










# 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






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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.

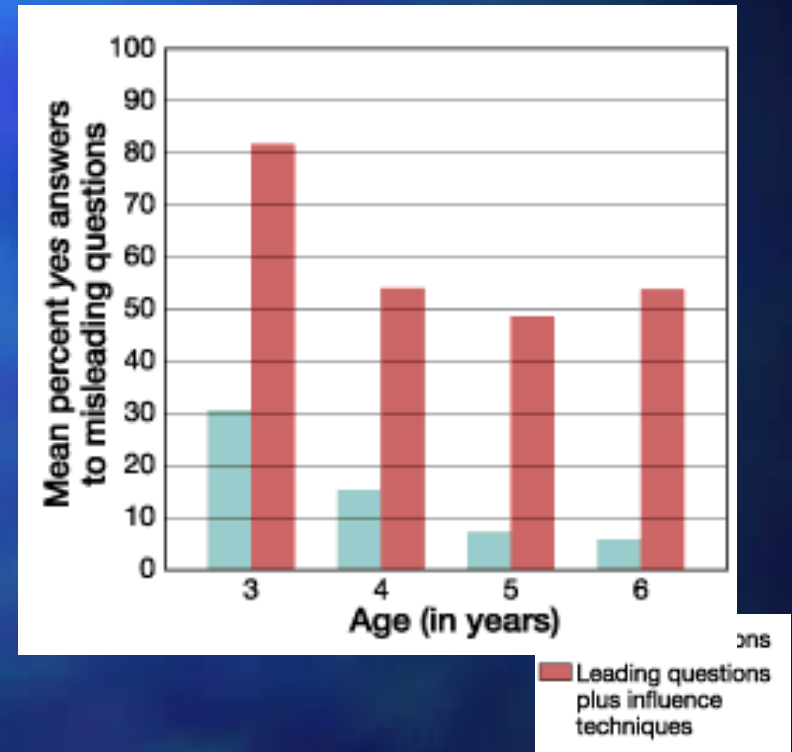
# Memory and the Power of Suggestion

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

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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.



