

# FOUNDATIONS of **DIGITAL ART**

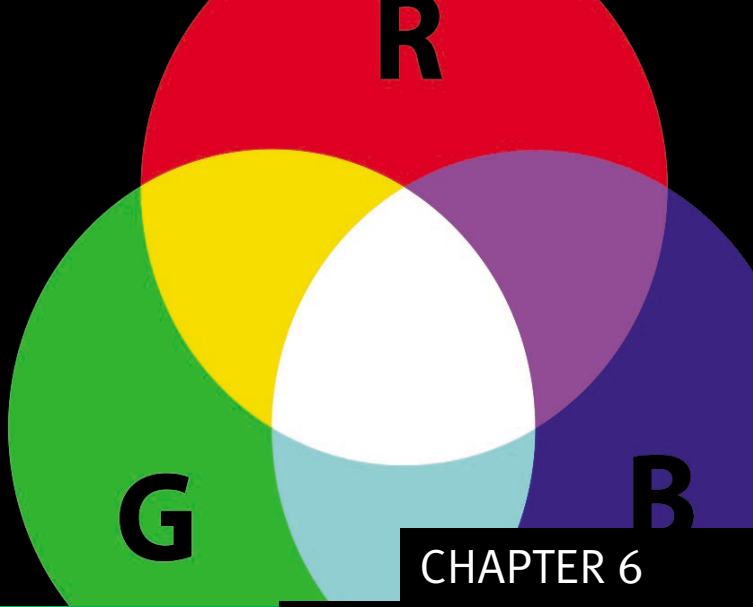
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## FOUNDATIONS of *with* DIGITAL ART and DESIGN

### CHAPTER 6

SECOND EDITION





CHAPTER 6

# COLOR MODELS



## CHAPTER 6 Notes:



## Subtractive and Additive Models:

- Accounts for how color is perceived by the viewer
- Depends on whether light is being reflected or projected to the eye

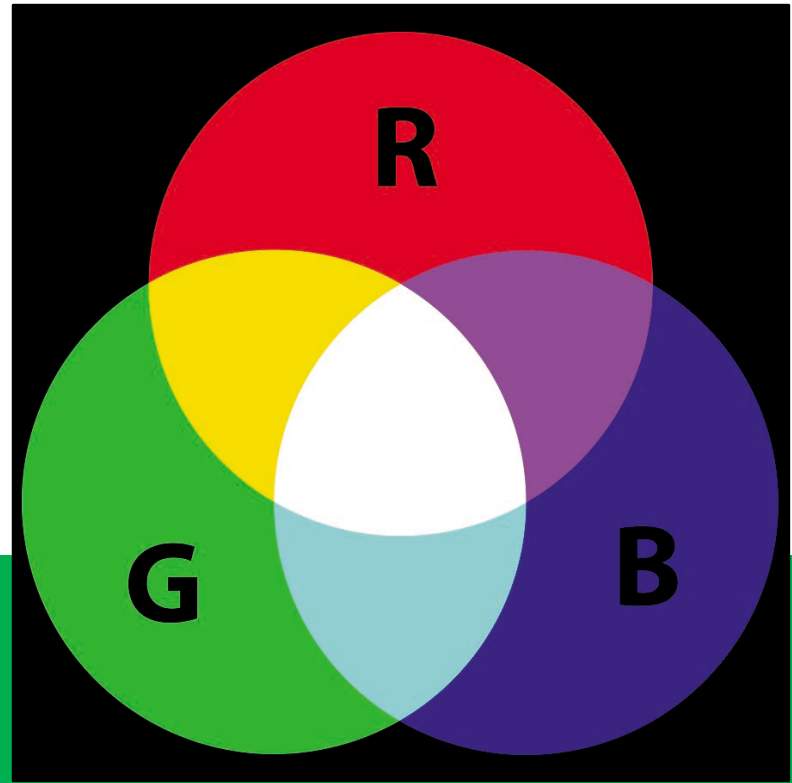
Different hues of light are absorbed (subtracted from the surface) to create the “color” perceived by the viewer. No hues present? White! Add all of the hues together to get murky brown (near black).



