

CHAPTER 11: Visual Knowledge

Visual Imagery

- ▶ **Imagery**—Are mental images similar to pictures or percepts?
- ▶ **Testing methods**—can be used to evaluate mental imagery

Self-report	risky experimental strategy because it is subjective and open to interpretation, like introspection
Chronometric studies	time measurement can be used to determine what type of information is prominent in mental imagery; can travel across mental images
Mental rotation	the farther a shape has to be rotated, the longer the process will take
Demand character	cues that participants might pick up from experimenters on how they “should” behave in the experiment; can be problematic for interpretation of results
- ▶ **Imagery and perception**—visualizing and perceiving draw on similar mechanisms and neural structures, and have functional equivalence in many ways
- ▶ **Spatial and visual images**—evidence suggests there are at least two types of imagery

Blind imagery	evidence from blind individuals suggests spatial imagery is not tied to any sensory modality
Visual imagery	represents layout in terms of appearances
Spatial imagery	represents layout in terms of movements or an abstract format
- ▶ **Individual differences**—differences across individuals in visual and spatial imagery
- ▶ **Images are not pictures**—pictures are neutral with regard to interpretation; mental imagery is not neutral; mental images are organized and have a frame of reference

▶ **Description and depiction**—description leads to faster processing with verbal tasks, while depiction is the likely mode for visual images

▶ **Image scanning**—suggests that participants scan across images at a constant rate

Long-Term Visual Memory

- ▶ **Storage**—How are images stored in long-term memory (LTM)?

Images are stored in LTM in pieces, not in a complete picture	
Image files	some information may be represented via propositions that provide a “recipe” for recreating an image
Some information may be stored as a verbal description	
- ▶ **Imagery helps memory in several ways**

Materials that evoke imagery are better remembered
Memory can be aided by the use of imagery mnemonics
Memory is best if objects interact

(continued)

- ▶ **Dual coding**—imagery benefits memory because it provides two routes for retrieval: one verbal and one imagery-based
- ▶ **Pictures**—memory for pictures shows many of the same patterns as memory for other objects including schema effects, primacy and recency effects, and priming

The Diversity of Knowledge

- ▶ **Working memory**—needs separate memory components for imagery and other types of representations
- ▶ **Long-term memory**—depends on a single store of representations, whether they are verbal or image-based