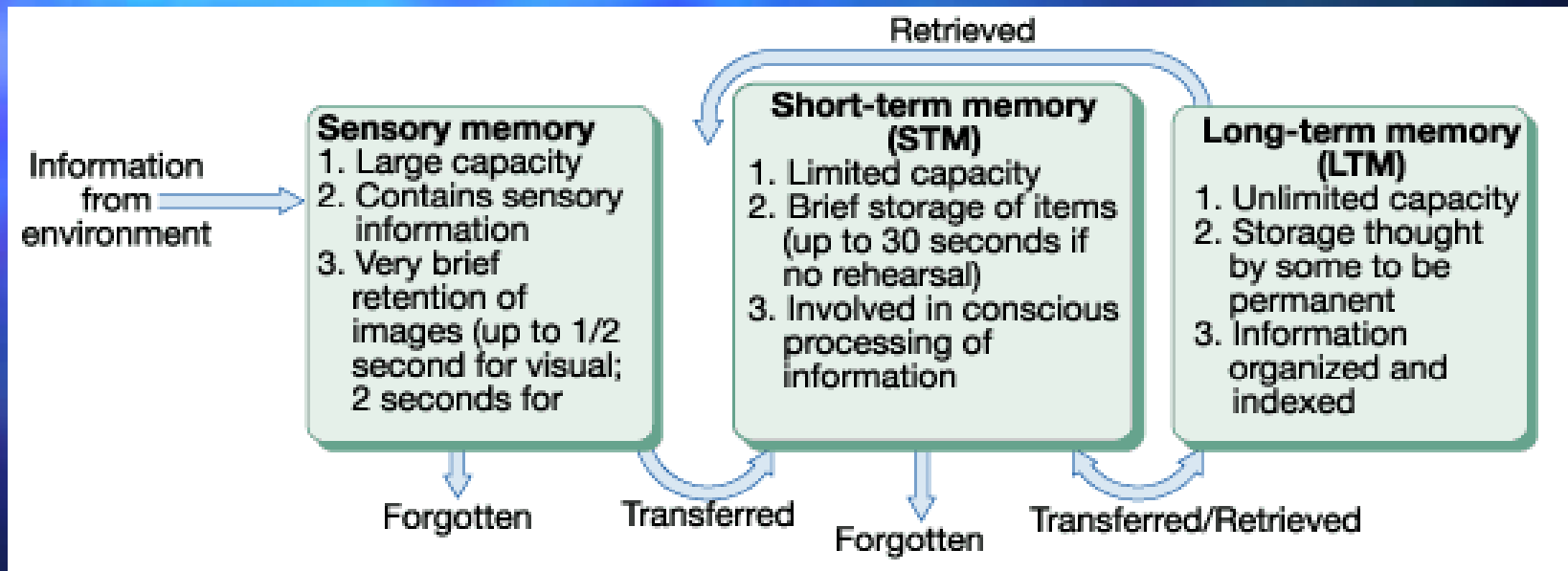
# The Three-Box Model of Memory

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.

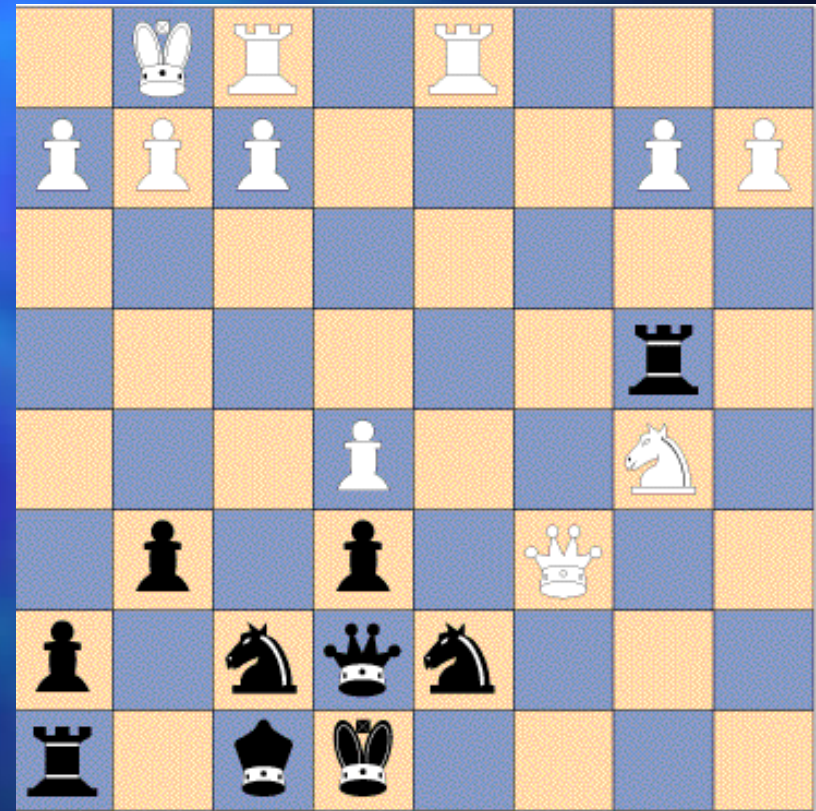
# Short-term Memory: Memory's Scratch Pad

