21 Color and Cylinders

Wednesday, March 17, 2021   9:51 PM

Today:

Pantone https://en.wikipedia.org/wiki/Pantone
Additive/subtractive physics
Upright and Horizontal Cylinder sketching

Snow sculptures?

Pantone https://en.wikipedia.org/wiki/Pantone
Another color nomenclature and color management system. Common in design world.
There are competing companies: Behr

Color of the Year
Since 2000,[18] the Pantone Color Institute declares a particular color "Color of the Year".
Twice a year the company hosts, in a European capital, a secret meeting of representatives
from various nations' color standards groups. After two days of presentations and debate,
they choose a color for the following year; for example, the color for summer 2013 was
chosen in London in the spring of 2012.[19] The color purportedly connects with the
zeitgeist; for example, the press release declaring Honeysuckle the color of 2011 said "In
times of stress, we need something to lift our spirits. Honeysuckle is a captivating,
stimulating color that gets the adrenaline going – perfect to ward off the blues."[20] The
results of the meeting are published in *Pantone View* ($750), which fashion designers,
florists, and many other consumer-oriented companies purchase to help guide their designs
and planning for future products.

From <https://en.wikipedia.org/wiki/Pantone#Pantone_Goe_System>
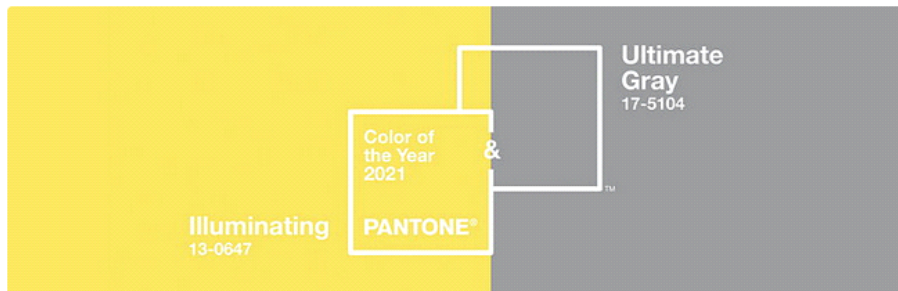
Dye manufacturers prepare to sell quantities of the Color of the Year in advance, so
products (plastics, textiles) are ready to sell.

2010	2011	2012	2013	2014
Turquoise	Honeysuckle	Tangerine Tango	Emerald	Radiant Orchid
Pantone 15-5519	Pantone 18-2120	Pantone 17-1463[21]	Pantone 17-5641	Pantone 18-3224[22]
#45B5AA	#D94F70	#DD4124	#009473	#B163A3

2015	2016	2016	2017	2018
Marsala	Rose Quartz	Serenity	Greenery	Ultra Violet
Pantone 18-1438[23]	Pantone 13-1520[24]	Pantone 15-3913[24]	Pantone 15-0343[25]	18-3838
#955251	#F7CAC9	#92A8D1	#88B04B	

PANTONE 16-1546 Living Coral
Introduction
PANTONE Color Institute™

2019

PANTONE 19-4052 Classic Blue
Introduction
Political?
PANTONE Color Institute™

In 2013 Subaru started offering a tangerine colored Crosstrek. No coincidence.

Pantone Reveals Color(s) of the Year 2021
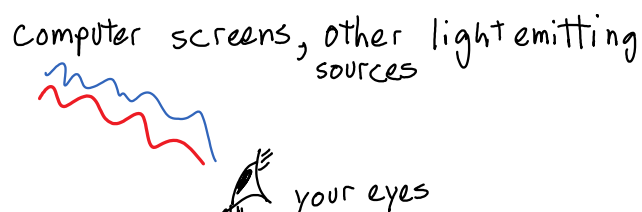
Dec 12, 2020 7:30 am EST

Pantone has announced 'PANTONE 17-5104 Ultimate Gray' and 'PANTONE 13-0647 Illuminating' as the 2021 'Pantone Color of the Year.' The two independent colors were brought together ⧉ to create an aspirational color pairing, conjoining deeper feelings of thoughtfulness with the optimistic promise of a sunshine filled day.
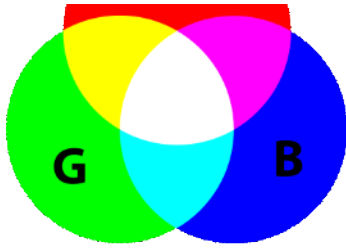
Illuminating is a bright and cheerful yellow sparkling with vivacity, a warming yellow shade imbued with solar power. Ultimate Gray is emblematic of solid and dependable elements which are everlasting and provide a firm foundation. The colors of pebbles on the beach and natural elements whose weathered appearance highlights an ability to stand the test of time, Ultimate Gray quietly assures, encouraging feelings of composure, steadiness and resilience.

