

Sensation and Perception

Our perceptual processes are unconscious and automatic. This generally makes perception relatively quick, but can make it difficult to notice our biases in perception and counter them when perceptions are inaccurate.

For example, the following are "normal" individuals.



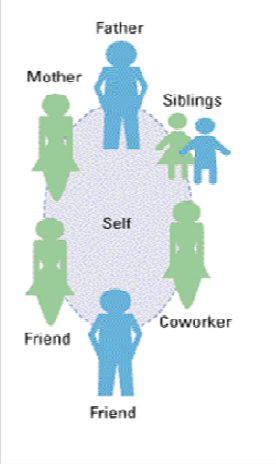
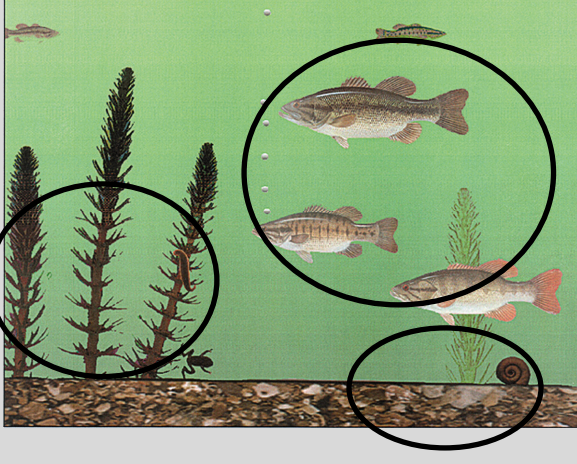

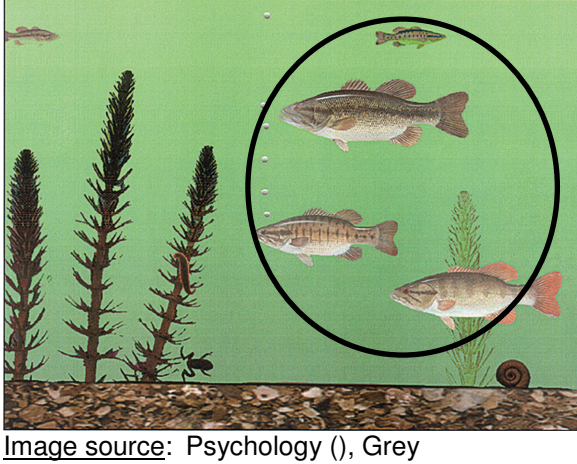


After half an hour trying to figure out this crazy haircut, I realized it's a coconut tree behind him.



Culture and Perception

Culture shapes perception. One of the major cultural differences psychologists look at is the collectivist versus individualistic orientation.

<p>Collectivist Cultures</p>	 <p>A diagram illustrating a collectivist cultural orientation. At the center is a light blue oval labeled 'Self'. Surrounding this central oval are eight stylized human figures: a Father (top), Mother (top-left), Siblings (top-right), Friend (bottom-left), Coworker (bottom-right), and two other Friends (bottom). The 'Self' is integrated into a larger, interconnected social network.</p> <p>Image source: Unknown</p>	 <p>An illustration of an underwater scene with green water, brown rocks at the bottom, and several fish. Three black circles are drawn over the scene: one around a large fish in the upper right, one around a smaller fish in the middle right, and one around a snail on the bottom right.</p>
<p>Individualistic Cultures</p>	 <p>A diagram illustrating an individualistic cultural orientation. At the center is a light blue oval labeled 'Self'. Surrounding this central oval are six stylized human figures: a Father (top), Mother (top-left), Siblings (top-right), Friend (bottom-left), Coworker (bottom-right), and another Friend (bottom). The 'Self' is positioned as a distinct, separate entity from the surrounding social roles.</p> <p>Image source: Unknown</p>	 <p>An illustration of an underwater scene, identical to the one above. However, only one large black circle is drawn around the large fish in the upper right, highlighting it as the primary focus.</p> <p>Image source: Psychology (), Grey</p>

Different Cultures Interpret the World Differently

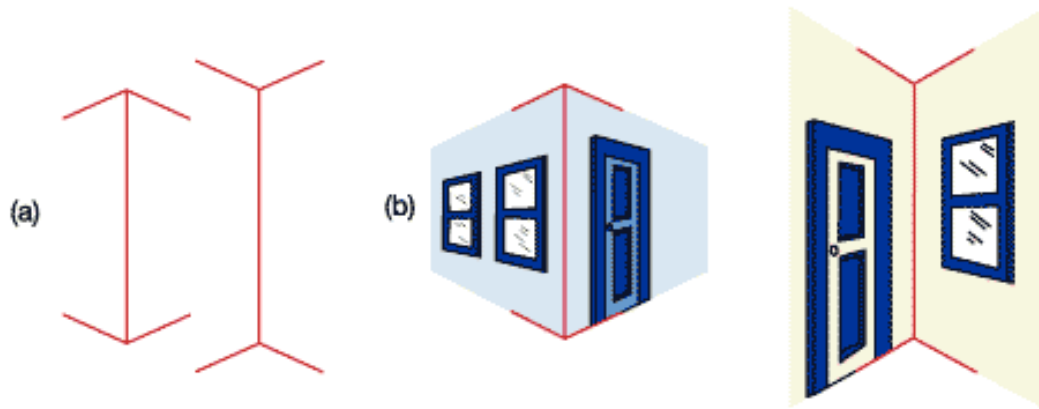
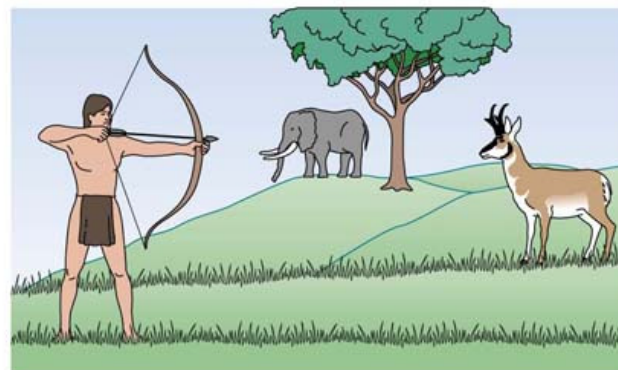


