

LIGHTING FOR INTERIORS

- **COLORS**- Lecture 4
- **LIGHTING**

Interior Design Department
Third grade/ Fall semester

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COLORS

1. COLOR CONTRAST

2. FORM AND COLOR

COLORS

1. COLOR CONTRAST

- **Color Interaction**
- Color never appears visually as it physically is supposed to, because color is perceived in relation to the total environment, rather than by itself.
- These visual illusions are very important to interior designers, as their desired color effect can change as a result of the interaction of hues with one another.

CONTRAST

- There are six kinds of color contrast:

- 1. Contrast of hue**
- 2. Light-dark contrast**
- 3. Complementary contrast**
- 4. Simultaneous contrast**
- 5. Contrast of Saturation**
- 6. Contrast of extension**

CONTRAST

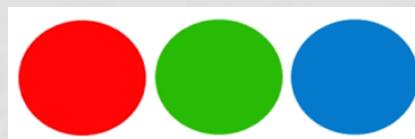
- **Contrast of Hue**

- Contrast of hue is the simplest of the six. It makes no great demands upon color vision

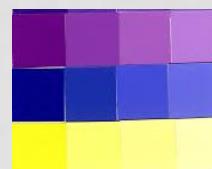
Some obvious combinations are
yellow/red/blue



Red/blue/green



Blue/yellow/violet



Yellow/green/red



The effect is always tonic, strong and decided.

CONTRAST

• Contrast of Hue

- The intensity of contrast of hue reduces as the hues employed are removed from the three primaries
- Thus **orange**, **green**, and **violet** are **weaker** in character than yellow, red and blue and the effect of tertiary colors is still less distinct.
- Contrast of hue is found in the **folk art** of people everywhere, **costume**, **pottery**, and **stained glass** often not from motives of aesthetic necessity but out of sheer pleasure in decorative invention.



CONTRAST

Contrast of Hue

For the interior of the SRK Legal Assistance, the Dutch firm eijkingdelou were use contrast of hue to great effect.

Colors playfully interact through the space; lime yellows, blues, and reds lift the environment from a serious office to a lively series of colored spaces.



CONTRAST

Light-Dark Contrast

- Light-dark contrast exists in the relationship between black and white-as well as in the range of grays that exist between them.
- **Black velvet** is perhaps the blackest black, and **baryta** is the purest white.



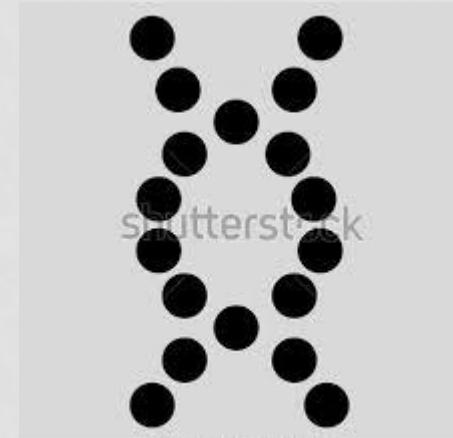
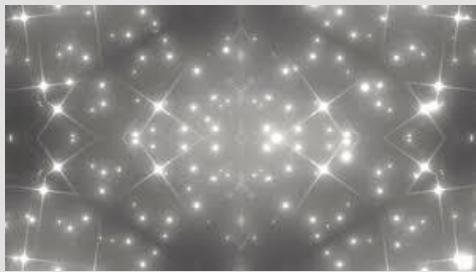
Baryta Photographique 310

- there is only one maximal black and one maximal white, but an indefinitely large number of light and dark grays, forming a continuous scale between white and black.

CONTRAST

Light-Dark Contrast

- Designers should be aware that large color masses influence smaller if the contrast is strong between them and the backgrounds.



CONTRAST

Light-Dark Contrast

- For example, if two areas of a neutral gray are surrounded by a larger area of white and black, respectively, the gray surrounded by the black will appear to be brighter and lighter in value than the gray surrounded by the white.
- This happens because the adaptation of the eye is less sensitive to low brightness and will evaluate the gray area as being very bright

The gray spot surrounded by white appears to be of a lower (darker) value because of the bright surroundings.

