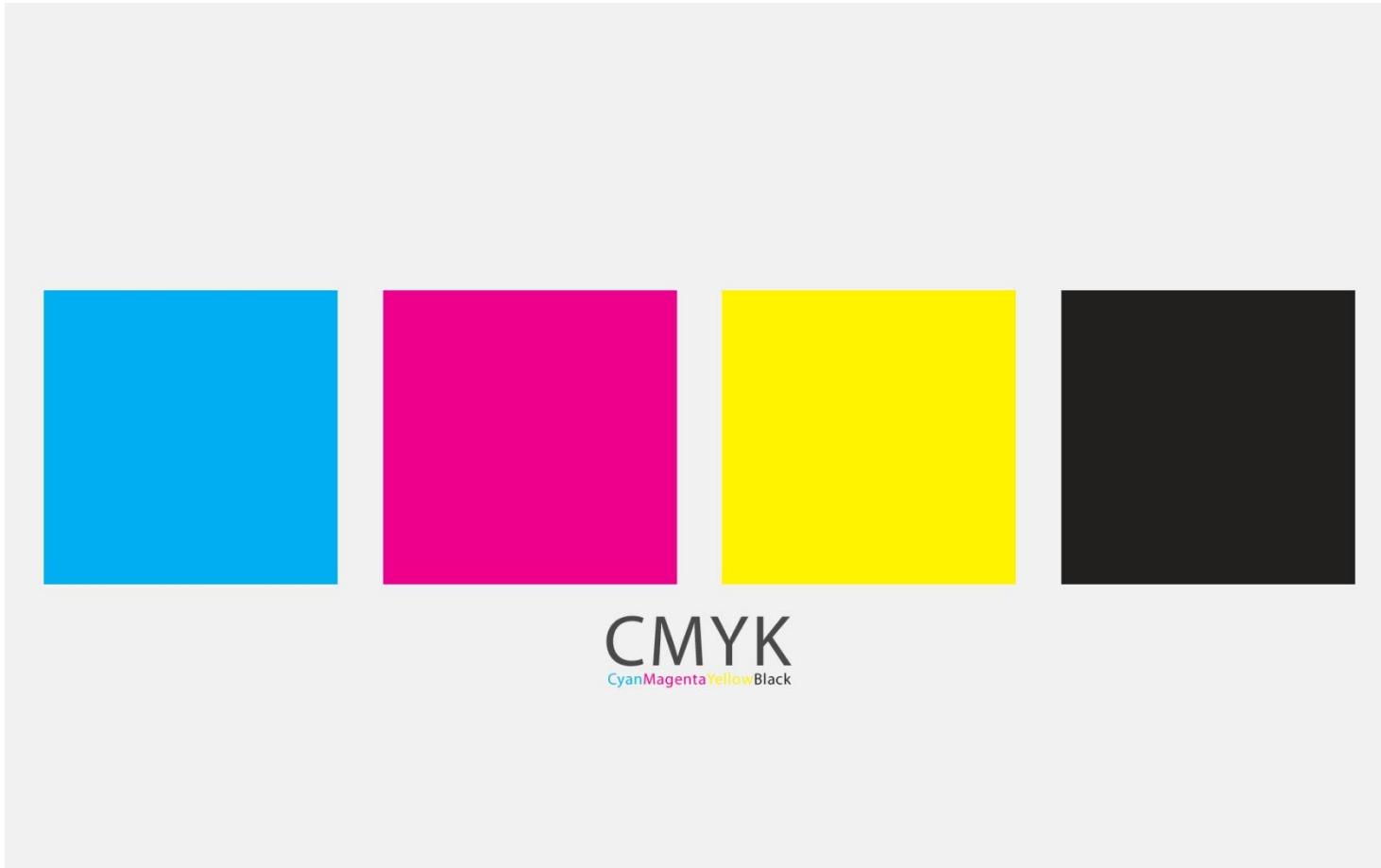
Colour Types – Subtractive & Additive



© Graeme Cookson / Shutha.org

http://shutha.org/sites/default/files//uploads/3_Courses/3_Digital_Imaging/CMYK1.png