"The selection of two independent colors highlight how different elements come together to express a message of strength and hopefulness that is both enduring and uplifting, conveying the idea that it's not about one color or one person, it's about more than one," commented Leatrice Eiseman, Executive Director of the Pantone Color Institute. "The union of an enduring Ultimate Gray with the vibrant yellow Illuminating expresses a message of positivity supported by fortitude. Practical and rock solid but at the same time warming and optimistic, this is a color combination that gives us resilience and hope. We need to feel encouraged and uplifted, this is essential to the human spirit."
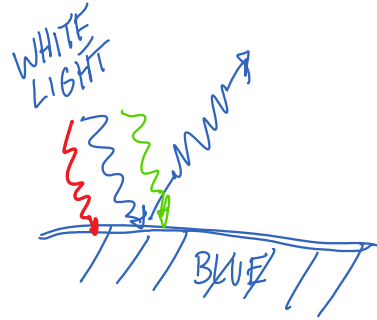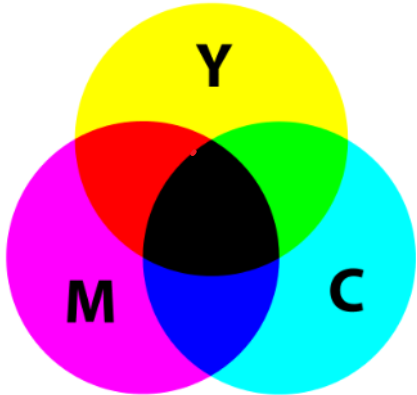
Additive/subtractive color

Additive color = light.

Computer screens, other light emitting sources

your eyes

your eyes

Subtractive color = surfaces; dyes, pigments, inks. All wavelengths are absorbed except the scattered ones.

WHITE LIGHT

BLUE

CMYK

Perception of Color

Classic text: Albers, Josef, and Nicholas Fox Weber. *Interaction of Color: 50th Anniversary Edition*. -50th Anniversary ed. edition. New Haven Connecticut: Yale University Press, 2013. First edition 1963. $12 paperback

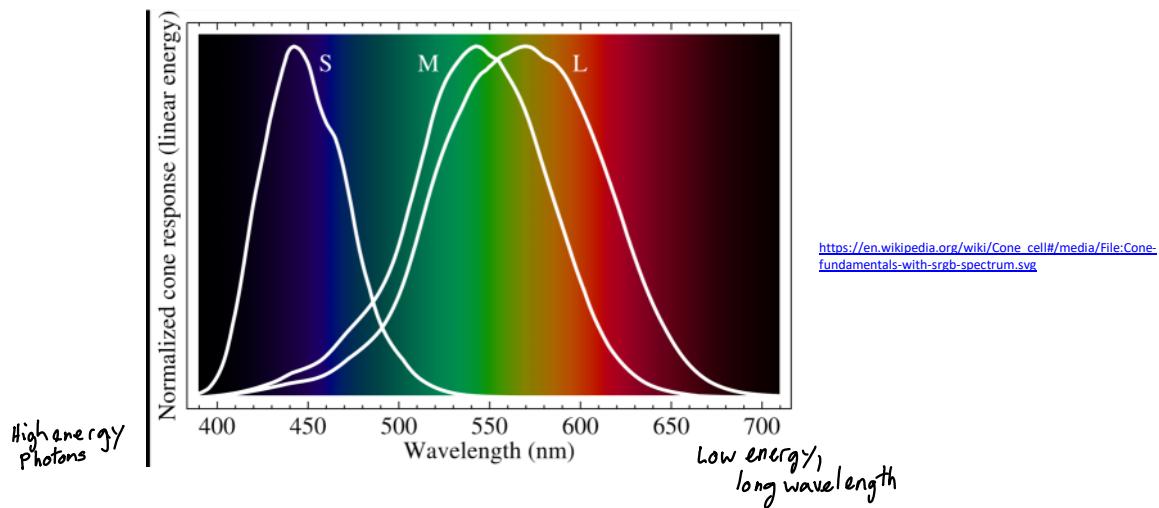Much has been learned about the physiology of vision; active area of research.

Recommended: **Livingstone, Margaret, and David Hubel. *Vision and Art: The Biology of Seeing*. Reprint edition. Abrams, 2008. $20 paperback.**

Topics:
- The eye and color vision
- Luminance and night vision
- Neural processing of color information
- Acuity and spatial resolution
- From 3-D to 2-D: Perspective, Shading and Chiaroscuro, Stereopsis
- Illusions of motion
- Color mixing and color resolution
- Digital color

In the sun's spectrum, each color comes from photons of particular energy and wavelength.

