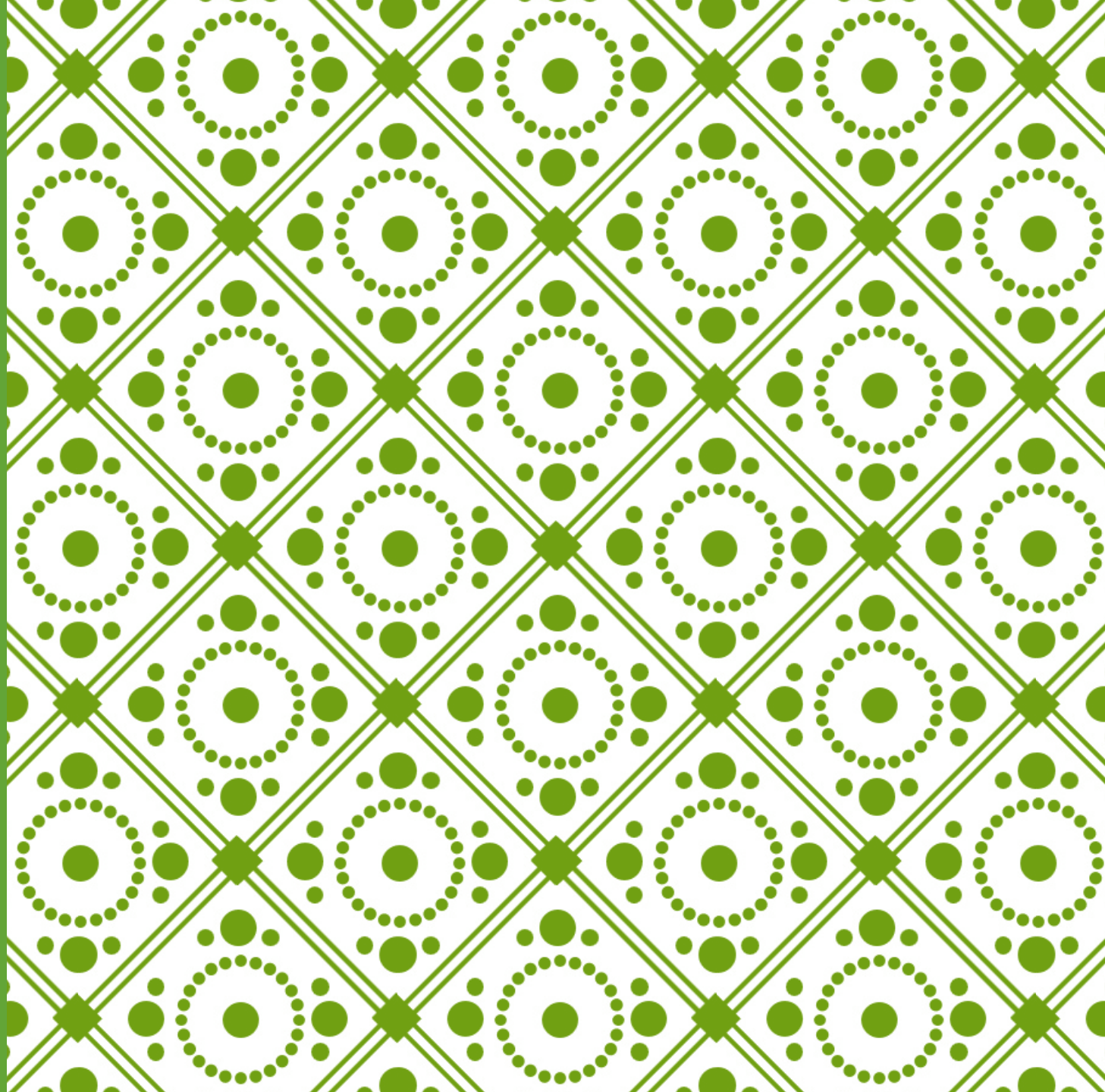
MEMORY

Chapter 6



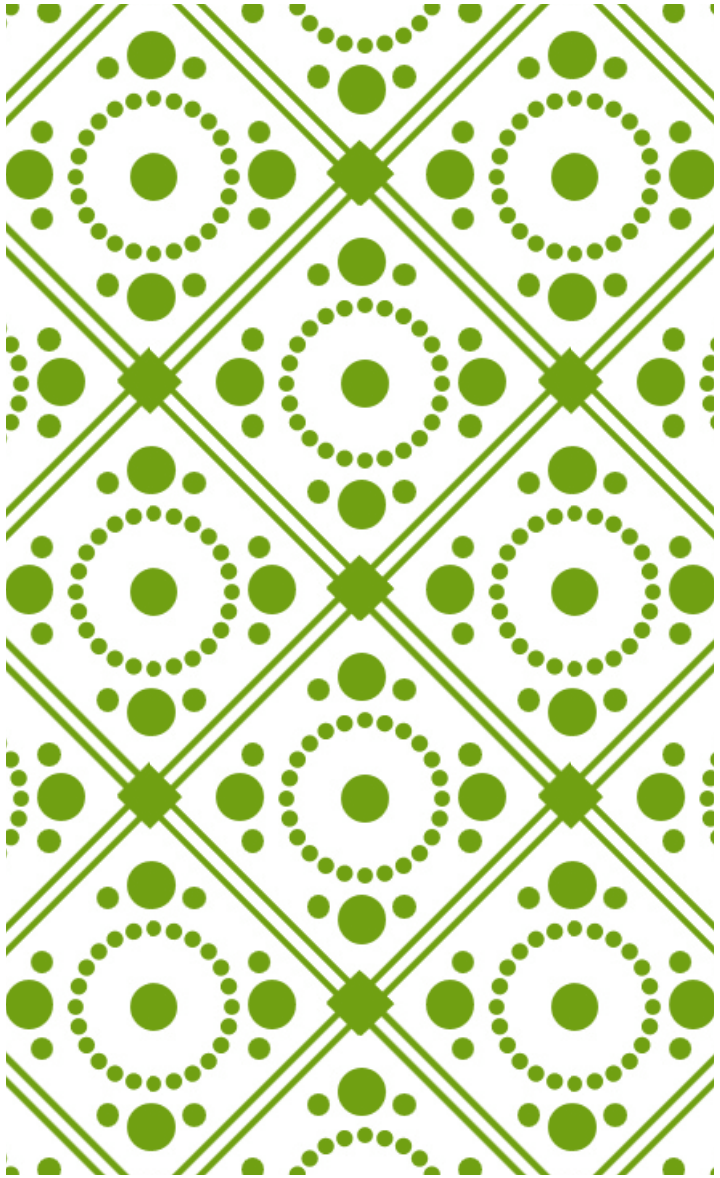
MEMORY (1 OF 3)

Module 6.1 Remembering

1. **Identify** and **describe** the basic processes and stages of memory.
2. **Identify** and **describe** the different types of long-term memory.
3. **Explain** the roles of the semantic network model and levels-of-processing theory in memory.
