Lecture Notes

# Chapter 7: The Reconstructive Nature of Memory

## Learning Objectives

* Recognize the malleability of memories
* Evaluate the skepticism surrounding laboratory studies of memory
* Summarize various studies performed for autobiographical memory
* Develop an argument in support of or against recovered/false memories
* Describe the neurological underpinnings of memory consolidation and the role reconsolidation can play in helping individuals with traumatic experiences recover

## Outline

**I.** Setting the Stage

**A.** Memories can be vivid and yet at least partly incorrect.

**B.** It is likely that errors creep into stored memories over time.

**1.** Memory is malleable, meaning that it can easily be changed and reshaped.

**2.** We are often unaware of the malleability of our memories.

**II.** Narrative Memory

**A.** Bartlett rejected the laboratory study of memory, arguing that real-world memories use world knowledge and frameworks known as **schemata** to organize information.

**B.** Bartlett used the method of **serial reproduction** to study memory, asking participants to recall stories on more than one occasion.

**1.** Bartlett asked participants to try to remember Native American folktales that were used unfamiliar cultural conventions.

**2.** Participants unintentionally distorted the material to make it seem more coherent from their own point of view.

**3.** Bartlett thus saw memory as an active and often inaccurate process that encodes and retrieves information so as to “make sense.”

**III.** Autobiographical Memory

**A.** Marigold Linton conducted a study similar to that of Hermann Ebbinghaus, but using episodes from her own life rather than nonsense syllabus.

**1.** Every day for 6 years, she wrote brief descriptions of two (or more) events that had happened that day.

**2.** Each month, she conducted tests of her memory.

**3.** Linton found that some events were easy to recall, but other items became harder and harder to retrieve over time.

**4.** Linton’s study of her **autobiographical memory** suggested that real-world memories are more durable than those of laboratory experiments.

**5.** She also found that she used problem-solving strategies to recall dates of events.

**6.** “Forgotten” events were sometimes simply not recalled and sometimes impossible to distinguish from other, similar memories.

**B.** Barsalou reported similar findings when he stopped people on campus during the fall semester and asked whoever agreed to participate to describe events from the preceding summer.

**1.** Only 21% of the recollections collected could be categorized as specific recollections.

**2.** The remainder were “summarized events” that referred to two or more events of a certain kind or “extended events” that lasted longer than a day.

**C.** Brewer took a different approach to study autobiographical memory, recruiting eight undergraduates to wear beepers that went off at random about every 2 hours; when the beeper sounded, participants were asked to write down what was happening at the time.

**1.** Each participant was later tested three times: once at the conclusion of the data acquisition period, once about 21 months later, and once about 20 months after that.

**2.** Items tested were randomly selected from all items described.

**3.** More than 60% of the events were correctly recognized.

**a)** Memory was better for actions than thoughts.

**b)** Memory was better for events occurring in a unique or infrequent location.

**c)** Rare actions were more likely to be recalled than frequent actions.

**4.** Brewer concluded that the more distinct a mental representation of an event, the more likely it is to be recalled.

**D.** Patricia Bauer has explored a different aspect of autobiographical memory—the earliest autobiographical memories.

**1.** The phenomenon of **infantile amnesia** (also called **childhood amnesia**) was first reported in the 1800s, when researchers noted that most people could not remember anything from the first year of life.

**2.** Bauer interviewed 36 women about their earliest memories and how old they were at the time.

**a)** Each woman was interviewed four times at about one-year intervals.

**b)** Reports from 1 year to the next were consistent and suggested that the women were recalling the same event at each interview.

**E.** Many people report unusually vivid and detailed memories of traumatic events such as the 9/11 terrorist attack, a phenomenon called **flashbulb memory.**

**1.** Some researchers believe that these memories seem especially vivid because of the emotional response to them.

**2.** Neisser argues that, in establishing a flashbulb memory, we are finding a way to link ourselves to history.

**3.** However, although they are vivid, flashbulb memories can become distorted over time.

**a)** Schmidt’s study of 9/11 flashbulb memories showed that people who reported the strongest emotional reactions also showed the most impairment in their memory.

