October 2015

PRINtips

Speaking the... Language of Color

TechneGraphics INC
Professional Printing Providers

2002 Ford Circle Suite D
Milford, Ohio 45150

513.248.2121
Fax: 513.248.5141
info@techgra.com
www.tgiconnect.com

Interactive Print Experts

- Launch a Website
- Save Contact Info
- Make a Call
- Send an Email
- Display a Note
- Create a Mobile Site

SCANLIFE
tgiconnect.com

Color is an essential element of communication. It can be used to shape perceptions, affect reactions, influence choices, and provoke responses. In marketing materials, it adds a dynamic to the structure – the general form and direction – of the words and image by highlighting and marking important content. The more you understand the language of color, the more effective you will be in speaking to your customers and prospects via your printed materials and web site.

How We See Color

Science describes how humans perceive color. Specifically, color is light. In his 1704 book, Opticks, the English natural philosopher Sir Isaac Newton described the fundamental nature of light as color. The book was based on his observation that when pure white light passes through a prism, it separates into a spectrum of seven hues (red, orange, yellow, green, blue, indigo, and violet) known as the visual spectrum.

In Opticks, Newton clearly stated that color is not a property of objects observed nor of light. Rather, it is a product of the mind. His proof was that he could create a color that was not part of the light spectrum (magenta) by overlapping two hues that were a part of it (red and violet). And when he connected the red and violet ends of the spectrum, he created the first color wheel, thus showing the relationship between the colors in the visible spectrum.

Types of Color Wheels

A color wheel is arranged according to the chromatic relationship of the colors. The relationships are primary, secondary, tertiary, complementary, and analogous.

- **Primary:** three hues (i.e., colors) that form the basis of the color wheel. These colors cannot be created by mixing others.
- **Secondary:** three hues created by mixing two primary colors. Secondary hues appear between primary hues on the wheel.
- **Tertiary:** six hues created by mixing a primary and secondary hue that appear between them on the wheel.
- **Complementary:** hues located opposite each other on the wheel.

Speaking the... Language of Color (cont.)

- **Analogous:** hues located close together on the wheel.

"Televisions, computer monitors, and smart phone screens are examples of the RGB color wheel."

A color wheel based on the primary colors of red, green, and blue (RGB) and secondary colors of cyan (blue), magenta, and yellow describes an additive color system. Additive color is created with light. It begins with black (the absence of light) and creates color by mixing red, green, and blue light. When combined in equal amounts, red, green, and blue light appears white. Televisions, computer monitors, and smart phone screens are examples of the RGB color wheel.

A color wheel based on the primary colors of cyan, magenta, and yellow (CMY) and secondary colors of red, green, and blue describes a subtractive color system. Unlike the additive system that combines (adds) to produce white light, the subtractive system absorbs (subtracts) different hues of white light. An object (like paper) reflects unabsorbed light, creating color. When combined in equal amounts, all the colors of the subtractive color wheel produce black (though it looks more like muddy brown). Color printing and color photography are examples of the CMY color system. (The K in CMYK printing is an abbreviation for black ink used in place of the muddy brown resulting from equal parts of CMY.)

An artist's color wheel, based on the primary colors of red, blue, and yellow and secondary colors of green, orange, and violet, is also a subtractive color method.

Lack of Overlap Between Color Systems

The additive and subtractive color systems are not perfectly overlapping. You might be aware of this if you've ever noticed a difference between the color displayed on your computer monitor and the same color used on a printed piece.

The reason for the difference is based in science. The human eye can see billions of colors in the visible spectrum; RGB light can reproduce 16 million colors; and CMYK printing can reproduce five to six thousand colors. When a color is in both the RGB and CMYK color gamuts, it may look identical. But if an RGB color is outside the CMYK gamut, it may be quite different. Please keep this in mind if you are creating the artwork for the printed piece yourself. (When we are designing, we automatically work in the CMYK color space.)

How Color Affects Purchasing Decisions

"During the decision-making process of a purchase, color is a very influential factor on the subconscious mind."

During the decision-making process of a purchase, color is a very influential factor on the subconscious mind. In 2010, Kissmetrics, a customer analytics platform for small and mid-sized companies, published a series of infographics on how colors affect purchases. Among the findings:

- 93% of customers place visual appearance and color among all other factors when shopping.
- 85% cite color as a primary reason for buying a particular product.
- Color increases brand recognition by 80%.
- Some colors are associated with types of customers. Yellow is used to attract window shoppers; red is often seen in clearance sales; blue is used by banks and businesses to create a sense of trust and security; green is used in stores for relaxation. Red, orange, black, and royal blue attract impulse shoppers and are used for fast food and outlet malls. Navy blue and teal appeal to shoppers on a budget and are used by banks and large department stores. Pink, sky blue, and rose attract traditional buyers and are used by clothing stores.