Humans only have sensors for a few colors; R,G,B, black and white. Yellow photons trigger our R and G receptors. Sensors are not narrow-band.
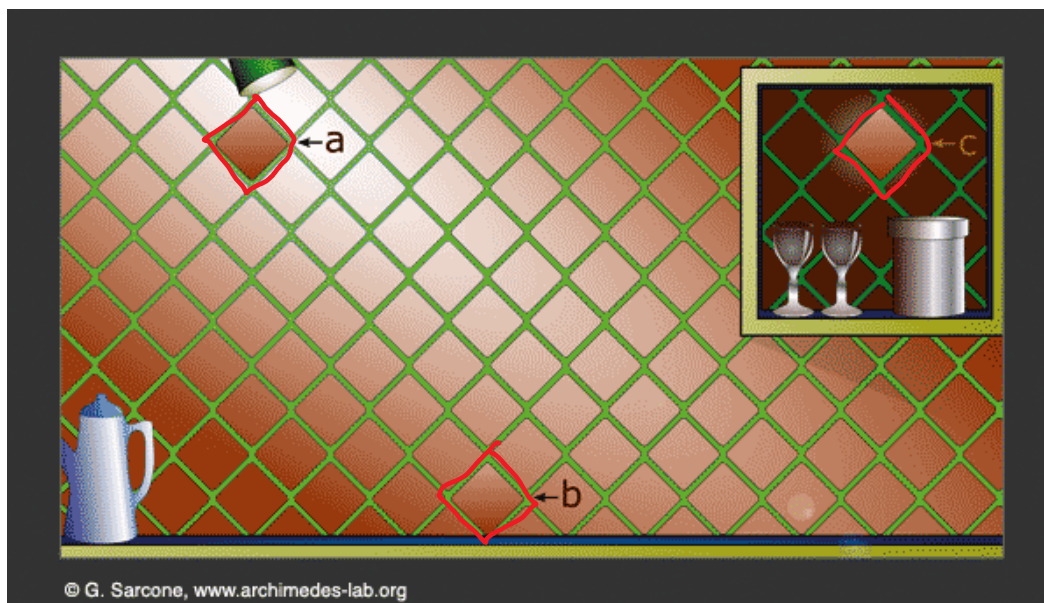
Normalized cone response (linear energy)

High energy Photons

Low energy, long wavelength

Color perception is HIGHLY VARIABLE among humans
  Remember the blue/gold dress?
  http://www.nytimes.com/interactive/2015/02/28/science/white-or-blue-dress.html?_r=0

Color illusions: http://www.archimedes-lab.org/color_optical_illusions.html

© G. Sarcone, www.archimedes-lab.org

Tiles a, b and c are identical

Are there universal color preferences/responses?

UPD says yes, Black, White and Red Effects. Some references are provided in text, but admittedly few.
More UPD color effects: yellow, green and blue:
https://visme.co/blog/color-meanings/

Other recent psychology studies say no:
Palmer, Stephen E, Karen B Schloss, and Jonathan Sammartino. "Visual Aesthetics and Human Preference." *Annual Review of Psychology* 64 (January 3, 2013): 77–107. doi:10.1146/annurev-psych-120710-100504.

Abstract

"Human aesthetic preference in the visual domain is reviewed from definitional, methodological, empirical, and theoretical perspectives.

Aesthetic science is distinguished from the perception of art and from philosophical treatments of aesthetics. The strengths and weaknesses of important behavioral techniques are presented and discussed, including two-alternative forced-choice, rank order, subjective rating, production/ adjustment, indirect, and other tasks. Major findings are reviewed about preferences for colors (single colors, color combinations, and color harmony), spatial structure (low-level spatial properties, shape properties, and spatial composition within a frame), and individual differences in both color and spatial structure. Major theoretical accounts of aesthetic response are outlined and evaluated, including explanations in terms of mere exposure effects, arousal dynamics, categorical prototypes, ecological factors, perceptual and conceptual fluency, and the interaction of multiple components. The results of the review support the conclusion that aesthetic response can be studied rigorously and meaningfully within the framework of scientific psychology."

