

Memories Can Be Distorted

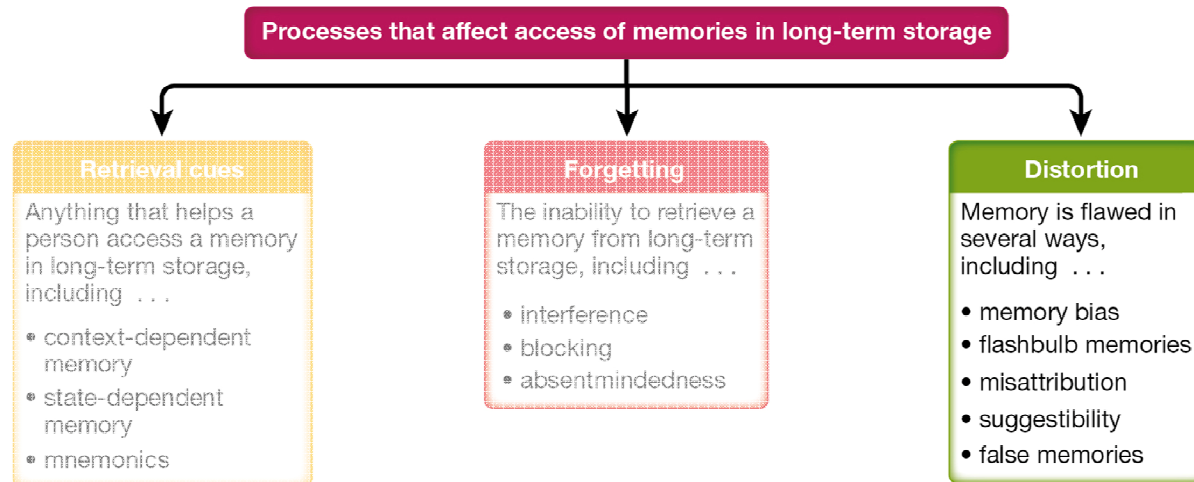
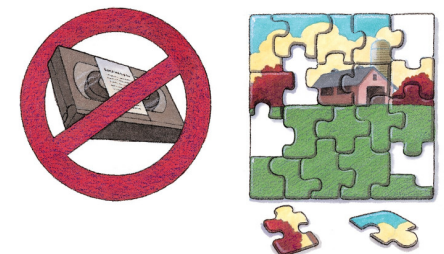


FIGURE 7.25

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- Reconstructed Memories
- Memory Bias
- Flashbulb Memories
- Misattribution / Source Confusion
- Suggestibility
- False memories

Memory is NOT like a video tape that records everything. It is more like a jigsaw puzzle where we remember certain events and reconstruct the missing pieces.



What memories are real?

It is very difficult to distinguish between “actual memories” and reconstructed memories. Reconstructed memories are potentially distorted and inaccurate.

A student example:

In middle school I was asked to write a paper on the earliest memory I could recall. I whacked my brain for hours trying to remember something from my early childhood, when suddenly it came to me: I was running along the coast on a very cold and drizzly day, wearing an aqua green quilted jacket, and I could see my long hair escaping on both sides of the hood, flying in the wind.



Reconstructed Memories



When you picture yourself taking a recent walk on the beach, do you see yourself as an outside observer would (an “observer memory”)? If so, such a recollection provides compelling evidence that memory can be reconstructive.

Memory Bias and Schemas

We saw examples of distorted memories with

- schema distortions (we remember things consistent with schemas and forget things inconsistent with our schemas).

Memory Bias

Memory bias is the changing of memories over time so that they become consistent with current beliefs or attitudes ([page 293](#)).

Your beliefs may bias your memories if:

- You believe you always had this belief. You alter the past to fit the present so that the two memories are consistent (the consistency bias)
- You believe that beliefs change over time. You exaggerating differences between the past and the present (change bias)
- You have a positive view of yourself. You distort the past to make you look better (egocentric bias)

Memory Bias

Consistency bias: Our current moods, beliefs and knowledge influence our past memories.

Our belief that our current beliefs have “always been this way” affects what we remember about our past. Our memory of our past beliefs have faded and inferred from our current beliefs.

