

Chapter 13: Learning and Memory

The Nature of Learning

Four Principal Types of Learning

Two Principal Types of Memory

Memory Consolidation

Synaptic Plasticity

- electrophysiological mechanisms
- biochemical mechanisms

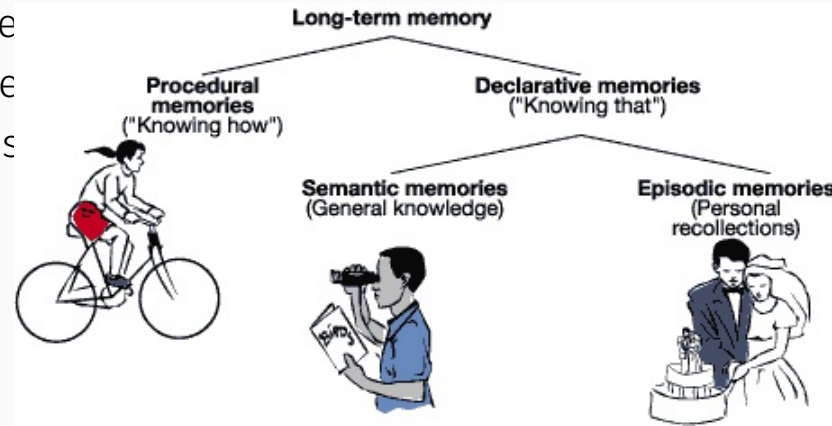
Neurobiological Mechanisms

Disorders

The Two Principal Types of Learning

Declarative Memory.

- explicit knowledge that can be describe
- general memory, of which we are aware
- semantic memory: knowledge that does
- episodic memory: autobiographical

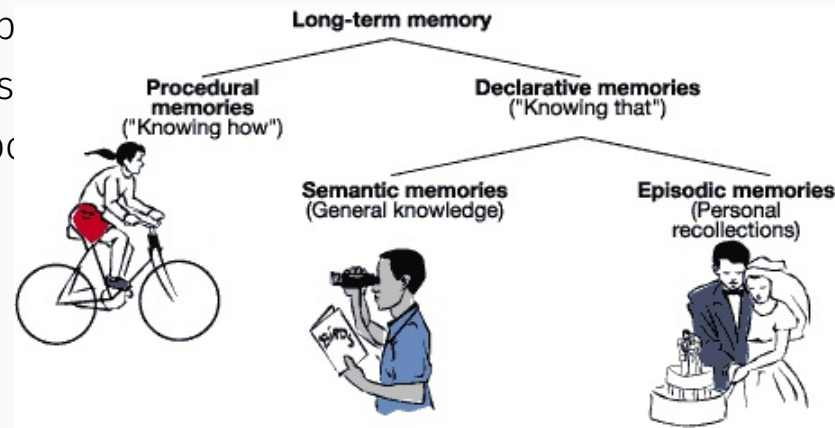


you learned it

The Two Principal Types of Learning

Non-declarative Memory.

