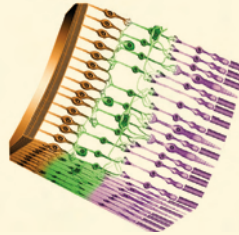


## Figure 3.1 Diagram of the Visual Sensory System Showing the Four Parts of the System

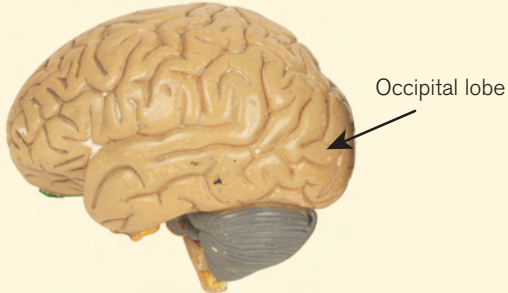
1. Sense Organ – the eye



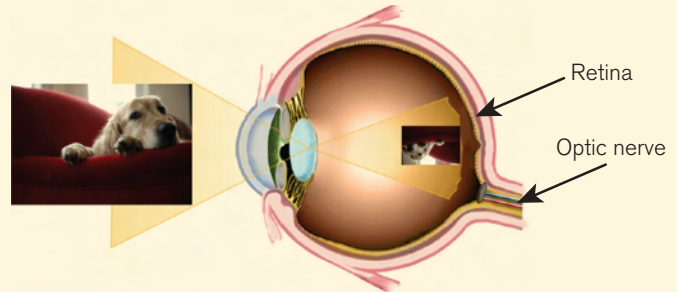
2. Receptor cells – rods and cones in the retina



4. Brain area – occipital lobe



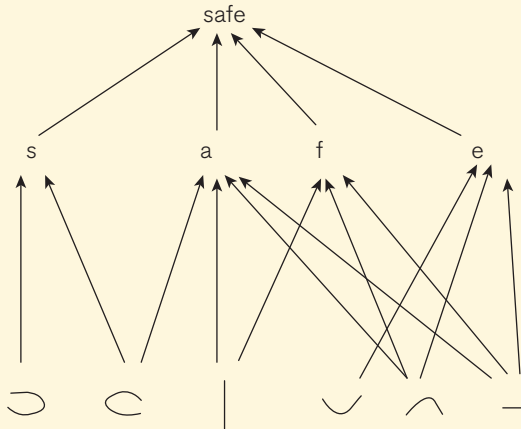
3. Nerve conduit – optic nerve



Figure

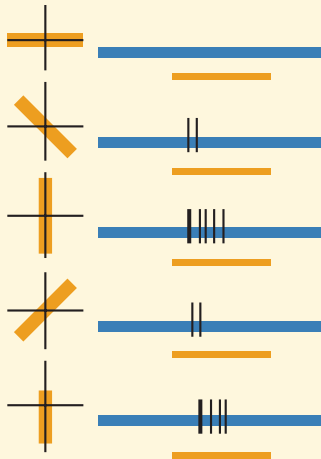
3.2

## An Example of Bottom-Up Processing That Would Allow Perception of the Word *Safe*



Basic features of letters are detected by the visual system. Then this information goes through a hierarchy of letters and then words from the bottom up to eventually identify words.

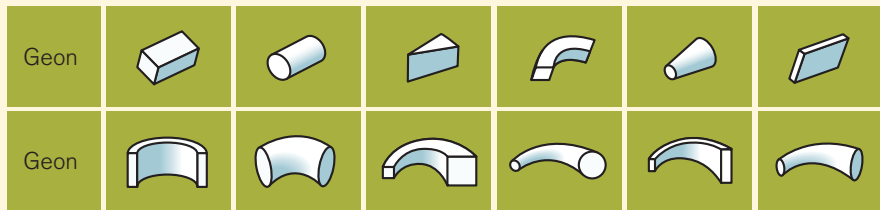
## Figure 3.3 Neuron Activity for Lines at Different Orientations in Hubel and Weisel's (1959) Study



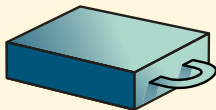
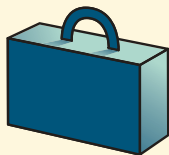
SOURCE: Figure 3, "Receptive Fields of Single Neurons in the Cat's Striate Cortex," by D. H. Hubel and T. N. Wiesel, 1959, *Journal of Physiology*, 148, pp. 574–591. © 1959 by The Physiology Society. Reprinted with permission from John Wiley & Sons, Inc.

