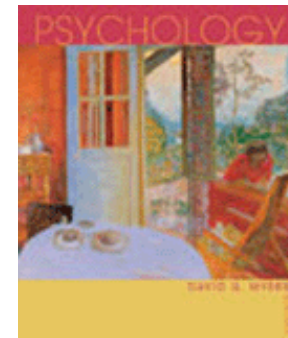


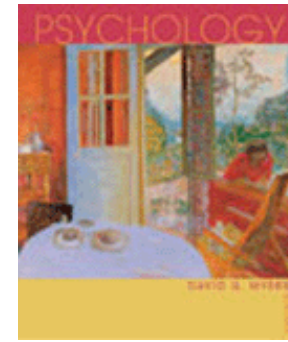
Beau Lotto: Optical Illusions Show How We See

- What is the background of the presenter, what do they do?
- How does this talk relate to psychology? What topics does it address? Be specific.
- Describe in great detail the contents of the talk. Be sure to give at least 3 specific examples or things said from the talk.
- What did you learn from this Ted talk and how can it be applied to your everyday life?



- Sensation
 - a process by which our sensory receptors and nervous system receive and represent stimulus energy
- Perception
 - a process of organizing and interpreting sensory information, enabling us to recognize meaningful objects and events

Sensation



- Bottom-Up Processing
 - analysis that begins with the sense receptors and works up to the brain's integration of sensory information
 - We use the features on the object itself to build a perception.
- Top-Down Processing
 - information processing guided by higher-level mental processes
 - as when we construct perceptions drawing on our experience and expectations

Perception

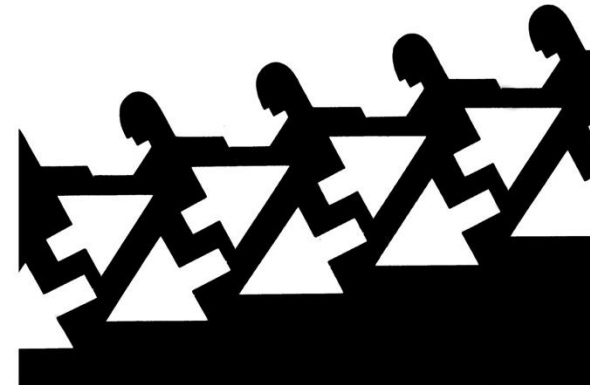


The process of organizing and interpreting information, enabling us to recognize meaningful objects and events.

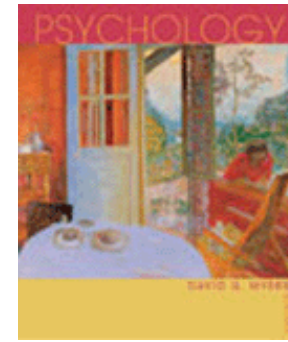
Figure Ground Relationship



Our first perceptual decision is
what is the image is the figure
and what is the background.
This is considered the most basic
perceptual organization.

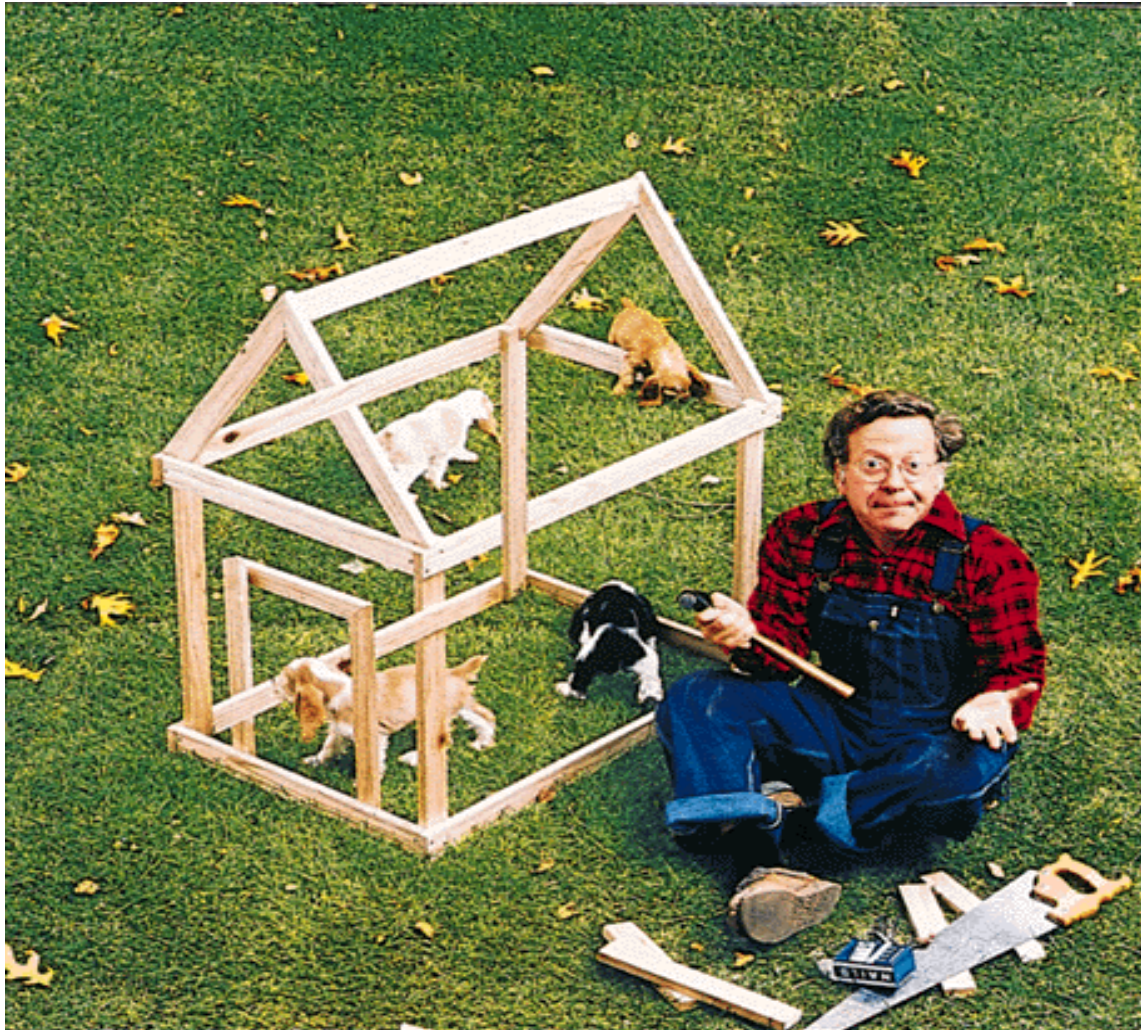
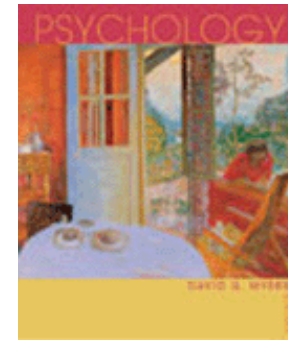