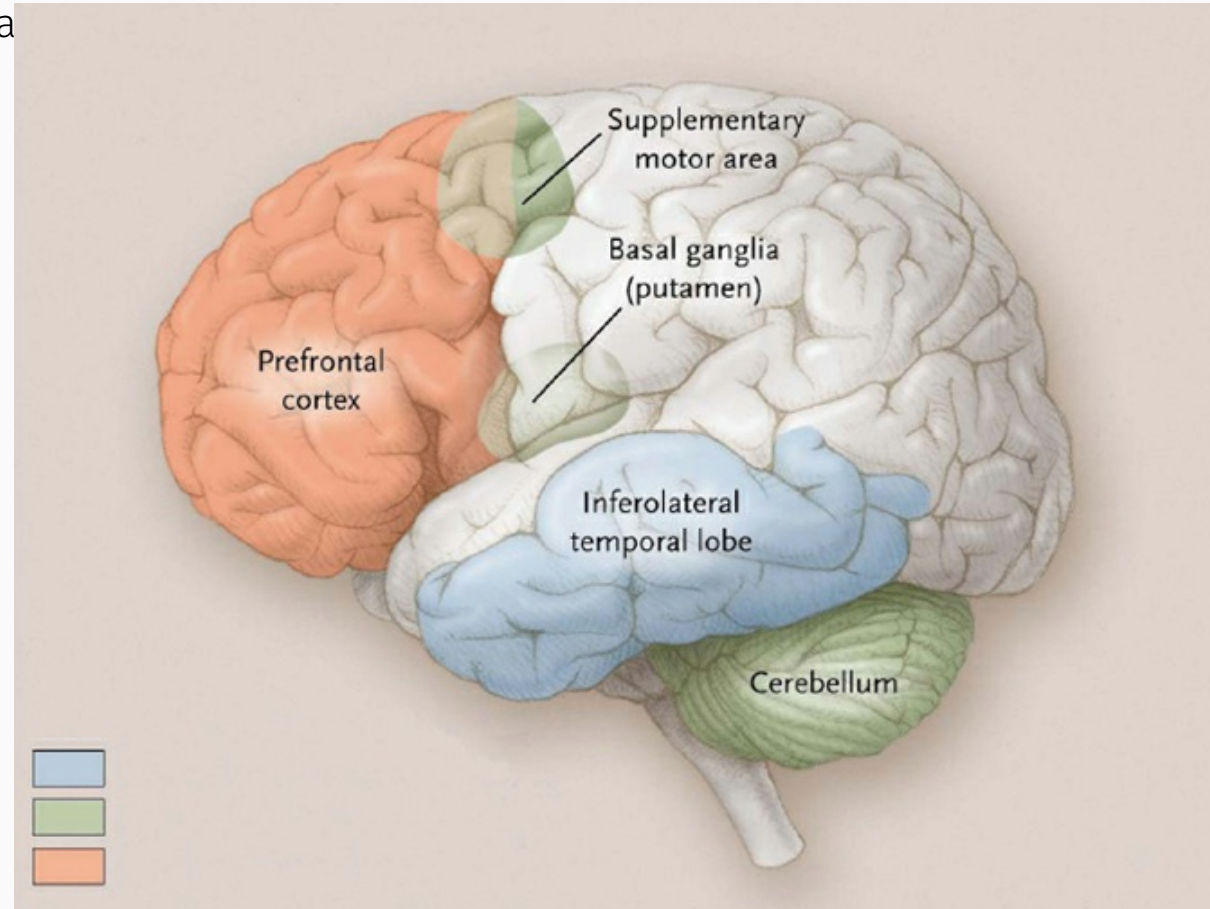
- implicit information demonstrated by p
- skills: performance at challenging tasks
- priming: change in processing with exp



The Two Principal Types of Learning

Brain Regions.

