



Memory

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Memory

- Reconstructing the Past
- Memory and the Power of Suggestion
- In Pursuit of Memory
- The Three-Box Model of Memory
- How We Remember
- Why We Forget
- Autobiographical Memories



Reconstructing the Past

The Manufacture of Memory

The Fading Flashbulb


The Conditions of Confabulation

The Manufacture of Memory

- Memory is selective.
- Recovering a memory is not playing a videotape
 - Memory involves inferences that fill in gaps in recall.
 - We are often unaware we have made such inferences.
- **Source Amnesia:** The inability to distinguish what you originally experienced from what you heard or were told later about an event.

The Conditions of Confabulation

- **Confabulation:** Confusion of an event that happened to someone else with one that happened to you, or a belief that you remember something when it never actually happened.
- Confabulation is most likely when:
 - You have thought about the event many times
 - The image of the event contains many details
 - The event is easy to imagine
 - You focus on emotional reactions to the event rather than what actually happened.



Memory and the Power of Suggestion

The Eyewitness on Trial

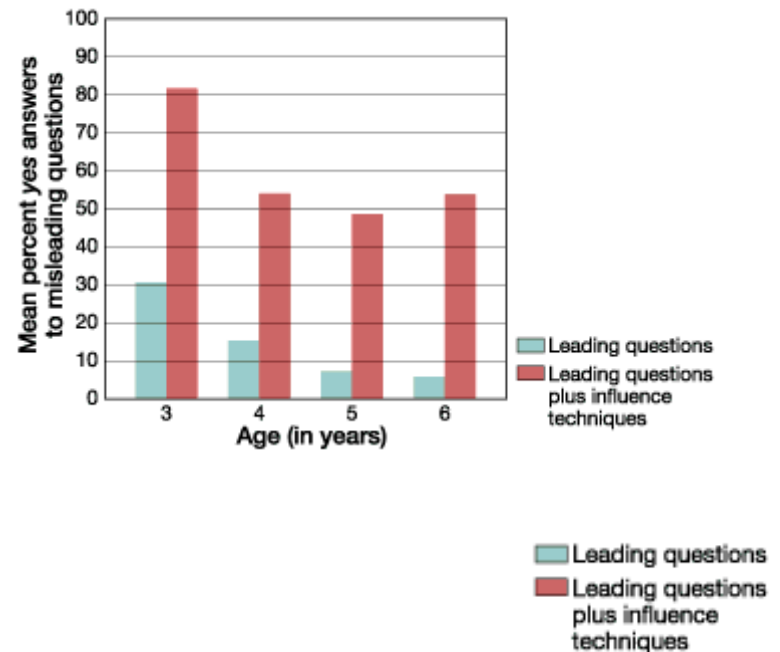
Children's Testimony

Memory Under Hypnosis

Children's Testimony

- If asked if a visitor committed acts that had not occurred, few 4-6 year olds said yes.
 - 30% of 3-year olds said yes
- When investigators used techniques taken from real child-abuse investigations, most children said yes.

Social Pressure, False Allegations



Memory Under Hypnosis

- **Hypnosis:** A procedure in which the practitioner suggests changes in sensations, perceptions, thoughts, feelings, or behavior of the subject, who cooperates by altering his or her normal cognitive functioning.
- Errors and pseudomemories are so common under hypnosis that the APA opposes use of hypnosis-based testimony in courts of law; few courts allow it.



In Pursuit of Memory

Measuring Memory

Models of Memory

Measuring Memory

- **Explicit Memory:** Conscious, intentional recollection of an event or of an item of information.
- **Implicit Memory:** Unconscious retention in memory, as evidenced by the effect of a previous experience or previously encountered information on current thoughts or actions.

Explicit Memory

- **Recall:** The ability to retrieve and reproduce from memory previously encountered material.
- **Recognition:** The ability to identify previously encountered material.

Implicit Memory

- **Priming:** A method for measuring implicit memory in which a person reads or listens to information and is later tested to see whether the information affects performance on another type of task.
- **Relearning:** A method for measuring retention that compares the time required to relearn material with the time used in the initial learning of the material.



