COLOR PSYCHOLOGY

\textbf{how does color affect us?}

\textbf{Color affects people Psychologically}

- Research into the physiological effects of color has shown that it truly has an impact on our lives, often in unconscious and mysterious ways.

- Colors can create conditions that can:
  - cause fatigue
  - increase stress
  - decrease visual perception
  - damage eyesight
  - increase possible worker errors
  - negatively affect orientation and safety

- These qualities were discovered during the Middle Ages.

- The field of color psychology is still not well understood.
  - No absolute definition of psychological effects.

\textbf{Color affects people Psychologically}

- Emotional reactions are not easy to measure.

- Nevertheless, there are a number of general and universal reactions to color which seem to be noted in most persons:
  - Can be hardly any question that people prefer:
    - bright, sunny days to dark, rainy ones
    - a bouquet of fresh flowers is more attractive than a shabby trash can full of waste
    - darkness will always suggest danger and mystery
    - fire and flames will never cease to be fascinating as well as frightening
Color Associations

- In part defined by:
  - senses
  - language
  - objects (or forms)
  - personality characteristics

- Color conveys moods which attach themselves to human feelings and our psychic make-up in an almost automatic fashion.

Color Associations

- In association, colors appear warm, cool, dry, and wet (to name a few).

Color Associations

- This reaction is inherent in the psychological make-up of most humans.

Color Associations

- Both personal and cultural associations affect experience of color.

Color Associations

- Color has psychological effects on users that are different across cultures.
  - In France:
    - green is associated with criminality!
    - not with safety.

Color Associations

- In Different Cultures
Some common associations of color in United States culture

<table>
<thead>
<tr>
<th>Color</th>
<th>Positive Associations</th>
<th>Negative Associations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>passion, strength, energy, love</td>
<td>black, war, danger, aggression</td>
</tr>
<tr>
<td>Green</td>
<td>nature, growth, fertility, environment</td>
<td>depression, envy, mediocrity</td>
</tr>
<tr>
<td>Yellow</td>
<td>sun, warming, gold, optimism</td>
<td>illness, heartache, hazard</td>
</tr>
<tr>
<td>Blue</td>
<td>sky, sea, stability, calm, cool</td>
<td>depression, conservatism, sobriety</td>
</tr>
<tr>
<td>White</td>
<td>snow, purity, innocence, peace</td>
<td>cold, clinical, sterility</td>
</tr>
<tr>
<td>Gray</td>
<td>intelligence, dignity, maturity</td>
<td>shadow, boredom, concrete</td>
</tr>
<tr>
<td>Black</td>
<td>power, formality, depth, style</td>
<td>loneliness, mystery, death</td>
</tr>
</tbody>
</table>

Color Associations

- Colors are seen as warm or cool
  - Mainly because of long-held (and often universal) associations
  - Yellow, orange and red are associated with the heat of sun and fire
  - Blue, green and violet with the coolness of leaves, sea and the sky

- Warm colors seem closer to the viewer than cool colors
- Vivid cool colors can overwhelm light and subtle warm colors

- Using warm colors for foreground and cool colors for background enhances the perception of depth

Color Associations

- Psychological association of a color can be more meaningful than the visual experience
  - Light blue-green
    - Tranquil, wet and cool
  - Brilliant turquoise
    - More exciting, lush tropical ocean
A specific color stimulation

- Accompanied by a specific response pattern of the entire organism
  - All parts of the nervous system are connected together
  - No part is capable of reaction without affecting and being affected by various other parts
  - The system is never absolutely at rest

Colors act upon the body as well as the mind

- Red has been shown to stimulate the senses and raise the blood pressure
- Blue has the opposite effect and calms the mind
  - People will gamble more and make riskier bets when seated under a red light as opposed to a blue light

Chromotherapy

- Use of color as a therapy has a long history
  - ancient Egyptians and ancient Greeks built healing temples of light and color
  - use of color became deeply embedded in Chinese and Indian medicine

Chromodynamics

- Actual physiological changes take place in human beings when they are exposed to certain colors
- Colors can
  - stimulate, excite, depress, tranquilize, increase appetite and create a feeling of warmth or coolness

Chromotherapy

- Most people have skeptical opinion about color healing
- The medical profession makes use of color in certain treatments
  - premature babies with jaundice are cured by a chemical reaction triggered by exposure to blue light for several days
  - relation between blue light and jaundice is beginning to be well understood scientifically

Chromodynamics

- An executive for a paint company received complaints from workers in a blue office that the office was too cold
- When the offices were painted a warm peach, the sweaters came off even though the temperature had not changed
Environmental Applications

Wall Paint
- hospitals and schools now a pale green, rather than the previously universal dull gray, buff or glaring white
- soft green hue more relaxing to eye and soul

Graphical Applications

In fashion, advertising, and presentations, color is one of the most effective tools

Practical Applications

Most outstanding graphic quality of any color image is its color
More important than
- Outline
- Form
- Design
- May overshadow the subject matter

Environmental Applications

Wall Paint
- a small room looks bigger if painted in light tones
  - lighter color gives a feeling of space
- even larger if one of its walls is done in a different hue
  - the different color appears to open on another vista

Graphical Applications

Psychologists have suggested that color impression can account for 60% of the acceptance or rejection of that product or service
A lasting impression is made within ninety seconds

- decisions about color are a critical factor in success of any visual experience
- Color can sway thinking, change actions, and cause reactions

Colors used for a product, website, business card, or logo cause powerful reactions

- Color sends a subliminal message, one which plays a critical role in success or failure

Color combinations can attract or distract

- The human brain requires a sense of order or it will reject whatever it sees

Color combinations can attract or distract

- If too many colors are used, the viewer will become visually confused and will reject the image

Sometimes combinations of colors can deceive the viewer

- Sometimes can be used to advantage in communication
- Can also cause unfortunate graphic effect
- Be sure to watch out for these little traps
**Color context**

- When you look at a colored object, your brain determines its color in the context of the surrounding colors.
- Identical colors, when surrounded by different backgrounds, appear to be different from each other.

**Similar colors appear to be identical**

- Even though the two symbols are actually slightly different tones:
  - contrasting backgrounds cause our brains to think that they are the same color.
  - same way that one color can appear different in different surroundings.

**Color fatiguing**

- Feeling you get when looking at bright complementary colors next to each other:
  - a vibrating or pulsing effect
  - seems that the colors are pulling away from each other.
- When one color strikes a portion of the retina long enough:
  - the optic nerve begins sending confused signals to the brain.

**Mixing brilliant complementary colors**

- Gets attention.
- The effect is disconcerting:
  - should be used with restraint
  - can make your eyes feel like they’ve been shaken around.

**Similar colors touch**

- Both colors appear to wash out and become indistinct.
- This is because the borders between the colors are difficult to distinguish and your brain blurs the colors together.

**Stained glass technique**

- Outline each of the colors with a thin neutral white, gray or black line.
  - complementary colors or similar colors
  - outlines separate the two colors:
    - helps your brain keep them separated
    - reduces blurring of the colors.
Color is only Sensory Perception

- The outside world is colorless
  - It consists of colorless matter and colorless energy

- Vision is as much in the brain as it is in the eye

- Color exists only as an observer’s sensory perception