4. **Apply** constructionist theory to **explain** memory distortions.
5. **Identify** factors influencing the reliability of eyewitness testimony.
6. **Explain** why the concept of recovered memory is controversial.

Module 6.2 Forgetting

Module 6.3 The Biology of Memory



MODULE 6.1 REMEMBERING

MEMORY PROCESSES: HUMAN MEMORY AS AN INFORMATION PROCESSING SYSTEM

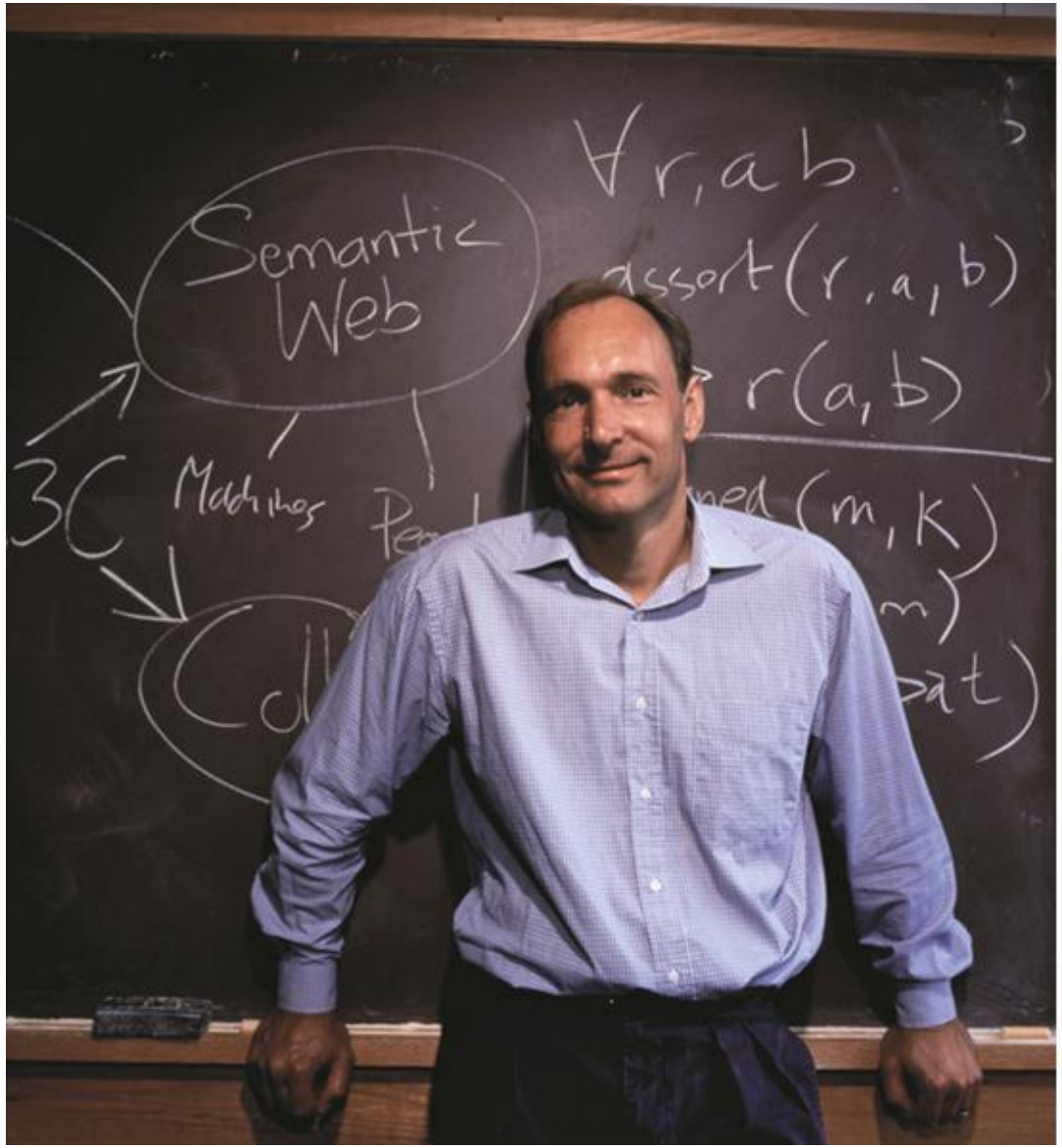
FIGURE 6.1 Three Basic Processes of Memory