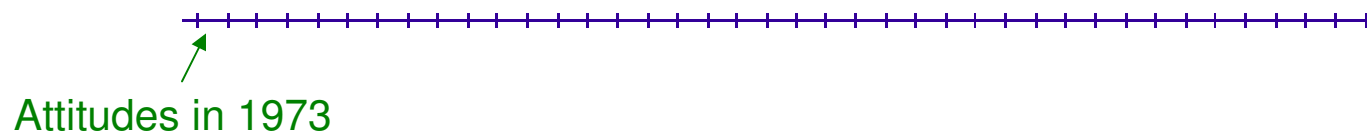
Memory Bias

Actual attitudes measured in 1973 and 1982

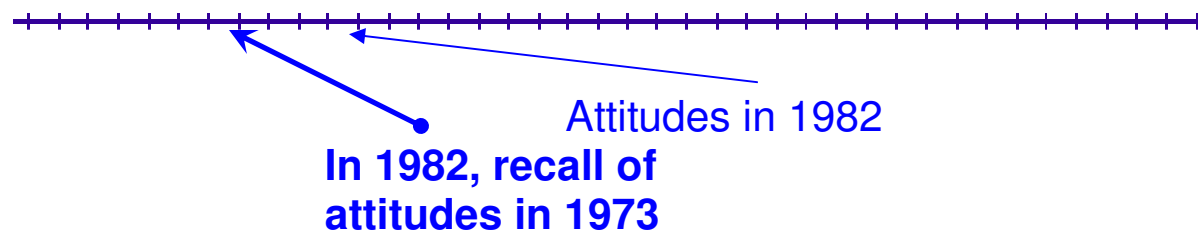
- Researchers asked participants to indicate their attitude on controversial issues such as legalization of marijuana and women's rights
 - in 1973.
 - in 1982.

In addition, in 1982, they were asked to recall what their attitudes were 9 years earlier. What they found was that the recollections were a closer match to their attitudes in 1982 than in 1973.

Measured in 1973



Measured in 1982



Change Bias

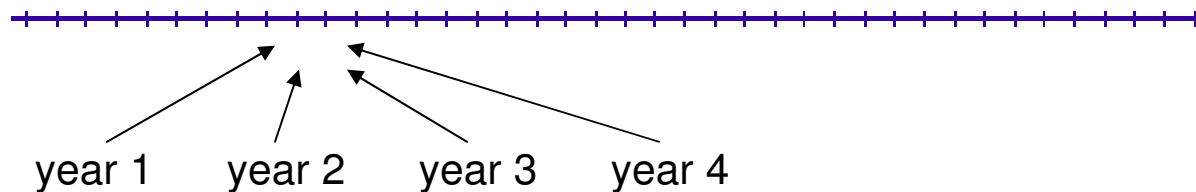
Change bias is when we exaggerate differences between the past and the present.

Most of us would like to believe that our love grows over time. It is unlikely that we remember how we viewed our relationship years ago. With the belief “love grows stronger over time”, we know what our current feelings are, so we infer that it must have grown over time.

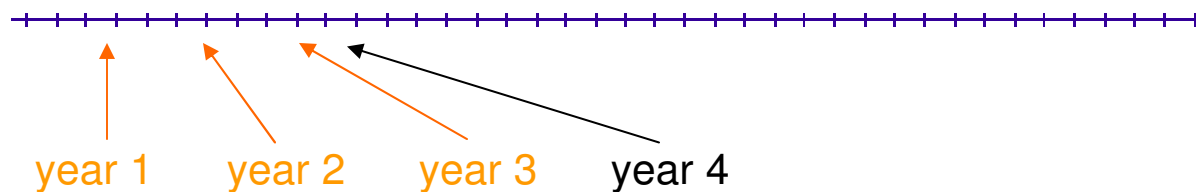
Change Bias

Dating couples were asked to rate their relationship over a period of 4 years (once a year). In the 4th year, they were asked to recall how they felt in the past.

Average actual ratings (measured each year)



In year 4, the average ratings recalled of year 1 to 3



Couples who stayed together memories were consistent with the expectation that love grows over time, even though their actual ratings of love were fairly consistent. Our current beliefs influenced what we remembered about the past.