When the background is black, the eye is less sensitive to the lower value of black and perceives the gray spot to be lighter or of a higher value.



CONTRAST

Light-Dark Contrast

- The visual illusion of this contrast can be effectively applied to interior design:
- A colorful accent can be made to appear stronger by placing a contrasting color or object next to or around it.



CONTRAST

Complementary Contrast

- Complements occur when two hues are mixed and the result is a neutral gray-black
- If the mixtures of two colors in all proportions fail to include a neutral gray, it follows that the two colors are not complementary
- Every color within a color system has its complement; finding a complementary color is a simple matter of selecting opposite colors on Itten's wheel.
- In complementary contrasts, colors balance each other.

CONTRAST

Complementary Contrast

SUCCESSIVE CONTRAST OR AFTERIMAGE

- When complementary hues are placed next to each other, they produce a strong contrast and vibrancy.
- For any given color, the eye requires balance from the complementary color and will generate the complement spontaneously if it is not present.

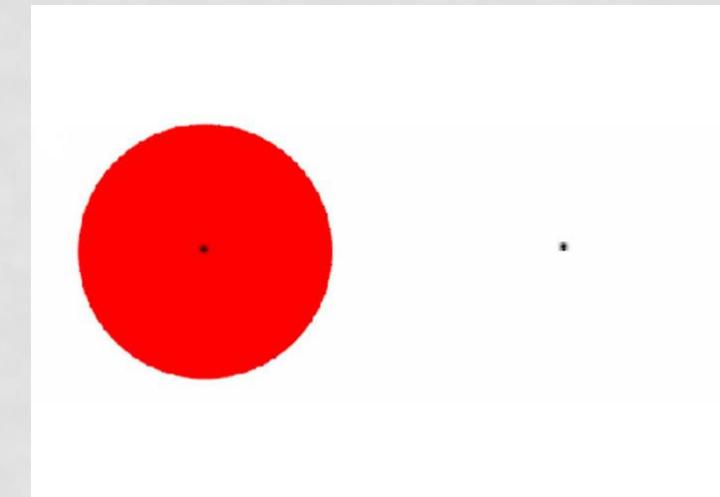
CONTRAST

Complementary Contrast

SUCCESSIVE CONTRAST OR AFTERIMAGE

- If a person looks at a particular hue, such as a red surface, for a period of time and then suddenly shifts to a white or gray surface, his or her eyes usually will visualize the color green (or cyan) instead of white or gray.
- The phenomenon of “seeing” the complementary color is called afterimage

Successive contrast/afterimage can be experienced by staring at the red surface for a short period of time, and then suddenly shifting to the black “.” on the white surface.



CONTRAST

Complementary Contrast

- **SUCCESSIVE CONTRAST OR AFTERIMAGE**
- A practical example of the importance of understanding the afterimage is the hospital operating room, where walls, cover sheets, and surgical gowns used to be white.
- When surgeons and nurses looked up from their work, after concentrating on red blood and tissue, they would see green spots before their eyes.



CONTRAST

- **Complementary Contrast**
- **SUCCESSIVE CONTRAST OR AFTERIMAGE**
- Today, most surgical gowns, walls, and cover sheets are light green or blue-green to act as a background to neutralize these afterimages and eye fatigue.
- By understanding the concept of afterimage, designers can prevent such undesirable color relationships and visual perceptions.



CONTRAST

- **Complementary Contrast**

For a lounge in the Hotel, Lindy Roy uses a Complementary Contrast to distinguish the different zones of the space.

The bar is surfaced in a cool blue that acts as a functional highlight against the, intimate spaces that surround it.



CONTRAST

- **Simultaneous Contrast**

- Simultaneous contrast requires:
 - An adjacent neutral color
 - Any other color that is not complementary.
- The longer a background is viewed, especially with more luminous colors, the greater the intensity of the simultaneous effects.