Information

1. **Encoding**
   - Converting information into a form usable in memory
2. **Storage**
   - Retaining information in memory
3. **Retrieval**
   - Bringing to mind information stored in memory

MEMORY STAGES

LONG-TERM MEMORY: PRESERVING THE PAST (1 OF 3)



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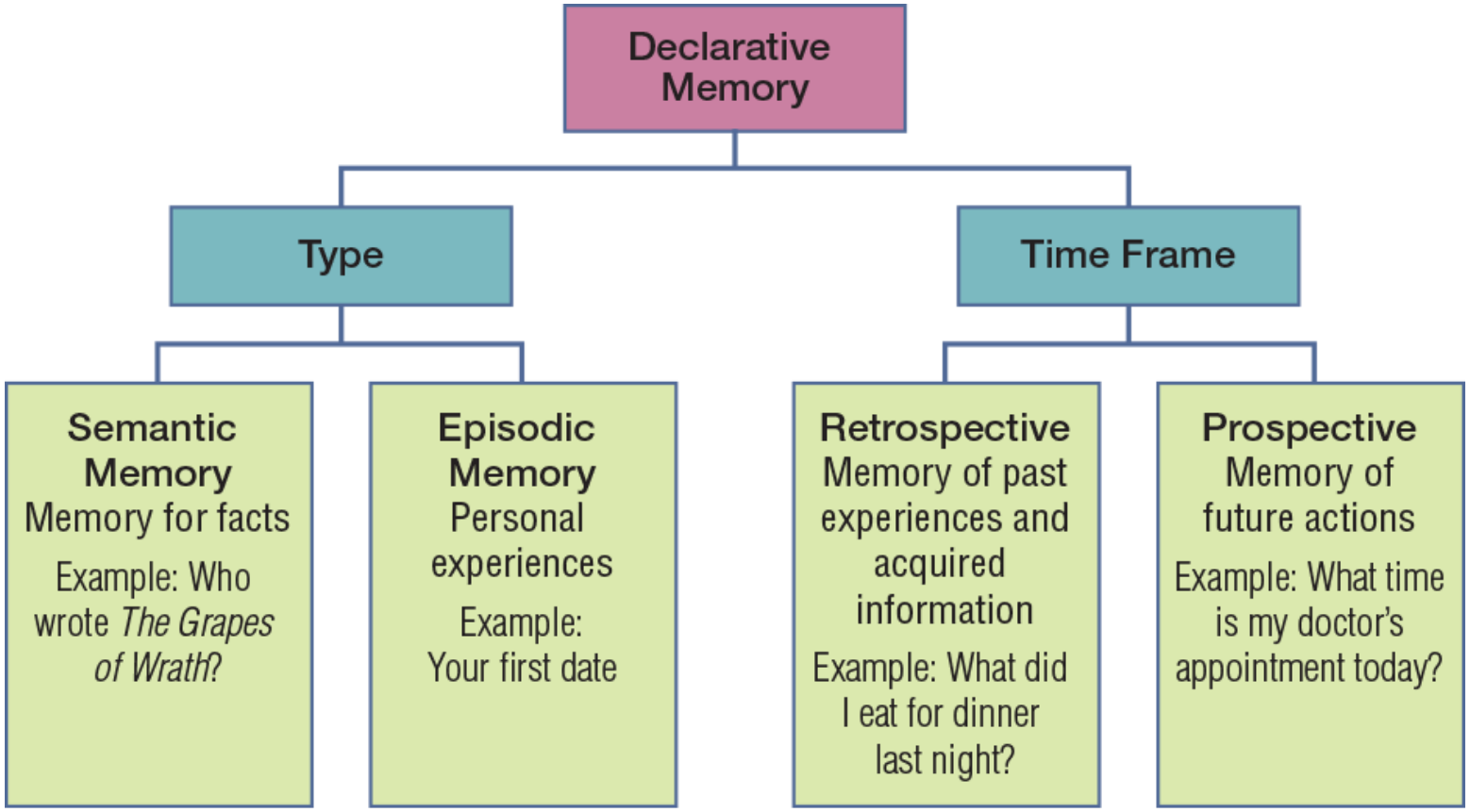