## Figure 3.4 Geons

Panel A: Examples of geons that are features of three-dimensional objects.



Panel B: Examples of objects made up of some of the geons in Panel A.

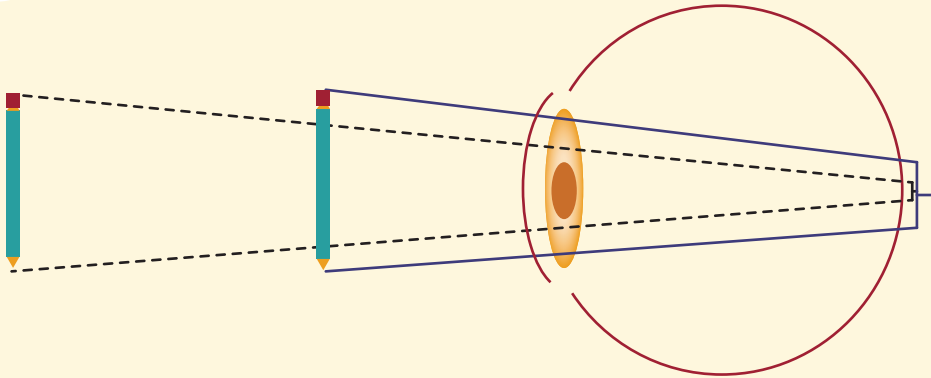


SOURCE: Galotti, K. M. (2014). *Cognitive psychology in and out of the laboratory* (5th ed.). Thousand Oaks, CA: Sage.

Figure

3.5

Retinal Image Size

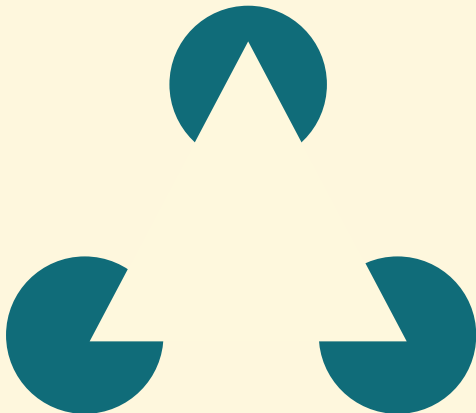


Two pencils held at different distances from the eye create retinal images that differ in size; the closer pencil has a larger image.

**Figure**

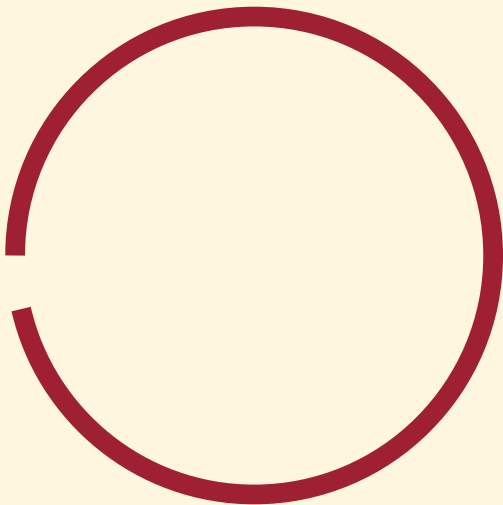
**3.6**

**A Figure Perceived as a Triangle  
Overlaid Onto Three Circles  
Illustrates the Gestalt Approach  
to Perception**

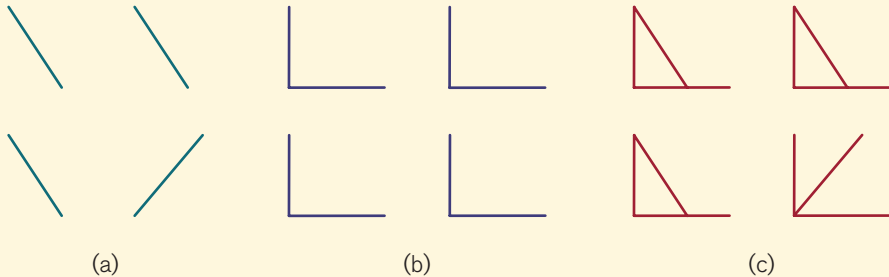


## Figure 3.7

Due to the Principle of Closure,  
We View This Object as a Circle,  
Even Though It Is Not Complete