Perceptual Organization: Gestalt



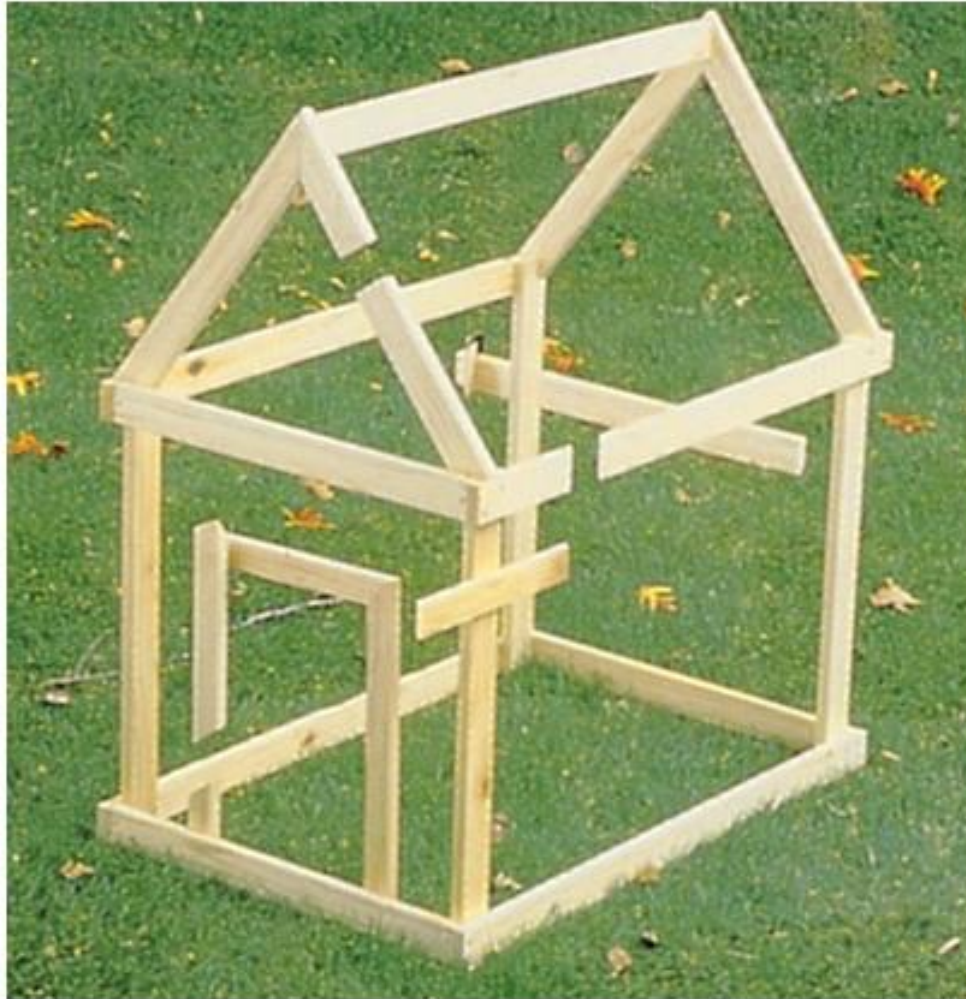
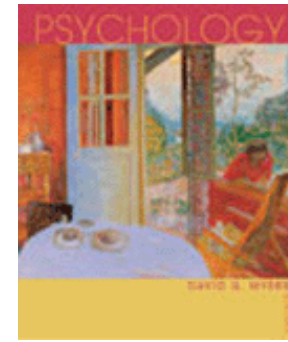
- Visual Capture
 - tendency for vision to dominate the other senses
 - **McGurk Effect** - is a perceptual phenomenon that demonstrates an interaction between hearing and vision in speech perception. The illusion occurs when the auditory component of one sound is paired with the visual component of another sound, leading to the perception of a third sound.
This best illustrates the concept of sensory interaction.
- Gestalt--an organized whole
 - tendency to integrate pieces of information into meaningful wholes

Perceptual Organization: Grouping Principles



- Gestalt grouping principles are at work here.