LONG-TERM MEMORY: PRESERVING THE PAST (2 OF 3)

FIGURE 6.4 DECLARATIVE MEMORY

LONG-TERM MEMORY: PRESERVING THE PAST (3 OF 3)

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THE RELIABILITY OF LONG-TERM MEMORY: CAN WE TRUST OUR MEMORIES? (1 OF 2)

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THE RELIABILITY OF LONG-TERM MEMORY: CAN WE TRUST OUR MEMORIES? (2 OF 2)

FLASHBULB MEMORIES AND EYEWITNESS TESTIMONY

The Charlotte Observer/Tribune News Service

REMEMBERING: STAGES AND PROCESSES OF MEMORY (1 OF 4)

CONCEPT CHART 6.1 Stages and Processes of Memory

Memory Stage	Memory Process: Encoding	Memory Process: Storage	Memory Process: Retrieval
Sensory memory	Iconic and echoic	Very brief, from a fraction of a second to 3 or 4 seconds	No retrieval; information is either lost or transferred to short-term memory
Short-term memory	Acoustic and visual, but primarily acoustic	A maximum of about 30 seconds, but maintenance rehearsal or elaborative rehearsal can maintain the memory longer or convert it into a long-term memory	No retrieval; information is either lost or transferred to long-term memory
Long-term memory	Acoustic, visual, and semantic, but primarily semantic	Long-term, possibly lifelong	Retrieval is assisted by retrieval cues and activation of semantic networks

REMEMBERING: STAGES AND PROCESSES OF MEMORY (2 OF 4)

Sensory memory

REMEMBERING: STAGES AND PROCESSES OF MEMORY (3 OF 4)

Short-term memory

REMEMBERING: STAGES AND PROCESSES OF MEMORY (4 OF 4)

Long-term memory

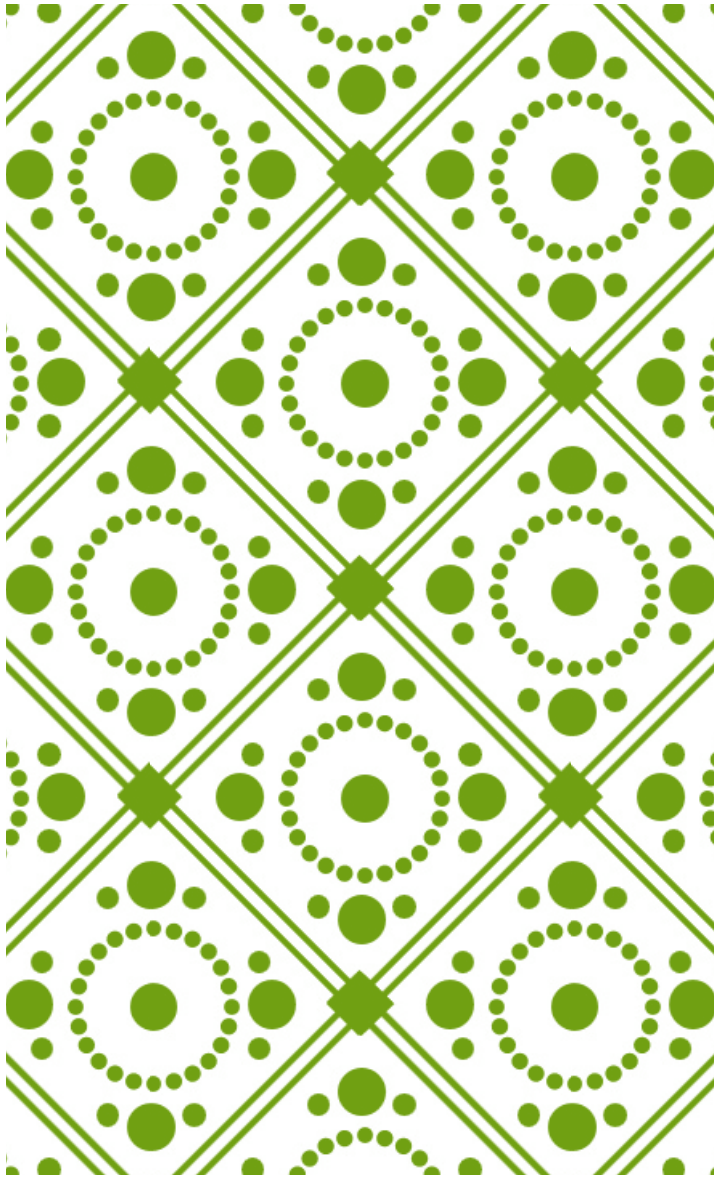
MEMORY (2 OF 3)

Module 6.1 Remembering

Module 6.2 Forgetting

7. **Describe** the major theories and factors in forgetting.
8. **Explain** why recognition tests of memory generally produce better results than recall tests.
9. **Describe** the causes of amnesia and the two major types of amnesia.

