

Chapter 8 –  
Interactions Long-Term Memory

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7 Sins of Memory  
(Schacter, 1999)

7 ways in which our long-term memory lets us down:

**Sins of Omission**

1. Long-term memory is transient (tendency to lose access to information over time)
  - interference
  - retrieval failure
  - actual forgetting from long-term memory (when memory not used or rehearsed)

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7 Sins of Memory  
(Schacter, 1999)

**Sins of Omission**

2. Absent-mindedness (everyday failures of memory)
  - failure of attention during encoding by relying on automatic or shallow processes, thereby failing to encode information in a deeper more elaborate manner (e.g., Did I lock the door? Did I take my medication this morning?)

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**7 Sins of Memory**  
(Schacter, 1999)

**Sins of Omission**

3. Blocking (temporary loss of access to information; e.g. tip-of-the tongue phenomenon)
- blocking appears to be more common in older adults

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**7 Sins of Memory**  
(Schacter, 1999)

**Sins of Commission**

4. Misattribution (attributing events to an incorrect source or context)
- confusions of source memory
5. Suggestibility (incorporate information provided by others into your own recollection of event)
- e.g., Loftus' misinformation effect

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**7 Sins of Memory**  
(Schacter, 1999)

**Sins of Commission**

6. Bias (tendency for knowledge, beliefs, and feelings to distort memory of past events and influence current and future judgments and memory)
- e.g., influence of prior knowledge and beliefs on reconstructive memory

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## 7 Sins of Memory (Schacter, 1999)

### **Final Sin**

7. Persistence (tendency to remember facts or events, including traumatic memories, that we would rather forget)

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## Hermann Ebbinghaus (1885)

- emphasized learning in the laboratory under tightly controlled conditions
- tried to eliminate all meaning from his experiments (using nonsense syllables)
- bottom-up, episodic approach

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## (Sir) Frederick Bartlett (1932)

- emphasized learning under natural conditions without tight controls
- emphasized meaning by using real-world text materials and stories
- top-down, semantic approach

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## Bartlett's (1932) Methods

- **Repeated reproduction:** recall the same material on several occasions; done by one person
- **Serial reproduction:** transmit the material to someone else "next in line"; requires several people

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## Changes Over Recall

- omissions: details, mood
- rationalization: increase "sense"
- dominant detail: anchor point
- transformed details: instantiation, > familiarity
- transformed order: change sequence (esp. in descriptions)

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## Schemata & Scripts

- **Schema**(ta): a stored framework or body of knowledge about some topic

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## Bransford & Franks (1971)

- revived Bartlett's approach
- focused on how we comprehend on-line and how that affects remembering
- abstracting and integrating meaning

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## Bransford & Franks' Materials

- 1. The rock hit the hut.
- 2. The tiny hut was by the river.
- 3. The rock hit the tiny hut by the river.
- 4. The rock rolled down the mountain and hit the tiny hut by the river.

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## Method & Results

- study sentences from 1-3 "ideas"
- test sentences: studied from 1-4 "ideas" (correct) plus unstudied (incorrect)
- recognition + confidence rating
- results:
  - could not tell new from old sentences
  - confidence increased with the number of ideas in a sentence, **independent** of whether the sentence was new or old

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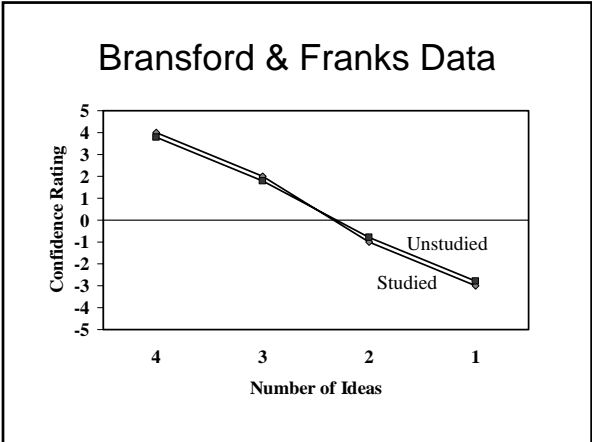
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### Drawing Inferences

- Bransford et al. (1972)
- two kinds of study sentences:
  - Three turtles sat **beside** a floating log and a fish swam beneath it
  - Three turtles sat **on** a floating log and a fish swam beneath it
- test sentence:
  - The fish swam under the turtles

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### Drawing Inferences

- Bransford et al. (1972) show much more likely to respond YES to the “on” sentence than to the “beside” sentence
- implication, deduction, and inference are normally being computed

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### Bransford & Johnson (1973)

- title or picture provided context to help understand the passage
- title or picture only helped in given before the passage

GROUP	# ideas recalled (14)
no context	3.6
context after	3.6
context before	8.0

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### Sulin & Dooling (1974)

Gerald Martin strove to undermine the existing government to satisfy his political ambitions. Many of the people of his country supported his efforts. Current political problems made it relatively easy for Martin to take over. Certain groups remained loyal to the old government and caused Martin trouble. He confronted these groups directly and so silenced them. He became a ruthless, uncontrollable dictator. The ultimate effect of his rule was the downfall of his country. (Sulin & Dooling, 1974, p. 256)

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### Sulin & Dooling (1974)

- Ss saw either a fictitious or famous name
  - Gerald Martin (fictitious)
  - Adolf Hitler
- Ss asked to identify if sentence was from passage
  - 5 min. after
  - 1 week after
- Sentences not in passage were
  - low-related
  - medium-related
  - high-related

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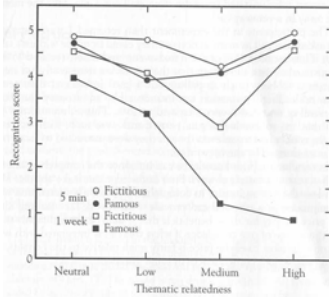
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## Sulin & Dooling (1974)



**Figure 11.2** Recognition performance (high score = high performance) on new information as a function of main character, retention interval, and thematic relatedness  
 From "Intrusion of a thematic idea in retention of prose" by R. A. Sulin and D. J. Dooling, 1974, *Journal of Experimental Psychology*, 103, 251-262. Copyright © 1974 by the American Psychological Association. Reprinted by permission.

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## Self-Relevance Effect

Rogers, Kuiper & Kirker (1977):

- subjects rated list of adjectives in terms of how descriptive they were of themselves
- then given surprise recall test for adjectives
- the more self-relevant the adjectives were rated, the better they were recalled

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## Self-Relevance Effect

Explanation:

- items or events that we perceive as self-relevant attract more of our attention
- this leads to more processing for self-relevant events, which leads to better memory

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## Schemata & Scripts

- **Schema**(ta): a stored framework or body of knowledge about some topic
- **Scripts**: the large-scale semantic and episodic knowledge structures that guide our interpretation and comprehension of daily experience

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## Schank & Abelson (1977)

- Headers: phrases or words that activate a script
- Frames: details about specific events within the script
- Default value: common, typical value or concept that occupies the frame

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## Evidence

- Smith & Graesser (1981) – passages about scripted activity
  - when corrected for guesses based on reconstructed script knowledge memory was better for atypical events
  - schema-copy-plus-tag hypothesis – generic script plus atypical details
- Nakamura, Graesser, Zimmerman & Riha (1985) – natural setting
- incidental and intentional memory behave the same

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