



# Memory

Module 21  
Forgetting

Objective's for Today's Class:

- Why do we forget?
- What is amnesia?

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## If you couldn't forget, your mind would be

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The ability to forget is essential to the proper functioning of memory

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## Normal Forgetting

- ▣ *Memory traces* gradually decay
  - During any delay a memory is subject to the \_\_\_\_\_
- ▣ *Decay*: loss of information from memory as a result of disuse and the \_\_\_\_\_
- ▣ Memories seem to be forgotten because we no longer have the appropriate reminders 3

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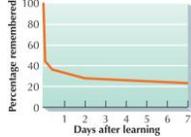
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## Normal Forgetting

- Found that most forgetting occurs during the first 9 hours after learning
  - Recall drops from 100% to 50% correct within 20 minutes of list learning
- After the first several hours – forgetting levels off and slows at that point



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If we forget so quickly, why put effort into learning something?

- Researchers have demonstrated that forgetting is not as extensive as Ebbinghaus envisioned.
  - Studied only meaningless nonsense syllables.
- When we memorize more meaningful material, forgetting is neither so rapid nor so extensive.

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## Reasons for Forgetting

- Encoding failure

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## Reasons for Forgetting

- Storage failure
  - \_\_\_\_\_
  - \_\_\_\_\_
- \_\_\_\_\_
  - The information is in long-term memory but you are unable to access it
- Interference
  - Proactive interference
  - Retroactive interference

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## Proactive Interference

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

- Old material increases forgetting of the new material
- The mental attic gets cluttered

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## Example

- A student studies for a psychology test on Saturday and a sociology test on Sunday. It is Monday and the student is taking the sociology test. He has trouble remembering the sociology information because he confuses it with the psychology information.
  - The psychology information was learned first
  - The sociology information was learned second
- The first information interfered with remembering the second information

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### Retroactive Interference

- ▣ New information interferes with recall of old information

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### Retroactive Interference

- ▣ Pretend that you've been sneaking around on your long-term girlfriend/boyfriend for a couple of months. One day, while talking to your significant other in some casual context, you address them by the name of your secret lover.
- ▣ New information has interfered with your recall of older information.

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Memories often do fade with the passage of time, but decay alone cannot explain forgetting.

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Decay theory suggests that the passage of time always increases forgetting.

This theory suggests that when we learn something new, a neurochemical memory trace forms, but over time this trace disintegrates.

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## Severe Forms of Memory Loss

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## Amnesia

\_\_\_\_\_

People with amnesia tend to have poor factual memories, but \_\_\_\_\_

- Amnesiacs show preserved performance on tests of implicit memory (which do not require conscious recollection for successful performance)
- On tests of explicit memory, amnesiacs show much more severely impaired performance (requires that the individual recognize the correct answer and be aware that long-term memory is being tapped)

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## Two Types of Amnesia

### Retrograde Amnesia

- involves memory loss for a segment of the past but not for new events.

### Retrograde amnesia is much more common than anterograde amnesia

- frequently occurs when the brain is assaulted by an electrical shock or a physical blow such as a head injury to a football player.

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## Two Types of Amnesia

### Anterograde Amnesia

- a memory disorder that affects the

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- People who find it hard to remember ongoing events after suffering damage to the head
- They do not tend to forget their childhood or who they are, but have trouble remembering day-to-day events

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## Are Memories Accurate?

Memory is not a perfect reflection of reality. Memory is like the water in this glass. One drop of color, which represents experiences in the world, can change the memory completely.

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Many people have memories for events that could not have happened

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*The Misinformation Effect*

The misinformation effect is \_\_\_\_\_

Eyewitnesses reconstruct their memories when questioned about the event.

When people who had seen the film of a car accident were later asked a leading question, \_\_\_\_\_

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False Memories

Many of our memories are incorrect because memory is so susceptible to outside influence. This is not a flaw in our memory system...we all have false memories.



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# How Can You Improve Your Memory?



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## Encoding Specificity Principle

▣ The information present at the time of

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▣ \_\_\_\_\_  
- If you experience something while you're in a particular mood – you are more likely to think of it again when you are in the same mood.

▣ State-dependent retrieval

- The tendency to remember something better if your body is in the same condition during recall as it was during the original learning

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## Mnemonic Devices

▣ Any memory aid that is based on encoding each item in a special way

- Use silly images
  - The sillier the image the more effectively you will remember it
- Use pleasant images
  - Your brain often blocks out unpleasant images
- Use vivid colorful images
  - They are easier to remember than boring ones
- Use all your senses to code information
  - Mnemonics can contain sounds, smells, tastes, touch, movements, feelings, and pictures

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## Verbal Mnemonics

- ▣ Word associations (i.e., acronyms or acrostics)
- ▣ Example:
  - ROY G BIV (acronym for colors of the spectrum)
  - King Philip Came Over For Good Sex (acrostic for order of taxonomy in biology)

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## How Should You Study?

- ▣ Distributed practice is better than massed practice
  - Ten 1-hour blocks is better than one 10-hour block
- ▣ You should continue to rehearse the material after you first appear to have mastered it
  - Skimming or speed-reading will not promote long-term retention

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## How Should You Study?

- ▣ Active is better than passive (allows you to engage in deeper processing)
  - Writing out a detailed outline is better than passively reading over notes
  - Try to relate material to your own life and experience rather than just memorizing material
  - The better organized you are – the better you learn and remember

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