

Chapter 14
Declarative Memory

1. **Semantic Memory** - Factual knowledge (language, history, science)
2. **Episodic Memory** - Memories of events or experiences (time, place, series of events)
 - a. **Recollection** - Specific associations and contextual details related to the memory of an event
 - b. **Familiarity** - A sense of previously experiencing an event, all though no recollection comes to mind

Autobiographical memory is a complex mixture of episodic and semantic memory

Medial Temporal Lobes – The hippocampus – What is its function?

Spatial memory:

The **cognitive map theory** – **place cells** in the hippocampus respond to a particular location

Relational memory theory – neurons in the hippocampus respond to spatial relationships

(See Figures 14.2 and 14.3)

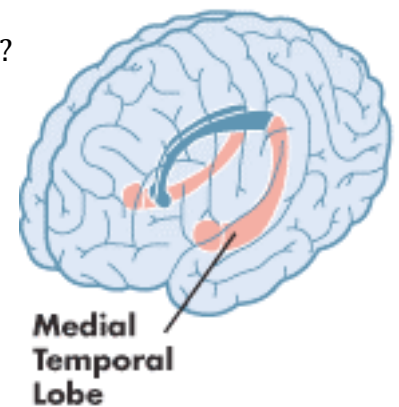
Episodic memory theory – the hippocampus is *only* required for episodic and *not* semantic memory

Evidence:

- A. Patient K.C.
 - Severe hippocampal damage
 - Retrograde and anterograde episodic amnesia
 - Retrograde semantic memory remained intact
- B. Developmental Amnesia
 - Selective hippocampal lesions at an early age
 - Characterized by an inability to form, and a loss of, episodic memories
 - Patients can form semantic memories
- C. Semantic Dementia
 - Left-lateralized damage to anterior temporal cortex impairs semantic more than episodic memory
 - Double dissociation
 - Patient A.M.

Declarative memory theory – the hippocampus is responsible for *all* declarative memories

Spatial and non-spatial, episodic and semantic



Episodic memory retrieval

A **retrieval cue** triggers a **memory search** that leads to the recover of a specific **memory trace**.

The information in the memory trace is then evaluated by a **monitoring process**.

This sustained mental state (processing and activating memory traces) is known as **episodic retrieval mode**.

(See Page 370)

(See Box 14D)

Systematic processes – detailed, deliberate analyses of information; mediated by left prefrontal regions

Hueristic processes – simple contrasts between the activated information and a decision criteria; mediated by right prefrontal regions

(See Figure 14.16 and 14.17)

A Topology of Memory subsystems (Squire, 1990)