Image source: Unknown

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(a)



(b)

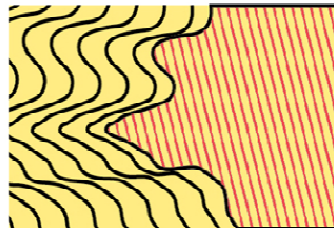
Image source: Psychology: Science and Practice (), Passer and Smith

Gestalt Principles of Grouping (Gestalt Laws)

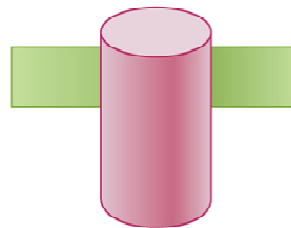
Gestalt psychologists emphasized that we perceive whole objects or figures rather than isolated bits and pieces of sensory information. There appears to be some inherent cognitive process to organize information in a simple manner. The five Gestalt principles of grouping described in your book are:



a Proximity:
Close figures are grouped as an object. So we see these 16 dots as three groups of objects.



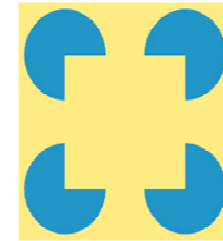
b Similarity:
Similar figures are grouped in an object. So we see this rectangle as having two locked pieces.



c Continuity:
Intersecting lines are interpreted as continuous. So we see the green bar as one piece that continues behind the purple cylinder.





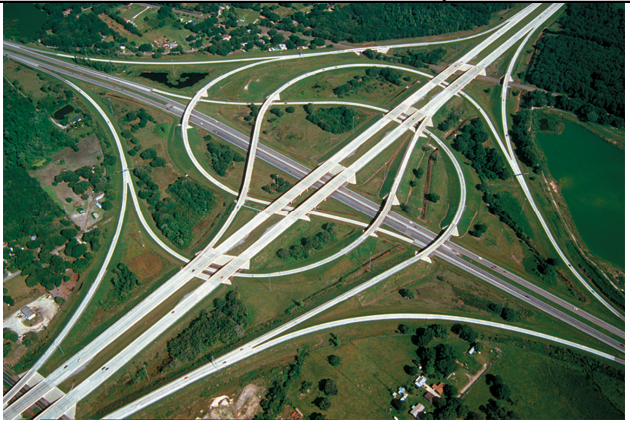

d Closure:
Figures with gaps are interpreted as complete. So we see the figure as one whole triangle.



e Illusory contours:
Contours are perceived even when they do not exist. So we see the contours of a square here.

FIGURE 5.13

Gestalt Principles of Grouping

Proximity	Similarity
 A photograph showing five people standing on a balcony, looking out at a large, snow-capped mountain under a clear blue sky. The people are dressed in casual summer attire, and their proximity to each other and the view illustrates the principle of proximity.	 A close-up photograph of a row of Christmas cookies. The top row consists of round cookies decorated with Santa Claus faces. The bottom row consists of round cookies with concentric circles. The similarity in shape and size between the cookies in each row illustrates the principle of similarity.
Law of Continuity (or Good Continuation)	Closure
 An aerial photograph of a complex highway interchange with multiple overpasses and ramps. The lines of the roads and overpasses cross each other, but the eye naturally follows the continuous paths of the roads, illustrating the Law of Continuity.	 A photograph of a large, ornate clock face. The clock face is partially obscured by several figures in red and black costumes, possibly from a movie or TV show, who are standing on the clock's hands and face. The clock's circular shape and the figures' positions illustrate the principle of closure.

Gestalt Principles of Grouping

Identify the Gestalt Principle of Grouping from the choices listed below.

Transparency 42
Unnumbered figure, page 173
Gestalt principles of perceptual organization

Proximity
Similarity
Continuity
Closure

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The image contains several visual stimuli used to illustrate Gestalt principles of grouping. On the left side, there are three groups of vertical red lines, each group containing three lines. Below these are three rows of shapes: the first row has a green triangle, a green circle, and a green triangle; the second row has a green triangle, a green circle, and a green triangle; the third row has a green triangle, a green circle, and a green triangle. On the right side, there is a red spiral pattern and a blue wavy line.

Principle of Proximity



Image source: unknown

Principle of Proximity

- Law of similarity: The tendency to perceive objects of similar size, shape or color as a unit or a figure.
 - Law of closure: The tendency to fill in the gaps or contours in an incomplete image.
 - Law of good continuation: The tendency to group elements that appear to follow in the same direction as a single unit or figure.
 - Law of proximity: The tendency to view objects that are close to each other as being as a unit or a figure.
 - Relative size: If two or more objects are assumed to be similar in size, the object that appears larger is perceived as being closer.
 - Overlap: when one object partially blocks or obscures the view of another object, the partially blocked object is perceived as being farther away.
 - Aerial perspective. Faraway objects often appear hazy or slightly blurred by the atmosphere.
 - Texture gradient: As a surface with distinct texture gradually become less clearly defined.
 - Linear Perspective: Parallel lines seem to meet in the distance. For example, if you stand in the middle of a railroad tracks, and look down the rails, you'll notice that the parallel rails seem to meet in the distance.
 - Motion Parallax: When you are moving, you use the speed of passing objects to estimate the distance of the objects.
-

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Principle of Similarity

You can the difference between football teams because of the principle of similarity. Each team has their own color. Those on the same team are similar. (Home teams are in the lighter colors?)