Perceptual Organization: Grouping Principles



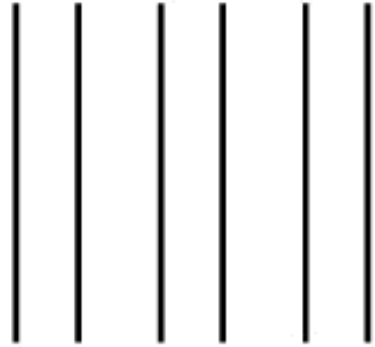
- Impossible doghouse

Perceptual Organization- Gestalt

z Grouping Principles

- y **proximity**- group nearby figures together
- y **similarity**- group figures that are similar
- y **continuity**- perceive continuous patterns
- y **closure**- fill in gaps
- y **connectedness**- spots, lines and areas are seen as unit when connected

Perceptual Organization- Grouping Principles



Proximity



Similarity

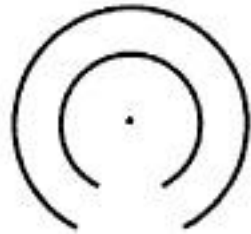
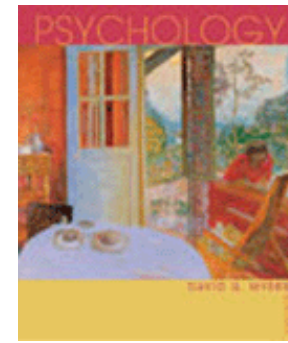


Continuity



Connectedness

Perceptual Organization: Closure



Perceptual Organization- Depth Perception

z Depth Perception

- y ability to see objects in three dimensions
- y allows us to judge distance

z Binocular cues

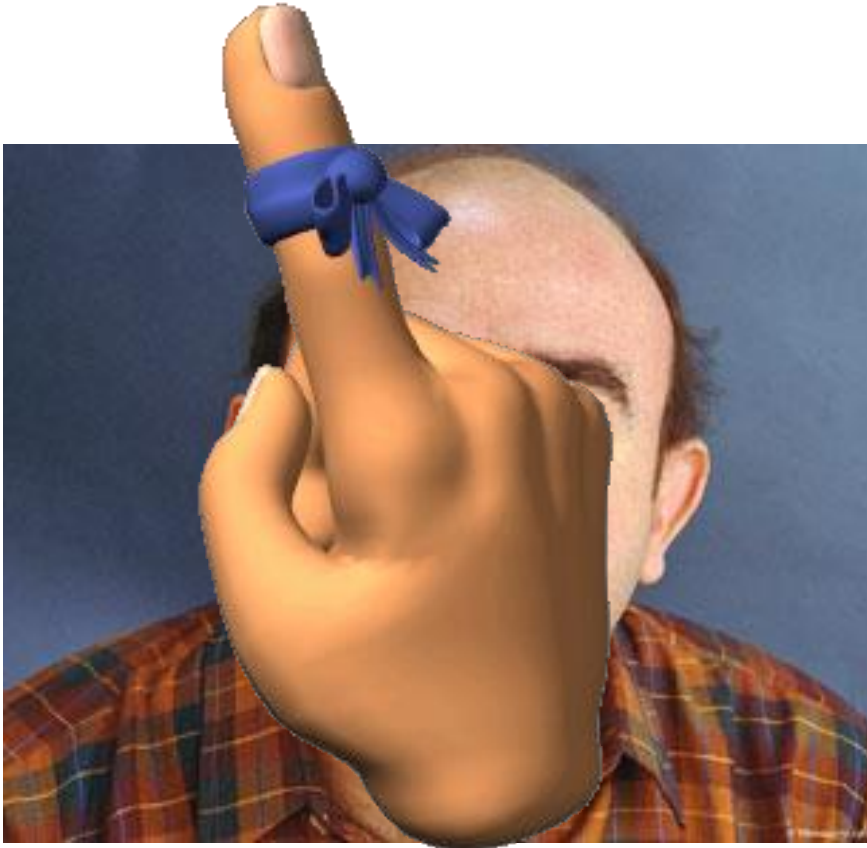
y retinal disparity

- x images from the two eyes differ
- x closer the object, the larger the disparity

y convergence

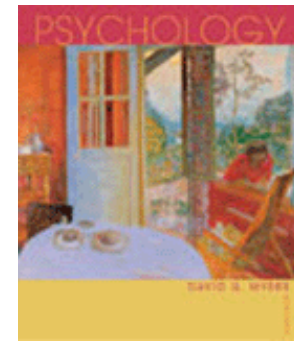
- x neuromuscular cue
- x two eyes move inward for near objects

