

Monocular Depth Cues Chapter 5

Our text discusses some depth cues in Section 5.3 Vision, but I wanted to present more. These extra ones are presented below.

1. Relative Size

The relative size of objects serve as an important monocular cue for depth perception. How does this work? If two objects are thought to be the same size in the real world, but one makes a smaller image on the retina, then that one must be farther away. The reason for this is: as an object moves away from you, the image on the retina gets smaller. So if one is making a smaller retinal image, but shouldn't be, then it must be farther away.

2. Motion Parallax

The perception of moving object can also serve as a monocular cue for depth. As you are moving, objects that are closer seem to zoom by faster than do objects in the distance. When you are riding in a car, for example, the nearby telephone poles rush by much faster than the trees in the distance. This visual clue allows you to perceive the fast moving objects in the foreground as closer than the slower moving objects off in the distance.

3. Overlap (or Interposition)

When one object overlaps another, the object that is partially obscured is perceived as being farther away. For example, if you see two figures standing in the distance and one figure overlaps and occludes the other one, you will perceive the occluded figure as being behind the non-occluded one. This allows you to judge how objects are placed in relation to one another and contributes to your experience of depth in the world around you.

4. Linear Perspective

Parallel lines appear to meet as they travel into the distance.

For example, the outer edges of a road seem to grow closer and closer until they appear to meet. The closer together the two lines are, the greater the distance will seem.

5. Height in Plane

Objects that are farther away appear higher up in the picture/plane.