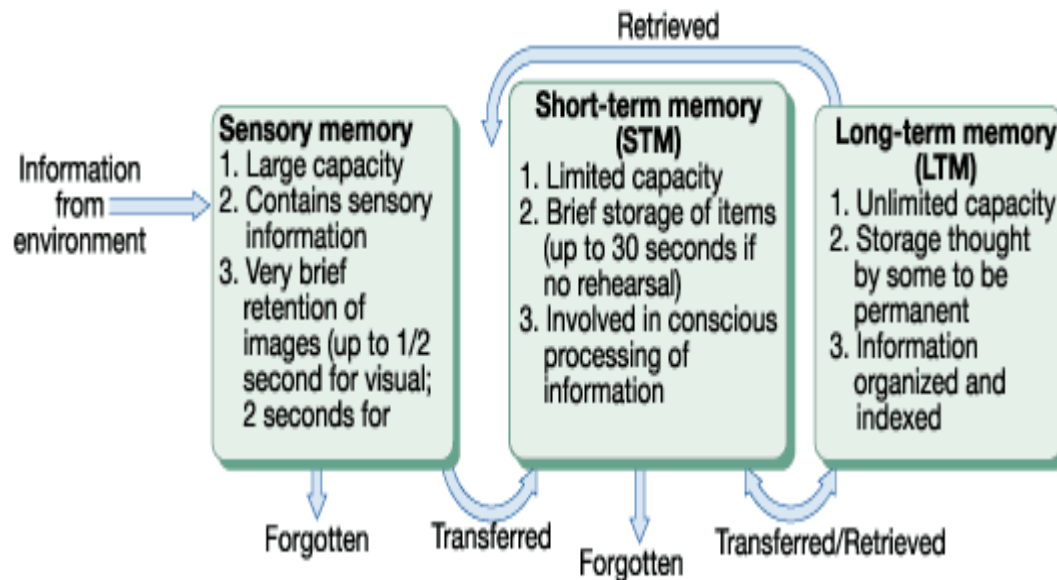
The Three-Box Model of Memory

Sensory Memory: Fleeting Impressions

Short-term Memory: Memory's Scratch Pad

Long-term Memory: Final Destination

Three-Box Model of Memory



Sensory Memory: Fleeting Impressions

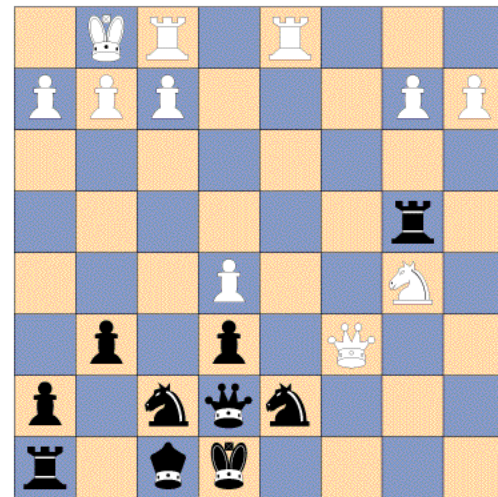
- **Sensory Memory:** A memory system that momentarily preserves extremely accurate images of sensory information.
- **Pattern Recognition:** The identification of a stimulus on the basis of information already contained in long-term memory.

Short-term Memory: Memory's Scratch Pad

- **Short-Term Memory (STM):** In the three-box model of memory, a limited capacity memory system involved in the retention of information for brief periods; it is also used to hold information retrieved from long-term memory for temporary use.
- **Chunk:** A meaningful unit of information; it may be composed of smaller units.

The Value of Chunking

- You have 5 seconds to memorize as much as you can
- Then, draw an empty chess board and reproduce the arrangement of pieces