CONTRAST

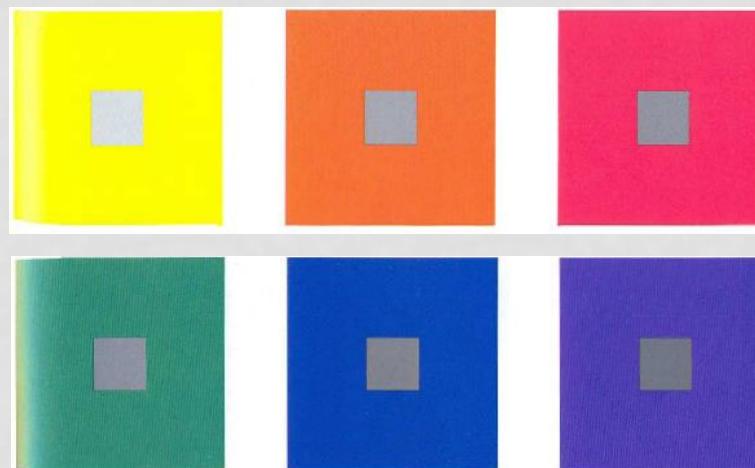
- **Simultaneous Contrast**

- Each of six color squares contains a small neutral gray square.

- Matching the background color in brilliance.

Each gray square seems to be dyed with the complementary of the background.

The simultaneous effect because more intense



CONTRAST

Simultaneous Contrast

- Simultaneous contrast could be an illusion of color, since one color can be made to appear as two different colors when it is placed against two different backgrounds



Simultaneous contrast is a perceived change of color when one color appears as two different colors when placed on different colored backgrounds.

CONTRAST

Simultaneous Contrast

Simultaneous contrasts are difficult to capture photographically.

In the Montreal Convention Centre, Saia Barbarese Topouzanov playfully uses light against painted color to suggest additional colors.

As the sun changes position and color over the course of a day, new combinations appear.



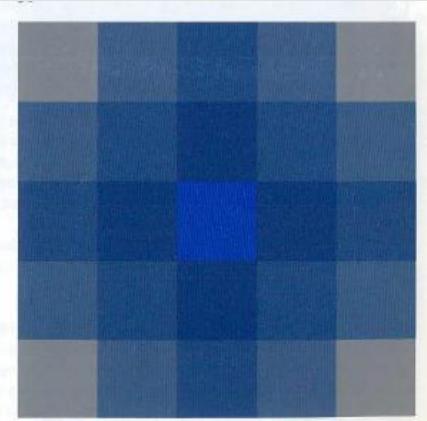
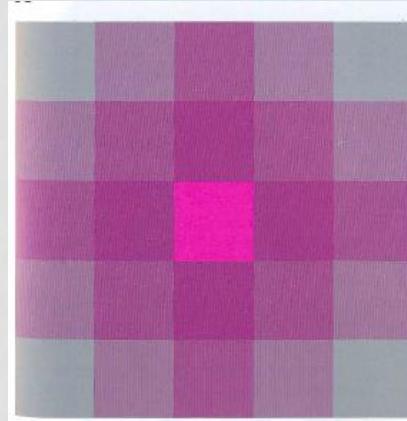
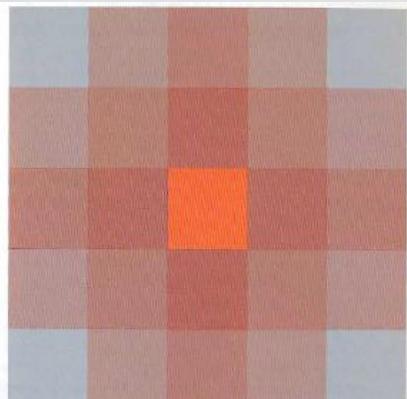
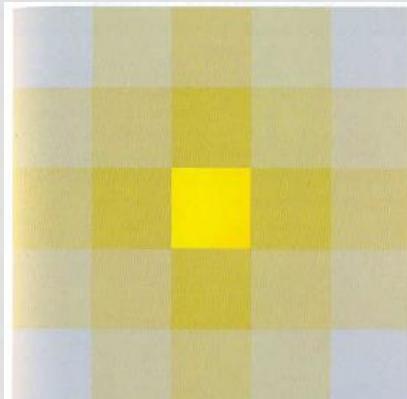
CONTRAST

- **Contrast of Saturation**
- Color can be diluted via four methods to obtain different results:
 - Adding white makes a color cooler;
 - adding black reduces the overall vitality of a color and renders it more subdued(soft),
 - adding gray reduces the intensity of a color and tends to neutralize it;
 - adding the complementary color produces various effects, depending on the intensity of the colors being mixed, their relative temperature, and their hue.