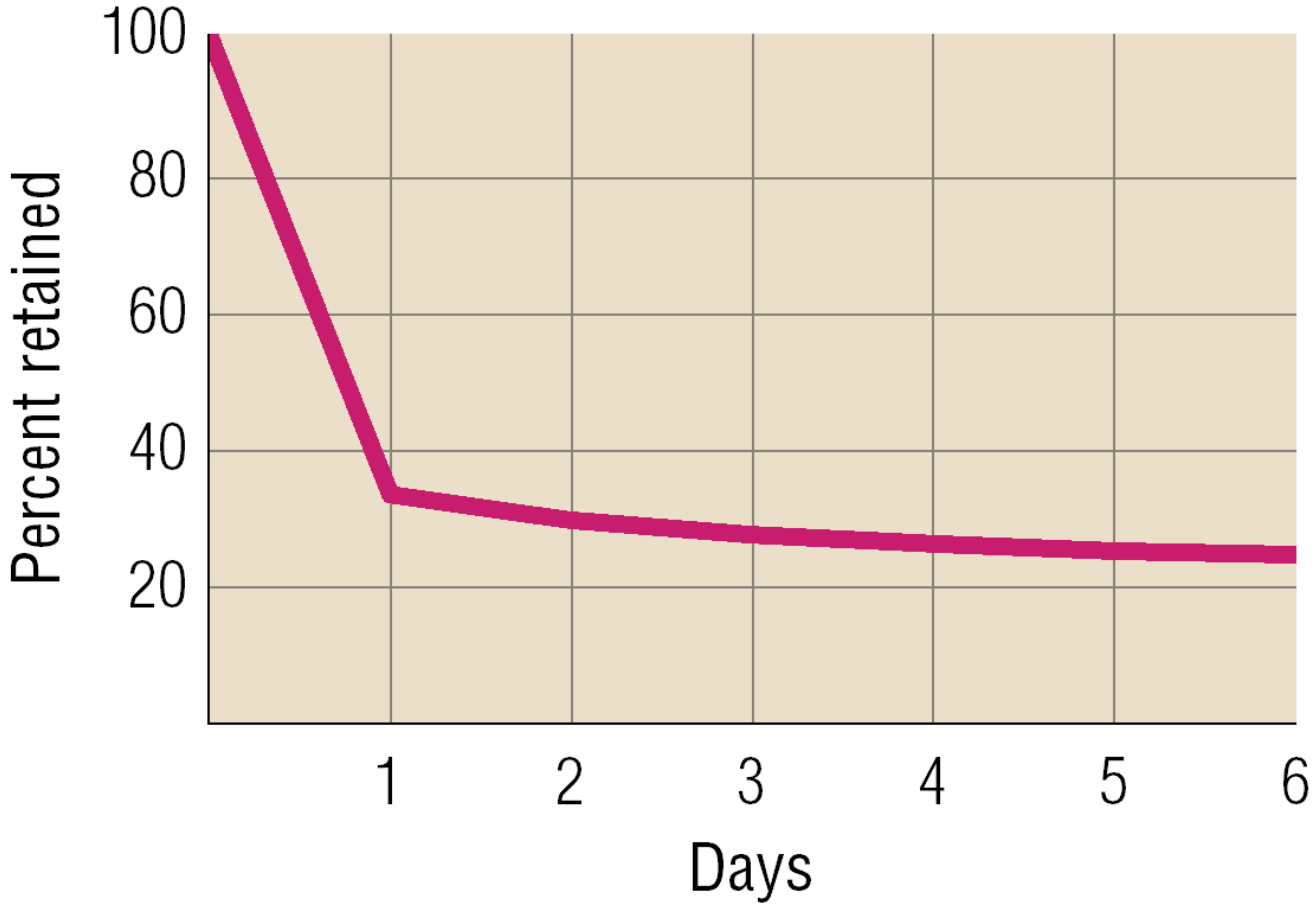
Module 6.3 The Biology of Memory



MODULE 6.2 FORGETTING

DECAY THEORY: FADING IMPRESSIONS

FIGURE 6.7 Ebbinghaus Forgetting Curve



INTERFERENCE THEORY (1 OF 2)

FIGURE 6.8 Retroactive and Proactive Interference

1. **Retroactive Interference**

Study philosophy at 9 A.M.

Study psychology at 11 A.M.

