Memory

Types of Memory

Encoding, Storage, Retrieval	Input, maintenance, & recall of memories
Sensory memory	Detailed memory of sensory info; duration ~1-2 seconds
Iconic memory & Echoic memory	Visual sensory memory; auditory sensory memory
Short-term memory	~7±2 (or fewer); 15-30 sec.
Rehearsal	Mentally repeating info
Long-term memory	Unlimited capacity/duration
Working memory	Active manipulation of info
Visuospatial sketchpad	WM tool: mental imagery
Phonological loop	WM tool: auditory rehearsal
Declarative / Explicit	Conscious; Can be stated
Semantic memory	Facts & word meanings
Episodic memory	Events & experiences
Non-declarative / Implicit	Unconscious; non-verbal
Procedural memory	How to do things (physical)
Priming	Activation of unconscious associations
Effortful vs. Automatic processing	Attention needed? With practice E → A (eg. reading)
Parallel processing	Many types of info at once

Biology of Memory

Hippocampus	"sea horse" - formation of new explicit memories
Cerebellum	Implicit memory formation & storage
Basal ganglia	Procedural memory formation
Amygdala	"almond": emotional responses

Long-Term Potentiation (LTP)	+ neural connection: "fire together, wire together"

Memory Failures

Absentmindedness	Failure of attention
Prospective memory	Future memory; planning
Blocking / "tip of the tongue" experience	Retrieval failure for stored memory
Misattribution	Incorrect *source memory*
Déjà vu "already seen"	new feels familiar
Suggestibility	Memory influenced by external information
Reconstructive memory	Not recording; each recall is a reconstruction of the event
Retrograde amnesia	Can't recall past memories
Anterograde amnesia	Can't form new memories
Interference	*Retroactive:* new disrupts old *Proactive:* old disrupts new

Emotion & Memory

Flashbulb memory	Detailed memory of emotionally-charged event
Context-dependent / State-dependent memory	Context or physical state influences recall
Mood-congruent memory	Recall memories matching current mood
Persistence	Repeated, intrusive recall
Bias	Recall more successses (*egocentric bias*); recall past as similar to present (*consistency bias*)

Memory Improvement

Mnemonic	Memory aid

Serial position effect	Better recall of early items (*primacy*) or final items (*recency*)
Chunking	Grouping items to + recall
Levels of processing	Deep vs. shallow
Self-referential effect	Personal connection + recall
Distributed review vs. massed practice	*Spacing effect*: frequent short review more effective than long single sessions
Testing effect	Retrieval practice improves learning & recall
Overlearning	Reviewing learned info strengthens recall
Retrieval cue	Aids recall of a memory
Method of Loci / Roman Room / Journey	Place mental images along familiar route
Link / Keyword Method	Image from similar sounds

Key Figures & Research

Hermann Ebbinghaus	*Forgetting curve* transience
George Miller (1956)	Magical Number 7±2
William Scoville & Brenda Milner (1957)	Study of patient H.M.
George Sperling (1960)	Sensory memory; recall of rows of letters
Richard Atkinson & Richard Shiffrin (1968)	3-Box / Multi-Store Model
Alan Baddeley & Graham Hitch (1974)	Working Memory model
Elizabeth Loftus & John Palmer (1974)	*Reconstruction of Automobile Destruction*; "smashed" vs. "hit"; recall of broken glass

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