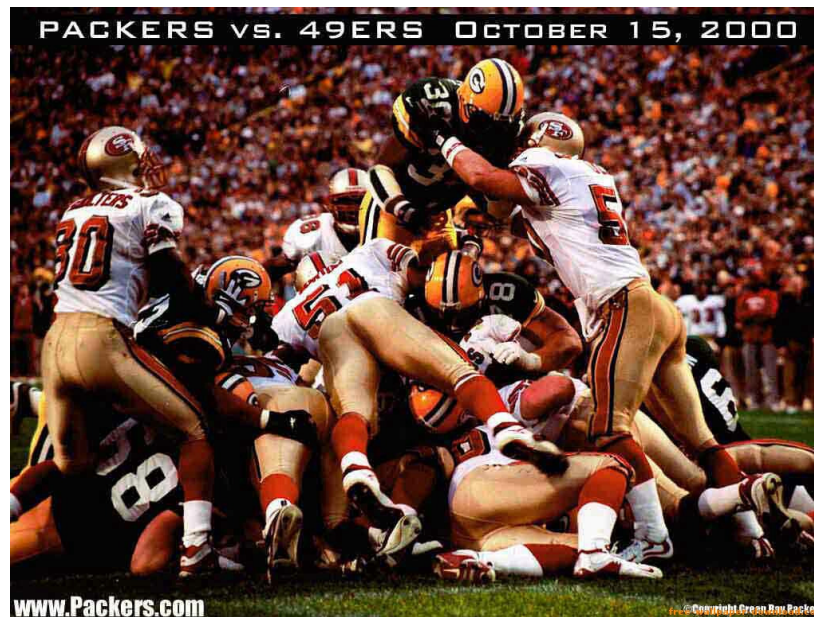


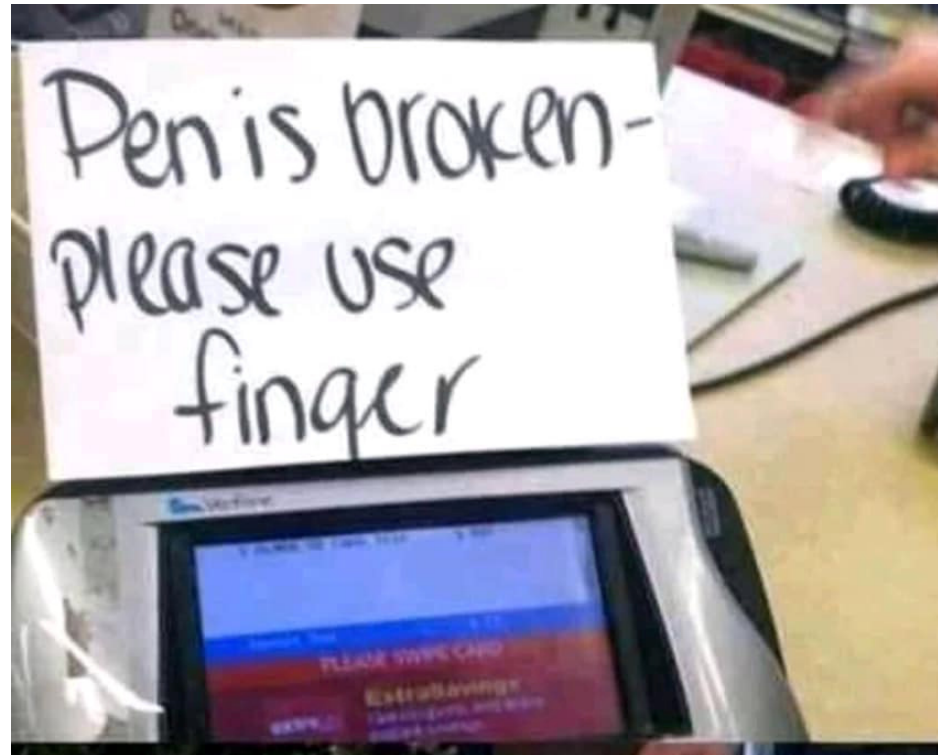
Image source: unknown

Gestalt Principles of Grouping

It appears that adding a little bit of black tape can fool computers to drive the wrong speed. What Gestalt principle would be occurring?



Gestalt Principles of Grouping



Gestalt Principles of Grouping



Perceiving Depth and Size

Monocular Depth Cues (pictorial depth cues)



FIGURE 5.17

- a Occlusion:** A near object (woman's head) blocks an object that is farther away (the building).
- b Height in field:** Objects that are lower in the visual field (woman) are seen as nearer than objects that are higher in the visual field (man on the sidewalk at [c]).
- c Relative size:** Objects that are farther away (man on the sidewalk) project a smaller retinal image than close objects of a similar size man on the street near [b].
- d Familiar size:** We know how large familiar objects are (car), so we can estimate how far away they are by the size of their retinal images.
- e Linear perspective:** Seemingly parallel lines (sidewalk) appear to converge in the distance.
- f Texture gradient:** As a uniformly textured surface recedes, its texture continuously becomes denser (pattern on the pavement).