Memory Bias

Egocentric bias is when we distort the past to make us look better.

- Students often remember feeling more anxious before taking an exam than they actually reported at the time
- Blood donors sometimes recall being more nervous about giving blood than they actual were.
- When recalling grades from high school, there is a tendency to recall the good grades (89% accurate) and not remember the bad grades (29% accurate). In addition, lower grades, when remember tended to be better than they actually were.

Memory Bias

Student remembered grades that either made them feel better, or was consistent with their current knowledge. (Because I can know a lot more than I did when I was 18, I "had to have done better" in that college course).

Actual Grades	Grades recalled	
A	A	Good grades remembered
A	A	
B	B	
B	B	
C	C	Low grades "upgraded"
C	C	
D	C	
D	D	Bad grades forgotten
F	F	Bad grades forgotten
F	F	

Misattribution

Memory misattributions is when you misremember the time, place, person or circumstances involved with a memory. Memory misattribution is one of the causes of eyewitness misidentifications. Eyewitnesses can identify suspects based on familiarity. They recognize that they have seen the person before, but can't remember the source of that recognition (when, where or the context of the information). Since they are being asked about the crime and the person seems familiar, eyewitnesses can unconsciously infer that that was the person. Eyewitness testimony tends to be persuasive because people are confident in what they saw.

Is what we
remember
something we saw
on TV?



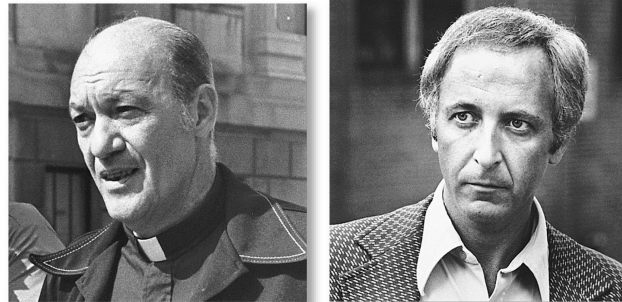
OR

Is what we
remember an
actual
experience?



Misattribution

In the 1970s, one of these men was misidentified as “the Gentleman Bandit”.



Eyewitness confidently identified “the Gentleman Bandit” (he was dubbed the Gentleman Bandit because he was so nice when he robbed them). However, it appears that the reason they were confident was that they were familiar with the suspect’s face because his picture was shown on the evening news. This memory was confused with the actual memory.

Is what we remember a picture we saw on TV?



OR

Is what we remember an actual experience of being robbed?



Misattribution

Navid Negahban plays a terrorist on the television show Homeland. He was once mistaken at the airport for a terrorist. Luckily, the mistake was quickly realized.



The Sleeper Effect

Memory for the source of information tends to be poor. When we fail to remember the sources of information, bad sources of information can be as persuasive as good sources of information.



We may read or hear something about the President on social media. The standards for accuracy of information on social media isn't whether it is true or not, but is it familiar or matches our schema.

Over time, we remember the message, but forget the source--that what we heard was on social media. When the information on social media is repeated often enough, it starts to sound familiar and familiar claims are believed to be accurate.

Suggestibility

Suggestibility: A memory-distortion phenomenon in which your existing memories can be altered if you are exposed to misleading information.

In one of the first studies on suggestibility by Elizabeth Loftus, two groups of participants viewed a video tape. One group of saw a car approaching a stop sign and another group saw a car approaching a yield sign.

Group 1: Stop Sign	Group 2: Yield sign
<p>(a)</p>  <p>FIGURE 7.34</p> <p><small>Loftus, E. F., Miller, D. G., & Burns, H. J. (1976). Semantic integration of verbal information into a visual memory. <i>Journal of Experimental Psychology: Applied Learning and Memory</i>, 4(1), 10-21. https://doi.org/10.1037/0278-7393.4.1.10 Copyright © 2002 by W. H. Freeman & Co., Inc.</small></p>	<p>(b)</p>  <p>FIGURE 7.34</p> <p><small>Loftus, E. F., Miller, D. G., & Burns, H. J. (1976). Semantic integration of verbal information into a visual memory. <i>Journal of Experimental Psychology: Applied Learning and Memory</i>, 4(1), 10-21. https://doi.org/10.1037/0278-7393.4.1.10 Copyright © 2002 by W. H. Freeman & Co., Inc.</small></p>
<p>Did the car stop at the stop sign?</p>	<p>Did the car stop at the stop sign?</p>

Both groups were asked "Did the car stop at the stop sign?" Both groups reported seeing the car stop at the stop sign. The misleading question "Did the car stop at the stop sign" influenced participants to misremember seeing a stop sign when it was a yield sign.

