

## Module 3: "Color has Three Properties"

### Lecture 7: "Color Hue"

The Lecture Contains:

- ☰ Color Hue
- ☰ Subtractive and Additive Colors
- ☰ Achromatic Color
- ☰ Relative Color

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Color is light reflected off objects. Color has three main characteristics: hue or its name (red, green, blue, etc.), value (how light or dark it is), and intensity (how bright or dull it is).



Plate. 8 Color Hues, Values & Intensity

There will be detail study on the above (hue, value & intensity) at later stage.



Fig.9. Space illusion created by color combination

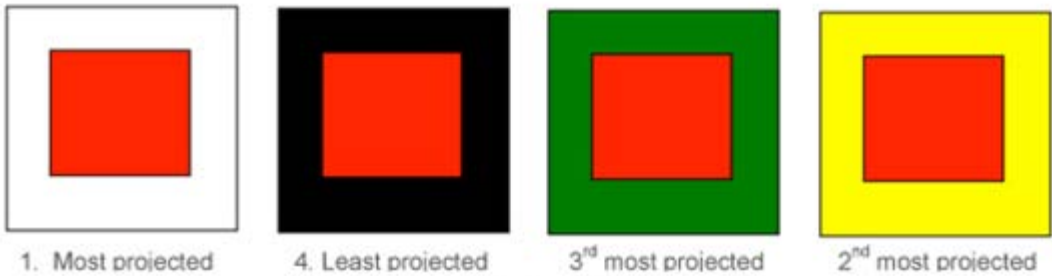


Plate.10. Color Contrast and Projection Color

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## Hue

Hue also has value. "When contrasting hues are made similar in value, the spatial effects are flattened out. The pair of images above demonstrates this. In the color image of the fashion model the coat draws our attention through contrast of hue although the skin tones blend with the background (remember the object of the image is to sell the coat, not the model)."

Ref. <http://char.txa.cornell.edu/language/element/color/color.htm>

The soft blending with the background has flattened the dimension between the background and object. The projection of the figure along with the coat required greater contrasting color value. In the examples of the color strips (Fig. 9) the hues of brown and green are so close because of the value/intensity that they completely get flattened.

Therefore, if values are too close, shapes will lose the dimension and would get flattened. In result objects would lose their depth of field. If values contrast, shapes will appear to separate in space and some will stand out from the others.

## Subtractive and Additive Colors

Commonly spectrums of colors are known as 'hues' such as- red, orange, yellow, blue, green violet. Mixing primary colors create various hues. When pigment primaries are all mixed together, the theoretical result is black; therefore, pigment mixture is referred to as Subtractive Color. When we mix colors using pigments, or through the printing process, we are using the subtractive color method. Subtractive color mixing means that one begins with white and ends with black; by adding color, the result gets darker and tends to black.

On the otherhand if we work with light-colors on computer is known as Additive Color. The application of Additive Color mixing is commonly on computer. Additive color mixing begins with black and ends with white; as more color is added, the result is lighter and tends to white.

(Read more: [http://www.worqx.com/color/color\\_systems.htm](http://www.worqx.com/color/color_systems.htm) ; May 29, 2012)

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Plate11. A &amp; B Rembrandt's Landscape

(Source: [http://www.google.co.in/search?hl=en&pq=rembrandt+landscape&cp=20&gs\\_id=h62&xhr=t&q=rembrandt+landscape+paintings&bav=on.2.or.r\\_gc.r\\_pw.r\\_qf..cf.osb&biw=1350&bih=585&um=1&ie=UTF8&tbn=isch&source=og&sa=N&tab=wi&ei=CrrET\\_TDI8LPQeJ1a3MCQ](http://www.google.co.in/search?hl=en&pq=rembrandt+landscape&cp=20&gs_id=h62&xhr=t&q=rembrandt+landscape+paintings&bav=on.2.or.r_gc.r_pw.r_qf..cf.osb&biw=1350&bih=585&um=1&ie=UTF8&tbn=isch&source=og&sa=N&tab=wi&ei=CrrET_TDI8LPQeJ1a3MCQ) ; May 29, 2012)

The above Rembrandt's Landscape (plate11 A&B) has shown the sense of color value that created the strong depth of field. Rembrandt's use of color hues has made some areas separated or merging one to another.



Plate12. A &amp; B Van Gogh's Paintings

(Source: [http://www.google.co.in/search?hl=en&q=van+gogh+paintings&bav=on.2.or.r\\_gc.r\\_pw.r\\_qf..cf.osb&biw=1350&bih=585&um=1&ie=UTF-8&tbn=isch&source=og&sa=N&tab=wi&ei=j7rET66dNlAsrAepkr3LCQ](http://www.google.co.in/search?hl=en&q=van+gogh+paintings&bav=on.2.or.r_gc.r_pw.r_qf..cf.osb&biw=1350&bih=585&um=1&ie=UTF-8&tbn=isch&source=og&sa=N&tab=wi&ei=j7rET66dNlAsrAepkr3LCQ) ; May 29, 2012)

The above paintings (plate12 A&B) by Vincent Van Gogh creates wonderful depth field due to the contrast and application of color value. Due to appropriate color value/ contrast it not only separated object but also created rich depth of field.

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#### ACHROMATIC

Another type of color scheme is an "achromatic" scheme, which includes only, black, white, or grays. In Greek, means "none" and chromo means "color," so achromatic means, "no-color." A lead pencil drawing is achromatic, as are charcoal drawings and black and white photographs. Minimalism style has predominantly 'achromatic color scheme (Plate13 A, B & C).