"Some colors are associated with types of customers."

The Logo Company, a graphic design firm in New York, published a color emotion guide with examples of corporate logos for each color.

- Yellow: optimism, clarity warmth. A rich color that invokes gold and treasure. Used by McDonald's, Hertz, Best Buy, Shell Oil, Sun Chips, Sprint, and Subway.
- Orange: friendly, cheerful, confident, creative, youthful, enthusiastic. Used by Nickelodeon, Fanta, Crush, Hooters, Gulf Oil, Firefox, Home

Speaking the... Language of Color (cont.)

Depot, and Harley-Davidson.

- Red: excitement, youthful, bold, warm, exciting, sexy, urgent. Used by Nintendo, K Mart, Coca Cola, Target, Lego, Kellogg's, and Netflix.
- Purple: creative, imaginative, wise. Suggests images of grandeur, opulence, mysticism. Used by Syfy Channel, Hallmark, Yahoo!, Taco Bell, and Cadbury.
- Blue: trust, dependability, strength. Suggests calm and tranquility. Used by Dell, IBM, Intel, AT&T, Pfizer, WalMart, Volkswagen, Oreo, HP, Twitter, IBM, and JP Morgan.
- Green: peaceful, serene, growth, health. Whole Foods, John Deere, Girl Scouts, Animal Planet, H&R Block, and Starbucks.
- Gray/silver: Balance, neutral, calm. Mercedes Benz, Honda, and Apple.

Blue and red are the most popular logo colors for the world's top brands – a fact that has remained true over the years. In 2003, Wired magazine reported that two-thirds of corporate American logos were either blue or red (with blue logos slightly ahead of red). Seven years later (2010) this was still true and again in 2013.

Understand the Language of Color

Color is a language that appeals to emotion. Learning to use it can enhance the effectiveness of your efforts to persuade customers and prospects to buy from you. To learn more about how to put color to work in your marketing materials, contact us for an appointment. We will be happy to assist.

"Color is a language that appeals to emotion."

Color Vocabulary

Additive primary colors: the primary colors of light – red, green, and blue – from which all other colors can be made.

Black: the absence of light; the color that is produced when an object absorbs all light.

Brightness: the degree to which a color sample appears to reflect light.

Chroma: the intensity, purity, clarity, or saturation of a color. Measured by how far it departs from grayness.

Color space: a three-dimensional representation of the colors that can be produced by a color model such as RGB or CMYK.

Color wheel: representation of the relationship of the seven hues in the visible light spectrum.

Complementary color: colors that are opposite each other on the color wheel. When placed side-by-side, complementary colors make the other color appear brighter.

Hue: the pure spectrum colors of the rainbow – red, orange, yellow, blue, green, and violet. All hues can be mixed from primary colors.

Monochromatic color: all the tints, tones, and shades of a single hue.

Shade: a darker version of a color, made by adding black.

Subtractive primary colors: the primary colors of pigments – cyan, magenta, and yellow – from which all other subtractive colors can be made.

Tint: a lighter version of a color, made by adding white.

Tone: The lightness/darkness value of an image. The tonal range of an image is the transition from the light areas to the dark areas.

"Tone: The lightness/darkness value of an image. The tonal range of an image is the transition from the light areas to the dark areas."

TechneGraphics INC
Professional Printing Providers

Speaking the...
Language of Color

TechneGraphics INC
Professional Printing Providers
2002 Ford Circle, Suite D
Milford, Ohio 45150
Address Service Requested

513.248.2121
Fax: 513.248.5141
info@techgra.com
tgiconnect.com

Stock Photography

"Stock photo images are readily available for immediate download from the web."

When you need a full color photograph to illustrate a brochure or other printed piece, consider using a stock photograph – a photograph taken by a professional photographer and licensed for use for a fee. Once the fee is paid, you can use the photograph repeatedly, usually without paying royalties.

Stock photo images are readily available for immediate download from the web. Most are organized into collections on a specific topic like holidays or nature or landscapes.

Collections are also available for textures, finishes, and special effects. Often there is a choice of high resolution (for use in printed materials) or lower resolution (for use on a web site).

Here are a few popular stock photo publishers: **CorbisImages** (www.corbisimages.com), **Photo Disc** (www.gettyimages.com/collections/photodisc, **istockphoto** (www.istockphoto.com), **Shutterstock** (www.shutterstock.com), **Adobe Stock** (https://stock.adobe.com) , **123RF** (www.123rf.com), and **Bigstock** (www.bigstockphoto.com).