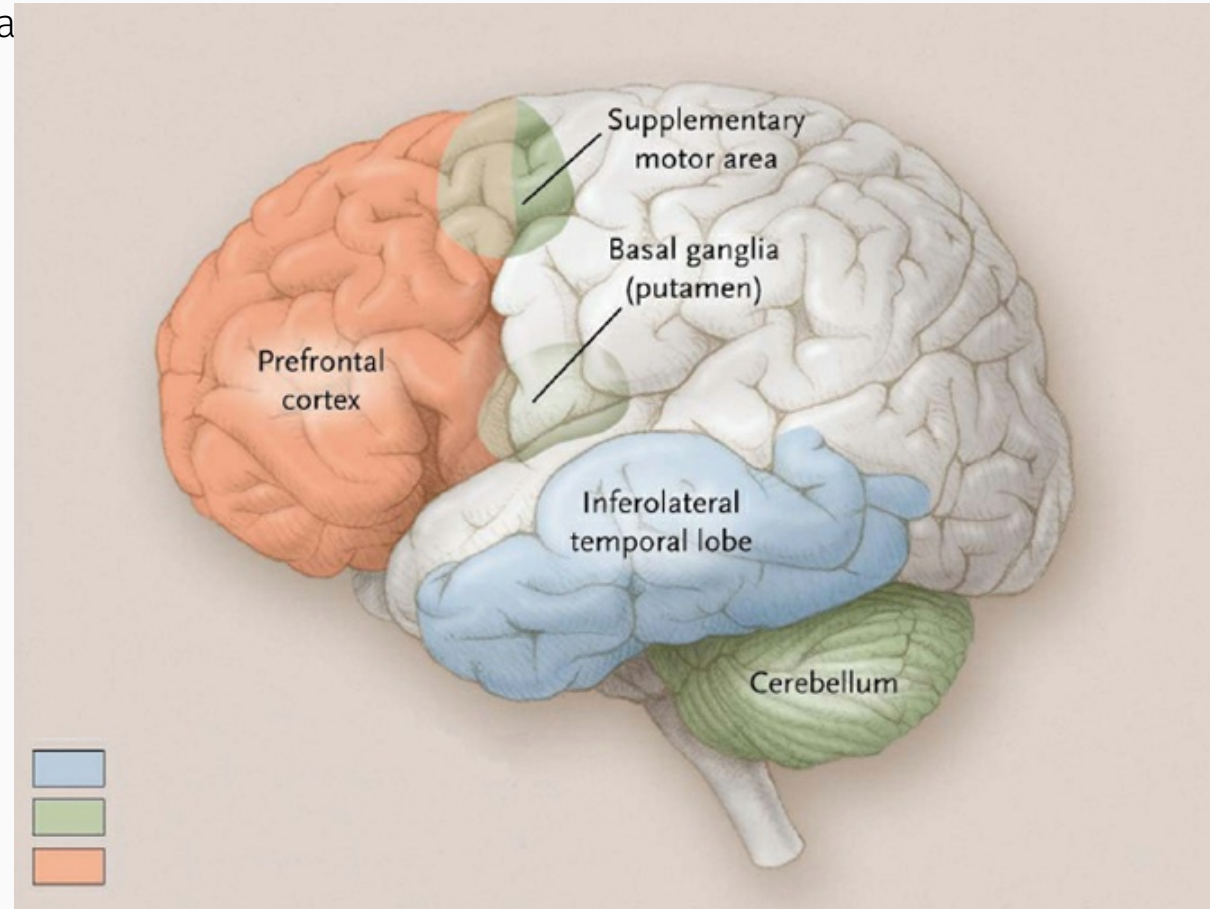
- different regions implicated as principal



The Two Principal Types of Learning

Brain Regions.