Binocular Cues



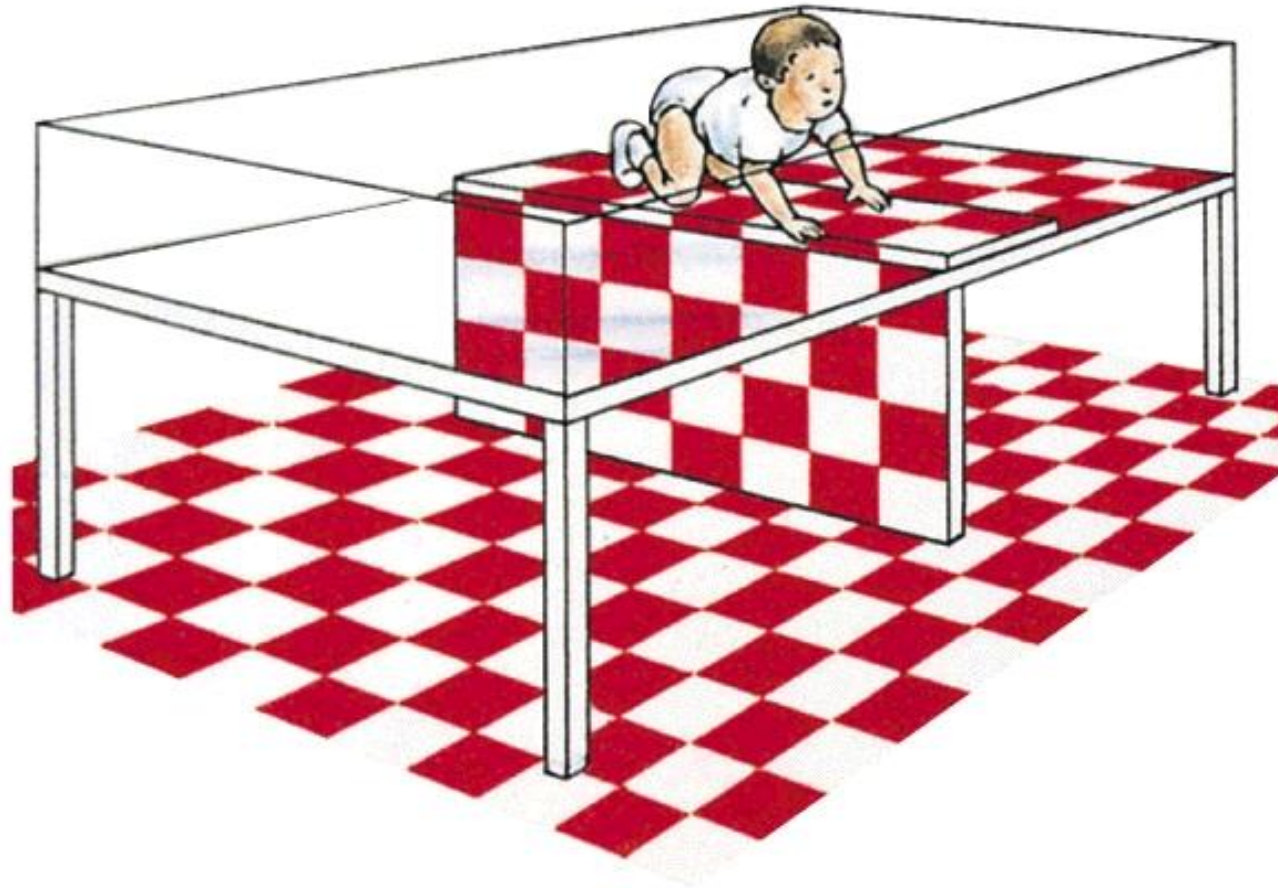
- We need both of our eyes to use these cues.
- **Retinal Disparity** (as an object comes closer to us, the differences in images between our eyes becomes greater).
- **Convergence** (as an object comes closer our eyes have to come together to keep focused on the object).

Perceptual Organization: Depth Perception



Illusory Depth
Explanation

Perceptual Organization- Depth Perception



Visual Cliff

Perceptual Organization- Depth Perception

□ Monocular Cues

□ relative size

□ smaller image is more distant

□ interposition

□ closer object blocks distant object

□ relative clarity

□ hazy object seen as more distant

□ texture coarse --> close

fine --> distant

Perceptual Organization- Depth Perception

- Monocular Cues (cont.)
 - relative height
 - higher objects seen as more distant
 - relative motion
 - closer objects seem to move faster
 - linear perspective
 - parallel lines converge with distance
 - relative brightness
 - closer objects appear brighter