Summary

Aesthetic response can be + or -
Art is more than just aesthetic response; cultural, social etc.
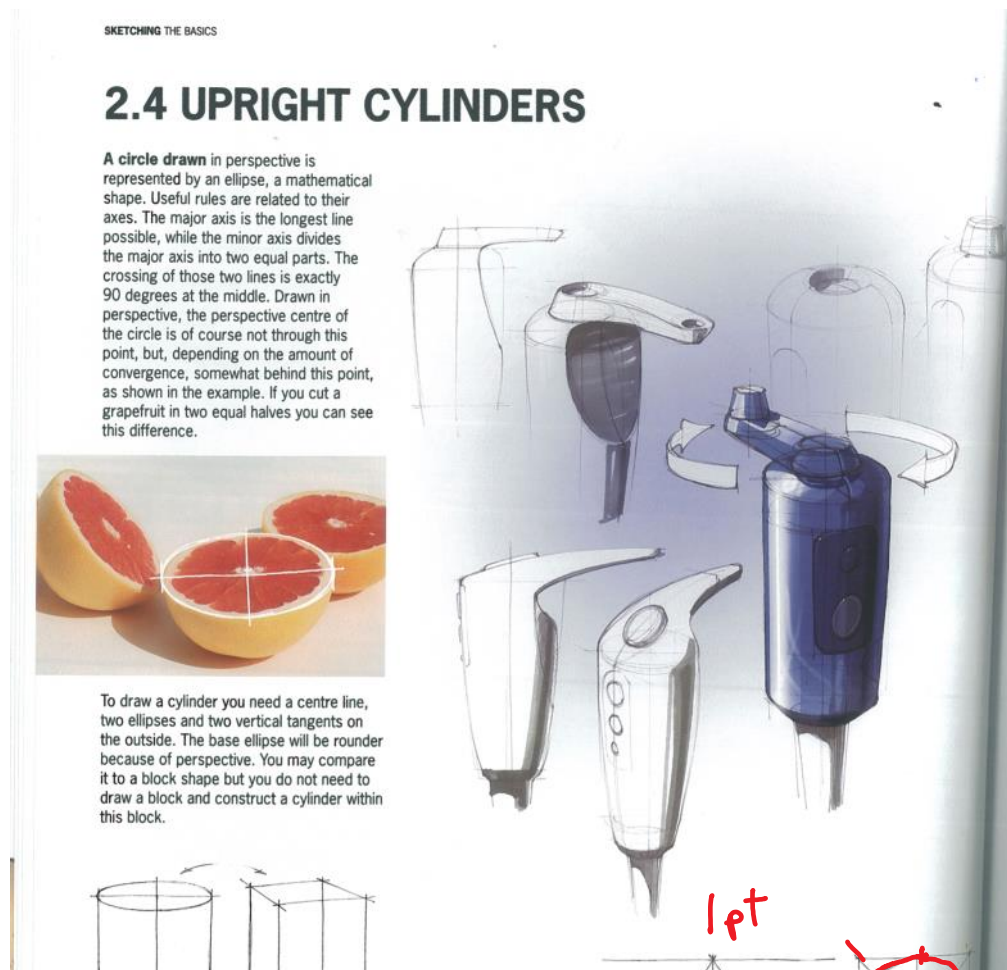Art vs aesthetics: "Perhaps the most straightforward difference is that significant aesthetic experiences can (and do) occur anywhere in response to seeing any sort of object, scene, or event, whereas art is limited to the subset of human artifacts intended to be viewed as art, whether in a museum, a gallery, or one's own living room"
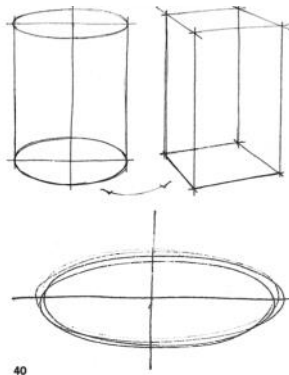No universal positive response to any specific thing.

BUT: there are plenty of culturally situated responses to color. Know your audience!

[handwritten, right margin: group Activity: Create a color pallette w/ color of the year]

SKETCHING THE BASICS

2.4 UPRIGHT CYLINDERS

A circle drawn in perspective is represented by an ellipse, a mathematical shape. Useful rules are related to their axes. The major axis is the longest line possible, while the minor axis divides the major axis into two equal parts. The crossing of those two lines is exactly 90 degrees at the middle. Drawn in perspective, the perspective centre of the circle is of course not through this point, but, depending on the amount of convergence, somewhat behind this point, as shown in the example. If you cut a grapefruit in two equal halves you can see this difference.