CONTRAST

- **Contrast of Saturation**

- On the checkered pattern of 25 squares, luminous yellow, orange, red or blue is placed in the center.
- The four corners are neutral gray in the same brilliance
- as the pure color Graded admixture of gray with pure color produces intermediate shades of low saturation.

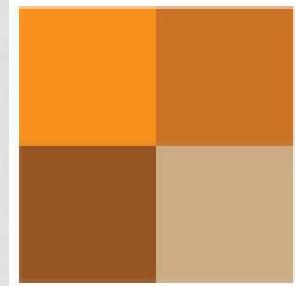


CONTRAST

• Contrast of Saturation

A library at the Rhode Island School of Design by Office dA uses a natural palette that lends itself to a contrast of saturation.

- Various shades of browns and yellows allow this intervention to fit nicely within the classical architecture it occupies.
- Accents of cooler colors in the existing architecture also contribute to the scheme's success.



CONTRAST

- **Contrast of Extension**

- Contrast of extension refers to the relative force that a color exerts(does) in relation to the other colors in a system.
- Depending on the hue and value of a color, careful consideration must be taken to balance the addition of another color.
- The result is a ratio that harmonizes the colors in play. Of all the contrast rules, this is perhaps the most subjective.
- It is the contrast between much and little, or great and small.

CONTRAST

- **Contrast of Extension**

- Harmonies proportions of area for complementary colors:

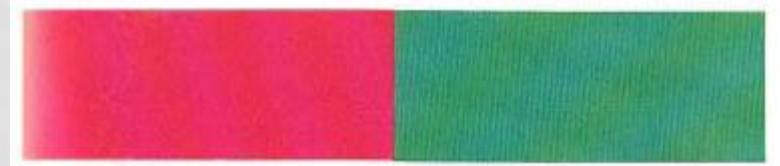
Yellow : Violet = 1/4 : 3/4



Orange : Blue = 1/3 : 2/3



Red : Green = 1/2 : 1/2



CONTRAST



• Contrast of Extension

- The harmonies areas for the primary and secondary colors are therefore as follows:

Yellow : Orange : Red : Violet : Blue : Green

3 4 6 9 8 6

Or:

Yellow : Orange = 3 : 4

Yellow : Red = 3 : 6

Yellow : Violet = 3 : 9

Yellow : Blue = 3 : 8

Yellow : Red : Blue = 3 : 6 : 8

Orange : Violet : Green = 4 : 9 : 6

- All the other colors are to be related to each other similarly .

CONTRAST

• Contrast of Extension

Yellow : Orange : Red : Violet : Blue : Green

3 4 6 9 8 6

Or We can see the primary and secondary color circle of harmonious extension. This is constructed as follows:

First, a whole circle is divided into three equal parts and each third is in turn divided in the proportions for two complementary colors