## Subtractive Model

- Light is reflected from a surface (paper, canvas, a wall, and so on) to the eye
- RYB (red, yellow, and blue) are the primary colors
- This model is used in analog processes such as painting, drawing, and sculpture

Different hues of light are added together to create the “color” perceived by the viewer. No light? Black! Add all of the hues together to get white (R=255, G=255, B=255).



## Additive Model

- Light is projected from a source (computer monitor, smart phone, film projector, and so on) to the eye
- RGB (red, green, and blue) are the primary colors
- This model is used in digital processes that result in viewing media on a screen



CHAPTER 6 Notes:



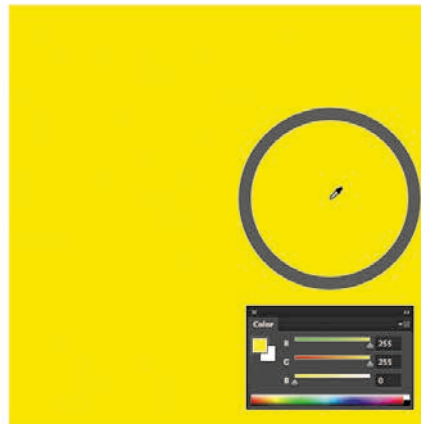
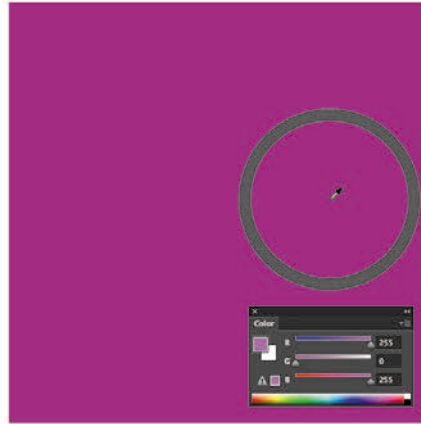
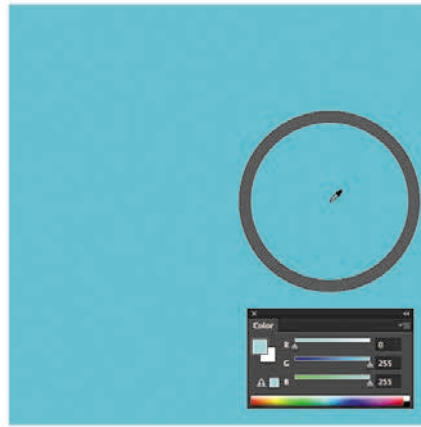
The perception of color is  
r e l a t i o n a l





Complementary hues are opposite the primaries on the color wheel. In the RYB model, orange is the complement for the primary color, blue. In this painting, the yellow background and orange vase and table demonstrate contrast via complementary hues with the blue irises.

Vincent van Gogh  
Irises, 1890



Complementary hues are seen here via the Color panel and RGB sliders in Adobe Illustrator. When two of the primary hues are present and one is absent, you will mix the complement to the absent color.

## Complementary RGB Hues



# CMYK

Digital color space for printing



- Commercial printers use the CMYK model
- Cyan, Magenta, and Yellow are the primary colors
- Black is an additional color plate that defines shadow areas in the image
- Hues in the image are separated into areas of value for each primary, then paper is passed through a four-plate process.

# CMYK

Digital color space for printing



Grand Tetons Barns: The  
John Moulton Barn on  
Mormon Row at the base  
of the Tetons

