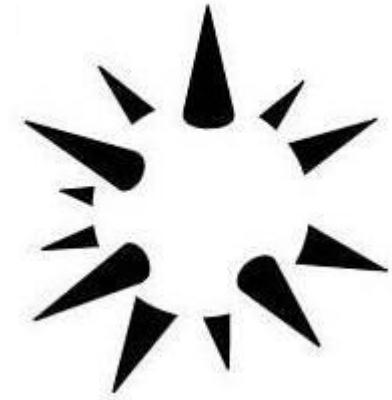
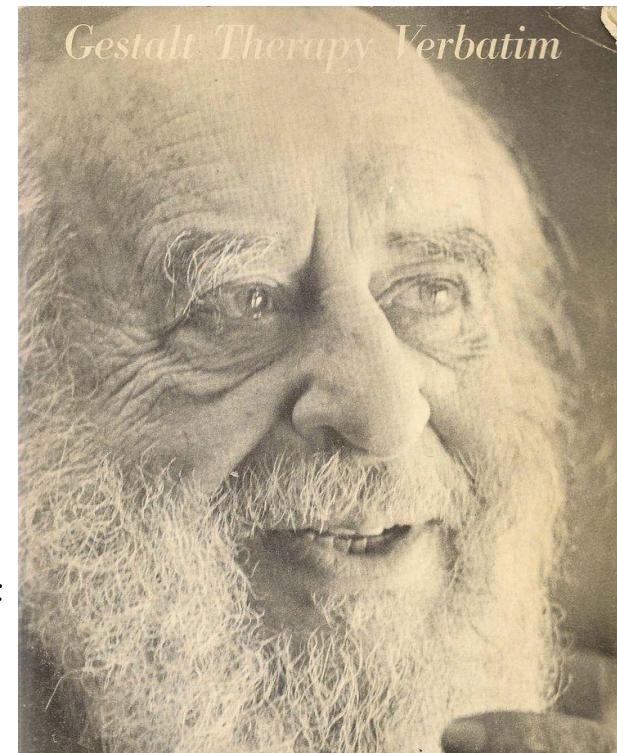


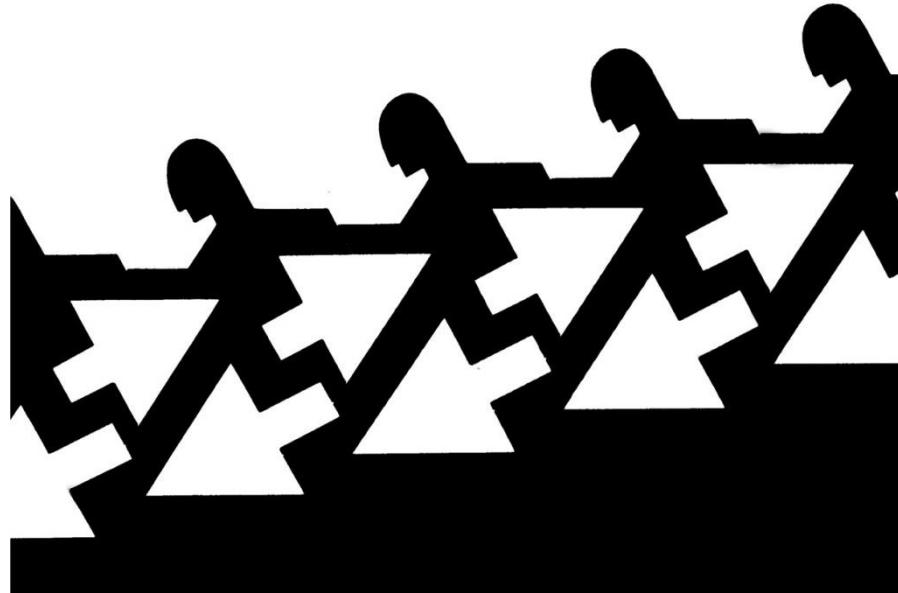
GESTALT PRINCIPLES OF VISUAL PERCEPTION

- ❖ Fritz Perls - Father of Gestalt theory and Gestalt Therapy
- ❖ Movement in experimental psychology which began prior to WWI.
- ❖ We perceive objects as well-organized patterns rather than separate components.
- ❖ Based on the concept of "grouping"
- ❖ Reification - the mental process involved in the 'bringing into being' of something.
 - ❖ Gestalt in the study of perception - the addition of things which are not in the original image. We may even "see" details that are not really there.