Kumar Sriskandan/Alamy Stock Photo
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Binocular Depth Cues

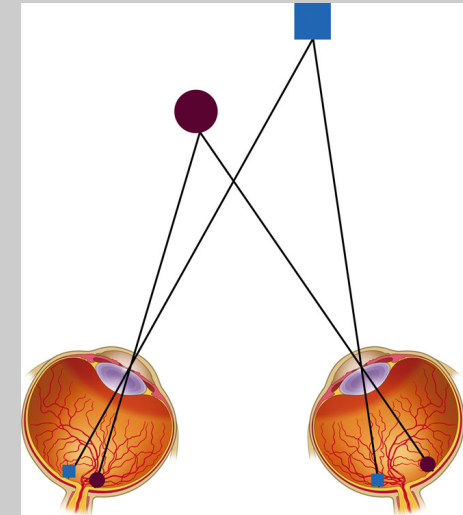








Image source: Schacter et. al

Monocular Depth Cues

	<p><u>Occlusion</u> A near object blocks (the airplane) an object that is farther away (the moon).</p>		<p><u>Familiar size</u> We know how large familiar objects are (e.g. the house), so we can estimate how far away they are by the size of their retinal image.</p>
	<p><u>Height in the visual field</u> Objects that are lower in the visual (the man with the back to us) field are seen as nearer than objects that are higher in the visual field (the man who is facing us).</p>	 <p>(a)</p>	<p><u>Linear perspective</u> Seemingly parallel lines (railroad tracks) appear to converge in the distance.</p>
	<p><u>Relative Size</u> Objects that are farther away (the man in the back with the darker clothes) project a small retinal image than close objects (the man in lighter clothes) of similar sizes.</p>	 <p>(b)</p>	<p><u>Texture gradient</u> As a uniformly textured surface recedes, its texture continuously becomes denser (cracked patterns in the dried mud).</p>

Perceiving Depth and Size: Monocular Depth Cues

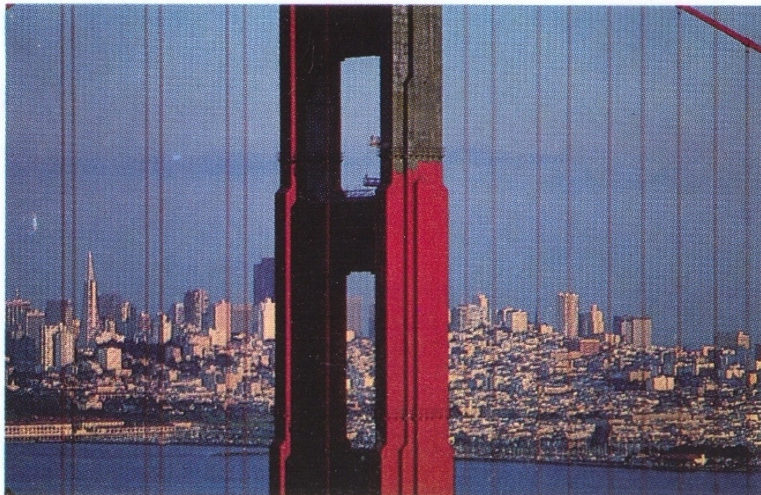


Image source: Psychology (????), Myers

Closure

What do the Gestalt Laws tell us about how people think?

- There are innate ways of thinking about the world around us that are unconscious and influence us without our awareness

What do the Depth Perception cues tell us about perception and thinking?

- Context influence perception
- These influences are unconscious and automatic. They are only apparent when we have to think about it and explain it.

Many psychologists argue that perception, our interpretation of the world is a constructive process. There is an “objective world” out there, but we cannot attend or know everything about it, so we take small pieces of it and put it together to make some sort of meaning.

Perception is an active construction

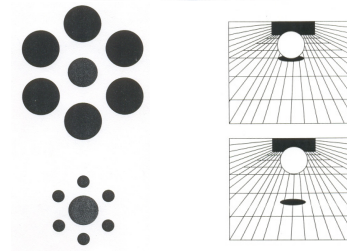
Perception doesn't occur in a vacuum. We rely on cues from the environment to help us interpret "reality". We actively construct reality from cues from the social environment. Depending on the information presented from the social environment, we will come to different perceptions of it.

We saw examples of where context influences what we perceive such as with the following:

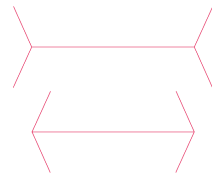
- Letters

A
I2 B I4
C

- Circles



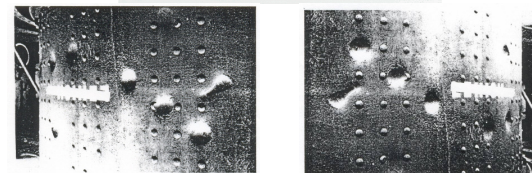
- Müllen-Lyer illusion



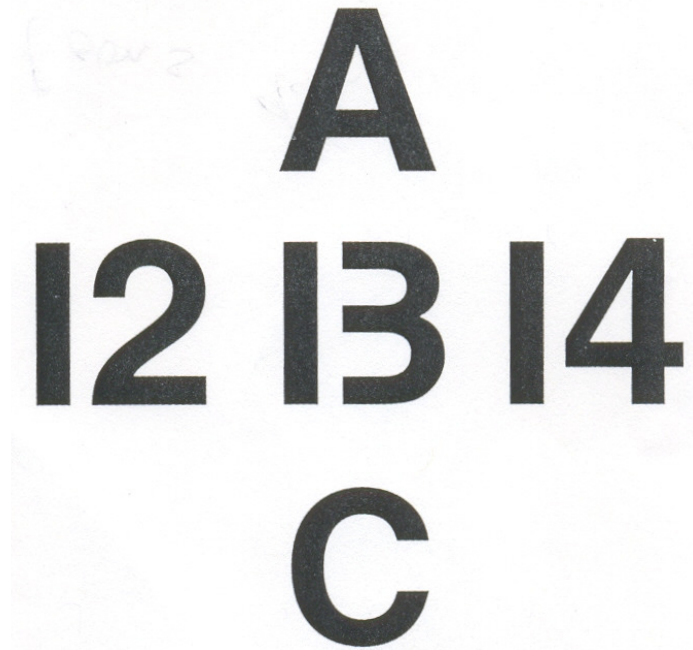
- Color boxes

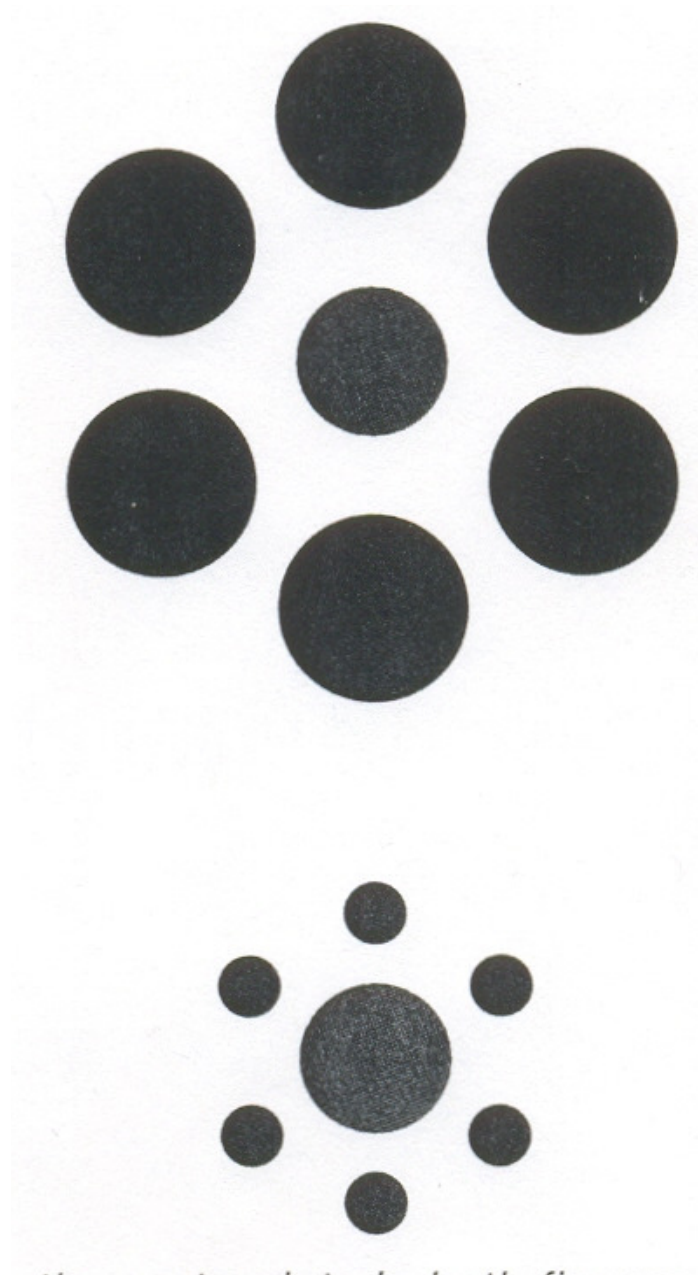


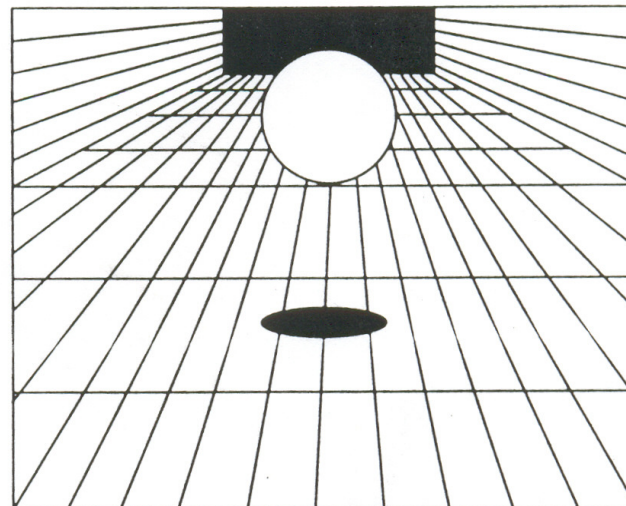
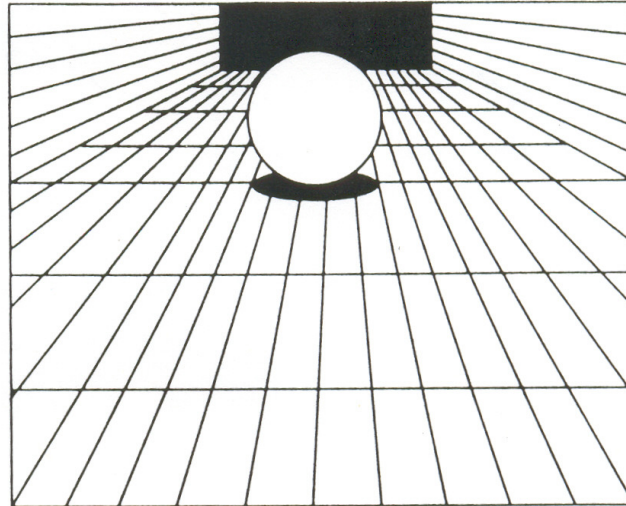
- Dents or bulges