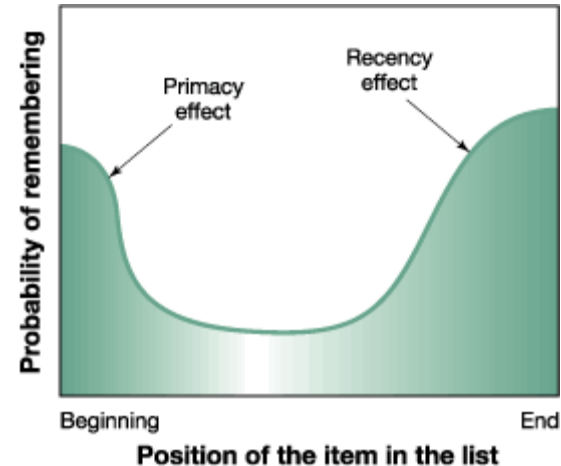


Long-term Memory: Final Destination

- **Procedural memories:** Memories for performance of actions or skills.
 - “Knowing how”
- **Declarative memories:** Memories of facts, rules, concepts, and events; includes semantic and episodic memory.
 - “Knowing that”
- **Semantic memories:** General knowledge, including facts, rules, concepts, and propositions.
- **Episodic memories:** Personally experienced events and the contexts in which they occurred.

Serial-Position Effect

- The tendency for recall of first and last items on a list to surpass recall of items in the middle of the list.





How We Remember

Effective Encoding

Rehearsal

Mnemonics

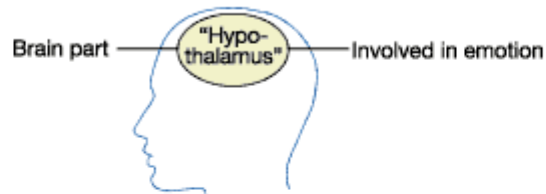
Rehearsal

- **Maintenance Rehearsal:** Rote repetition of material in order to maintain its availability in memory.
- **Elaborative Rehearsal:** Association of new information with already stored knowledge and analysis of the new information to make it memorable.

Rehearsal

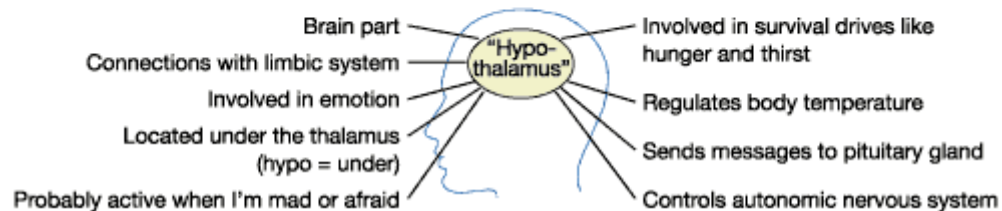
IMPOVERISHED ENCODING

(poor retention)



ELABORATE ENCODING

(good retention)





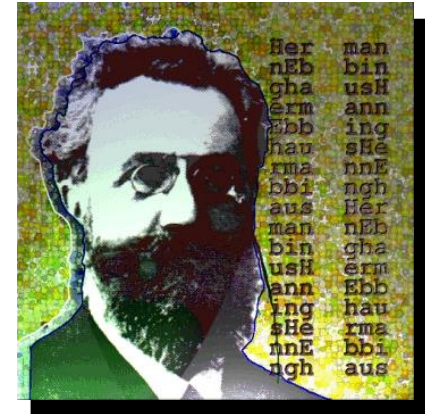
Why We Forget

Decay
Replacement
Interference
Cue-dependent Forgetting
Psychogenic Amnesia

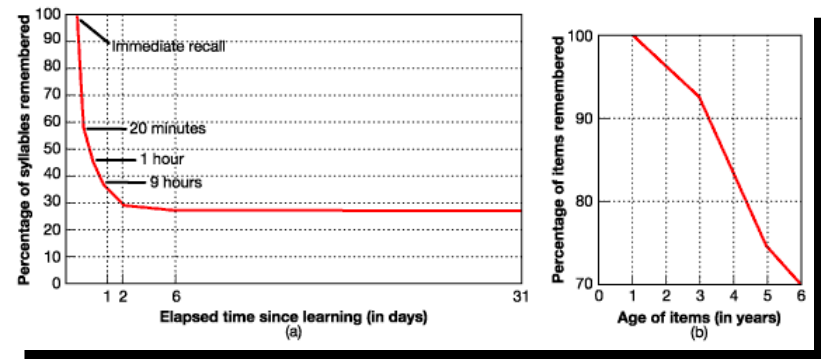
Decay

- **Decay Theory:** The theory that information in memory eventually disappears if it is not accessed; it applies more to short-term than to long-term memory.