Form Perception

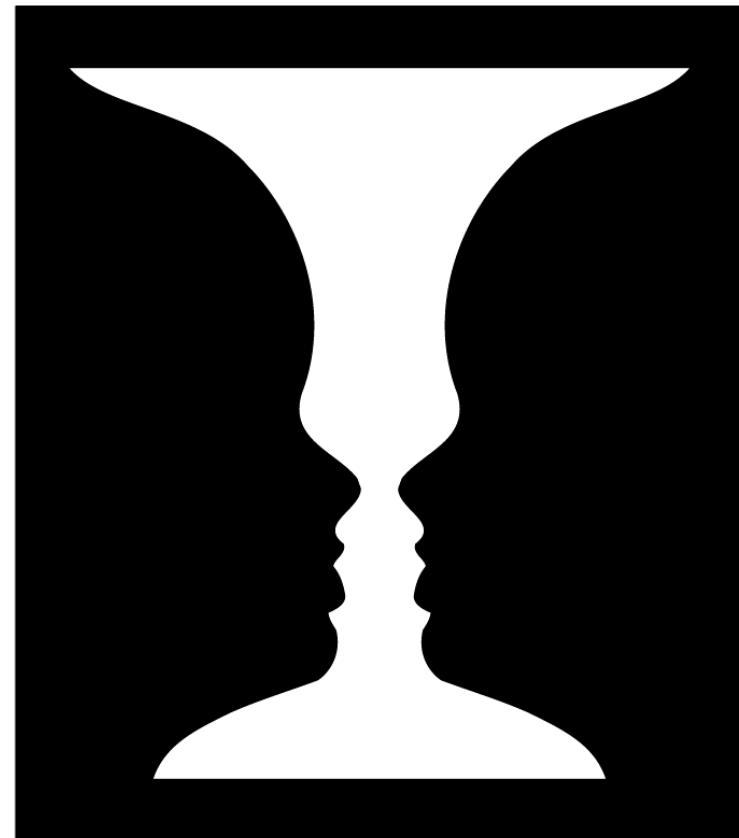
Figure and Ground: Organization of the visual field into objects (figures) that stand out from their surroundings (ground).



Time Savings Suggestion, © 2003 Roger Sheperd.

GROUND

(A)



(B)

Principles of Grouping

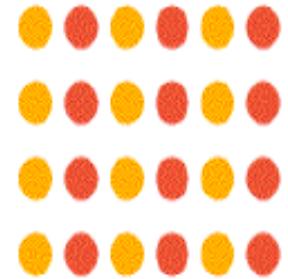
- **Proximity**

- We group together objects that are physically close to one another

A. Proximity



B. Similarity



- **Similarity**

- We group together elements that appear similar

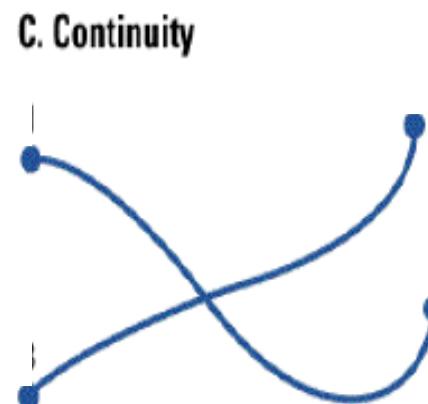
Principles of Grouping

- **Continuity**

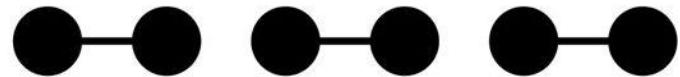
- We tend to favor smooth or continuous paths when interpreting a series of points or lines.

- **Closure**

- We tend to fill in any missing parts of a stimulus and perceive the stimulus as complete.



Principles of Grouping



Connectedness

Connectedness: Because they are uniformed and linked, we perceive the two dots and the lines between them as a single unit.