Colour Types – CMYK



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

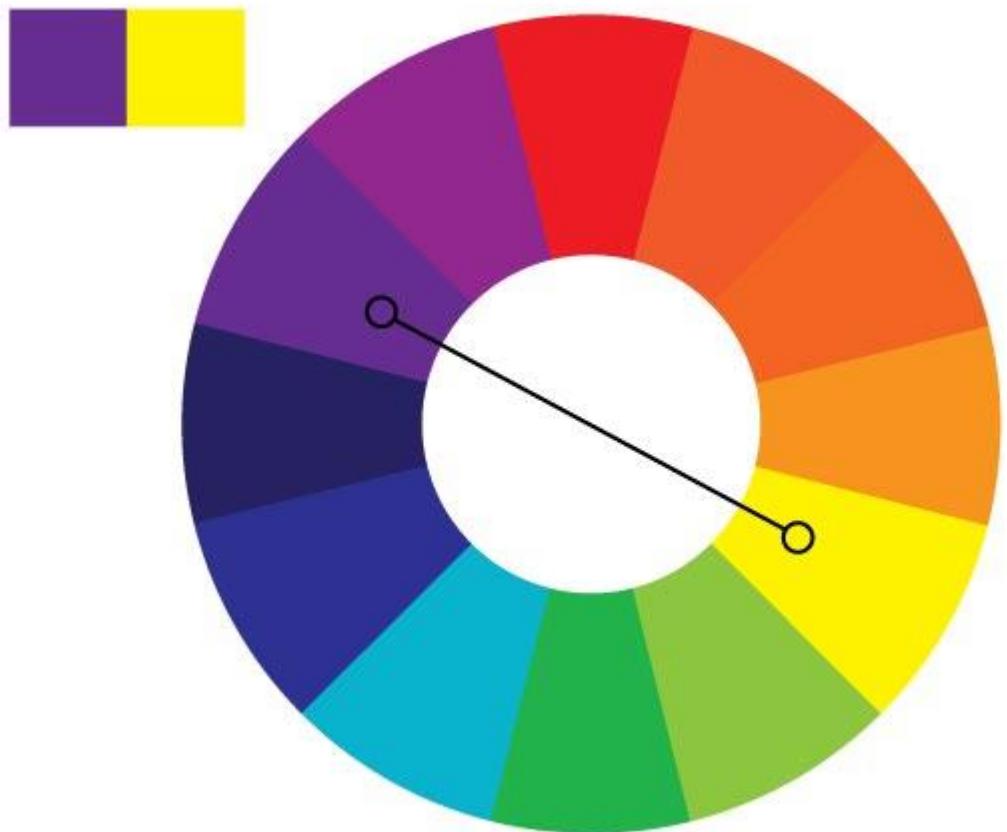
#78BCD8 #D89478

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

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

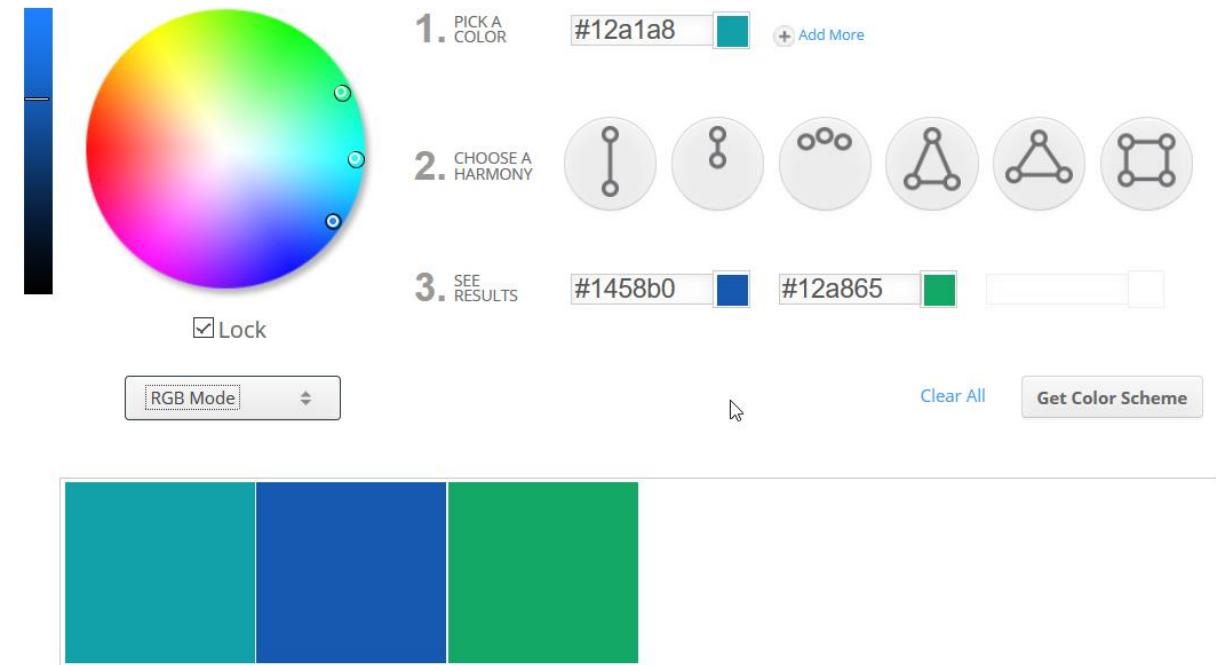


http://30daysweater.com/wp-content/uploads/2014/06/30_Day_Sweater_Analogous_Colors_Wheell.png