One third of the circle is divided for

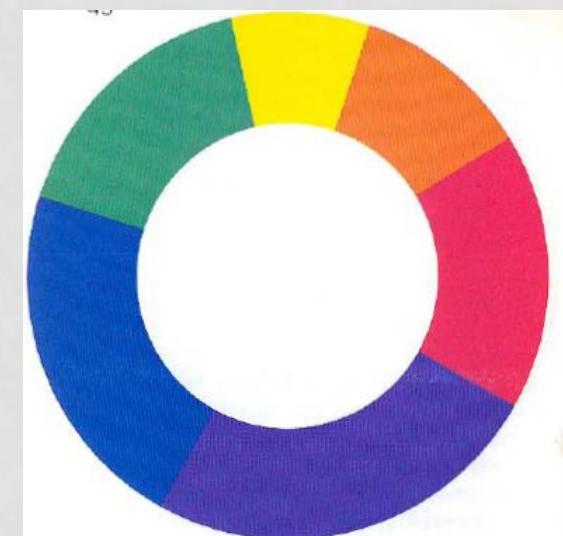
Yellow : Violet - $1/4 : 3/4$

Another third is divided for

Orange : Blue - $1/3 : 2/3$

The last third is divided for

Red : Green - $1/2 : 1/2$

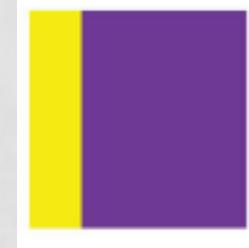


CONTRAST

- **Contrast of Extension**

Balance is the fundamental principle behind the contrast of extension.

In this New York townhouse, O'Aquino Monaco uses color balance effectively-mixing paint, materials, and accessories in a complex sequence that achieves a sense of balance.



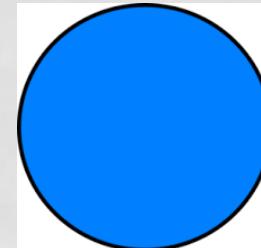
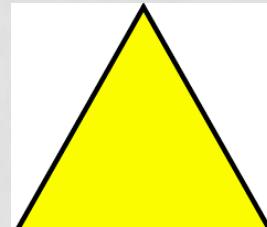
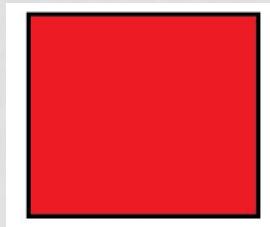
COLORS

2. FORM AND COLOR

FORM AND COLOR

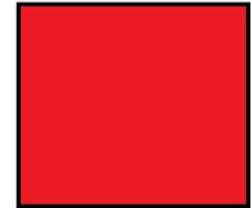
- **Introduction**

- In this section we will describe the expressive potentialities of colors. However, shapes have their expressive values.
- As is true the three primary colors, red, yellow and blue, the three fundamental shapes- square, triangle, and circle- may be assigned distinct expressive values.

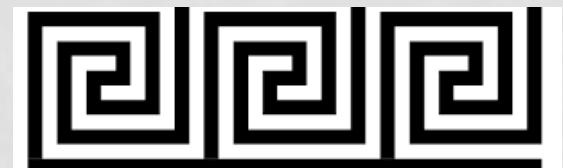
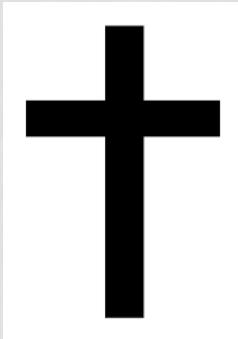


FORM AND COLOR

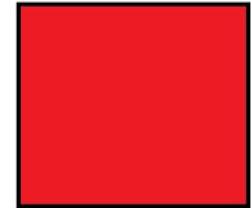
SQUARE



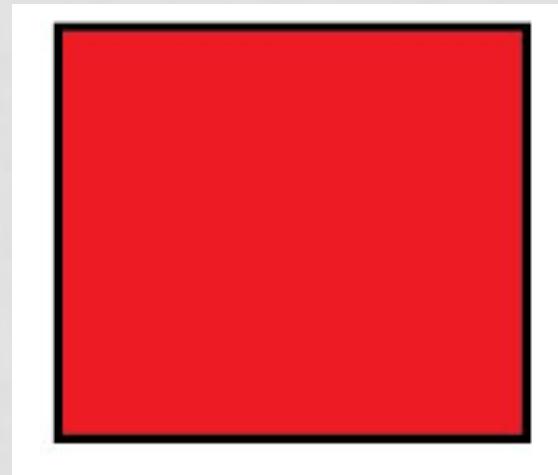
- The square whose essence is two horizontal and two vertical intersecting lines of equal length, symbolizes matter, gravity and sharp limitation.
- The Egyptian hieroglyph for field is a square. A marked tension is felt when the straight sides and right angles of the square are drawn and experienced as motion.
- All the shapes characterized by horizontal and verticals may be assimilated to square form, like the cross, the rectangle, the Greek key and their derivatives



FORM AND COLOR SQUARE

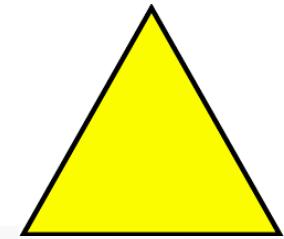


- The square corresponds to red, the color of matter.
- The weight and opacity of red agree with the static and grave shape of the square.