Perceptual Organization- Depth Perception



Relative Size



Perceptual Organization- Depth Perception



Interposition

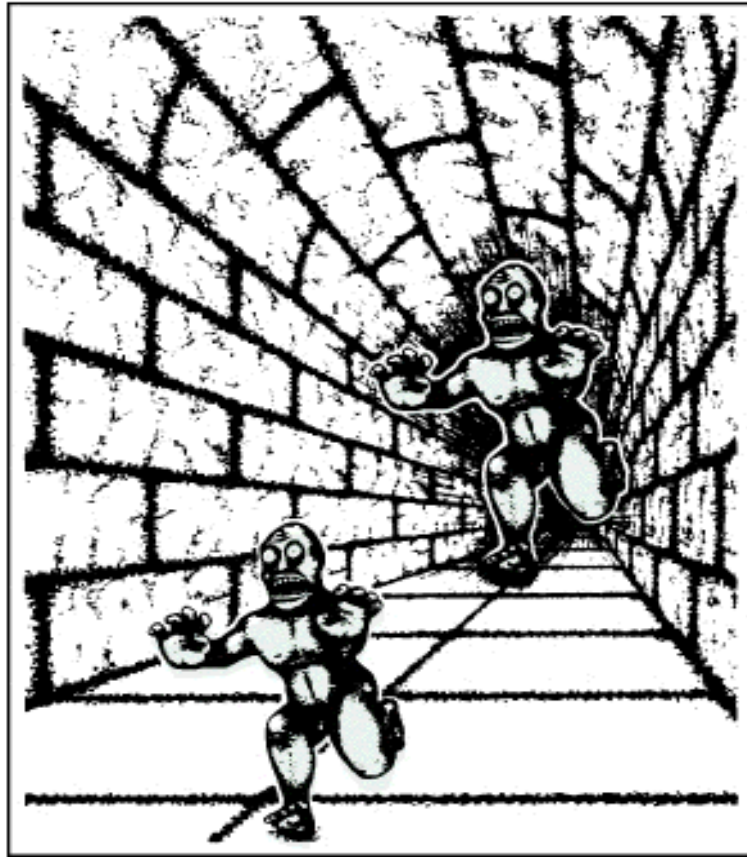


Perceptual Organization- Depth Perception

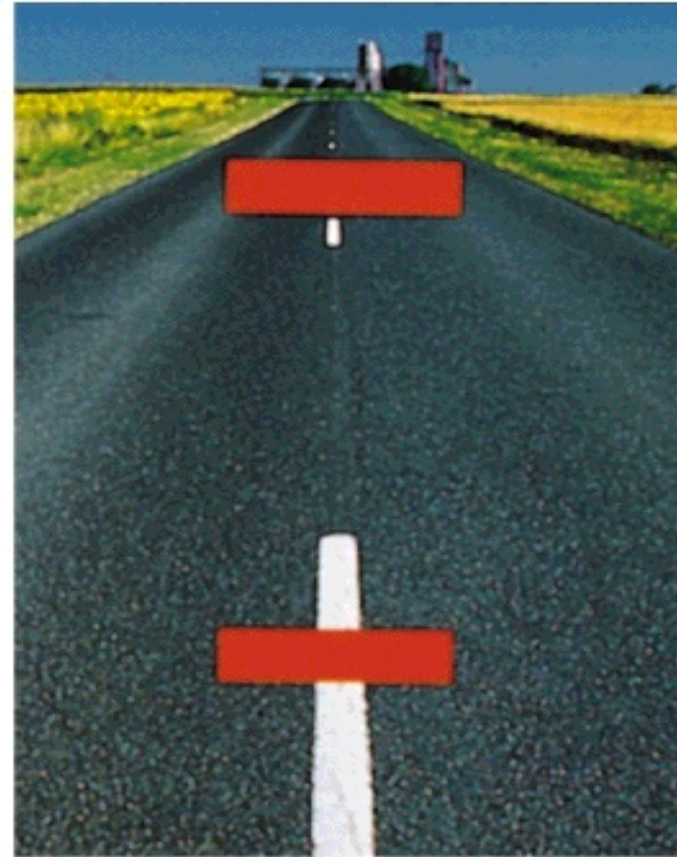


Perspective Techniques

Perceptual Organization

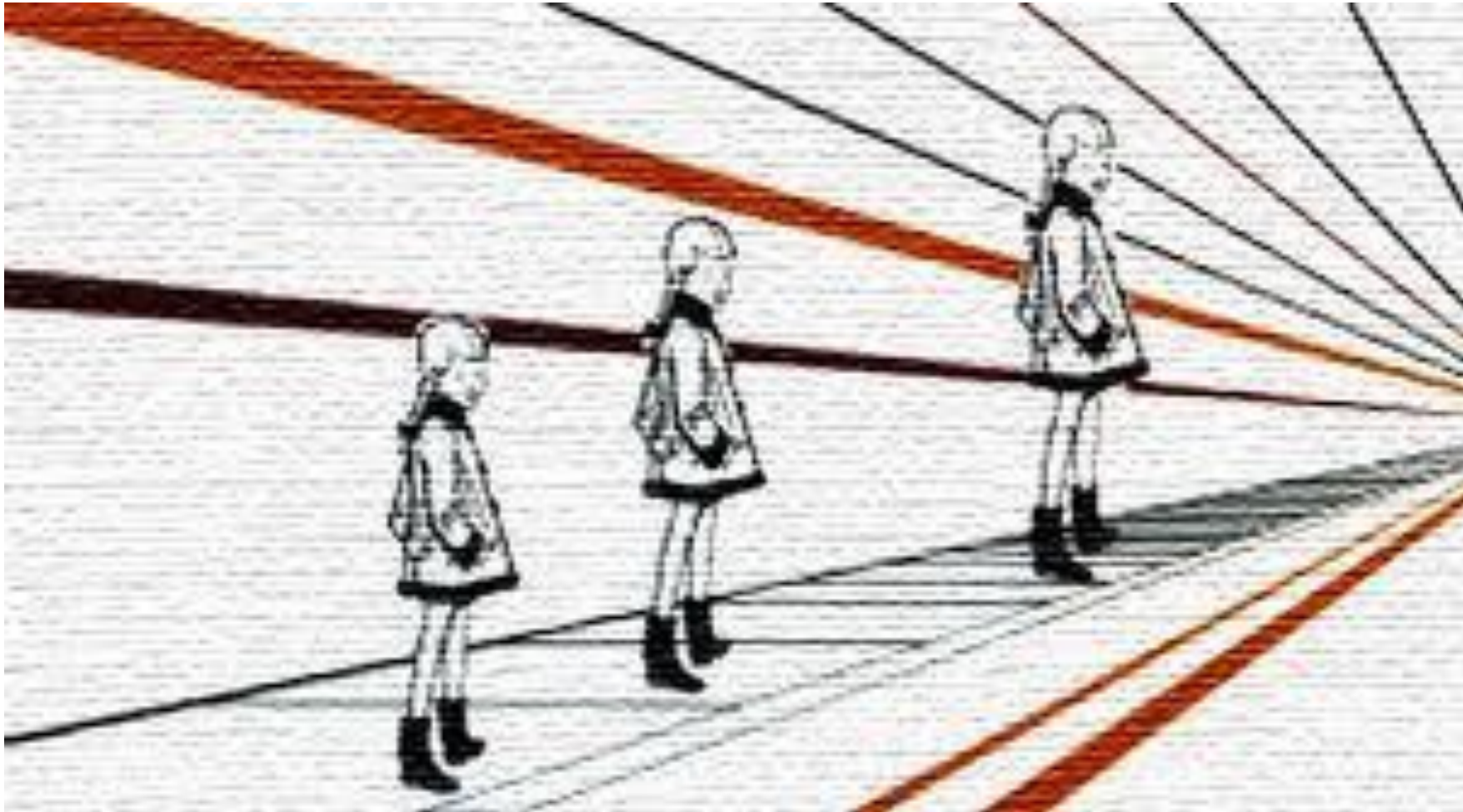


