Memory, but Not Memory[1]

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In the early months of the world's worst pandemic, I got news—some bad and some good. I had recently returned from testifying in a criminal trial in New York, the prosecution of Harvey Weinstein. Soon afterward, the dean of my law school received a letter demanding that administrators "address the acute problem of Elizabeth F. Loftus." Law students claimed that they were terrified that I was teaching future psychologists and lawyers, and training them on how to further traumatize survivors of abuse. They wanted me to be removed from the faculty. It was not a good day. But soon I would get some better news. As it turned out, about fifteen years ago, my PhD advisor, Patrick Suppes, established and funded prizes so that the American Philosophical Society could honor scholarly accomplishments in several fields, one of which was psychology. So it was especially meaningful for me when, in the midst of COVID, I was awarded that prize in recognition of my scientific demonstrations that (in the words of the commendation) "memories are generally altered, false memories can be implanted, and [for] the changes in law and therapy this knowledge has caused."[2] Life was looking up for me, although the allegedly traumatized students would undoubtedly not be happy to hear this. How can one person, one life's work, engender such extreme feelings—from "fire her" to "give her a huge prize"? To answer this, I need to take you back a few decades.

A few years after finishing my PhD in psychology, I wanted to study human memory in a way that had more social relevance than some of my early memory studies had done. I designed experiments that would show how rather innocuous procedures could change memory for a past event. I would show my subject-witnesses simulated crimes or accidents and later interview them with questions that suggested some false detail. For example, after witnessing an auto accident, the question, "How fast were the cars going when they smashed into each other?" led people to report higher speed estimates than "How fast were the cars going when they hit each other?" Moreover, the "smashed" question

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2 More information on the Patrick Suppes Prize can be found at https://www.amphilsoc.org/prizes/patrick-suppes-prize.

caused witnesses to be more likely to later report that they had seen broken glass, a detail that would be commensurate with a more severe accident, but in fact did *not* exist. In other studies, witnesses to an accident were asked the question, "Did another car pass the red Datsun while it was at the intersection with the stop sign?" This leading question caused many witnesses, who had actually seen a yield sign, to later recall having seen a stop sign at the intersection. I argued that the misinformation in the questions was actually contaminating or transforming the memory. This was the modest empirical beginning of a research program that has helped to shift the way both scientists and educated laypersons understand the functioning of human memory. I published hundreds of empirical articles and chapters on the malleability of memory, documenting the boundary conditions and individual variables associated with such distortions. The basic phenomenon of reduced memory after exposure to misleading information is now known as the "misinformation effect." (See Loftus, 2005, for a decent summary of that "thirty-year investigation").

The misinformation effect is important to understand because out there in the real world, misinformation is everywhere. People pick up misinformation when they are asked leading/misleading questions. They pick it up when they talk to other witnesses and share memory reports that are sometimes erroneous. They pick up misinformation when they are exposed to media coverage that is not quite right, and it too can contaminate their memory. All of these situations provide an opportunity for new information to become available and potentially alter someone's memory.

These findings were not only relevant to scientists who care about human memory, but they would have important implications for the legal field. When witnesses are interrogated about important legal matters, carelessly worded questioning by police and lawyers or other investigators can modify memories of events about which people would later have to testify. Because of the research, I would periodically be asked to consult or provide expert testimony on behalf of litigants in court cases that hinged on eyewitness testimony. The aim was to educate the trier of facts about the workings of human memory, in hopes of minimizing the likelihood of wrongful convictions or unfair verdicts. Also, in hopes of reaching an audience larger than twelve individuals at a time, I made efforts to write about the findings for larger audiences, as in my book *Eyewitness Testimony* (Loftus, 1979/1996) and another entitled *Witness for the Defense* (Loftus & Ketcham, 1991).

I'd been living this two-pronged life for a couple of decades, when an even more unusual memory issue cropped up in society. There were news reports of adults discovering presumably long-repressed memories

of childhood brutalization. I'm thinking back to the case of George Franklin, who was prosecuted in California when his daughter Eileen claimed that she had witnessed her father kill her eight-year-old best friend some twenty years earlier. Eileen claimed that she had repressed her memories of the murder and other childhood traumas and then, decades later, recovered them. Lawyer-journalist Harry MacLean (1993) told the story in a magnificent book entitled *Once upon a Time*, which more or less expresses his view that these recovered memories were more akin to fairy tales. I'm also thinking of another famous case, involving a winery executive, Gary Ramona. His family was destroyed when his college-age daughter, Holly, went into therapy and "discovered" that she had been abused by her father from the ages of five to sixteen and repressed her memories. Holly sued her father, and Gary in turn sued the therapists for planting false memories in the mind of his daughter. He was awarded a half million dollars by a jury in Napa, California, a story told in another magnificent book called *Spectral Evidence* (Johnson, 1997). Since the days of these early cases involving claims of repressed memories, hundreds more have filled courtrooms around the country and elsewhere. I had excellent reasons for worrying that many of these claims might not reflect real memories at all. Grave injustices were occurring based on mistaken assumptions about the veracity of so-called repressed memories (Loftus & Ketcham, 1994). In some cases, evidence was even obtained that proved the memories were false.