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 ⓘ



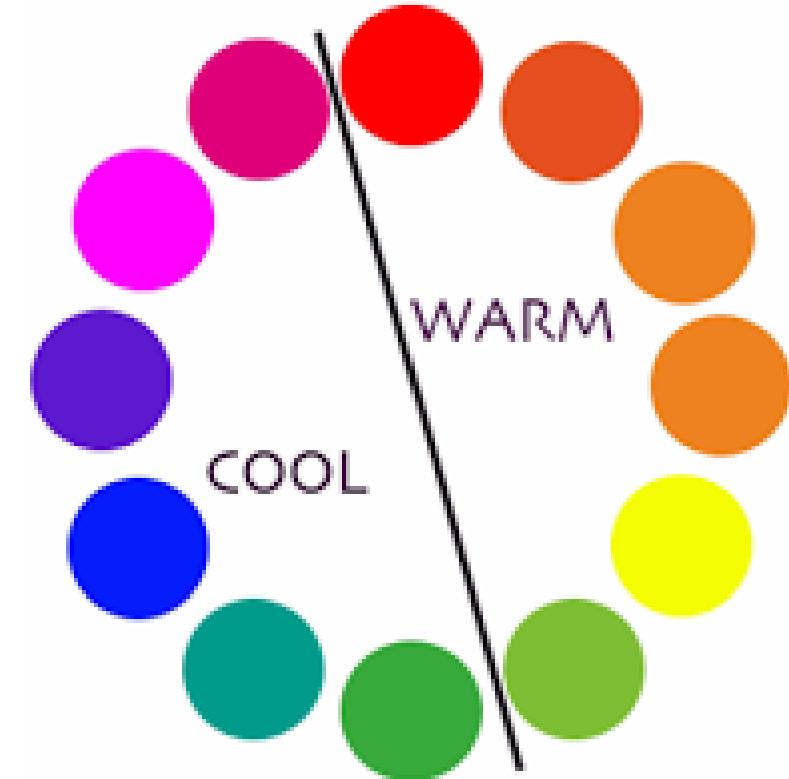
Colour Harmonies – Triadic Colours



<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: Analogous, Monochromatic, Triad, Complementary (which is selected), Split Complementary, Double Split Complementary, Square, Compound, Shades, and Custom. To the right of the wheel is a color palette consisting of five squares in brown, orange, yellow, blue, and light blue. Below the palette are color hex codes and RGB values for each square. 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 Mode	RGB	Hex	Color	Color	Hex	Color	Color	Hex	Color	Color	Hex	Color
Color Mode	RGB	179	255	255	59	135	135	139	219	209	122	198
Color Mode	RGB	139	255	255	122	198	198	77	161	135	179	255
Color Mode	RGB	77	255	255	179	255	255	70	100	100	70	100

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

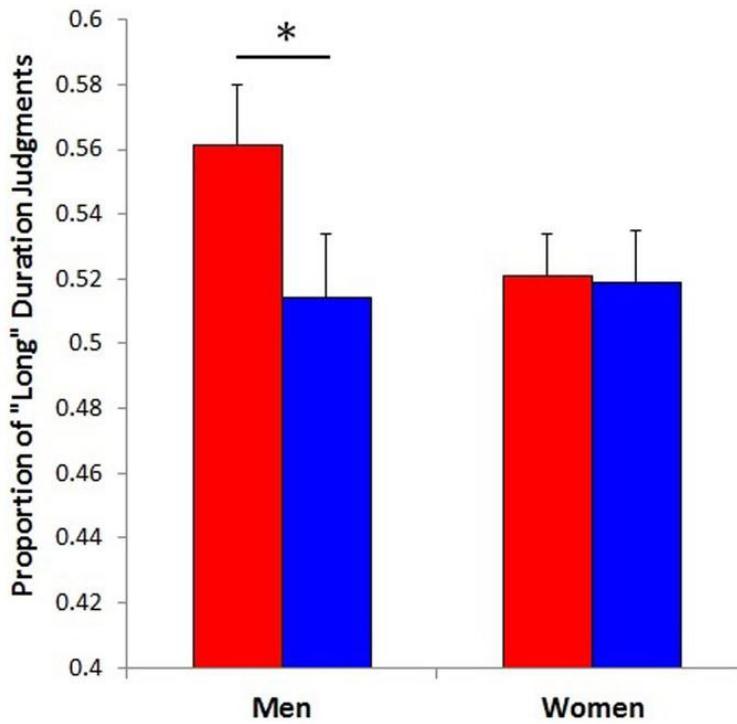
Colour Psychology



<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, humanism, independence, action, extravagance, security, domination, fun, joy, health, fun, practicality, determination, humor, smile, health, energy, ambition, tropic, fitness, extroversion, fascination, sunset, happiness, enthusiasm, competence, determination, creativity, motivation, excitement, invitation, wisdom, service, laughter, warning, encouragement, 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 central yellow square contains a dense word cloud of various words associated with the color yellow. The words are in different sizes and colors (black, blue, and grey) and are arranged in a roughly circular pattern. Some of the visible words include: logic, ideas, fear, signal, idealism, gaiety, warning, joy, forgiveness, communication, philosophy, summer, happiness, order, friendship, spontaneity, playfulness, asperation, laughter, activity, warmth, satisfaction, brightness, expansion, intuition, wisdom, knowledge, controversy, extroversion, power, youth, confidence, imagination, optimism, 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 diagram where words are colored according to their meaning. The colors range from blue (representing negative or neutral meanings) to red (representing positive meanings). The size of each word corresponds to its frequency or importance.