(a)

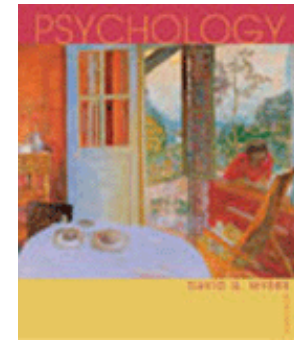


(b)

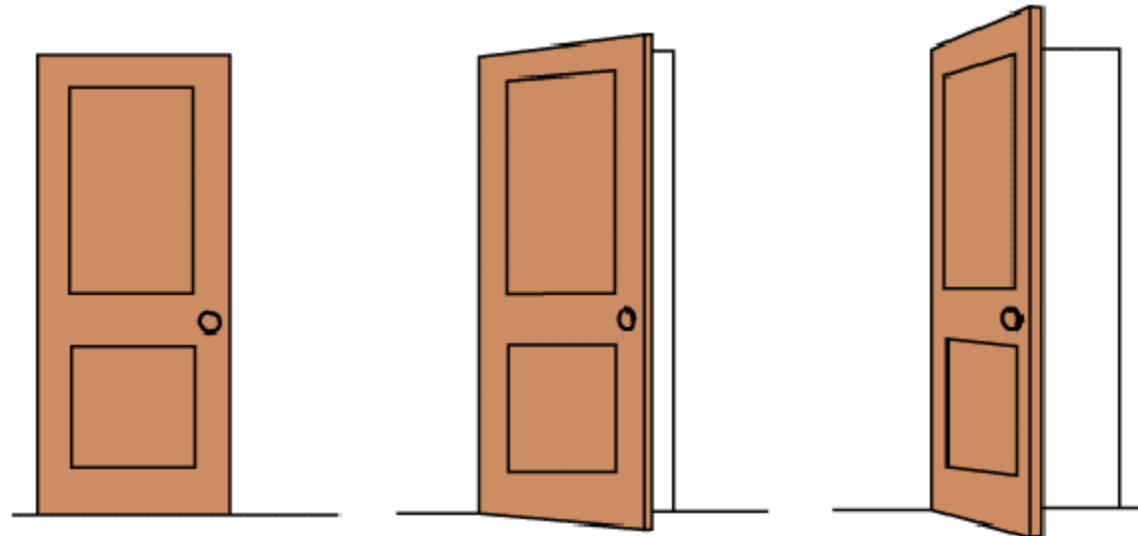
Ponzo Illusion



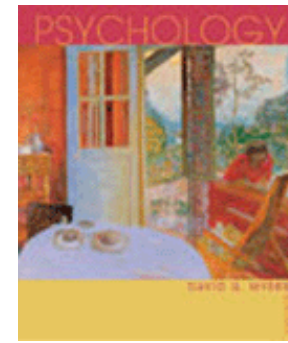
Perceptual Constancy



- Perceptual Constancy or Shape Constancy
 - perceiving objects as unchanging even as illumination and retinal image change
 - color
 - shape
 - size



