

## Some Memory Errors Chapter 8 nb

### Misinformation effect

The misinformation effect refers to the change in memory due to the presentation of information after the event that is relevant to the target memory, such as leading questions or suggestions. Memories are likely to be altered when questions are worded differently or when inaccurate information is presented. For example, in one experiment participants watched a video of an automobile accident and were then asked questions regarding the accident. When asked how fast the automobiles were driving when they *smashed* into each other, the speed estimate was higher than when asked how fast the automobiles were driving when they *hit*, *bumped* or *collided* into each other. Similarly, participants were more likely to report there being shattered glass present when the word *smashed* was used instead of other verbs. Evidently, memory recollection can be altered with misleading information after the event.

### Source confusion

**Source confusion** involves the misattribution of the source of a memory. For instance, an individual may recall seeing an event in person when in reality they only witnessed the event on television. Ultimately, the individual has an inability to remember the source of information in which the content and the source become dissociated. This may be more likely for more distant memories, such as childhood memories. In more severe cases of source confusion, you can take fictional stories you heard from when you were younger and assimilated these stories being your childhood. For example, say your father told you stories about his life when he was a child every night before you went to sleep when you were a child. When you grow up, you might mistakenly remember these stories your dad told you as your own and integrate them into your childhood memories.

One evening in 1975 an unsuspecting Australian psychologist, Donald M. Thomson, walked into a television studio to discuss the psychology of eyewitness testimony. Little did he know that at the very moment he was discussing how people can best remember the faces of criminals, there was someone encoding his own face as a rapist. The day after the television broadcast Thomson was picked up by local police. He was told that last night a woman was raped and left unconscious in her apartment. She had named Thomson as her attacker.

Thomson was shocked, but had a watertight alibi. He had been on television at the time of the attack and in the presence of the assistant commissioner of police. It seemed that the victim had been watching Thomson on television just prior to being attacked. She had then confused his face with that of her attacker. So she had indeed seen him, but she confused just where she had seen him.

Donald Thompson was completely exonerated but many others have not been so lucky. Gary Wells at Iowa State University and colleagues have identified 40 different US miscarriages of justice that have relied on eye-witness testimony (Wells et al., 1998). Many of these falsely convicted people served many years in prison, some even facing death sentences.

People regularly say they read something in the newspaper, when actually a friend told them or they saw it in an advert. In one study participants with 'normal' memories regularly made the mistake of thinking they had acquired a trivial fact from a newspaper, when actually the experimenters had supplied it (Schacter, Harbluk, & McLachlan, 1984).

### Imagination inflation

Imagination Inflation refers to when a person remembers details of a memory that are exaggerated versions of the actual event or remember an entire memory that never occurred due to the act of imagination. That is, when one imagines an event occurring, their confidence that this event actually did

occur increases. One reason for this may be due to the act of imagination increasing the familiarity of the event. When the event seems more familiar, it may become more likely for people to report it actually occurring. For instance, in an experiment participants were asked to imagine playing inside and then running outside toward a window, falling and breaking it, while other participants did not imagine anything. Participants who had imagined this scenario reported an increased level of confidence that the event had actually happened in comparison to those who did not imagine the event. This error can be caused simply by imagining an event.

Loftus (1993) described the first systematic attempt to create in subjects a coherent, detailed memory for things they never did. She simply asked subjects to read detailed descriptions of four events that supposedly happened during their childhood. In actuality, three of these events had been genuinely experienced, and one about getting lost in a shopping mall was false. Subjects were asked to write what they remembered about each of these events in separate sessions over the course of a few weeks, and by the last session of the experiment, about 25% of subjects developed a false shopping-mall memory.

How did simply reading about being lost in a shopping mall create memories for that event? Loftus (1993) raised a number of possibilities, but it is likely that imagination played a role. Many subjects probably relied on their imagination as a strategy for remembering being lost, because that is what people do when they try to think about an event that they do not remember (Sarbin, 1998). In a recent study using a less intensive procedure to examine the effect of imagination on memory (Garry, Manning, Loftus, & Sherman, 1996), subjects were pretested on how confident they were that a number of childhood events had happened, asked to imagine some of those events briefly, and then tested again on their confidence that the events had happened. Subjects became more confident they had experienced imagined counterfactual events than non-imagined counterfactual events. This confidence-boosting effect is known as imagination inflation. Since this first study, research has consistently shown that briefly imagining the sketchiest details of a counterfactual event is enough to produce imagination inflation (Garry, Frame, & Loftus, 1999; Goff & Roediger, 1998; Heaps & Nash, 1999; Paddock et al., 1998).

What is it about imagining a counterfactual event that causes people to later become more confident that it really happened? The most obvious explanation is that imagining a childhood event does not really do anything interesting at all; it merely reminds people of genuinely experienced events. Indeed, there is no way to tell how much of the imagination inflation is caused by simple reminding in the studies in which social pressures to remember are reduced (Garry et al., 1996).

However, Goff and Roediger (1998) addressed the issue by asking subjects first to do some actions but not others. Later, subjects imagined some of those actions anywhere from zero to five times. Goff and Roediger found evidence of imagination inflation, as well as an effect for the number of imaginings.

There are two main explanations for imagination inflation. The first of these is source confusion (Johnson, Hashtroudi, & Lindsay, 1993), a process in which content and source (i.e., the circumstances in which information was learned) become separated. In a source confusion account of imagination inflation, subjects are said to confuse information from a recently imagined event with information from a genuinely experienced event. Researchers studying the suggestibility of children have long been aware of the dangerous consequences of thinking about a false event. Much research shows that children can adopt misleading suggestions about aspects of genuine events, or come to report entire, elaborate false events (Ceci, Loftus, Leichtman, & Bruck, 1994). Are children susceptible to imagination inflation? When 8- to 10-year-olds imagined hypothetical events from 5 years earlier, the children showed inflated confidence that the events had really happened (Garry & Hayes, 1999).