It was my involvement in George Franklin's case that inspired me to develop experimental procedures that would teach me about these extreme instances of malleable memory. If Eileen Franklin's memories were false, she had certainly done more than remember a detail incorrectly. She would have needed to develop exceedingly rich false memories for entire events that never occurred. How does this happen? How can you plant a seed of suggestion and have it grow into a richly detailed memory for something that never happened? One of my first studies, now referred to as the "lost in the mall" study, demonstrated the ease with which one could create, in adults, unpleasant memories of having been, as a child, separated from a parent on a shopping trip, and after great distress being rescued and reunited with the family. This small study simply showed that you could indeed plant a richly detailed false memory into the mind of an ordinary, healthy adult. Writing in the *New Yorker*, a journalist described the study as one that "has assumed an iconic status, becoming one of the most famous experiments of the century" (Aviv, 2021, 39). But it was just one small study, a first step, and now many others have planted rich false memories for all sorts of events that would have been rather traumatic if they had actually happened. My later studies showed how imagination, or exposure to other

people's stories, or dream interpretation, or a multitude of suggestive techniques, could lead people to have wholly false beliefs and memories about their past. Taken together, these studies show how very "rich false memories" can be planted in the minds of people, many of whom then go on to elaborate with even greater made-up detail. (See Loftus, 2003, 2005, for more details about these findings.) Readers who want to read more details about the journey from the misinformation effect to "rich false memories" can find even more information in several autobiographical essays (Loftus, 2007, 2017).

My sustained research on the recovered memory problem has been important in shedding scientific light on deeply disturbing phenomena which others in the profession were initially disinclined to consider and therefore took a skeptical stance toward. I'm referring to the "memory wars"—including the aforementioned epidemic of individuals who accused their parents and others of years of brutalization that had supposedly been repressed into the unconscious until therapists excavated the long-buried memories. Now, after numerous well-publicized cases in which accusations of past abuse have been discredited, reports of "repressed memory of abuse" are treated with greater balance by both the courts and by some members of the general public. This development has not pleased everyone, including those who think every accusation must be believed. The law students mentioned at the outset of this essay are perhaps among this group. They make it clear that the memory wars are still most definitely not over. Recent surveys of public and professional beliefs also make clear that these issues need our continuing attention (Patihis et al., 2014; Otgaar et al., 2019).

Recent work on rich false memories has explored some new issues. To introduce one example, several studies have shown that people are more likely to accept false information if it aligns with their preexisting biases (eg., Frenda et al., 2013). In a collaboration with Irish scientists (Murphy et al., 2019), we interviewed voters right before the 2018 referendum on legalizing abortion in Ireland. These eligible voters were asked how they planned to vote and were presented with news reports, some of which were made-up stories that depicted individuals on the other side of the issue engaging in illegal or improper behavior. We found that about half of the voters reported a memory for a fake event. We also found that the prior biases of the voters affected whether they developed a false memory. Voters in favor of legalizing abortion were more likely to remember a falsehood that made the anti-abortion group look bad. And the anti-abortion voters were more likely to remember a falsehood that made the pro-choice group look bad. When my collaborator and lead author Professor Gillian Murphy was interviewed about the study, she commented that it demonstrates the ease with which we

can plant these entirely fabricated memories, despite voter suspicion and even despite an explicit warning that they may have been shown fake news. The Ireland abortion study not only expands our understanding of motivated false memories but also helps us think about fake news at a critical time when technology is making it easier for anyone to create fake news reports, and fake videos as well.

Many people have asked me over the years, how can we tell an authentic memory from a false one? Sadly, without independent corroboration, you cannot know whether a person is reporting a real memory or one that is a product of suggestion, imagination, or some other process. So what counts as corroboration? In the past, I would have said that photos or videos are one possibility. And, indeed, they are sometimes available in actual cases and can help confirm that a memory is real. The problem now is that photos and videos can be doctored, and "deep fakes" can be created that make it seem as if someone is saying or doing anything you want them to say or do. Advances in technology have placed these capabilities into the hands of a growing group of laypeople, leading one recent journalist to pen an article entitled "Fake Media Is Coming for Our Memories." These advances in our scientific knowledge about memory distortion will, I hope, inspire a next generation to figure out what to do about the problem of fake memories so that people with true memories are believed, and people with false ones don't harm others, as they tragically have done throughout the history of the "memory wars."

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