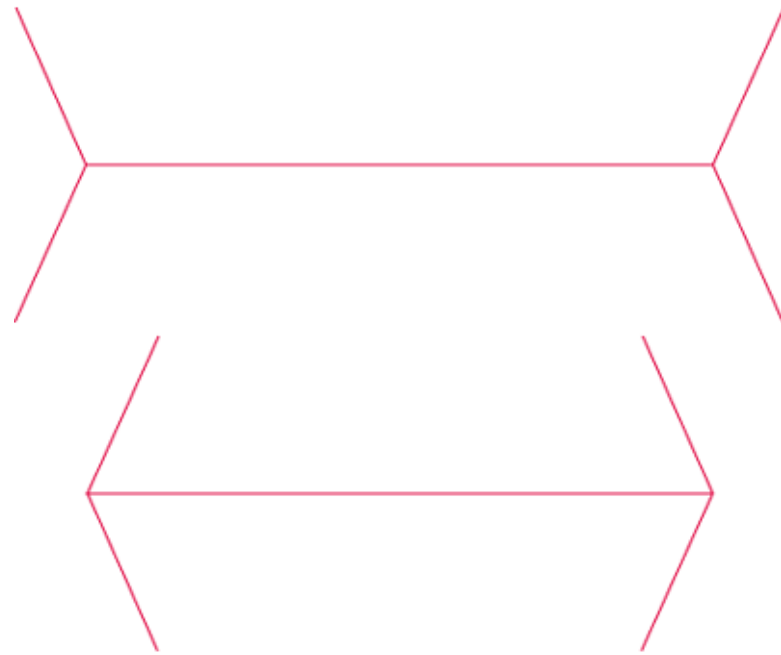


Perception is an active construction

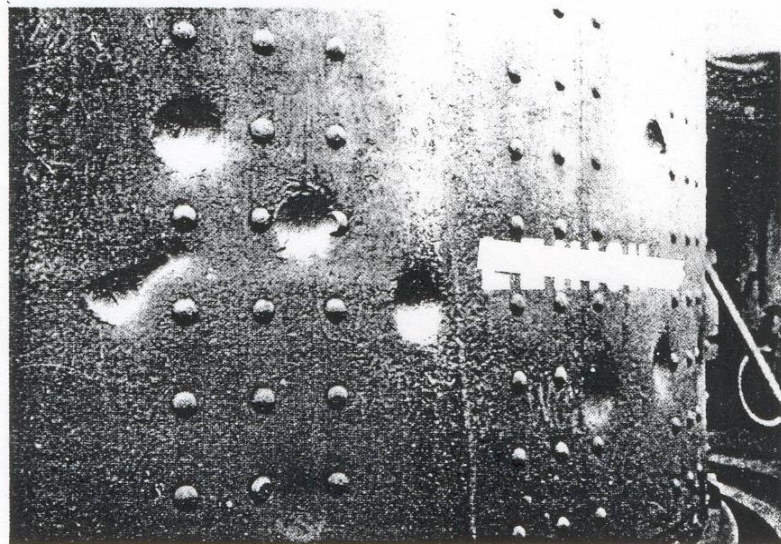
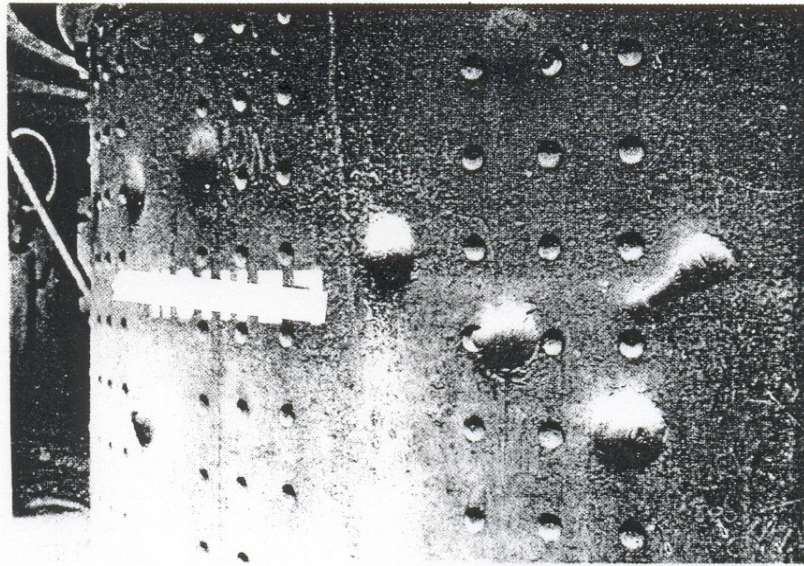