-  **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

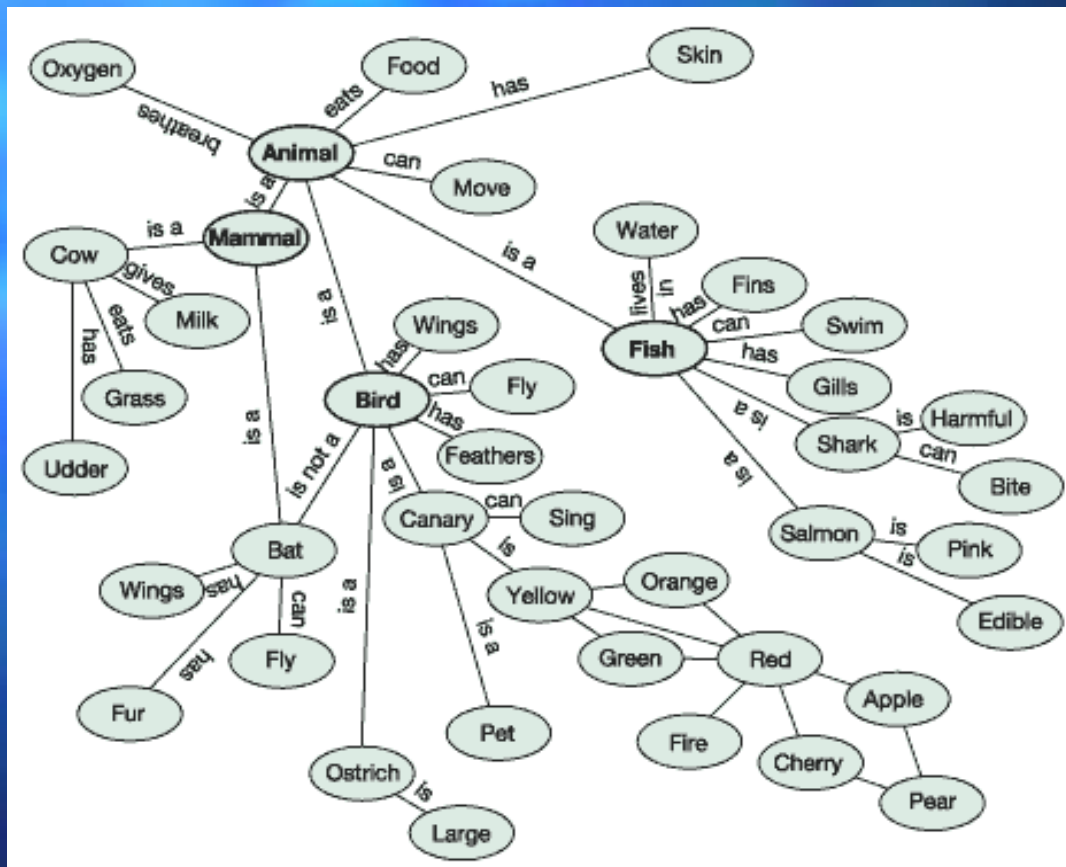
-  You have 5 seconds to memorize as much as you can
-  Then, draw an empty chess board and reproduce the arrangement of pieces