**Jon Sullivan**

From the CMYK page on Wikipedia



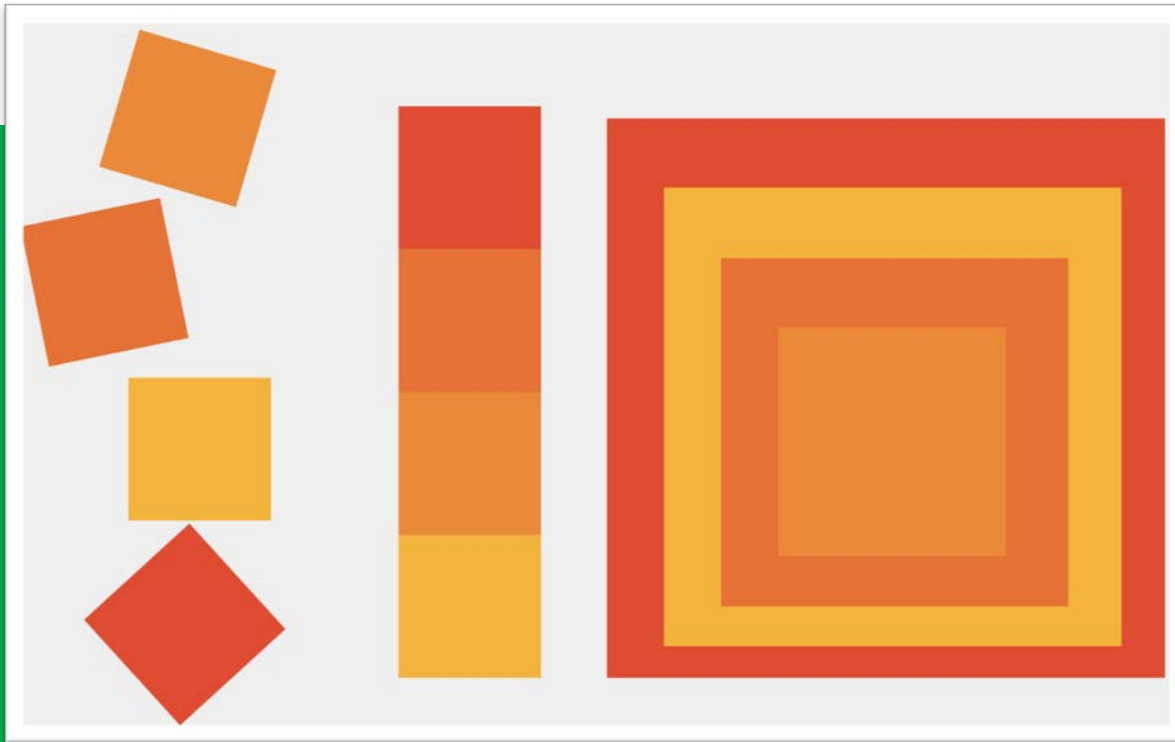
The painting depicts a bouquet of irises in a terracotta vase against a warm, yellow background. The irises are rendered in various shades of blue and green, with some flowers in full bloom and others as buds. The brushwork is visible and expressive, characteristic of Van Gogh's style. A black rectangular box is superimposed over the upper middle of the painting, containing the text 'Warm and Cool' in white.

## Warm and Cool

Cool colors recede into the background while warm colors seem to pull forward. In this composition, the tension between the flowers and vase exists because of the way the color temperatures push and pull in relation to one another.

