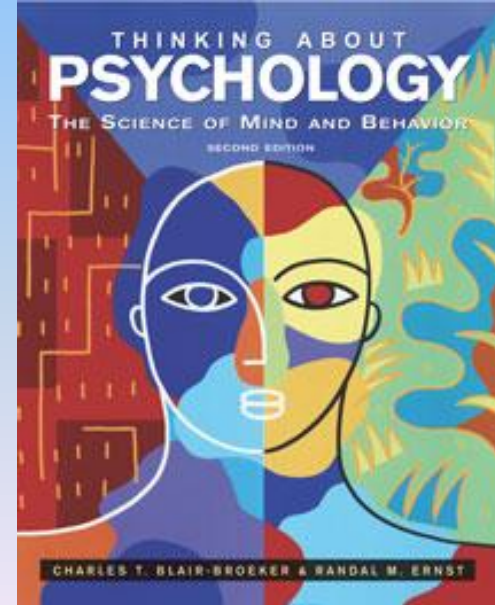# Thinking About Psychology: The Science of Mind and Behavior 2e

Charles T. Blair-Broeker

Randal M. Ernst

Cognitive Domain

Memory Chapter

Module 23

Forgetting and Memory Construction

Information Processing Model

- Encoding – process of getting information into the memory system

- Storage - retention of encoded information over time

- Retrieval – process of getting encoded information out of memory storage

Forgetting as Encoding Failure

Encoding Failures

- People fail to encode information because:
  - It is unimportant to them
  - It is not necessary to know the information
  - A decrease in the brain's ability to encode

Which is the Right Penny?

(From Nickerson & Adams, 1979)

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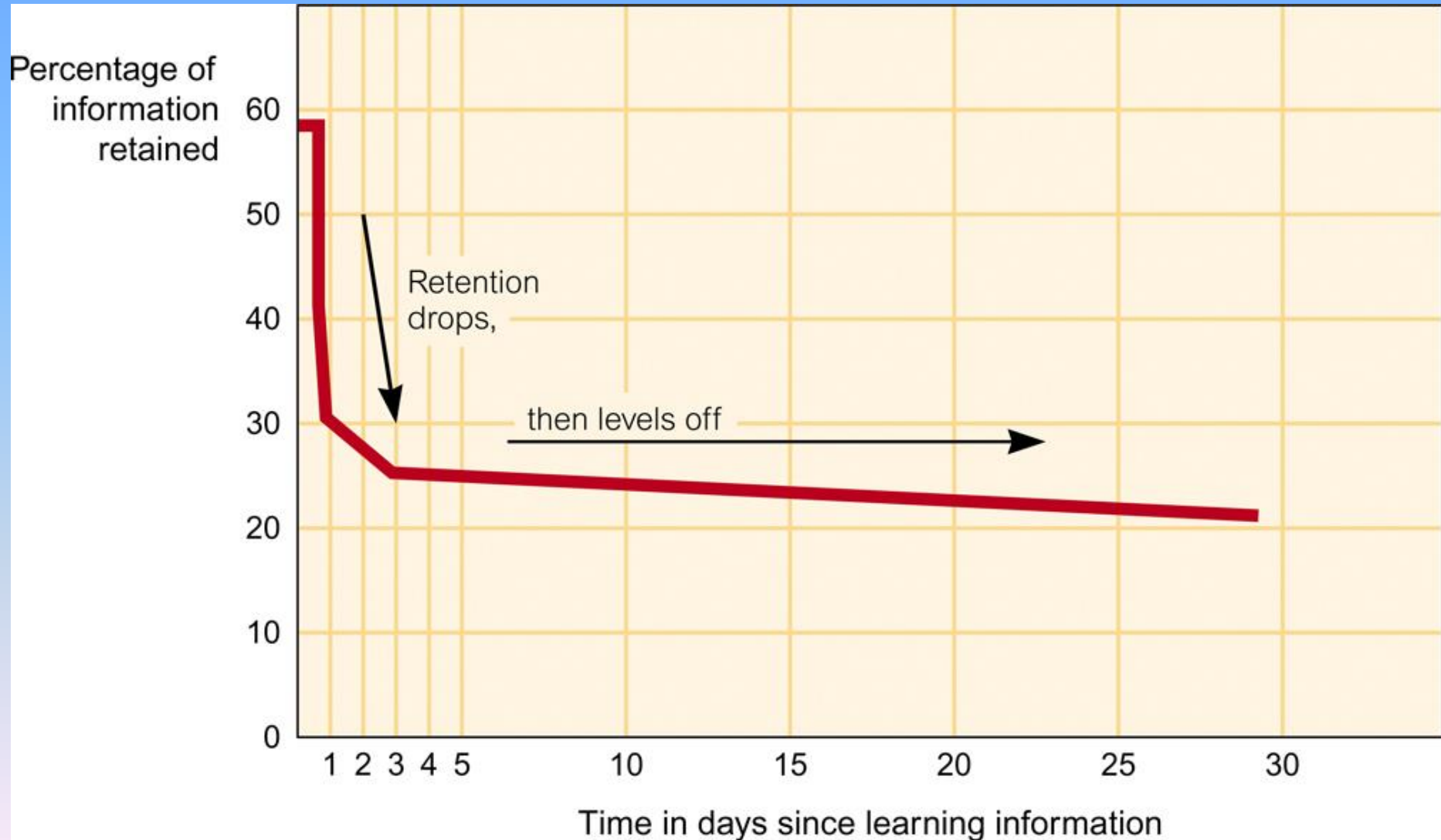