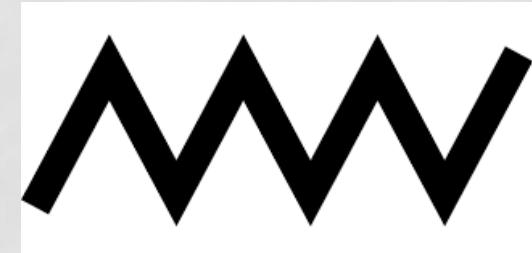
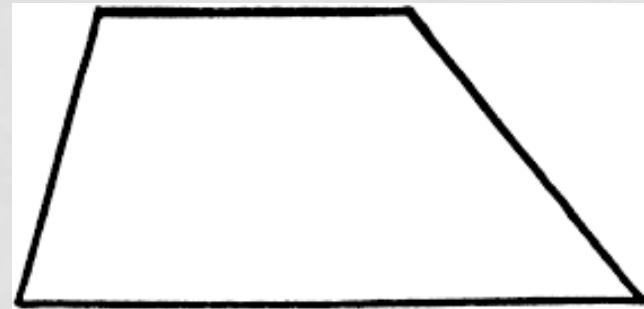
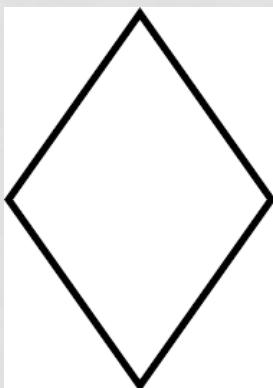


FORM AND COLOR

TRIANGLE

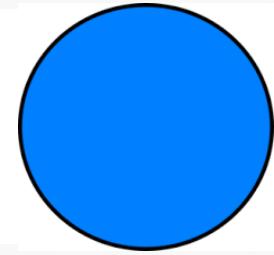


- The triangle has three intersecting diagonals.
- Its sharp angles produce an effect of pugnacity and aggression.
- The triangle assimilates all shapes of diagonal character, such as the rhombus, trapezoid, zigzag, and their derivatives.
- It is the symbol of thought, and among colors its weightless character is matched by yellow.



FORM AND COLOR

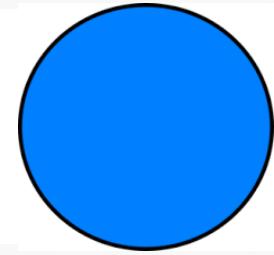
CIRCLE



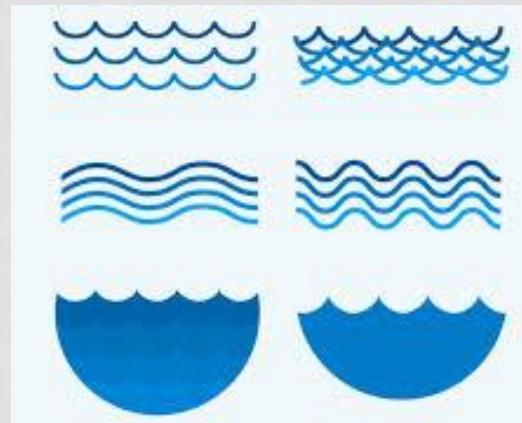
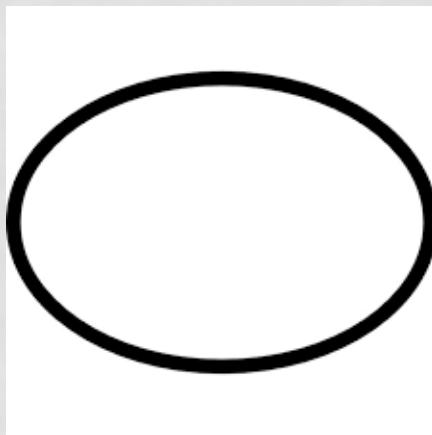
- The circle is the locus of the point moving at constant distance from a given point in a plane.
- In contradistinction to the sharp, tense sensation of motion produced by a square, the circle generates a feeling of relaxation and smooth motion.
- It is the symbol of the spirit, moving, undivided within itself.
- Chinese used circular elements to build their temples.