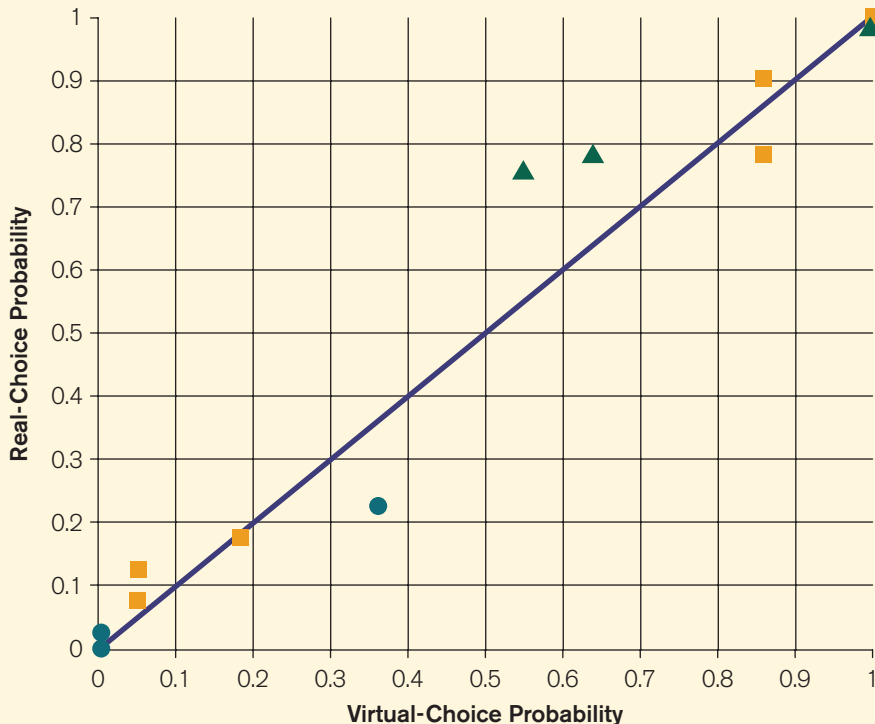
## Figure 3.8 These Arrays Help Illustrate the Gestalt Idea of “Whole” Stimulus Processing at Work



SOURCE: Adapted from Pomerantz, J. R., & Portillo, M. C. (2011). Grouping and emergent features in vision: Toward a theory of basic Gestalts. *Journal of Experimental Psychology: Human Perception and Performance*, 37(5), 1331–1349.



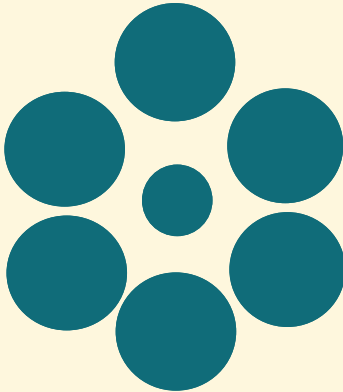
**Figure 3.9** Results From the Rosenbaum, Brach, and Semenov (2011) Study



This graph shows the probability of choosing the left path in the virtual task (x-axis) in the Rosenbaum (2012) study compared with the probability of choosing the left path in the actual performed (real-choice) task (y-axis) in the Rosenbaum, Brach, and Semenov (2011) study.

## Figure 3.10 The Ebbinghaus Illusion

(a)



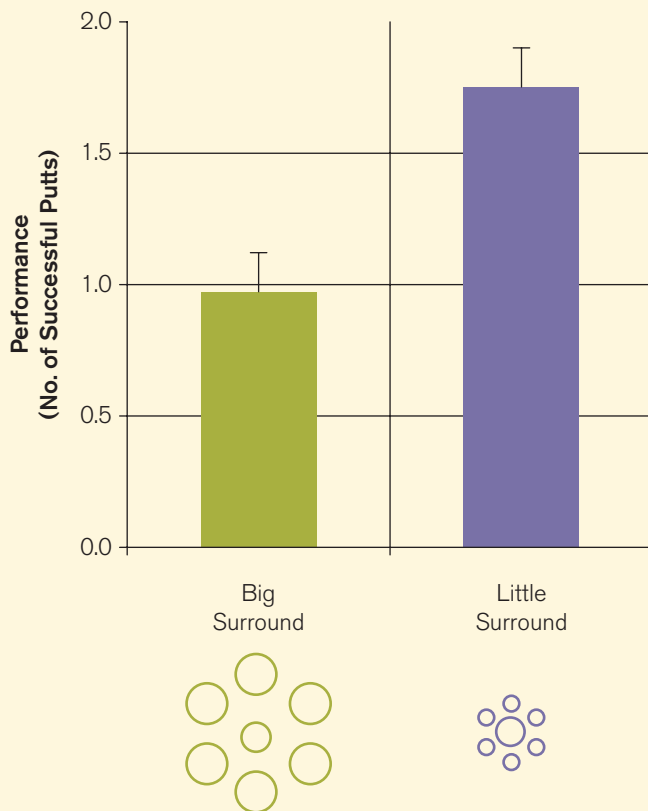
(b)



The inner circles are the same size, but the inner circle in (a) is perceived as smaller than the inner circle in (b).