(a)

Forgetting as Storage Failure

Hermann Ebbinghaus (1850-1909)

- German philosopher who did early memory studies with nonsense syllables

- Developed the forgetting curve, also called the "retention curve" or "Ebbinghaus curve"

The Forgetting Curve

(Adapted from Ebbinghaus, 1885)

Permastore Memory

- Long-term memories that are especially resistant to forgetting and are likely to last a lifetime

Forgetting as Retrieval Failure: Interference

Interference

- A retrieval problem when one memory gets in the way of remembering another

- Two types of interference:

  - Proactive interference
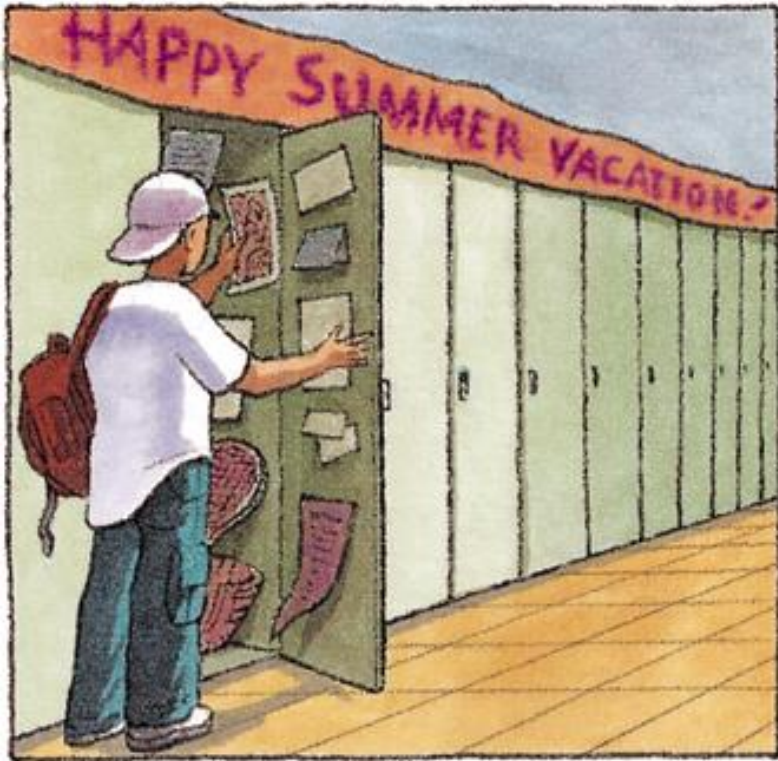
  - Retroactive interference