The words include: trust, water, balance, goodness, faith, stiffness, introspection, culture, stability, truth, maturity, infinity, cooperation, self, power, tenderness, harmony, authority, reliability, flexibility, contemplation, quietness, obedience, dignity, responsibility, logic, despair, intelligence, freshness, sincerity, coolness, honesty, peace, transparency, law, security, responsibility, sadness, compassion, cleanliness, acceptance, loyalty, frankness, protection, quality, piety, ice, control, freedom, calmness, serenity, solitude, virtue, tradition, reflection, depth, hope, value, tranquility, unity, depression, caution, technology.

Worldly Color Meanings of Blue

Catholicism: Virgin Mary, God Father

Islam: Mosque decorations

UN Flag: peace, cooperation

India: mercy

Jewish: Holiness

COLOR EMOTION GUIDE

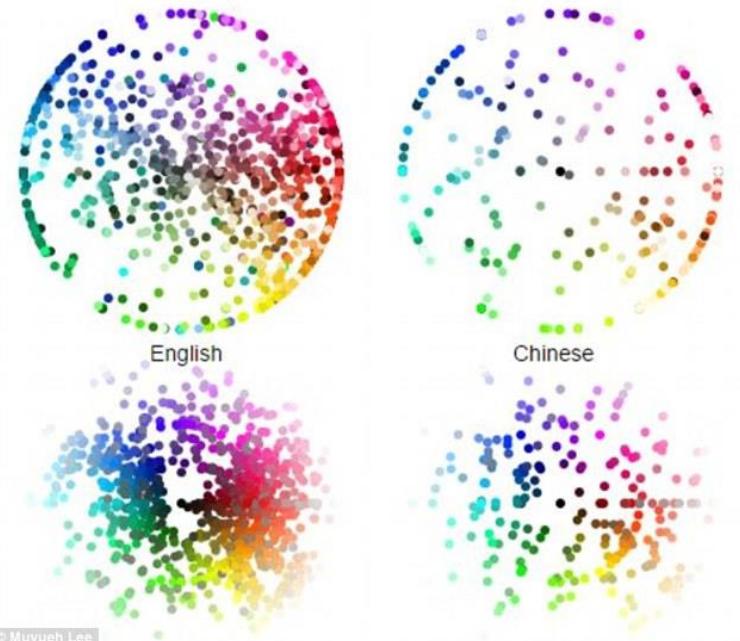


https://thelogocompany.net/wp-content/uploads/2013/01/Color_Emotion_Guide22.png



http://rocketcreativedesign.net/wp-content/uploads/2015/01/jul-blog-pic-LogoColours.jpg.pagespeed.ic_.BBpjbo8qGz.jpg