- different regions implicated as principal

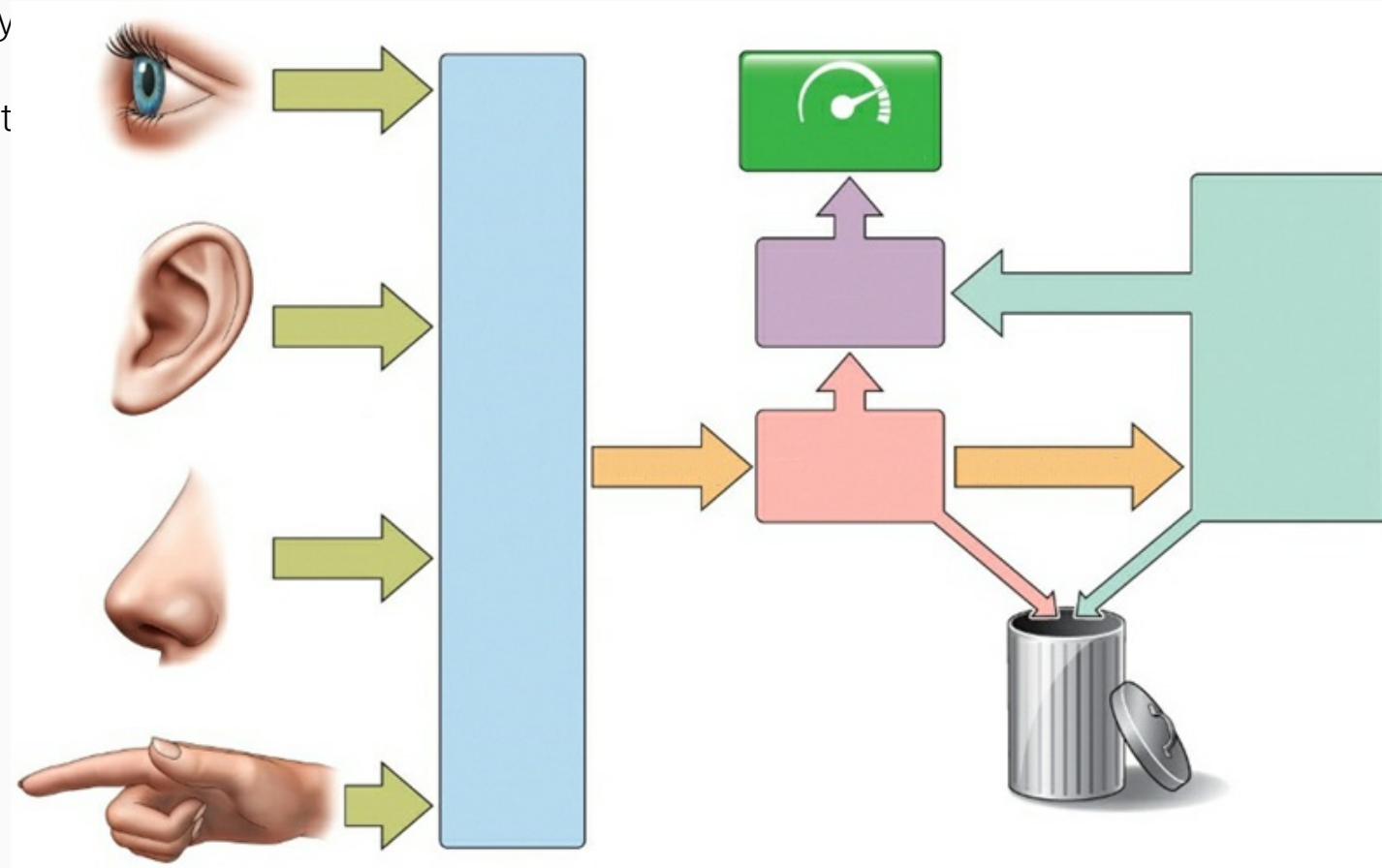


Memory Consolidation

Stages of Memory Consolidation.