# 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.

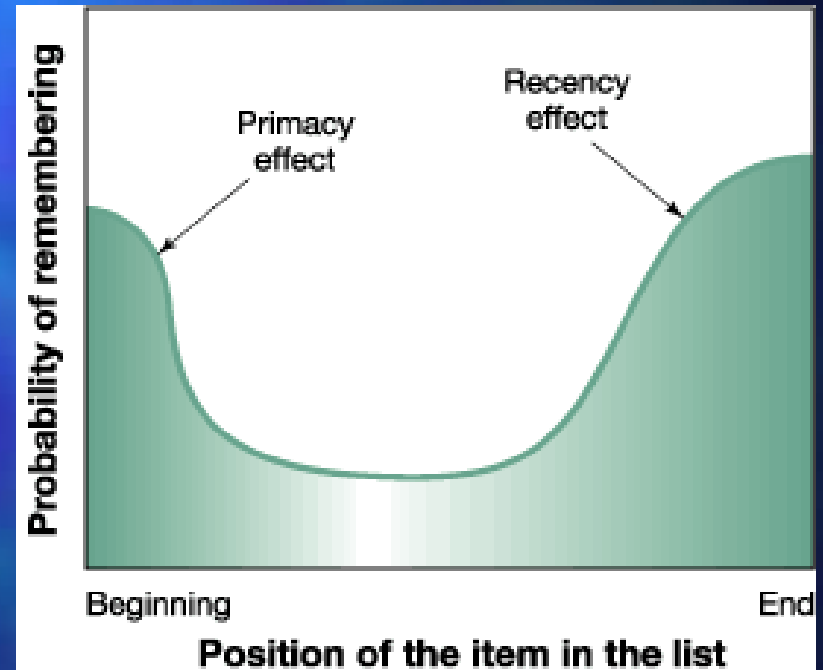
# Conceptual Grid





# 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

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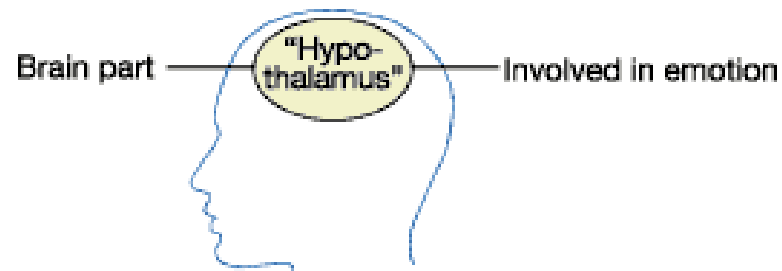
Effective Encoding  
Rehearsal  
Mnemonics

# Rehearsal

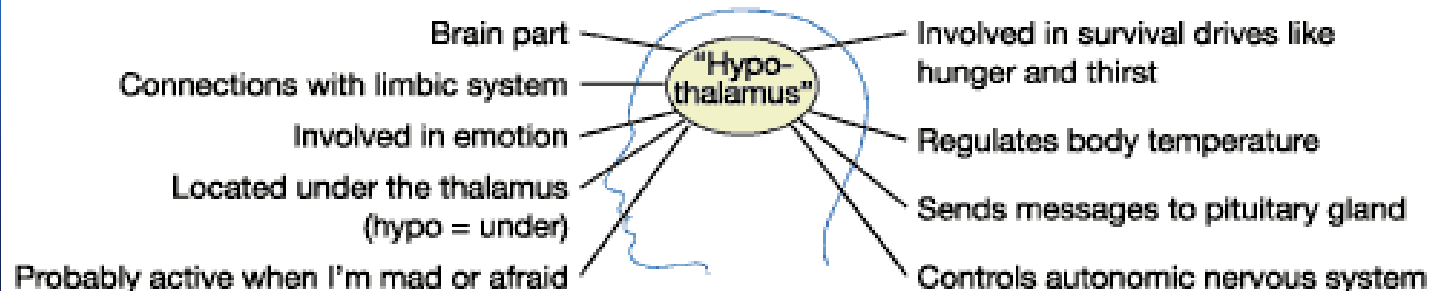
-  **Maintenance Rehearsal:** Rote repetition of material in order to maintain its availability in memory.
-  **Elaborative Rehearsal:** Association of new information with already stored knowledge and analysis of the new information to make it memorable.