The **law of common fate** states that when objects move in the same direction, we tend to see them as a unit.



http://www.garyfisk.com/anim/lecture_gestalt.swf



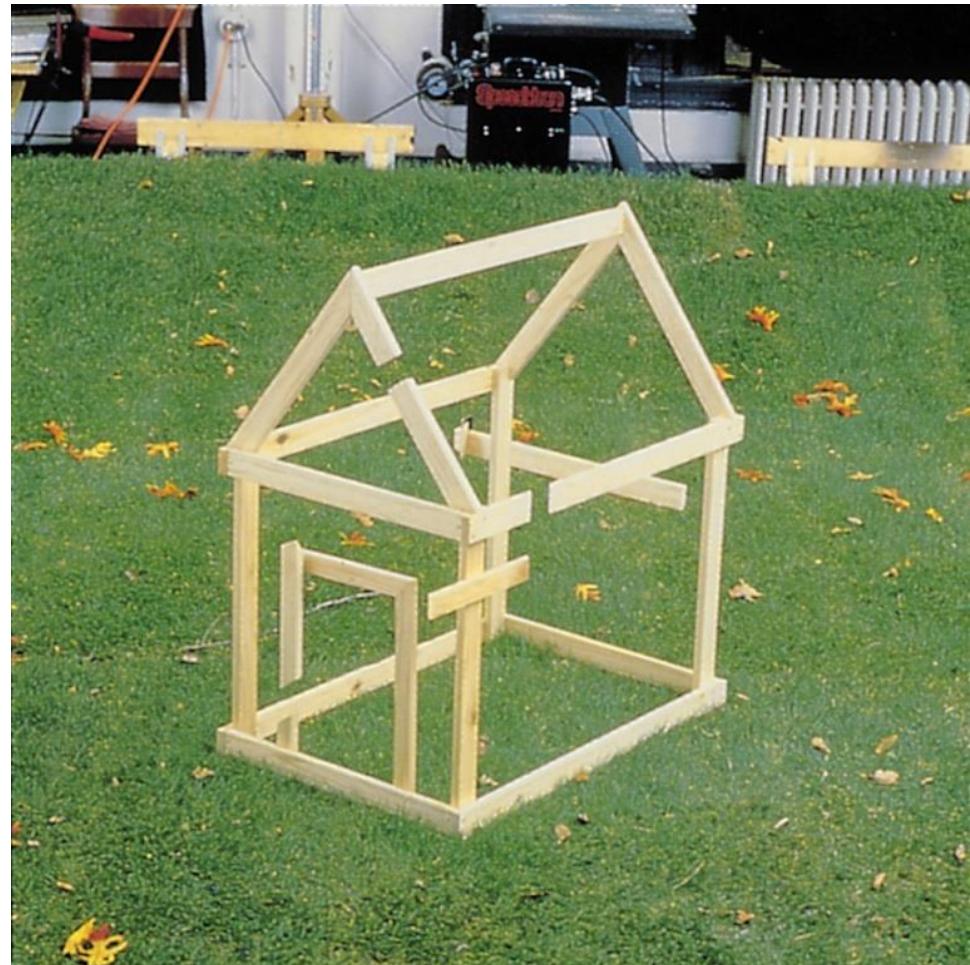
FedEx



Why Do we use these Gestalt Grouping Principles?

- **Likelihood** principle: The principles reflect the way stimuli are likely to be organized in the natural world
- **Simplicity** principle: We organize stimulus elements in a way that gives us the simplest possible perception

Grouping & Reality





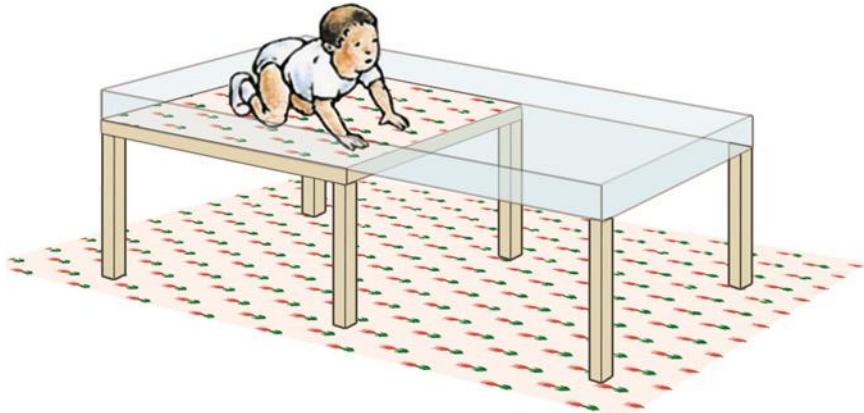
Depth Perception

Depth perception is seeing objects in three dimensions. It enables us to judge distances.

Gibson and Walk (1960) suggested that human infants (crawling age) have depth perception. Even newborn animals show depth perception.