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

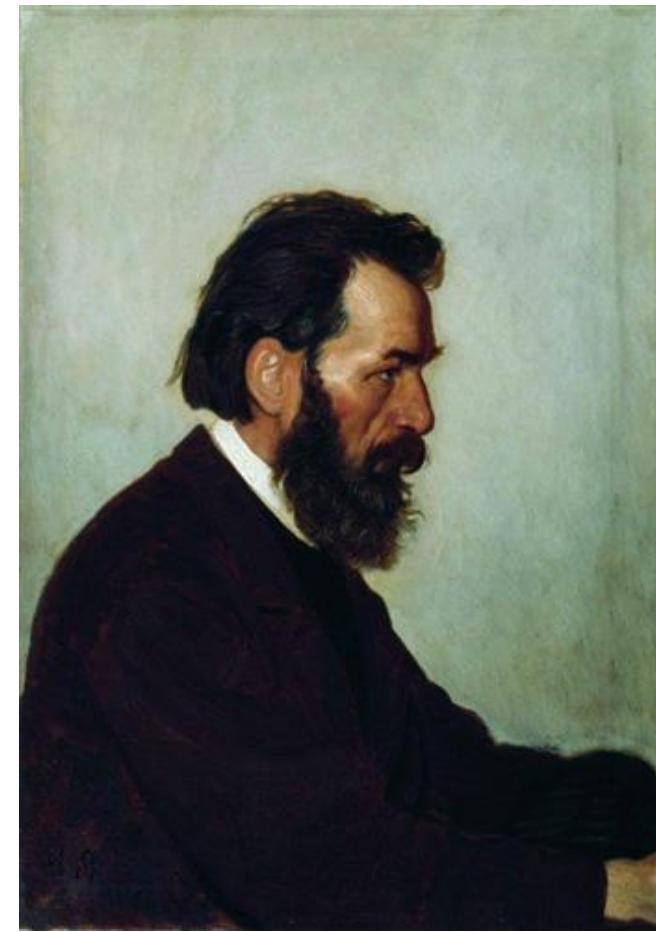
Value Contrast



[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

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



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



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

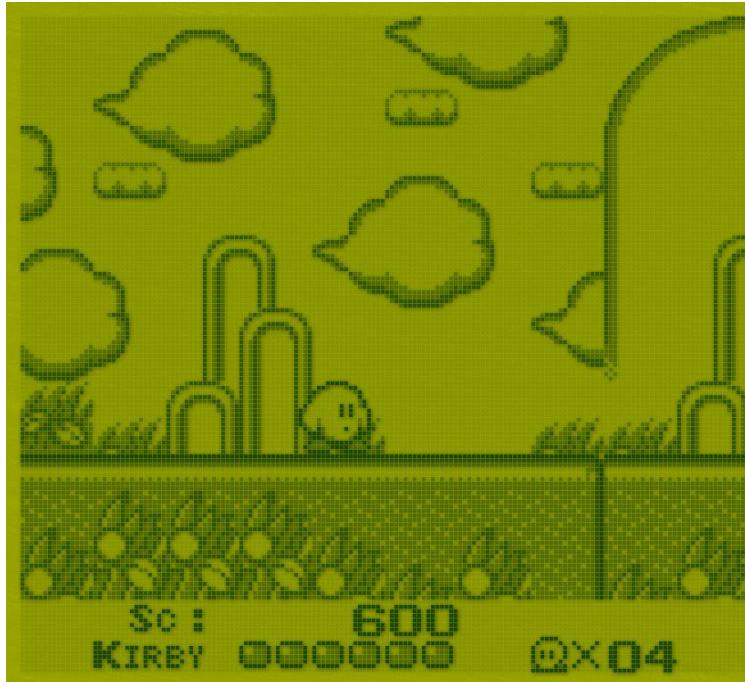
<http://www.wikiart.org/en/william-merritt-chase/terrace-prospect-park>

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

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

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.hearts of iron4.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://www.ztgd.com/wp-content/gallery/raymanoriginsgc11/RaymanOrigins03.jpg>



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



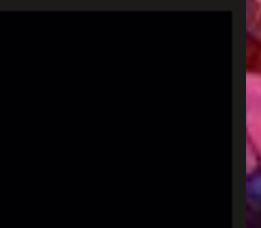
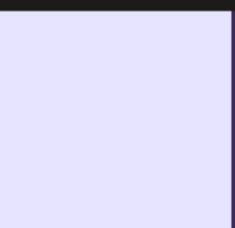
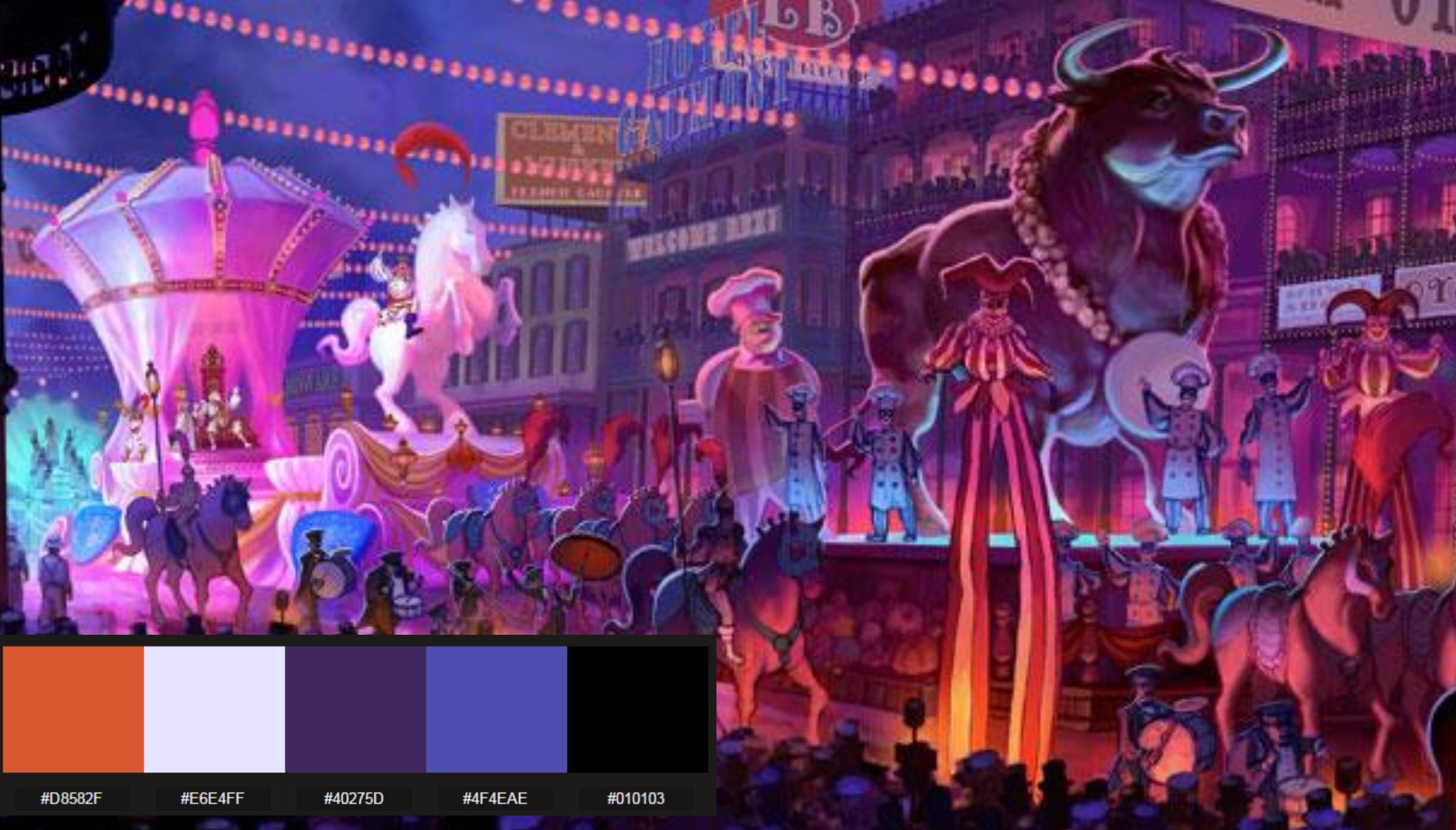
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#F9F1AD