FORM AND COLOR

CIRCLE



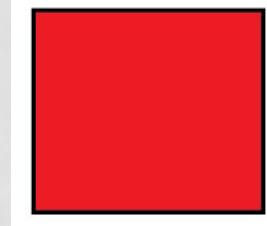
- The circle comprehends all the shapes of cyclic character, as the ellipse, oval, wave, and their derivatives.



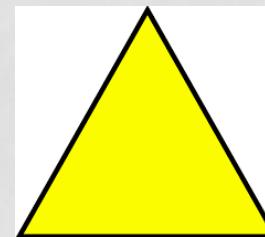
FORM AND COLOR

- to summarize, the square is resting matter, the radiating triangle is thought, and the circle is spirit in eternal motion.

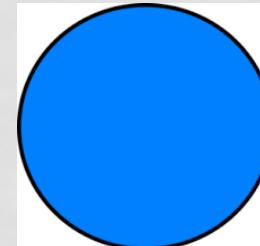
- **Matter**



- **Thought**



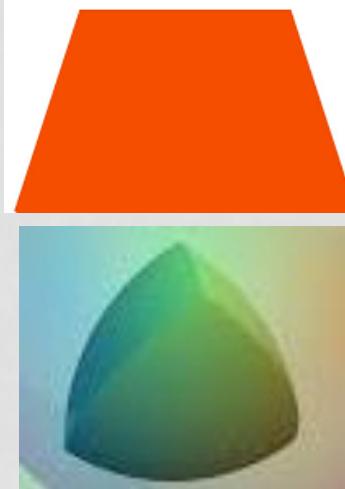
- **Spirit**



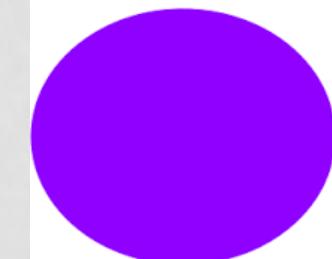
FORM AND COLOR

- If we look for shapes to match the secondary colors, we find the trapezoid for orange, a spherical triangle for green, and an ellipse for violet .

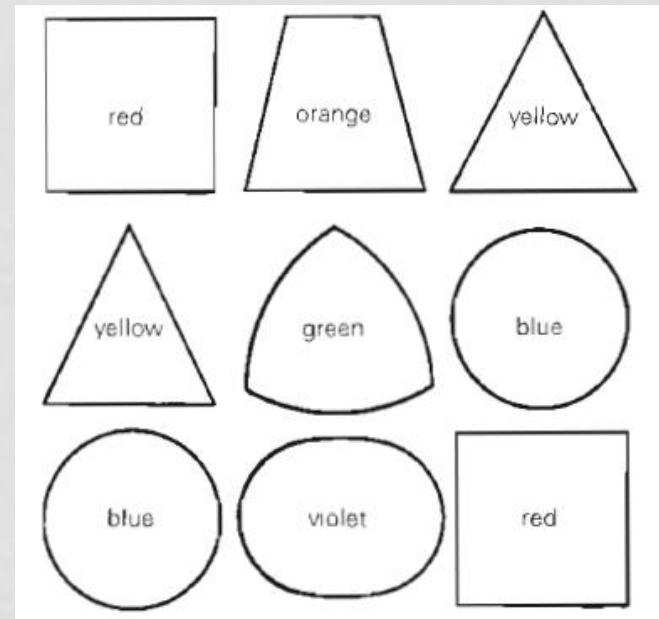
trapezoid



spherical triangle



ellipse



Thank You!