Visual Cliff



Visual Cliff



Binocular Cues

- Humans are able to see things that are both far and near, and can actually identify where those objects are in space (meaning, they can determine if those objects are close or far away). This sort of depth perception requires both of our eyes, which is referred to as binocular cues **(depth cues that require both of our eyes).**

Binocular Cues

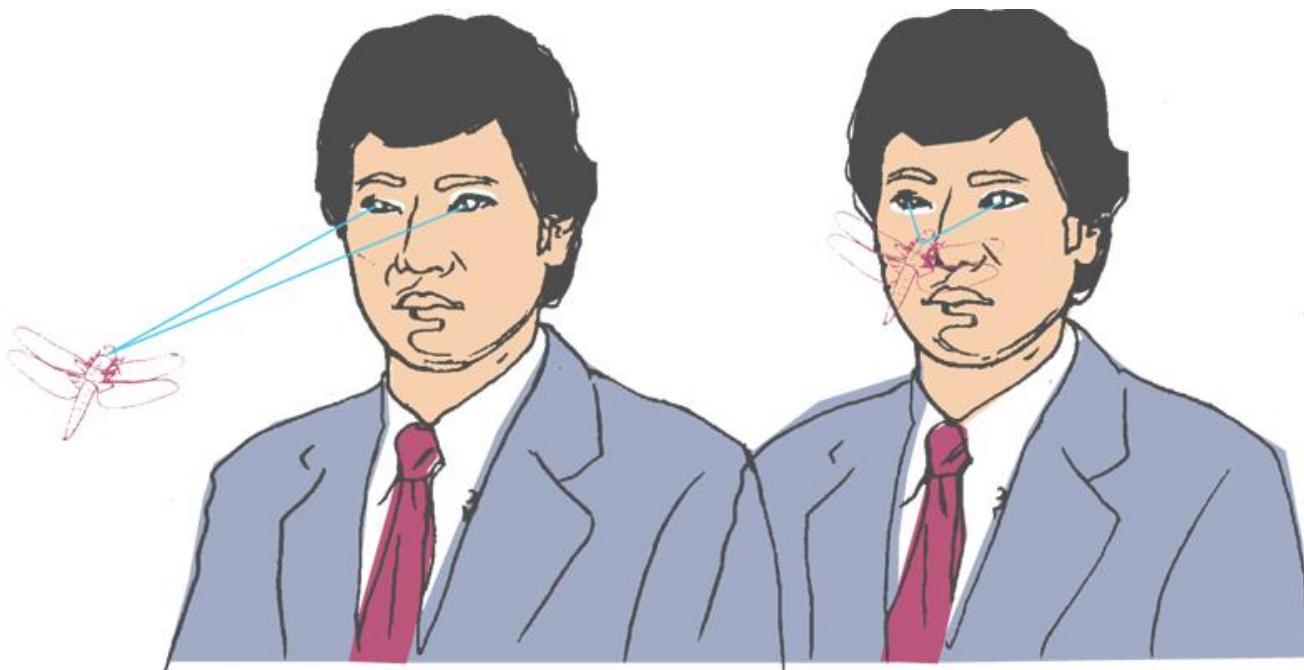
Retinal disparity: The difference between how each eye perceives an image using binocular vision, which allows for depth perception.

- The left and right eye view slightly different images.
- The more difference (or greater disparity) between the image each eye has of the same object, the closer it is to you.



Binocular Cues

Convergence: Neuromuscular cues. When two eyes move inward (towards the nose) to see near objects and outward (away from the nose) to see faraway objects.



Monocular Cues

- **Cues of depth that can be detected by one eye instead of two.**
- Mon (one) ocular (eye)
- For example, size is a monocular clue. One doesn't need two eyes to tell how large an object is, and because of its size, how close it is perceived to be.

Monocular Cues for Depth Perception

Mon (one) ocular (eye)

depth you can perceive with
only one eye

Monocular Cues for Depth Perception



- Relative Size:
We know smaller is farther, we know how big things ought to be compared to each other

Monocular Cues for Depth Perception



- Interposition:
If one thing
blocks
another from
view, that
thing must be
closer

Monocular Cues

Interposition:



Monocular Cues for Depth Perception



- Relative Height:
Generally,
higher is
farther away

Monocular Cues for Depth Perception



- Linear Perspective:
Parallel lines converge on horizon

Monocular Cues for Depth Perception



- Texture Gradient:
Closer is coarse
Farther is finer

Monocular Cues for Depth Perception



- Relative Clarity:
Closer is clearer
Farther is fuzzier