SOURCE: Figure 1 excerpt, Witt, J. K., Linkenauger, S. A., & Proffitt, D. R. (2012). Get me out of this slump! Visual illusions improve sports performance. *Psychological Science*, 23, 397–399.

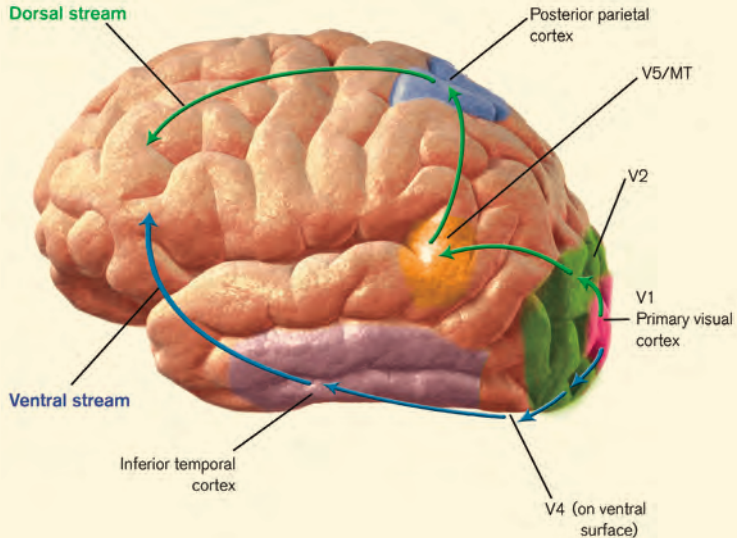
**Figure 3.11** Results From the Witt et al. (2012) Study



Putting performance was better when the hole was perceived as larger, even though the holes were actually the same size.

SOURCE: Figure 1 excerpt, Witt, J. K., Linkenauger, S. A., & Proffitt, D. R. (2012). Get me out of this slump! Visual illusions improve sports performance. *Psychological Science*, 23, 397–399.

**Figure 3.12** Location of Dorsal and Ventral Visual Streams in the Brain





**Photo 3.1** Train tracks showing a linear perspective for the distance of the two signs.



Jim Arbogast/Digital Vision/Thinkstock

**Photo 3.2** The woman in front of these buildings shows how the distance of objects can be determined from retinal image size and knowledge about the objects.



Train track photo: NA/AbleStock.com/Thinkstock

**Photo 3.3** Illustration of the Ponzo illusion: the cat on the bottom looks smaller due to the linear perspective of the train tracks.



**Photo 3.4** This cat lying in a pot illustrates how we make unconscious inferences about objects to perceive the environment.





**Photo 3.5** This figure illustrates the principle of similarity; the scene is typically described with similar objects grouped.



Maria Teijeiro/Digital Vision/Thinkstock

**Photo 3.6** This scene illustrates the principle of proximity; we organize the scene into sets of people based on their proximity to one another.

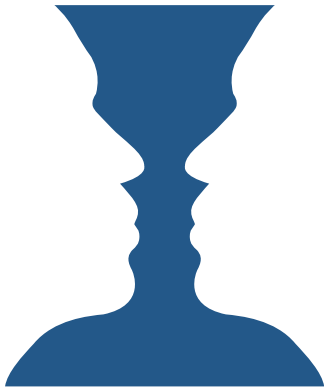


Jupiterimages/Pixland/Thinkstock

**Photo 3.7** This photo illustrates the principle of good continuation; we see the line as a single rope held at both ends instead of as two separate ropes.



**Photo 3.8** This complex scene illustrates several Gestalt principles. How many can you identify?



**Photo 3.10** Do you see a blue vase or two white faces? This drawing illustrates the figure-ground organization of scenes.



