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.
IT TOOK ME FAR TOO LONG TO FIGURE OUT WHAT WAS WRONG WITH THIS MAN’S FACE

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.

<table>
<thead>
<tr>
<th>Collectivist Cultures</th>
<th></th>
<th>Individualistic Cultures</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="Unknown" alt="Collectivist Culture Image" /></td>
<td><img src="Unknown" alt="Collectivist Culture Image" /></td>
<td><img src="Unknown" alt="Individualistic Culture Image" /></td>
</tr>
</tbody>
</table>

Image source: Unknown

Image source: Psychology (), Grey
Different Cultures Interpret the World Differently

Image source: Unknown

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:

**Figure 5.13**

Figure 5.13 page 192
### Gestalt Principles of Grouping

<table>
<thead>
<tr>
<th>Proximity</th>
<th>Similarity</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Proximity Image" /></td>
<td><img src="image2.png" alt="Similarity Image" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Law of Continuity (or Good Continuation)</th>
<th>Closure</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3.png" alt="Continuity Image" /></td>
<td><img src="image4.png" alt="Closure Image" /></td>
</tr>
</tbody>
</table>

**Image source:** Psychology (2009), Hockenbury and Hockenbury
Gestalt Principles of Grouping

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

- Proximity
- Similarity
- Continuity
- Closure
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.
**Principle of Similarity**

You can tell 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

Pen is broken—please use finger.
Gestalt Principles of Grouping
# Perceiving Depth and Size

## Monocular Depth Cues (pictorial depth cues)

<table>
<thead>
<tr>
<th>Image</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image-source" alt="Monocular Depth Cues" /></td>
<td>Occlusion: A near object (woman’s head) blocks an object that is farther away (the building).</td>
</tr>
<tr>
<td><img src="image-source" alt="Monocular Depth Cues" /></td>
<td>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).</td>
</tr>
<tr>
<td><img src="image-source" alt="Monocular Depth Cues" /></td>
<td>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.</td>
</tr>
<tr>
<td><img src="image-source" alt="Monocular Depth Cues" /></td>
<td>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.</td>
</tr>
<tr>
<td><img src="image-source" alt="Monocular Depth Cues" /></td>
<td>Linear perspective: Seemingly parallel lines (sidewalk) appear to converge in the distance.</td>
</tr>
<tr>
<td><img src="image-source" alt="Monocular Depth Cues" /></td>
<td>Texture gradient: As a uniformly textured surface recedes, its texture continuity becomes denser (pattern on the pavement).</td>
</tr>
</tbody>
</table>

Image source: Schacter et al.

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## Binocular Depth Cues

<table>
<thead>
<tr>
<th>Image</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image-source" alt="Binocular Depth Cues" /></td>
<td></td>
</tr>
</tbody>
</table>

Image source: Schacter et al.
## Monocular Depth Cues

<table>
<thead>
<tr>
<th><strong>Occlusion</strong></th>
<th>A near object blocks (the airplane) an object that is farther away (the moon).</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Familiar size</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Height in the visual field</strong></td>
<td>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).</td>
</tr>
<tr>
<td><strong>Linear perspective</strong></td>
<td>Seemingly parallel lines (railroad tracks) appear to converge in the distance.</td>
</tr>
<tr>
<td><strong>Relative Size</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Texture gradient</strong></td>
<td>As a uniformly textured surface recedes, its texture continuously becomes denser (cracked patterns in the dried mud).</td>
</tr>
</tbody>
</table>
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
- 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? I am male.

Who am I? I am black.
Similarity and Context

Set 1

- b: 44%
- i: 14%
- c: 42%

Set 2

- b: 12%
- c: 80%
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

<table>
<thead>
<tr>
<th>Rate photograph of an average looking woman</th>
<th>Average rating</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.jpg" alt="Average looking woman" /></td>
<td></td>
</tr>
</tbody>
</table>

### Group B

<table>
<thead>
<tr>
<th>Male college students watched the 1970’s television show “Charlie’s Angels”</th>
<th>Rate photograph of an average looking woman</th>
<th>Average rating</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image2.jpg" alt="Charlie's Angels" /></td>
<td><img src="image3.jpg" alt="Average looking woman" /></td>
<td></td>
</tr>
</tbody>
</table>