Vincent Van Gogh

## Color Field Studies



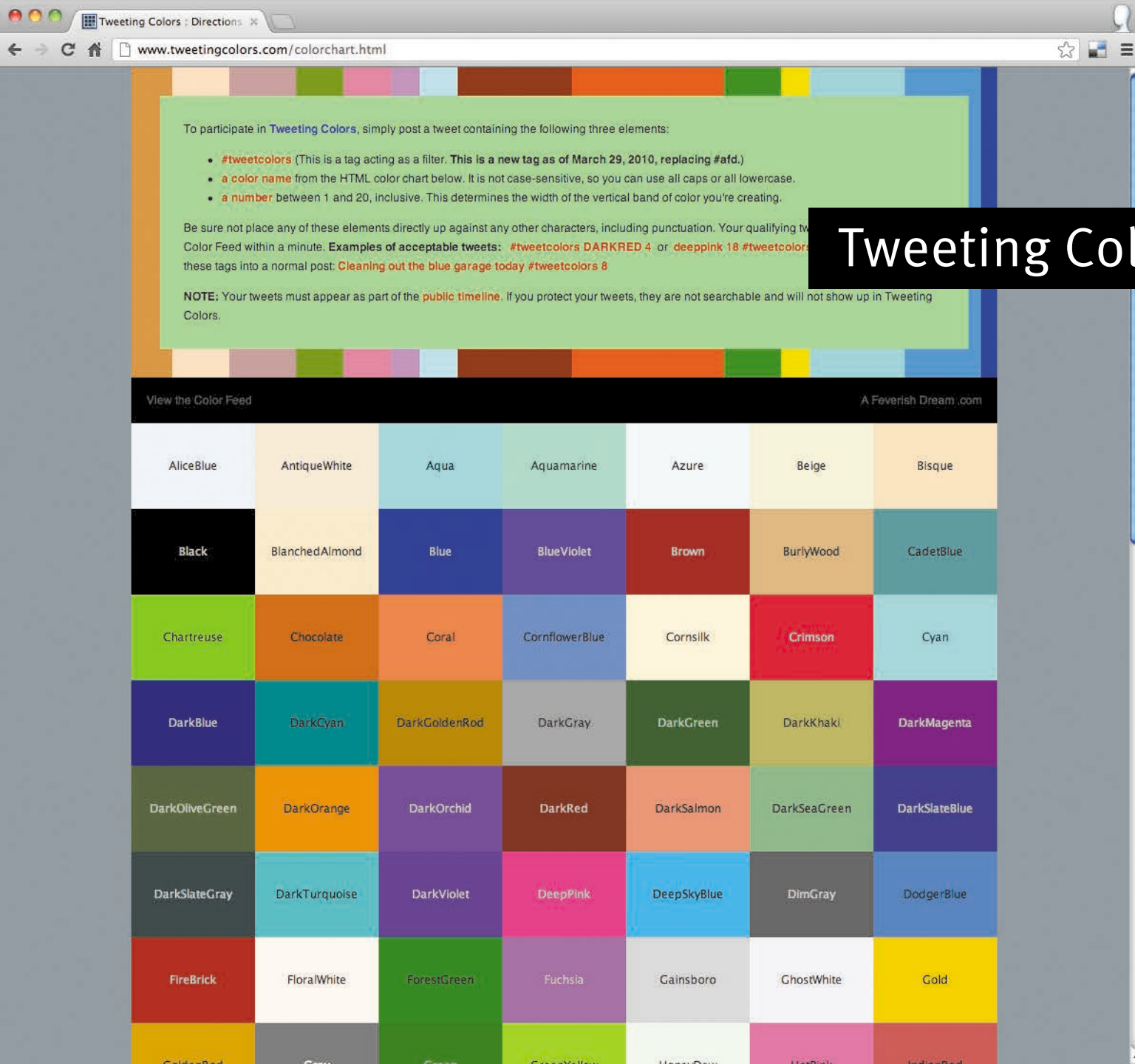
Josef Albers demonstrates how colors are relational in his many paintings of nested squares. See Richard Nelson's *Albers Homage to the Square: An Explanation* on Vimeo.





## Simultaneous Contrast

Josef Albers illustrated his idea of halation, or simultaneous contrast, when complementary colors are juxtaposed. Notice how the edges where the blue and orange hues meet seem to vibrate in this image.



To participate in **Tweeting Colors**, simply post a tweet containing the following three elements:

- **#tweetcolors** (This is a tag acting as a filter. **This is a new tag as of March 29, 2010, replacing #afd.**)
- **a color name** from the HTML color chart below. It is not case-sensitive, so you can use all caps or all lowercase.
- **a number** between 1 and 20, inclusive. This determines the width of the vertical band of color you're creating.