**Photo 3.11** An illustration of optic flow; less blurry objects are closer.



**Photos 3.12a, b, & c** Room setups shown in the Rosenbaum (2012) study. Which path would you choose?

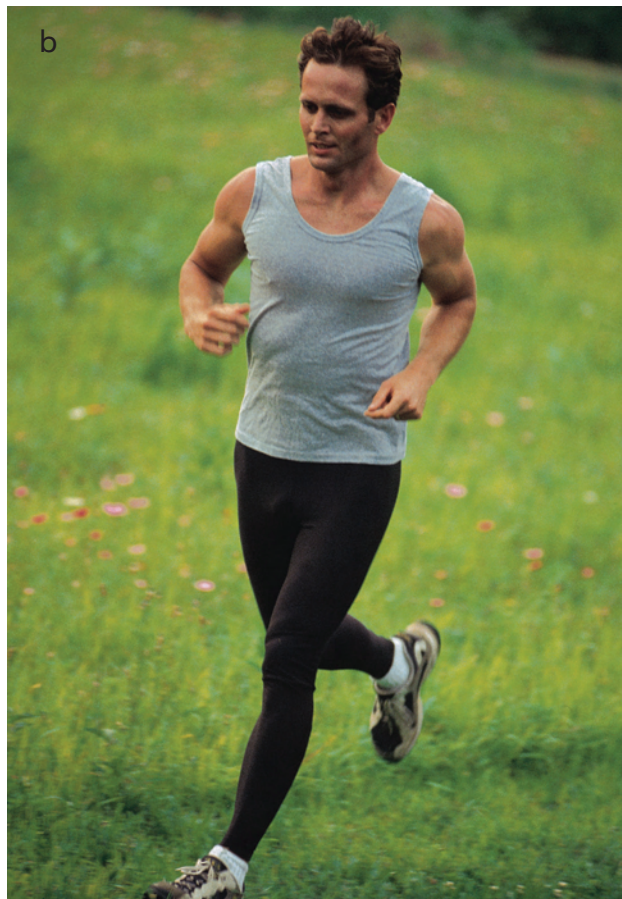
SOURCE: Figure 1, Rosenbaum, D. A. (2012). The tiger on your tail: Choosing between temporally extended behaviors. *Psychological Science*, 23, 855–860.



a



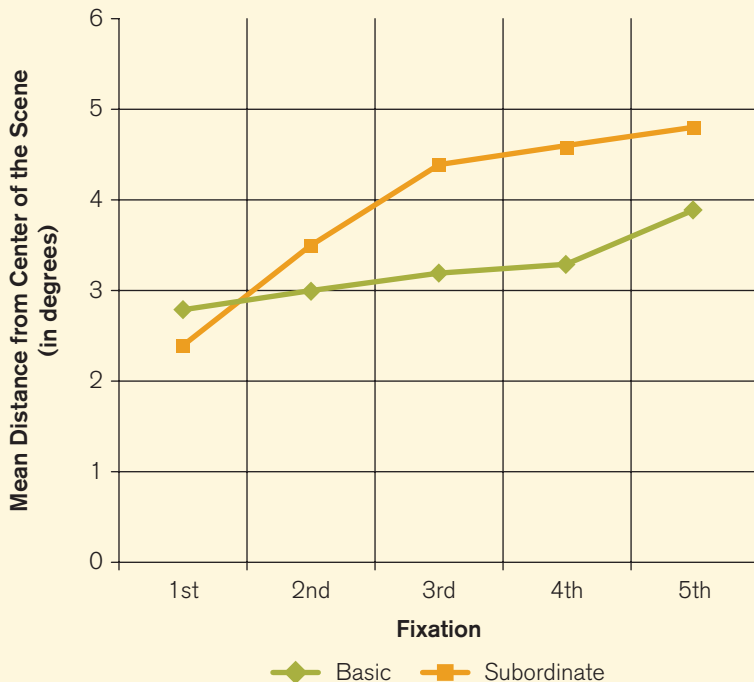
b



**Photos 3.13a & b** In the scene in (a), we can use the lines of the fence in the background to perceive the movement of the man more easily than in (b) where the background does not contain these cues.



**Figure 3.13** Mean Distance From the Center of the Scene for Focus Data From the Restaurant Scenes in the Malcolm et al. (2014) Study



**Table 3.1** Some Organizational Principles of Gestalt Perception

Principle	Description
1. Similarity	Objects are grouped according to their similarity.
2. Proximity	Objects are grouped according to their proximity in a scene.
3. Good continuation	Objects are perceived as continuous in cases where it is expected that they would continue.
4. Closure	Objects are perceived as whole even in cases where parts are occluded or missing.
5. Pragnanz (simplicity)	Objects are perceived in the simplest way possible.