To draw a cylinder you need a centre line, two ellipses and two vertical tangents on the outside. The base ellipse will be rounder because of perspective. You may compare it to a block shape but you do not need to draw a block and construct a cylinder within this block.
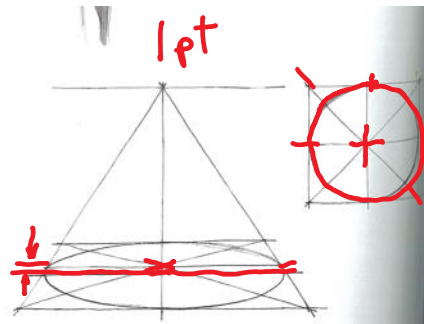
[handwritten: 1pt]

1pt

Ellipses are drawn by repeating the shape several times. This will not result in a perfect symmetrical shape, but it emphasises the other main character of ellipses: the fluency of the shape.
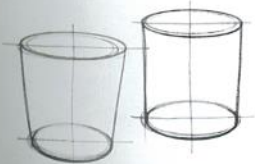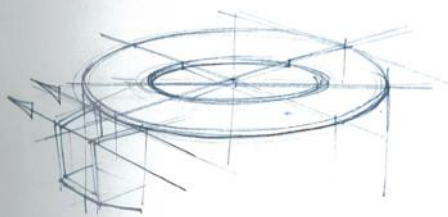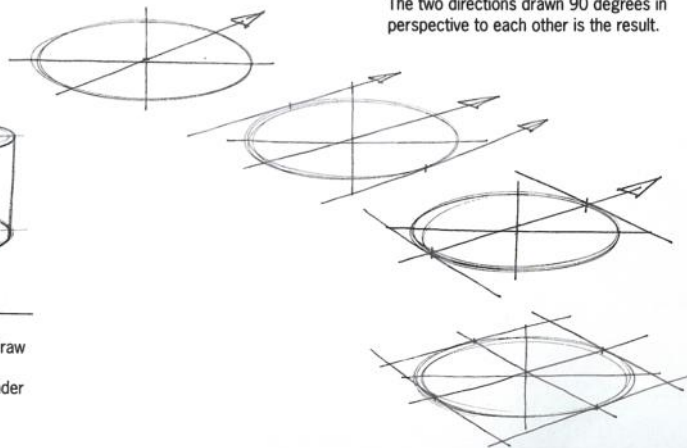
40

A tangent to the ellipse determines the perspective of other shapes combined with this cylinder.

If you want to attach something like a handle or grip to a cylindrical shape, you will want to know its position and perspective in relation to the cylinder. Therefore you can use tangents.

The first line is a centre line through the perspective centre (and not through the crossing of the major and minor axes). If you then draw two tangents, step by step, you will get a square around the ellipse. The two directions drawn 90 degrees in perspective to each other is the result.

Tip
We drew in 2-point perspective. If you draw in 3-point perspective, it may become unclear whether you are drawing a cylinder or a cone.

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2.5 HORIZONTAL CYLINDERS

[handwritten annotations: Ellipse minor axis = cylinder axis; Vanishing pt.]

Start with a cylinder, of which the centre axis is drawn first as a guideline. The major axes of the ellipses are drawn at exactly 90 degrees to this centre axis.

When ellipses are drawn, a vertical line through its perspective centre creates both the highest point and the connection to the floor or a different horizontal surface. Tangents then provide for one perspective direction needed for the handle. The other perspective direction is of course converging with the centre axes of the roller.

The handle now 'floats' as shown in the side view.

Vertical tangents to the ellipse 'touch' it at its widest points. Connecting these points again shows the perspective direction of the handle.

Arbitrarily tilted cylinders will also have major axes of the ellipses perpendicular to the centre axis of the cylinder. A tilted centre line will automatically be interpreted as a declined cylinder. If the cylinder is orientated otherwise, a cast shadow helps to clarify the cylinder's position and orientation.

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When creating a cast shadow of elevated block shapes (such as the grip), one can see that the cast shadow becomes simpler as the object gets thinner.

With relatively thin objects, a simple projection of the top surface or cross section is used as cast shadow. This is called a pseudo-cast shadow or a drop shadow. This is relatively close to reality, and a great simplification in drawing, offering speed and efficiency.

One still has to choose an efficient position for this cast shadow. In most cases the best solution is for the shadow to be bigger on one side of the object and not be symmetrical.

Pastel chalk is used on the (brightest) top surface. Scrape off some chalk; mixing might be necessary as it is important that the chalk has exactly the same colour as the marker. Use a relatively big piece of toilet paper or a tissue and apply with big 'brush-like' movements. It is applied in several layers. This ensures a smooth gradient without smudges. The chalk next to the drawing is easily erased.

Colour pencil is used here on the brown surface, adding a gradient to emphasise the curvature of the grip.

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