#D7B663

#0B0000

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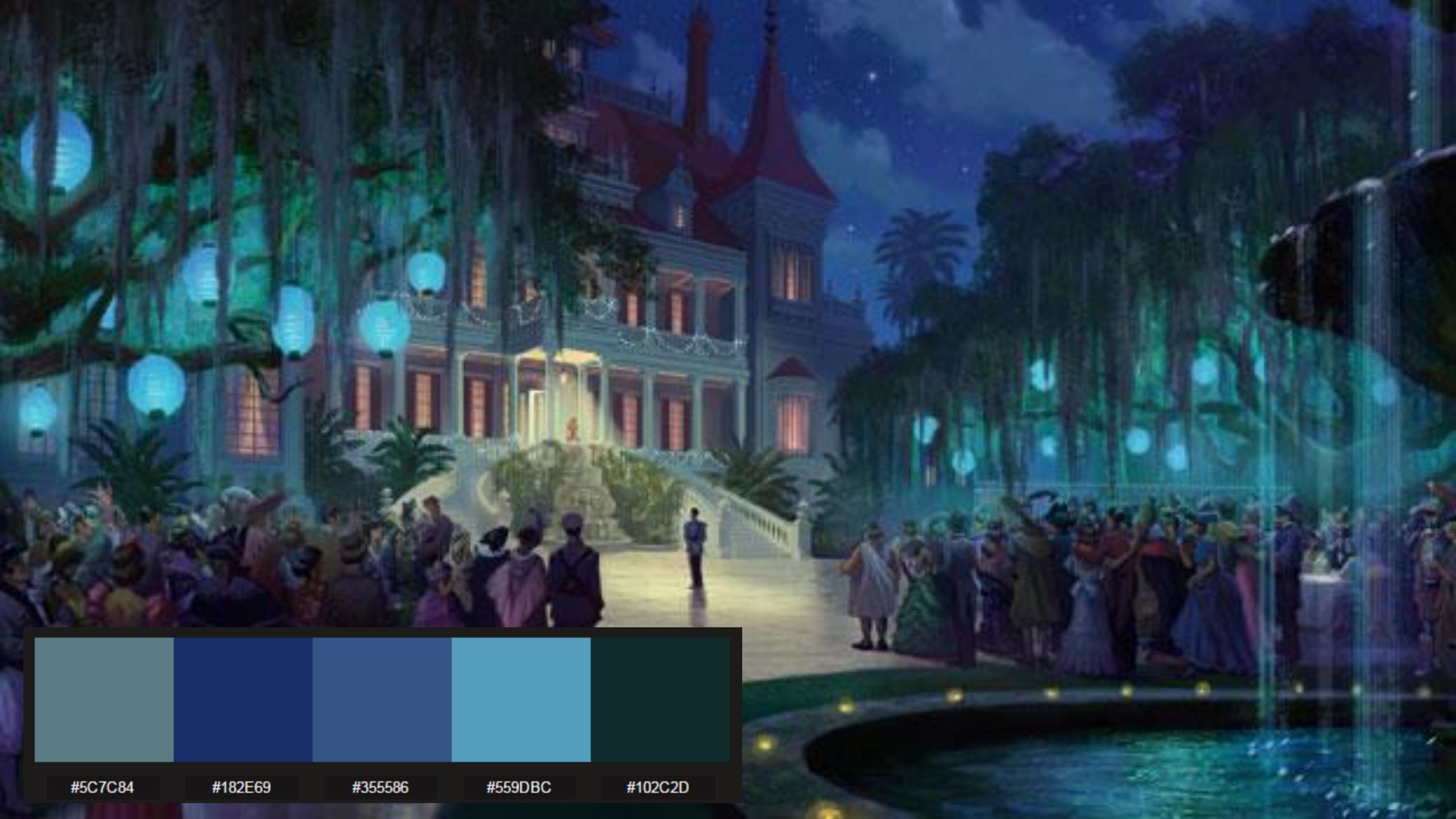
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#E6E4FF