Test in philosophy the next day

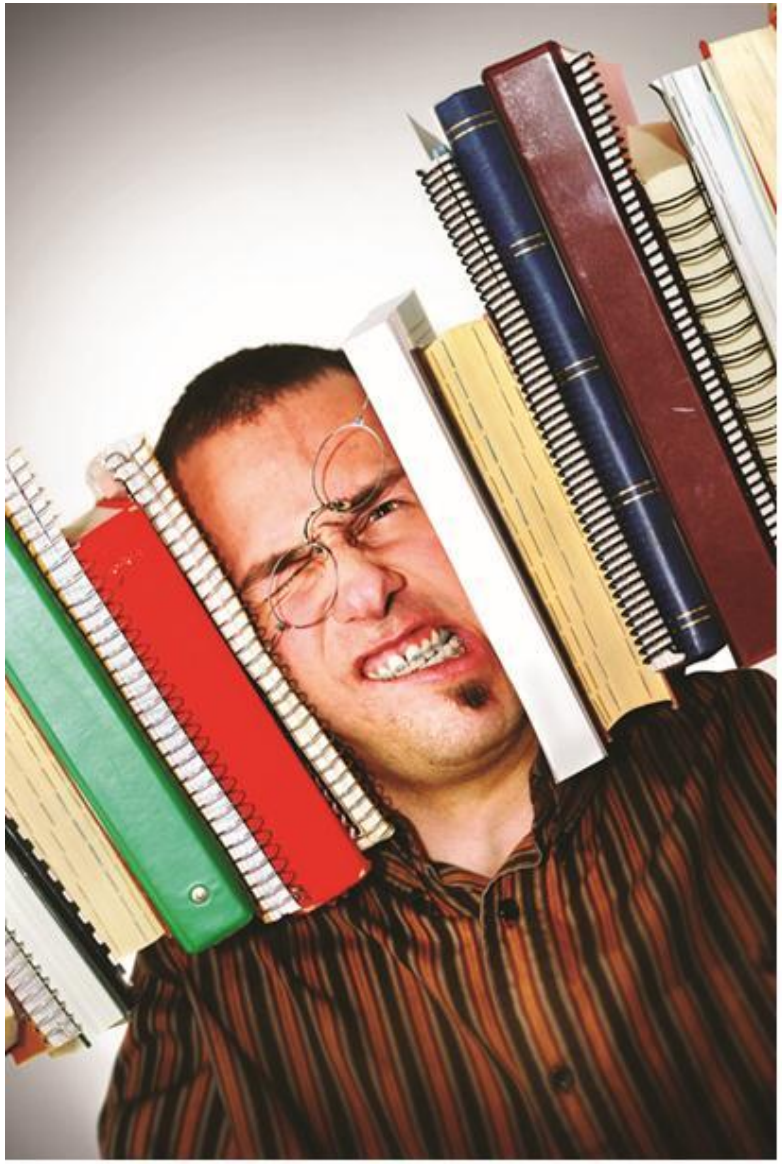
2. **Proactive Interference**

Study philosophy at 9 A.M.

Study psychology at 11 A.M.

Test in psychology the next day

INTERFERENCE THEORY (2 OF 2)



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INTERFERENCE THEORY: PRACTICAL APPLICATIONS (1 OF 2)

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INTERFERENCE THEORY: PRACTICAL APPLICATIONS (2 OF 2)

RETRIEVAL THEORY: FORGETTING MAY NOT BE FORGETTING AT ALL!

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AMNESIA: OF MEMORIES LOST OR NEVER GAINED

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FORGETTING: KEY CONCEPTS

CONCEPT CHART 6.2 Forgetting: Key Concepts

	Concept	Description	Example
Theories of Forgetting	Decay theory	Gradual fading of memory traces as a function of time	Facts you learned in school gradually fade out of memory over time
	Interference theory	Disruption of memory caused by interference of previously learned material or newly learned material	After sitting through your biology lecture, you forget what you learned in chemistry class the hour before
	Retrieval theory	Failure to access material stores in memory because of encoding failure or lack of retrieval cues	You have difficulty remembering something you know is stored in memory
	Motivated forgetting	Repression of anxiety-provoking material	You cannot remember a traumatic childhood experience
Measuring Methods	Recall task	Test of the ability to reproduce information held in memory	You recite a phone number or the capitals of U.S. states or the provinces of Canada
	Recognition task	Test of the ability to recognize material held in memory	You recognize the correct answer in a multiple-choice question
Types of Amnesia	Retrograde amnesia	Loss of memory of past events	After suffering a blow to the head in a car accident, you are unable to remember details of the accident itself
	Anterograde amnesia	Loss or impairment of the ability to form or story new memories	Because of a brain disorder, you find it difficult to retain new information