Forgetting Curve

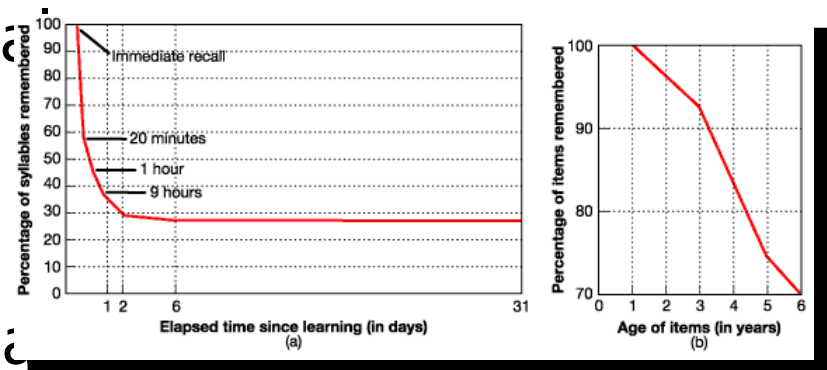


- Herman Ebbinghaus tested his own memory for nonsense syllables.
- Forgetting was rapid at first and then tapered off.



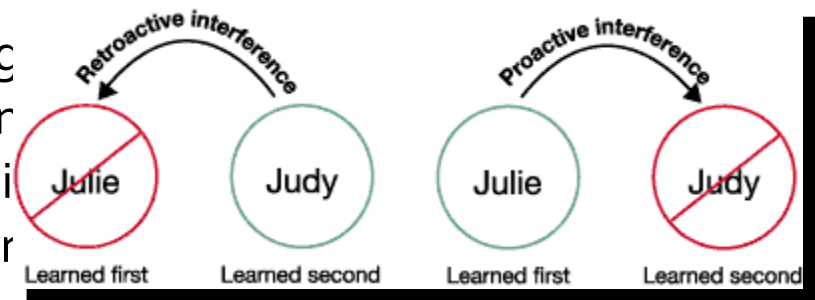
Remembering Over Years

- Marigold Linton tested her own memory for personal events over a period of several years.
- Retention fell at a gradual but steady rate.

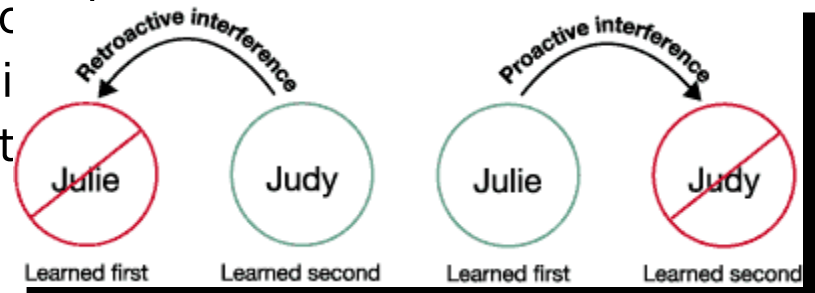


Interference

- **Retroactive Interference:** Forgetting that occurs when recently learned material interferes with the ability to remember similar material stored previously.



- **Proactive Interference:** Forgetting that occurs when previously stored material interferes with the ability to remember similar, more recently learned material.




Cue-dependent Forgetting

- **Cue-Dependent Forgetting:** The inability to retrieve information stored in memory because of insufficient cues for recall.
- **State-Dependent Memory:** The tendency to remember something when the rememberer is in the same physical or mental state as during the original learning or experience.

Psychogenic Amnesia

- The partial or complete loss of memory (due to nonorganic causes) for threatening information or traumatic experiences.



Autobiographical Memories

Childhood Amnesia: The Missing Years

Memory and Narrative: The Stories of Our Lives

Childhood Amnesia: The Missing Years

- **Childhood Amnesia:** The inability to remember events and experiences that occurred during the first two or three years of life.
- Cognitive explanations:
 - Lack of sense of self
 - Impoverished encoding
 - A focus on the routine
 - Different ways of thinking about the world

What is Self-Awareness?

- Observing your thoughts or feelings
- Witnessing yourself from a neutral perspective
- Being aware of what you are doing by noticing the sensations, emotions, or thoughts you experience

Self-Awareness is NOT Being

- Self-conscious
- Analytical
- Blaming
- Self-critical