Suggestibility

In another experiment by Elizabeth Loftus, she showed an accident involving two cars. To find out if the language used to question witnesses had an effect on memory, she asked different groups of people to estimate the speed of the cars using different questions.

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How fast were the two cars going when they _____ each other?	
Words	Perceived speed
smashed into	41 mph
collided with	39 mph
bumped into	38 mph
hit	34 mph
contacted	31 mph

In our associative networks, a faster speed is linked to smashed rather than contacted.

Suggestibility

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How fast were the two cars going when they _____ each other?

Words	Perceived speed
smashed into	41 mph
collided with	39 mph
bumped into	38 mph
hit	34 mph
contacted	31 mph

A week later, she asked the participants “Was there any glass?”

Those who were asked

- the “smashed into” version, 32% reported seeing glass
- the “contacted” version, 14% reported seeing glass

There was no glass. People mentally reconstructed and inferred the presence of glass by the suggestion of the question.

Problems with casually testing beliefs and Memory

The following are tricks that can mislead you. It is easier to notice the following “tricks” because

- (a) I am instructing you to look for the “trick”.
- (b) These examples are written and you can see and read them compared to only hearing them.
- (c) These apparent discrepancies are occurring close together in time.

The following are statements lead the reader to infer something that isn’t what the empirical evidence uncovers.

- No battery outlasts Eveready
- No battery outlasts Energizer
- No battery outlasts Duracell



If you don't know how you are being misled, you will take the wrong corrective measures and allow the deception to continue and continue in different forms.

- no other pain reliever is more effective than Bayer
- no other pain reliever is more effective than Excedrin

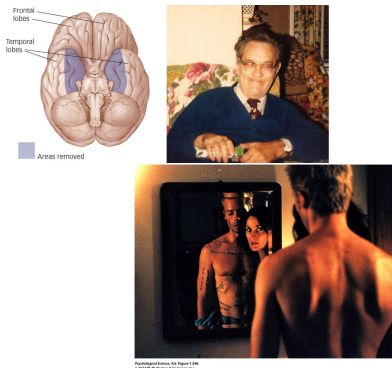
- no one beats our prices

The following misleads you in a different way than the previous three examples.

- A survey in a major medical journal says that 8 of 10 people take a supplement to live a longer life

Amnesia

Type of amnesia	Definition
Retrograde	<p>A condition in which people lose past memories, such as memories for events, facts, people or even personal information (page 291). Backward-acting memory loss; especially for episodic memory. It is believed that the process of memory consolidation is impaired with severe blows to the head.</p> <ul style="list-style-type: none">• Trevor Reese Jones (Princess Diana's bodyguard) has retrograde amnesia.
Anterograde	<p>A condition in which people lose the ability to form new memories (page 291); forward acting memory loss.</p> <ul style="list-style-type: none">• H.M. could not form new explicit memories (episodic and semantic), but could learn and form new procedural memories.



Draw these on the board with a "time-line"

Retrograde Amnesia

Retrograde amnesia: Loss of memory, especially for episodic information; backward-acting amnesia ([page 240](#)).

Past

**Onset of
amnesia**

Present

Future

e.g., an
accident

What occurred
a few moments
before the
accident

The accident



Later
memories are
intact



Anterograde Amnesia

Anterograde Amnesia: Loss of memory caused by the inability to store new memories; forward-acting interference ([page 240](#)).

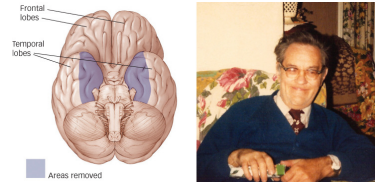
Past

**Onset of
amnesia**

Present

Future

Has long term
memories



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