# Rehearsal

## IMPOVERISHED ENCODING (poor retention)



## ELABORATE ENCODING (good retention)



# Why We Forget

Decay

Replacement


Interference

Cue-dependent Forgetting

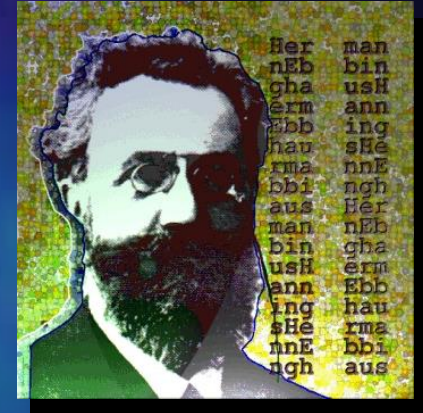
Psychogenic Amnesia




# Decay

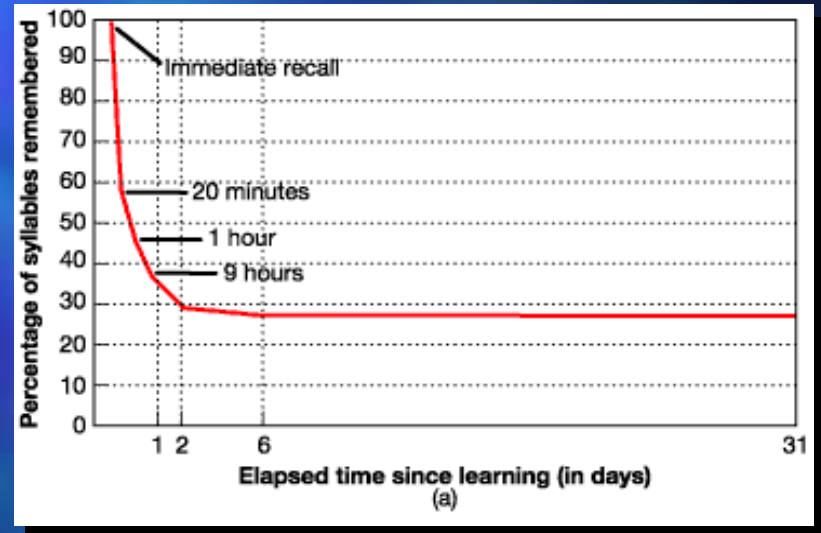
 **Decay Theory:** The theory that information in memory eventually disappears if it is not accessed; it applies more to short-term than to long-term memory.

# Forgetting Curve





 Herman Ebbinghaus tested his own memory for nonsense syllables.

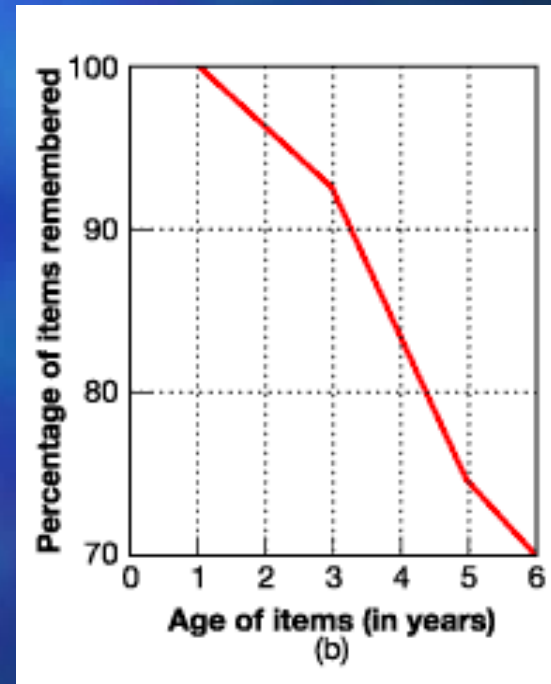
 Forgetting was rapid at first and then tapered off.



# 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.

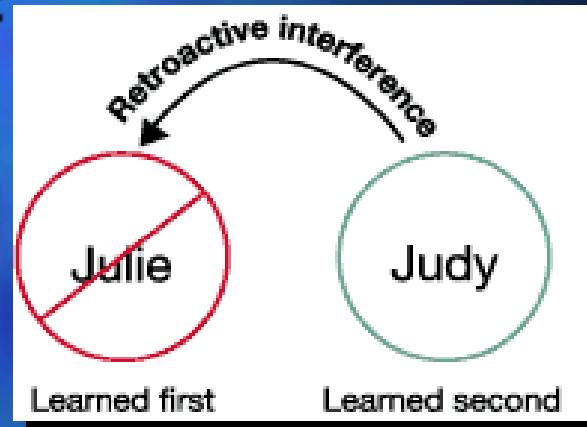




# Interference

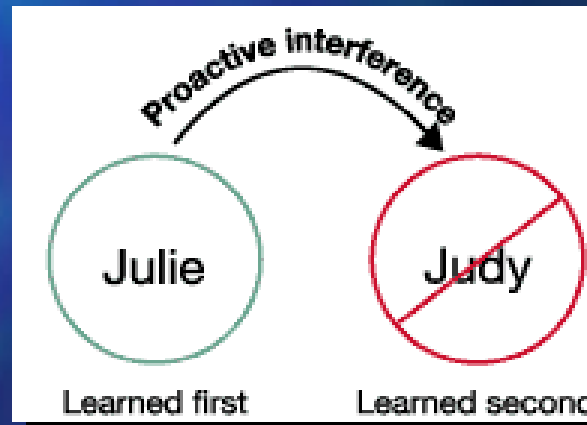
## **Retroactive Interference:**

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

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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