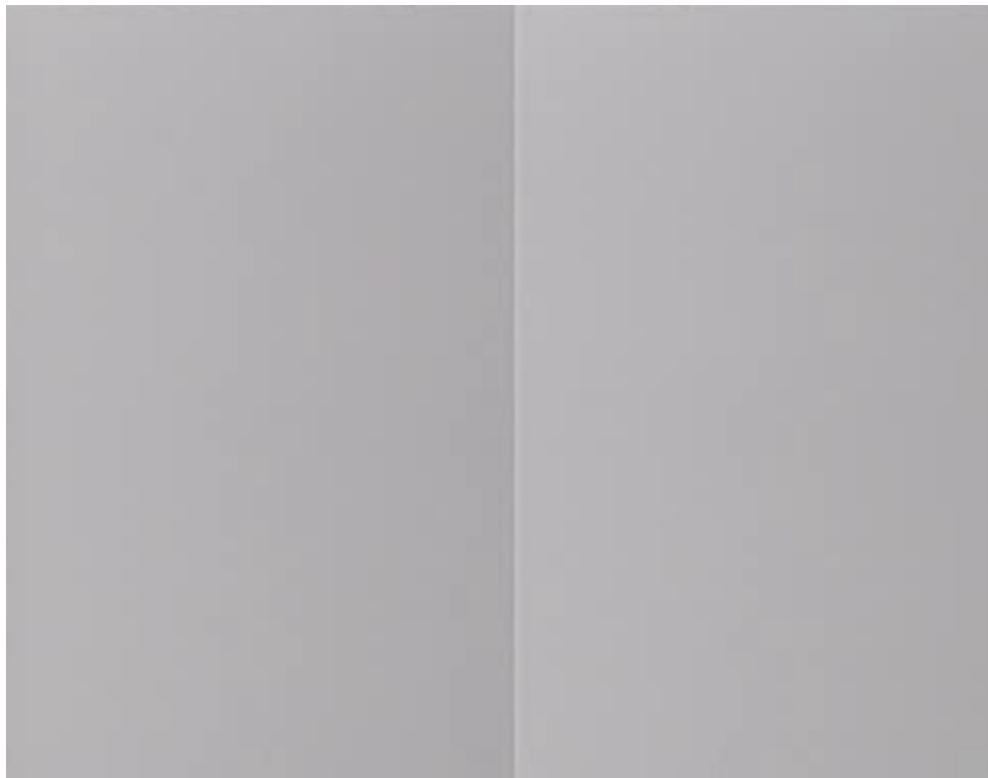




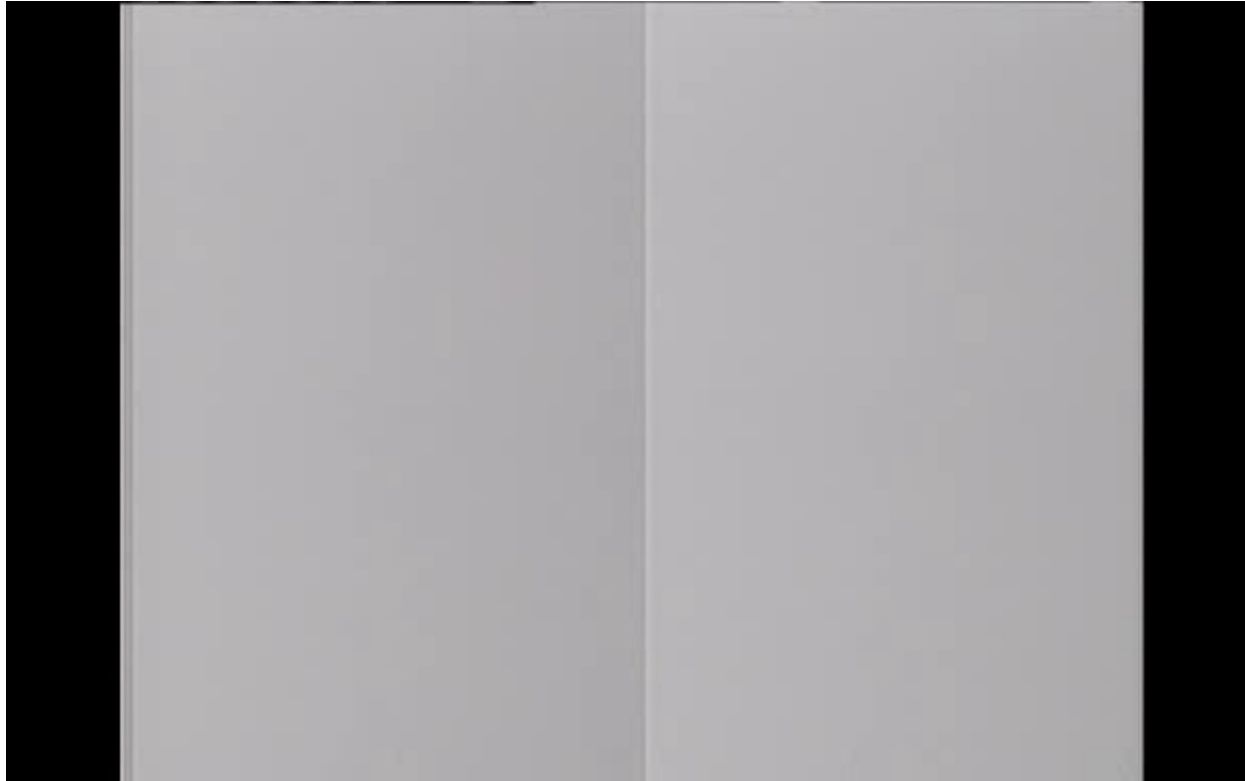


Context affects perceptions—boundaries

Boundaries can create the perception of differences when they don't exist. The following is a visual illusion from the Discovering Psychology #7: Sensation and Perception at about 20:00 into the video

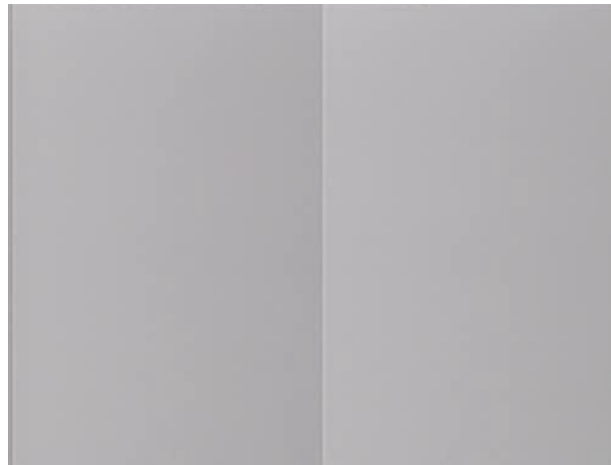


Most people see two different shades in the left and right side. Now cover up the center line.