Perceptual Interpretation



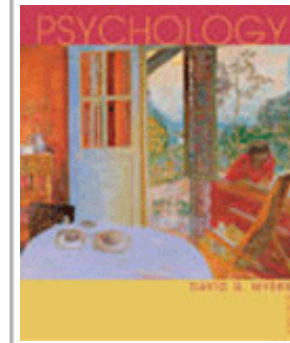
- Perceptual Adaptation
 - (vision) ability to adjust to an artificially displaced visual field
 - prism glasses
 - Upside – Down Glasses
- Perceptual Set
 - a mental predisposition to perceive one thing and not another

Perceptual Set: Schemas

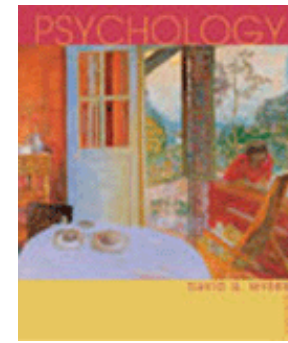
- What you see in the influenced

by

er is
l set

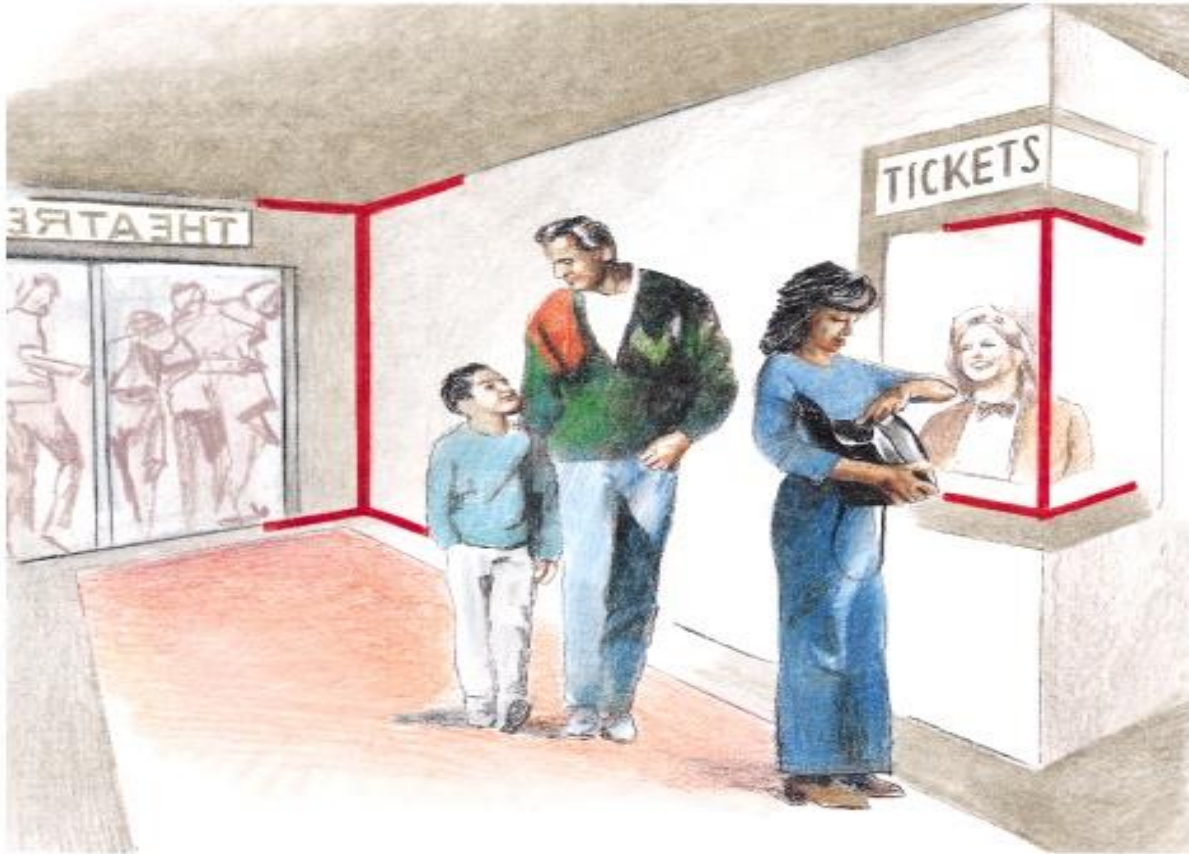
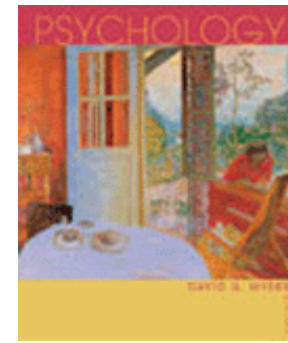


Perceptual Set: Schemas

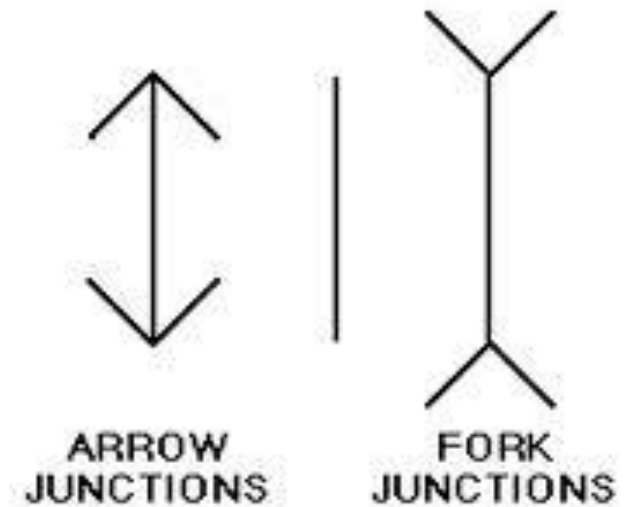


Flying Saucers or Clouds?