(Read more: [http://en.wikipedia.org/wiki/Color\\_theory#Achromatic\\_colors](http://en.wikipedia.org/wiki/Color_theory#Achromatic_colors) ; May 31, 2012)



Plate13 A Furniture



Plate13. Interior Design



Plate13. M.C. Escher's Composition

(Source Plate10.A&B: [http://www.google.co.in/search?hl=en&pg=achromatic+colors&cp=20&gs\\_id=gr&xhr=t&q=Minimalist+furniture+colors&bav=on.2.or.r\\_gc.r\\_pw.r\\_qf..cf.osb&biw=1350&bih=555&um=1&ie=UTF8&tbn=isch&source=og&sa=N&tab=wi&ei=5\\_vGT6bnEcOciQft\\_uWpDg](http://www.google.co.in/search?hl=en&pg=achromatic+colors&cp=20&gs_id=gr&xhr=t&q=Minimalist+furniture+colors&bav=on.2.or.r_gc.r_pw.r_qf..cf.osb&biw=1350&bih=555&um=1&ie=UTF8&tbn=isch&source=og&sa=N&tab=wi&ei=5_vGT6bnEcOciQft_uWpDg) ; May 31, 2012)

(Source Plate10.C: <http://colorbay.com/achromatic.htm> ; May 31, 2012)

Warm [■] and cool [■] colors application by analogy to feelings

No color physically cool or warm. It is psychological feeling that makes us feel cool or warm. In a room for meditation or study the environment has to be cooler (feeling). On the other hand a place for discotheque environment has to generate warmer feeling. Warmer environment creates excitement.

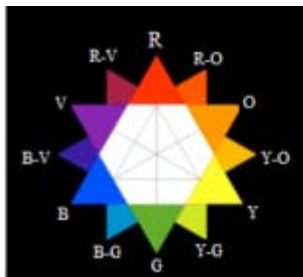


Plate14. A Color Wheel



Plate 14. B Composition of warm colors

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## Warm Color

The range of colors from Red to Yellow- Orange gives feeling warmth. The above photograph (plate 14B) has the range of hues from orange to yellow creating warmer feeling.



Plate15. A Color Wheel



Plate16.B Cool Color Composition

## Cool Color

The range of colors from Green to Violet gives us cool feeling. The photograph (plate 16B) has the range of green hues giving the feeling of coolness. The associations of colors in respect to other colors create the feeling of cooler or warmer color.



Plate17 Hottest to Cooler region material.

"The hottest radiating bodies (e.g. stars) have a "cool" color while the less hot bodies radiate with a "warm" color." (Ref. [http://en.wikipedia.org/wiki/Color\\_theory#Achromatic\\_colors](http://en.wikipedia.org/wiki/Color_theory#Achromatic_colors) ; May 31, 2012)

Interestingly on the otherhand scientifically and physically it is being proved that hottest zone radiates Bluish color and the relatively cooler zone radiates Reddish color (plate17).



Plate18. A&amp; B Relative Color

(Ref. plate13: <http://www.about.thomaskenneth.com/theory-tech/relativity.php> ; May 31, 2012)

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#### Relative Colors

Human beings experience about color in relation to other colors (Plate19). Color cannot be judged in isolation. Colors are "relative" because they seem to change depending on other colors that they are near. For instance, if we put an orange square on a blue background, the orange seems brilliant, almost shimmering. If we put the same orange square on a yellow-orange background, it doesn't stand out. The intensity of orange and yellow clash with each other resulting minimizing their contrast. The background of yellow is minimizing the brilliance of orange. Orange and yellow-orange are analogous colors on the color wheel, and have less contrast, as do other analogous colors. The highest contrasting colors are yellow and black. Because they are so visible, yellow and black are used for danger signs on highways. Yellow and black is commonly used in airport signs because of clarity and visibility. The warmth and coolness of a color is relative also. Next to green, red-violet seems very warm. However, placing red-violet next to red makes the red-violet seem cooler. The highest contrast of warmth and coolness between complements is red-orange and blue-green. Color relates to a country's culture. Different colors can have the same emotional meaning in separate cultures. A bride in the United States traditionally wears white, but a bride in Japan wears red. Whereas white is associated with prayer or mourning in India in some parts. Holidays are often associated with certain colors.

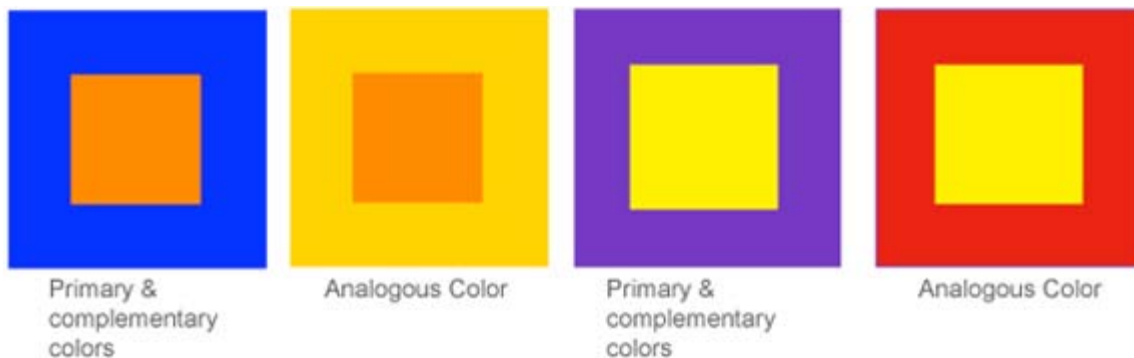


Plate19. Relative Colors

(Read more: <http://www.smashingmagazine.com/2010/01/28/color-theory-for-designers-part-1-the-meaning-of-color/> ; May 31, 2012)

#### Conclusion

The property of color is an essential subject for the artist and the designers to understand its scientific and qualitative aspects for fruitful applications.