

experiments investigating the ways people construct and use visual images and what these findings suggest about cognition. Finally, we will turn to the nature of visual images, considering the kinds of mental representations used to create and store them.

Throughout the chapter, we will confine ourselves to a discussion of visual images. Recognize, however, that other kinds of mental images exist. Examples include auditory images (such as the imagined sound of your dog barking), olfactory images (such as the imagined smell of fresh-baked bread), and cutaneous images (such as the imagined feeling of your toe being stubbed into the wall). Visual images, like visual perception, have received the most attention within cognitive psychology. Thus, just as when we examined perception (Chapter 3) we focused on visual perception, in this chapter we will focus on visual imagery.

The study of visual imagery has had a controversial history within psychology (Paivio, 1971). Although occasional references to imagery were made at the turn of the 20th century, the rise of behaviorism essentially dictated that even the concept of an image be rejected. Visual images are problematic as objects of scientific inquiry. After all, the experience of a visual image is just about as private an experience as one can have. If I assert that I am forming a visual image of my kitchen, no one but me can tell if I really have the image or am just pretending. Visual images, unlike behaviors, cannot be seen, counted, or controlled by other people. Because visual images can be reported only by the person who asserts she or he is experiencing them, that person can distort or bias them either consciously or inadvertently. Behaviorists argued that

imagery is not the sort of topic that can be investigated with sufficient scientific rigor or control.

Nonetheless, interest in visual imagery never completely vanished (Paivio, 1971) and in fact became stronger after the popularity of behaviorism waned during the 1960s. It is difficult to explain how people perform certain cognitive tasks, such as the one described earlier, without talking about visual images. Moreover, research on memory suggests that people who report using imagery are better able to recall information than people who do not.

Sports psychologists, too, have a strong interest in the use of visual imagery. An athlete who before competing spends time mentally imagining a smoothly executed, well-timed, elegant performance has been shown to perform better a bit later when engaging in the sport (Martin, Moritz, & Hall, 1999). Some research suggests further that imagery can be used to help people cope with a negative emotional event such as remembering a real incident of being rejected, abandoned, or excluded. Research participants asked to visualize so-called cool aspects of the experience—for example, where they were standing or sitting in relation to other people during the incident—were better able to reduce their hostile feelings than were participants asked to form images of their visceral reactions during the incident or participants not asked to form any images (Ayduk, Mischel, & Downey, 2002).

Psychologists now recognize that to eliminate imagery as a subject of discussion and investigation is to overlook a potentially fundamental aspect of cognition. Hence, visual imagery has regained credibility as a worthwhile topic among most cognitive psychologists.