- sensory memory → short-term memory

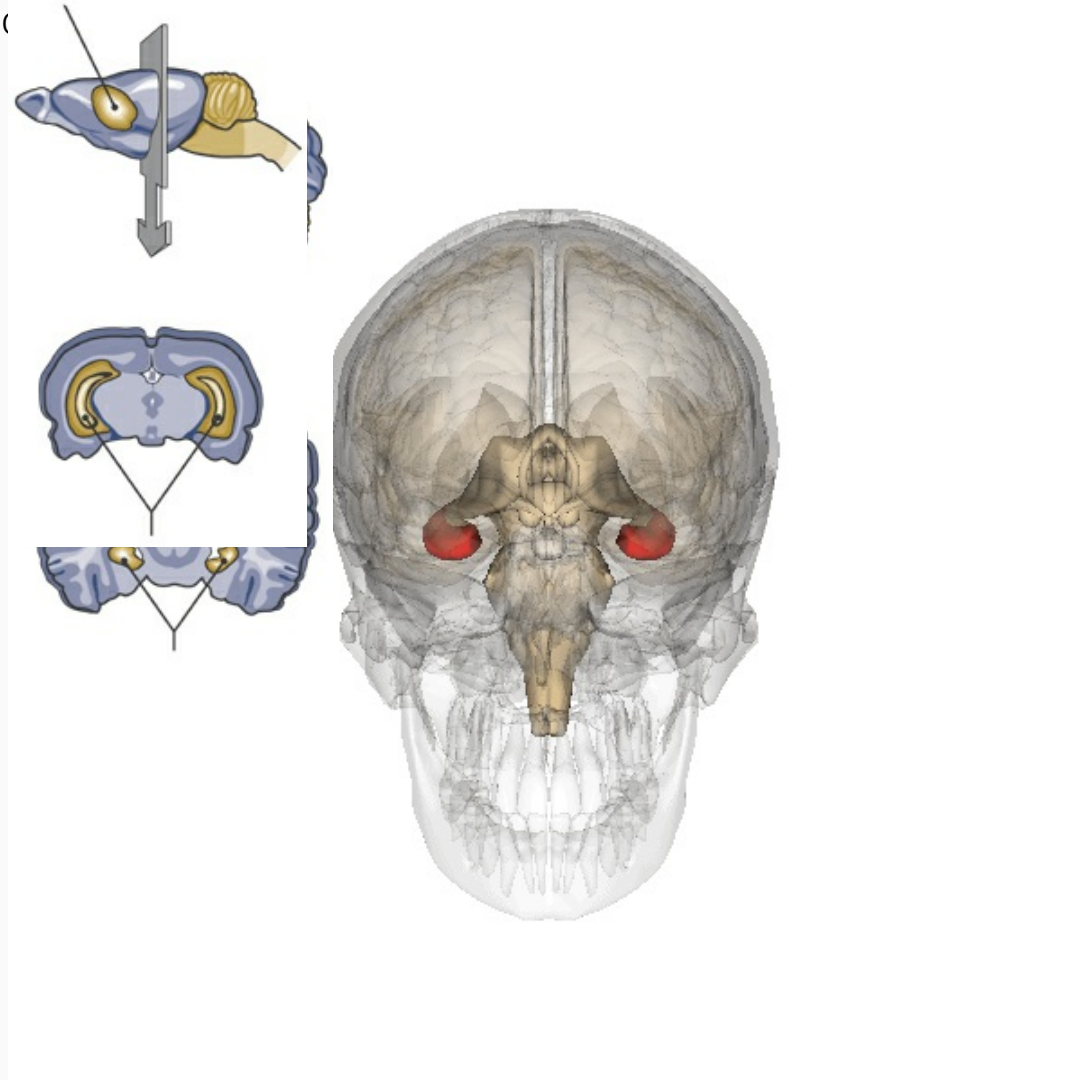
<!-- iconic performance working memory ret



Memory Consolidation

Role of the Hippocampus.

- hippocampus implicated in consolidation



Memory Consolidation

Role of the Hippocampus.

- hippocampus required for acquisition, not retrieval of declarative learning

Image Credits

- slide 2-3: <http://readfast.co.uk/wp-content/uploads/2013/01/Decrative-Memory-2.gif>
- slide 4: http://www.discoverymedicine.com/Andrew-E-Budson/files/2009/08/budson_26_fig2.jpg
- slide 5: drawn by D.P. Devine
- slide 6: Breedlove, S.M., Watson, N.V. (2013). Biological Psychology: An Introduction to Behavioral, Cognitive, and Clinical Neuroscience, 7th ed. Sinauer Associates, Inc.
- slide 7: <http://pubs.niaaa.nih.gov/publications/arh284/images/swart1.gif> <http://upload.wikimedia.org/wikipedia/commons/9/99/Hippocampus.gif>
- slide 8: <http://mikeclaffey.com/psyc170/notes/images/memory-water-maze-lesions.jpg>