**b)** Hirst and colleagues published a 10-year follow up to memories of 9/11, comparing people’s flashbulb memories (personal circumstances of hearing about the events) to event memories (memories of the events of 9/11).

**(1)** There was rapid forgetting of both types of events during the first year and then forgetting leveled off.

**(2)** People’s confidence in their recall, however, did not diminish over 10 years.

**(3)** Once an inconsistency entered a flashbulb memory report, it was likely to be repeated in subsequent reports; errors in event memory, however, tended to be corrected over time.

**4.** Many researchers now believe that flashbulb memories do not rely on special memory mechanisms and are “special” only in the confidence placed in them.

**F.** Elizabeth Loftus and others have extensively studied **eyewitness memory,** a type of autobiographical memory with grave implications for our court system.

**1.** Loftus’s studies suggest that eyewitness memory is easily distorted by the use of misleading questions.

**2.** For example, a misleading question about a barn (that did not exist) caused 17% of participants to later describe the barn in their recollection of a filmed accident.

**IV.** The Recovered/False Memory Debate

**A.** One of the biggest debates in cognitive psychology in recent years concerns whether victims of abuse repress memories of their trauma and later retrieve those **recovered memories** under therapy or whether instead some therapists inadvertently prompt their clients to create **false memories** of events that never actually happened.

**1.** Popular self-help books can encourage readers to look for symptoms of repressed memories of abuse, but these symptoms are also common for people who have not been abused.

**2.** Such books also suggest techniques for recovering repressed memories, such as using old family photographs and giving the imagination free rein.

**B.** Loftus and colleagues interviewed relatives of research participants about real events from the participants’ lives and then created a false account of an event that had not really happened—being lost in a shopping mall at age 5.

**1.** Participants were asked to remember three true events and the one false event.

**2.** Participants completed booklets describing their recall of the four events and then were interviewed twice, at 2-week intervals, about the events.

**3.** Participants recalled 68% of the true events.

**4.** The false event was recalled and maintained through both interviews, by 25% of the participants, who gave details about the event that had never happened.

**C.** In the laboratory, the Deese/Roediger-McDermott paradigm is used to induce false memories of unpresented words on a list—for example, false recollections of having seen the word “sleep” on a list that contains related words such as “nap,” “bed,” and “pillow.”

**D.** Clancy and colleagues used the Deese/Roediger-McDermott paradigm on women who had never experienced childhood sexual abuse (CSA), women who had experienced CSA and had a continuous memory of it, women who believed they had experienced CSA but had no memory of it, and women who claimed to have repressed and recovered memories of CSA.

**1.** The recovered memory group showed much higher false recognition of words that were not actually presented on the word lists than did all of the other groups.

**2.** Although caution must be taken in interpreting these results, the results are consistent with the idea that women who report recovered memories are more likely to experience false memories in the laboratory task.

**E.** Pezdek and others argue that we cannot know to what degree these findings can be generalized to the real world and particularly to the formation of memories about something as traumatic as abuse.

**V.** Memory Consolidation and Reconsolidation

**A.** Psychologist James McGaugh has investigated the neurological underpinnings of memory consolidation.

**1.** Low doses of stimulant drugs given to rats every day before a maze-learning trial led to fewer errors in maze learning.

**2.** These drugs were even more effective if administered just after a learning trial.

**3.** Later research suggested similar effects with humans: immediate administration of caffeine seems to lead to better memory for newly learned material.

**B.** MRI studies have shown greater activation of the hippocampal regions during learning, and the more activation at the time of learning, the stronger the odds of retrieving the material later.

**C.** Lane and colleagues have applied ideas about memory consolidation to psychotherapy techniques designed to help victims of trauma.

**1.** Successful therapy, they argue, involves reactivating old (presumably traumatic) memories.

**2.** However, new emotional experiences can be incorporated into those reactivated memories via the process of reconsolidation.

**3.** Reinforcing this integrated memory structure can result in a new way of behaving and experiencing the world.