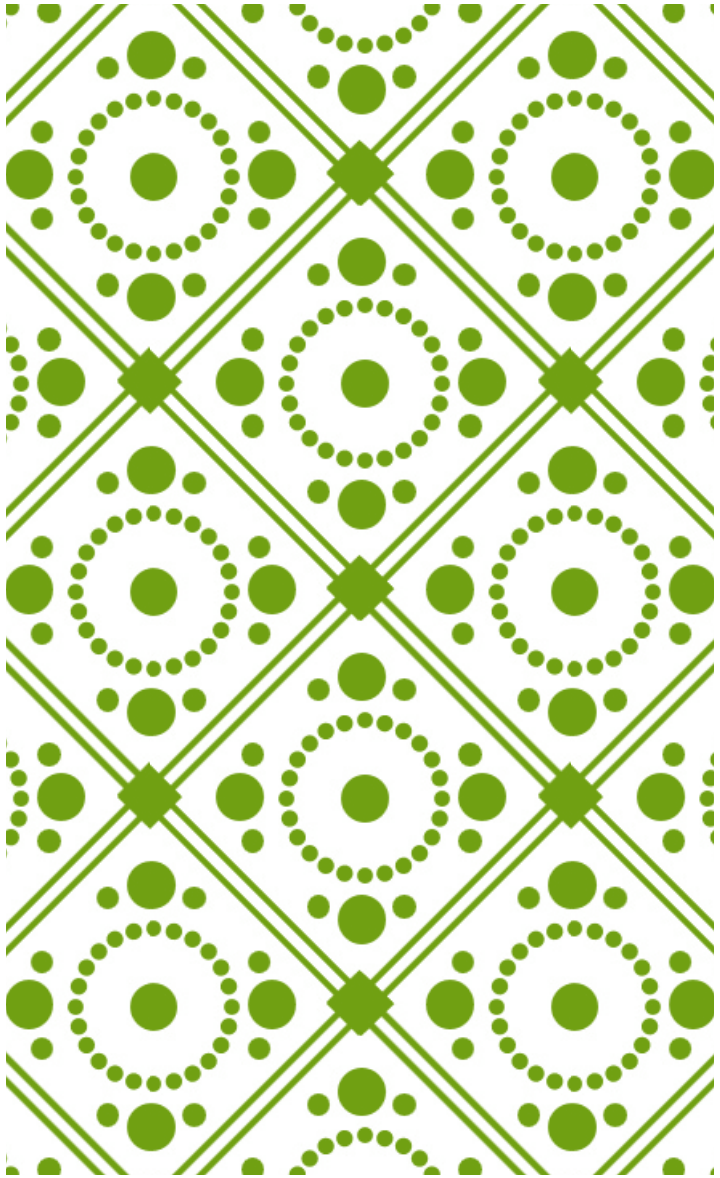
MEMORY (3 OF 3)