Proactive Interference

- When an older memory disrupts the recall of a newer memory

Proactive Interference

(a) June

(b) The next September

Proactive interference
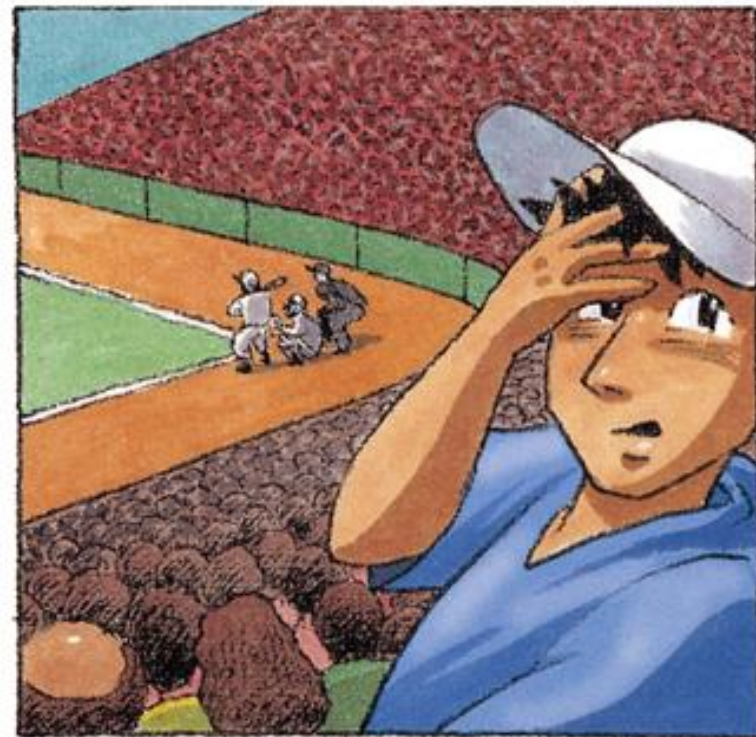
Retroactive Interference

- When a more recent memory disrupts the recall of an older memory

Retroactive Interference

(d) October

(c) The next April

Retroactive interference

Forgetting as Retrieval Failure: Motivated Forgetting

Repression

- Part of Freud's psychoanalytic theory
- Process of moving anxiety-producing memories to the unconscious
- Supposed means of protecting oneself from painful memories
- Not well-supported by research; stressful incidents are actually <u>more</u> likely to be encoded

Memory Construction

Memory Jigsaw Analogy

- Memories, rather than being like a video tape, are formed as bits and pieces.

- People may retrieve only some of the pieces of the memory

Elizabeth Loftus (1944-   )

- Does research in memory construction
- Has found that subjects' memories vary based on the wording of questions
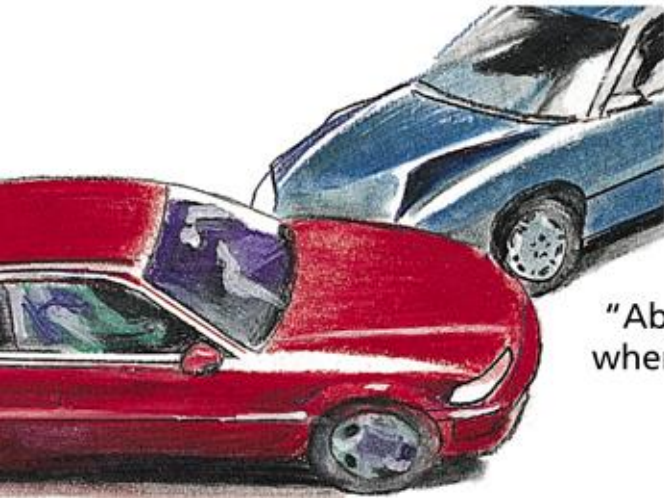- Demonstrated the misinformation effect

Misinformation Effect

- Incorporating misleading information into a memory of an event
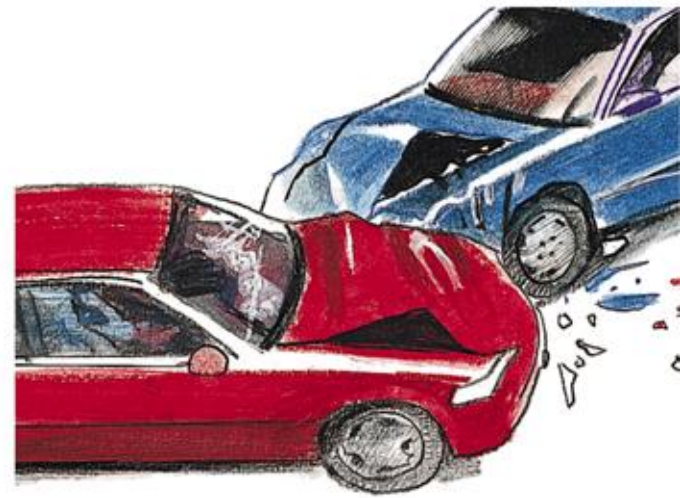
- Affects eyewitness testimony