Be sure not place any of these elements directly up against any other characters, including punctuation. Your qualifying tweet will appear in the **Color Feed** within a minute. **Examples of acceptable tweets:** **#tweetcolors DARKRED 4** or **deeppink 18 #tweetcolors**. You can also place these tags into a normal post: **Cleaning out the blue garage today #tweetcolors 8**

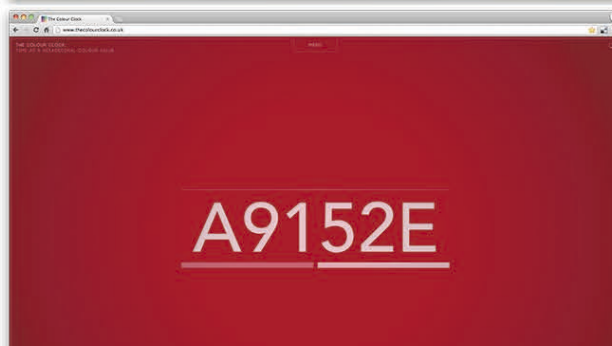
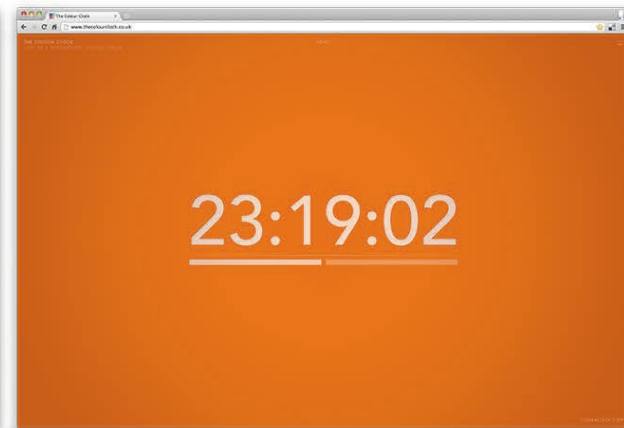
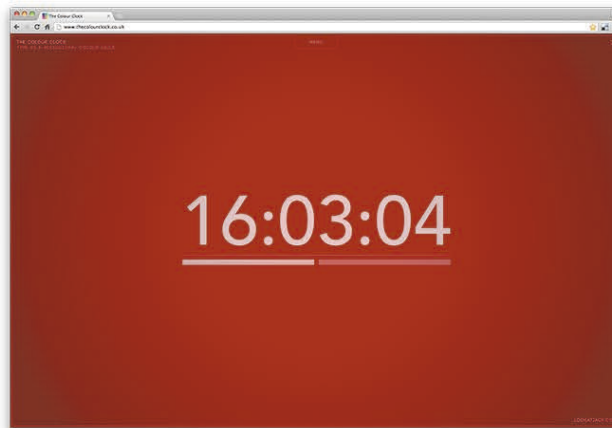
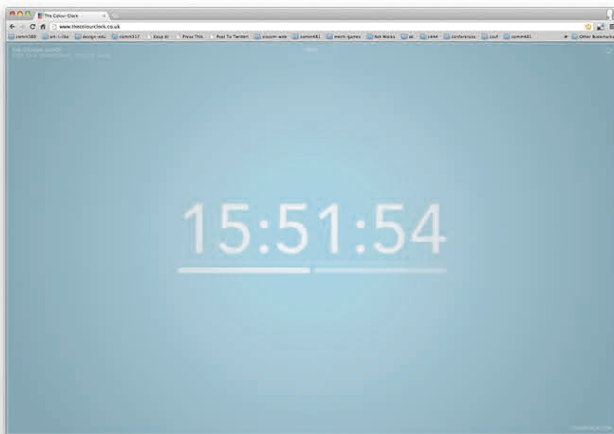
**NOTE:** Your tweets must appear as part of the **public timeline**. If you protect your tweets, they are not searchable and will not show up in Tweeting Colors.

# Tweeting Colors

Brian  
Piana

Twitter  
messages are  
transformed  
into a series of  
colors in this  
work of net art  
where color is  
the subject of  
the art work.





# Colour Clock

Jack Hughes

The time of day is translated into a series of colors in this web designer's color project.



You'll create harmony and simultaneous contrast using Hue adjustment layers. You'll also learn about correcting colors using Levels and Hue adjustments on a digital photograph. Finally, the screencast for this chapter demonstrates applying color to a black and white image.

## WHAT YOU'LL MAKE

### Chapter 6