#40275D

#4F4EAE

#010103



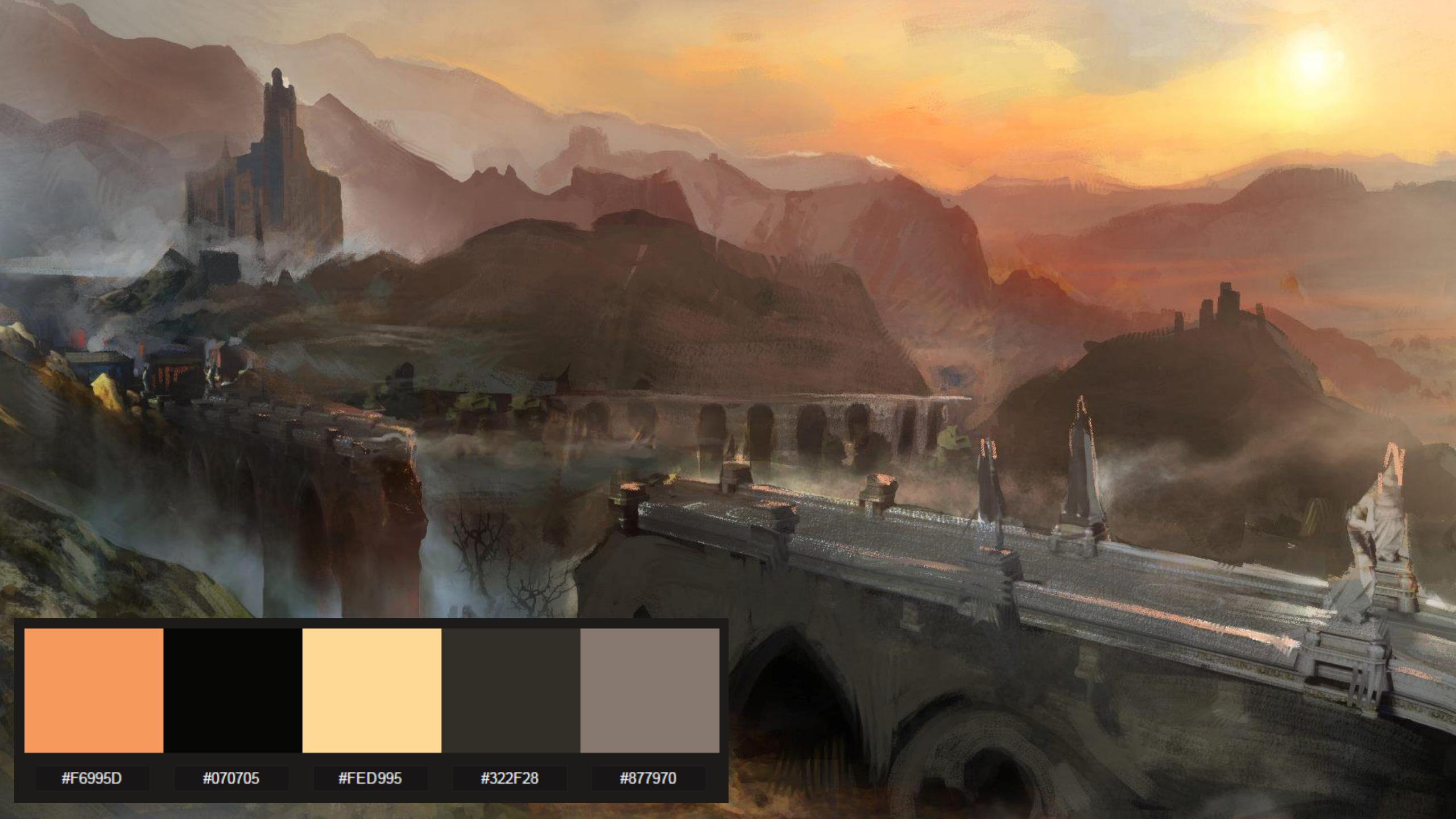
#5C7C84

#182E69

#355586

#559DBC

#102C2D



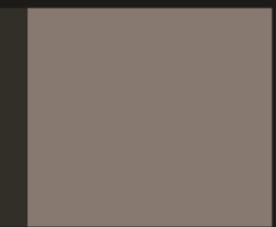
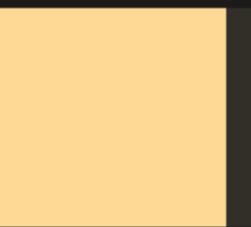