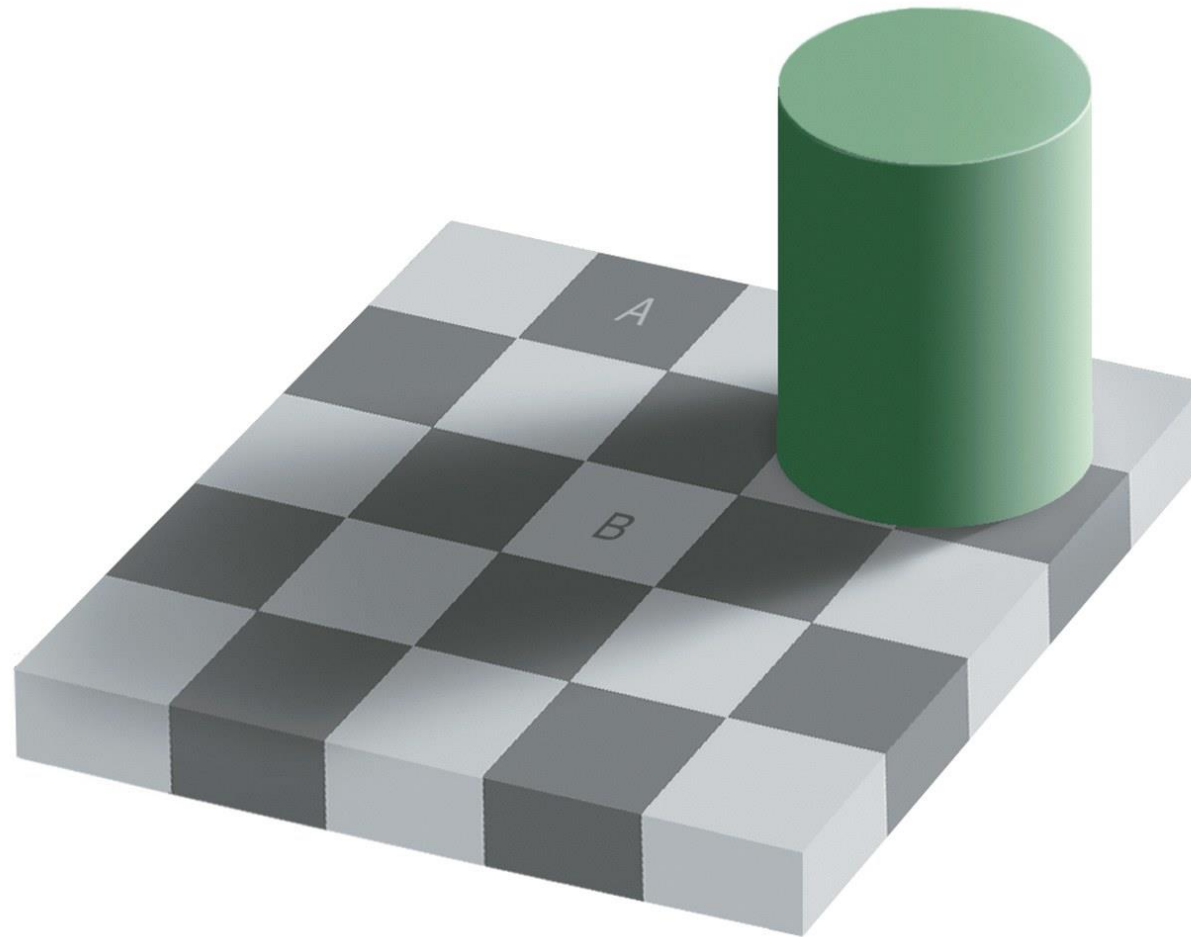
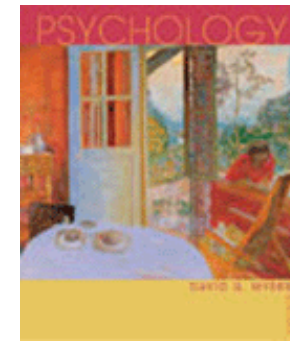
Perceptual Organization: Muller-Lyer Illusion



Müller-Lyer Illusion



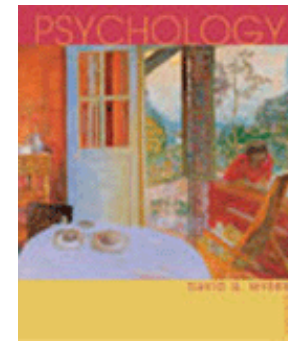
Perceptual Organization- Brightness Contrast



Perceptual Illusions- Ames Room



Perceptual Illusions



Perceptual Organization- Size-Distance Relationship