Context affects perceptions—boundaries

Boundaries can create the perception of differences when they don't exist.



Boundaries, divisions and categories can exaggerate differences between groups that are quite similar. Men and women are more similar than they are different. The different categories accentuate and focus our attention on the differences.



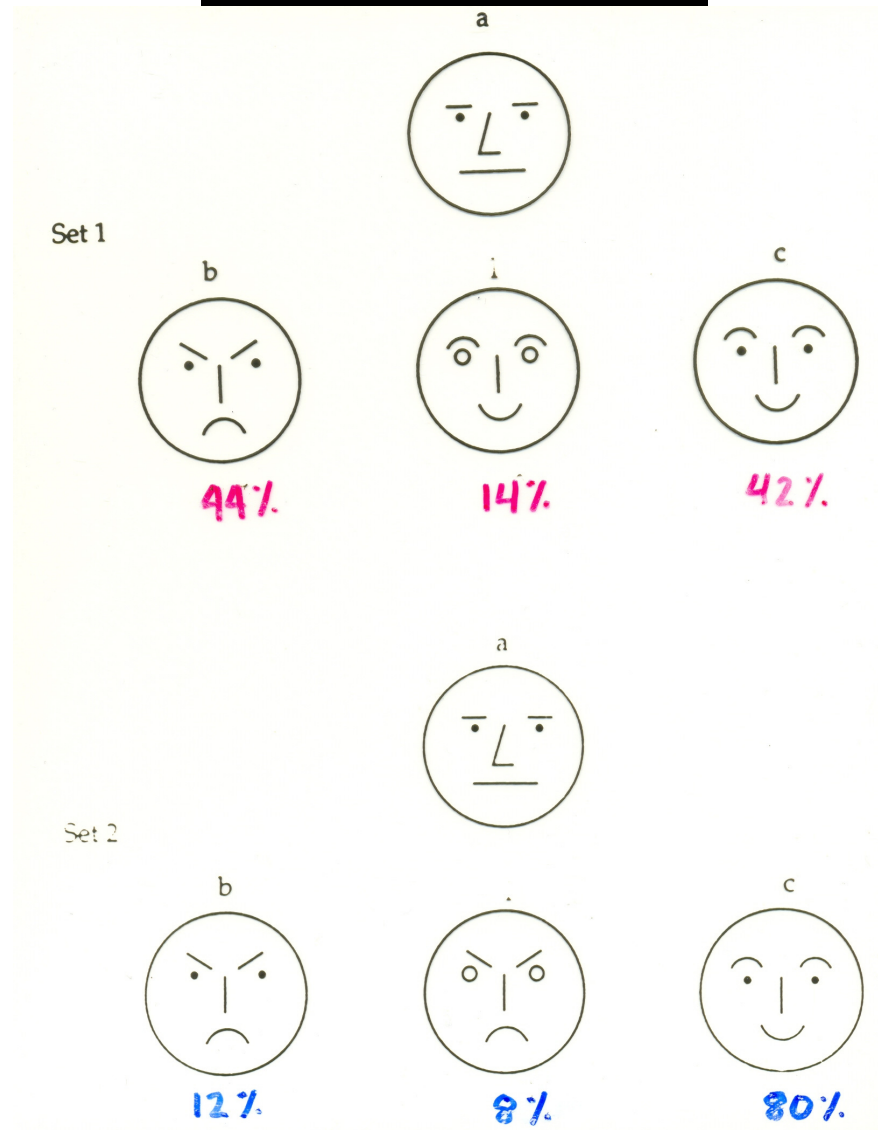
Who am I?



Who am I?



Similarity and Context



Perception is an active construction


We construct some interpretation of reality based on the context, not on an “objective reality”.

What are examples of where the context affects our decisions or perception of the social reality?


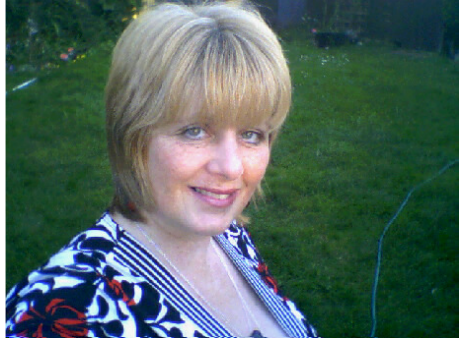
- Never follow a good act; try to follow a bad act
 - However good or bad you are, you will be perceived worse if you followed the Beatles on the Ed Sullivan show?
 - If you have an excellent movie, it is hard to make a good sequel. (Highlander I, Back to the Future I, Terminator 2, X2)
 - If you have a bad first movie, your sequel is generally better (Star Trek I to Star Trek II)
- One of many strategies sales people will use when selling an average house or car, salespeople can show you a “lemon” first, before showing you the product they are trying sell.
- The 1970’s “Charlie’s Angels” study and ratings of attractiveness.
- Drug companies claim that it costs over \$500 million to bring a new drug to market. A consumer group says the number is much closer to \$100 million.
- Were there about 6,000,000 Jews killed in the Holocaust, or was it a mere 30,000 as stated by Holocaust deniers?

Perception is a Constructed Process: Attractiveness

Group A

	<p>Rate photograph of an average looking woman</p> 	<p>Average rating</p>
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Group B

<p>Male college students watched the 1970's television show "Charlie's Angels"</p> 	<p>Rate photograph of an average looking woman</p> 	<p>Average rating</p>
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