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#FED995

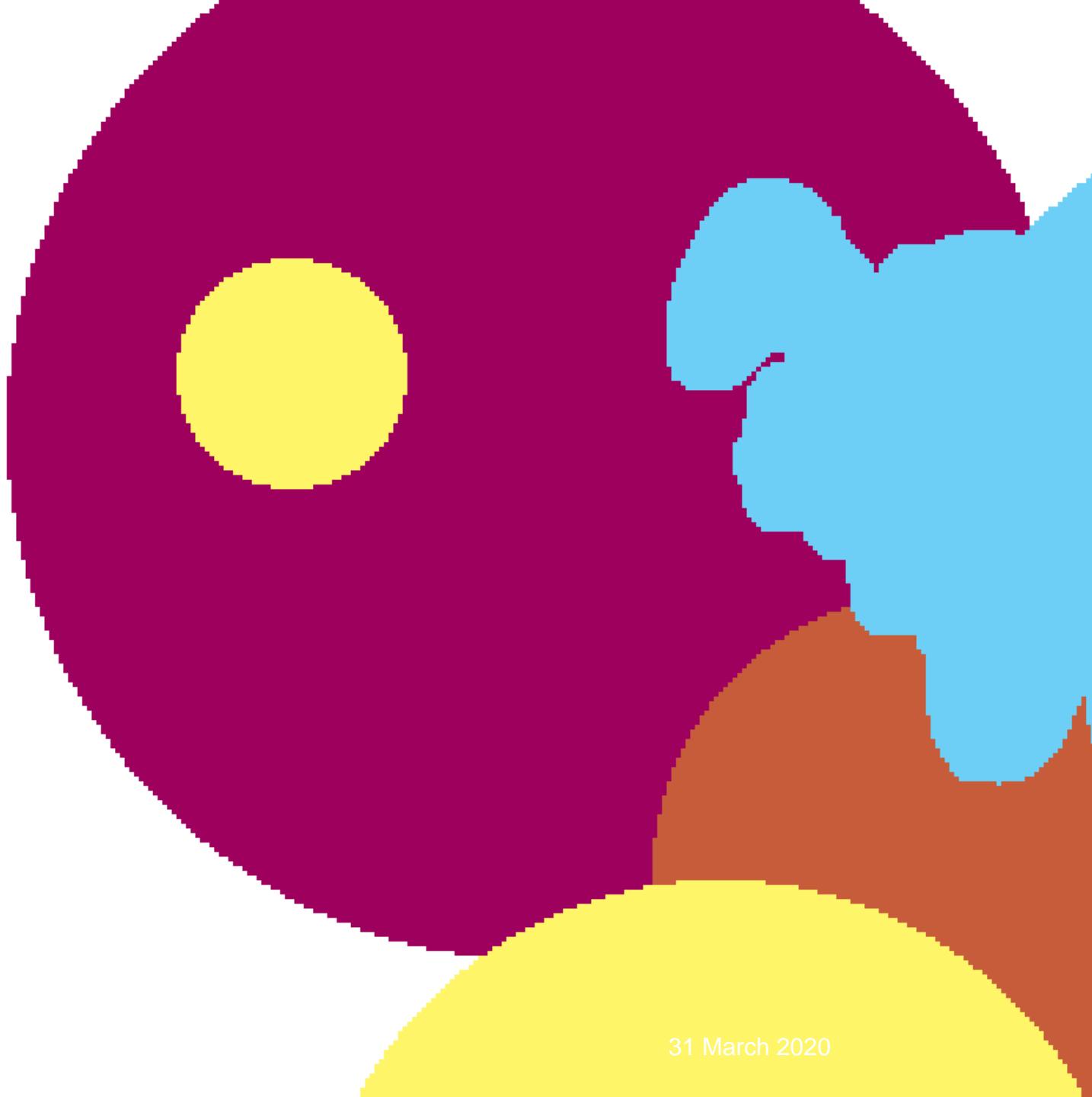
#322F28

#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. 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.