CH. 4 WHAT THE BRAIN SEES

- COLOR, FORM, DEPTH AND MOVEMENT
COLOR

☐ Trichromatic Theory –
   ■ 3 kinds of photoreceptors in the eye – each sensitive to a particular color

☐ Color Perception –
   ■ A result of mixing red, green, and blue by photoreceptors
Color Basics

- Every color composed of 3 primary colors –
- Red, green, and blue – not red, yellow and blue
- Equal amounts of red, green and blue light will produce white light
3 Ways of Discussing Color

- **Objective** – scientifically measurable
- **Comparative** – colors compared or linked to outside source – red=blood or blue=sky
- **Subjective** –
  - Lighter colors viewed as soft & cheerful
  - Darker colors have a harsh or moody emotional quality
Sociological Uses of Color

- Cultural heritage, training and personal experiences give colors special meanings
  - Western birdies wear white yet in China they wear red
  - In China white is worn in funerals as a sign of mourning
  - Puerto Rico – purple is a sign of death?
Form

- Defines the outside edges of an object
  - 3 components
    - Dots
    - Lines
    - Shapes
Dots

- A dot anywhere in a frame demands attention
- Center – becomes the hub (as in wheel)
- Off to a side – creates tension
- 2 Dots – also creates tension – as it divides viewers attention
- 3 or more Dots will promote the viewer to connect them
- Hundreds of Dots grouped can form complex pictures
Lines

- Composed of dots without space
- Lines are horizontal, vertical or diagonal
Lines & Implications

- Horizontal lines low on the frame promotes the viewer to sense growth
- Horizontal line high on the frame promotes confinement
- Vertical lines bring the eye of the viewer to a halt (a stopping place)
Lines & Implications

- Diagonal Lines
- Most restful – from top right to lower left corner
- Any diagonal line – moves the eye in the line’s direction
- Several diagonal lines – create nervous dynamic energy
Lines & Implications

- Curved lines – imply movement – playfulness – and soften the content of the message
- Thick/dark lines – strength and confidence
- Thin/light lines – delicate and timid
Shapes

- Combination of dots and lines into patterns
- Figures that sit on the plane of the visual field without depth and define the outside edges of objects
- 3 basic shapes
  - Parallelograms
  - Circles
  - Triangles
Parallelograms

- 4 sided figure with opposite sides that are parallel and equal in length
  - Squares and Rectangles
  - Square- Unsophisticated Balanced Sturdy Straightforward
  - Rectangle – opposites of above
Circles

☐ Always associated with endless rhythmic patterns or time
☐ Eternity
☐ Clear beginnings or endings
☐ The viewer’s eye will immediately be drawn to this shape
Triangle

- The most dynamic and active
- Equilateral & Isosceles
- Equilateral – serene mood symmetrical balance
- Isosceles draws power from its point and not its base – thus the eye will be drawn to its point
Depth

- Related to volume because it exhibits the illusion of weight and mass
- 5 forms
  - Cube
  - Cylinder
  - Sphere
  - Pyramid
  - Cone
Volumetric Forms

- Cube – composed of six squares
- Cylinder – Rectangle with two circular shapes on each end
- Sphere – 2 circles cut in half and joined at the middle
- Pyramid – 4 triangles
- Cone – a circular shape and a triangle combined
8 Depth Cues

- Space
- Size
- Color
- Lighting
- Textural gradients
- Interposition
- Time
- Perspective
Space

- The frame in which image is located
- Natural scene, the space depends on how close you are to the subject.
Size

- Size can help in the illusion of depth perception
- Size is closely related to an object’s distance
- Size also related to scale and mental attention
Color

- Warm colored objects appear closer than cool colored objects
- High contrast pictures seem closer
Lighting

- The prevalence of shadows indicates and object’s volume
Textural Gradients

- Ridges appear closer together as the viewer moves away
Interposition

- The placement of an object in front of another to give the illusion of depth
Time?

- Culture that places more importance on past events will place close objects on the same level as distant objects.
- Cultures that emphasize long-term planning and the future exhibit images without any recognizable depth perceptual dimensions.
Perspective

- Illusionary Perspective
- Geometrical Perspective
- Conceptual Perspective
Movement

- Real Movement
- Apparent Movement
- Graphic Movement
- Implied Movement
Lines – Horizontal lines tend to send message of rigidity – in the middle of page transmits balance
Lines – in the bottom transmits room to grow
Lines – at top can be constricting
Shapes to Delineate Form with Feelings

\[ \text{Diagram showing geometric shapes and their properties.} \]
Depth – Elements that impact depth

- Space
- Size
- Color
- Lighting
- Textural Gradients
- Interposition
- Perspective
Perspective to Add Depth

- Illusionary Perspective
- Geometrical Perspective
- Conceptual Perspective