Misinformation Effect

Depiction of actual accident

Memory construction

Leading question:
"About how fast were the cars going when they smashed into each other?"

Memory Construction: Children's Recall

Children's Testimony on Abuse

- Research has shown children's testimony to be unreliable

- Children are very open to suggestions

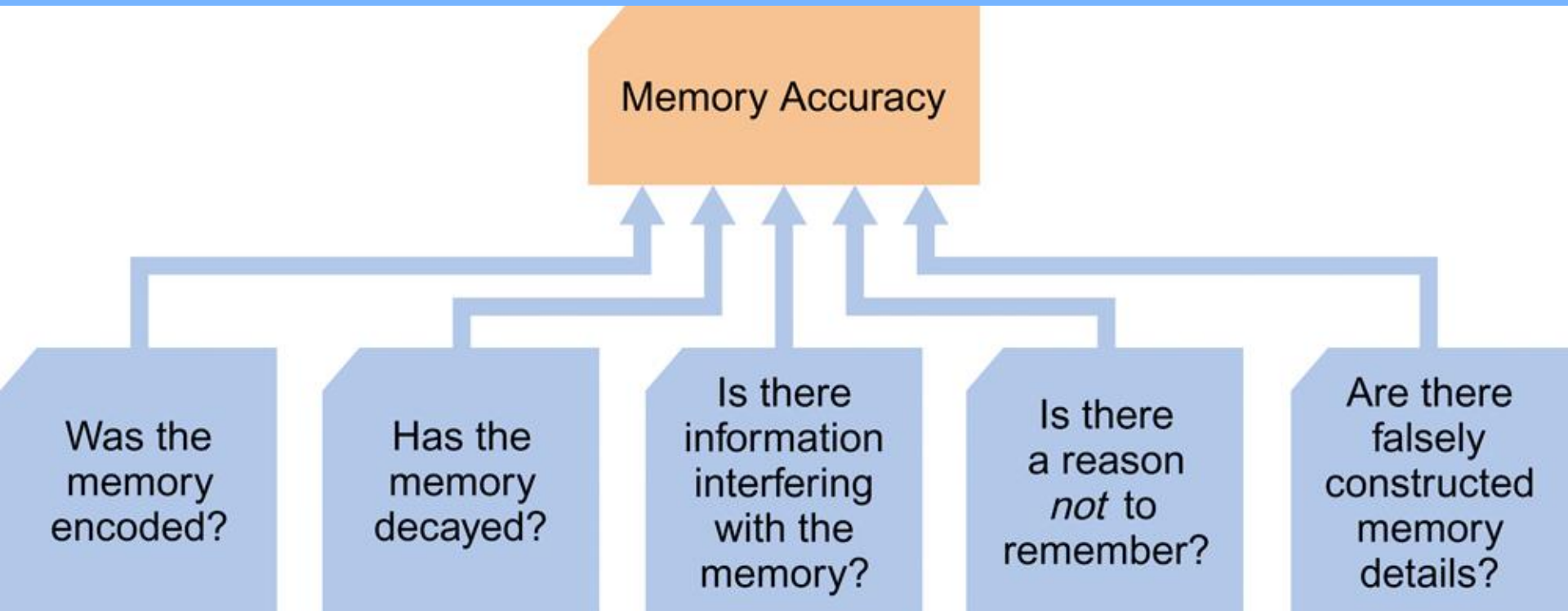- As children mature their memories improve

Accurate Interviewing Methods

- To promote accuracy with children's testimony the interviewer should:
  - Phrase questions in a way the child can understand
  - Have no prior contact with the child
  - Use neutral language and do not lead or suggest answers

Memory Construction: Recovered Memories

Accuracy of Memories

The End