Module 6.1 Remembering

Module 6.2 Forgetting

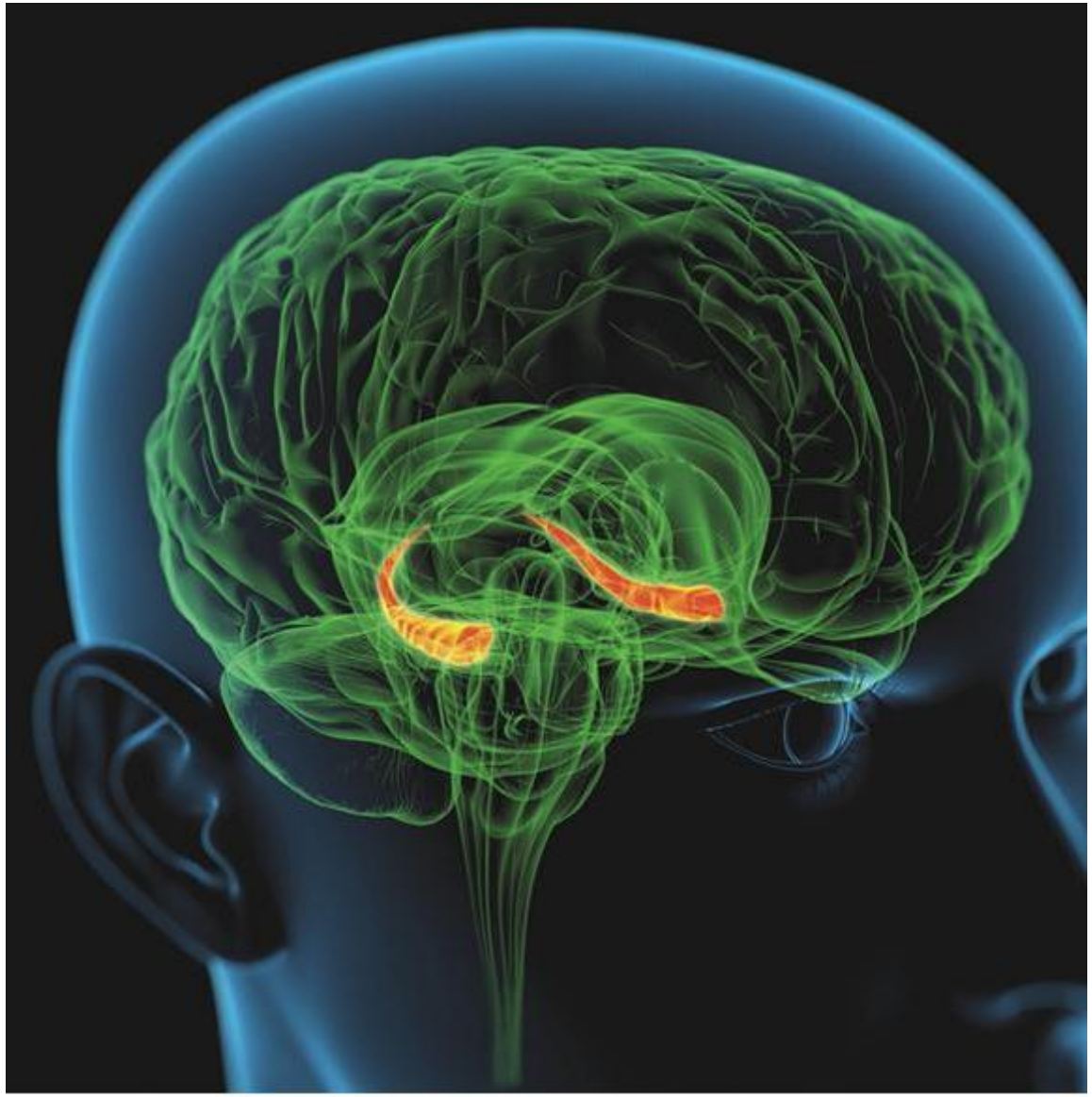
Module 6.3 The Biology of Memory

10. **Identify** the key brain structures involved in memory and explain the roles of the neuronal networks and long-term potentiation.
11. **Explain** the role that genetics plays in memory.
12. **Apply** knowledge of how memory works to power up your memory.

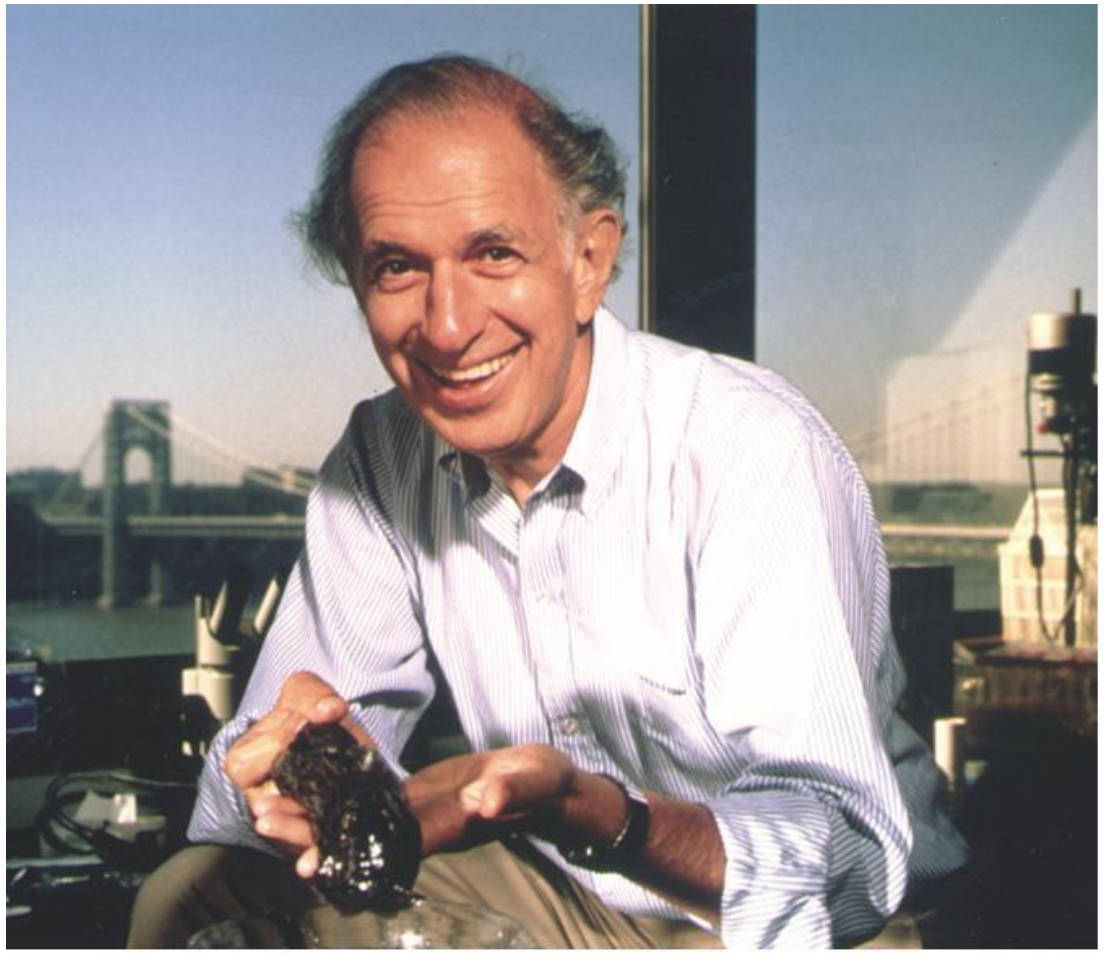


MODULE 6.3 THE BIOLOGY OF MEMORY

BRAIN STRUCTURES IN MEMORY: WHERE DO MEMORIES RESIDE?



STRENGTHENING CONNECTIONS BETWEEN NEURONS: THE KEY TO FORMING MEMORIES



Eric R. Kandel

APPLYING PSYCHOLOGY IN DAILY LIFE: POWERING UP YOUR MEMORY