

## False memory, manipulation and the tooth fairy

Research raises the possibility of recollections being guided to achieve certain ends



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yesterday by: [Anjana Ahuja](#)

Memory is a master magician, capable of tricking us into remembering falsehoods as truths and vice versa. We know this mostly thanks to Elizabeth Loftus, professor of law and cognitive science at the University of California, Irvine, who became embroiled in the “memory wars” of the 1990s when she began questioning the veracity of the recovered memories of abuse survivors.

I found myself lunching with her last week, when she was in London to receive the 2016 [John Maddox Prize](#), co-sponsored by the charity Sense about Science, for which I am an unpaid trustee. The international award is given to researchers who have consistently championed great [science](#) in the face of even greater hostility; and Loftus, the focus of lawsuits and death threats, has earned my admiration for her dedication through adversity. As she swept into the Bloomsbury restaurant, her long black coat swirling about her and a black hat tipped low over her brow, her dining companions could sense the steel in the room.

Loftus’s research revealed the malleability of memory. She showed that witness testimony could, after the fact, be shaped and altered by suggestion. She questioned the [reliability of repressed memories](#), and the implications for justice were profound. She found an allied calling as an expert witness, challenging courtroom procedures and helping to overturn wrongful convictions.

It was not a route to popularity — memories, our accounts of the past, feed into the narratives we choose for ourselves. By questioning the painful recollections of those who regarded themselves as victims, Loftus was accused of undermining their experiences and of being in cahoots with the abusers. It is possible, she acknowledges, that her research has occasionally helped to acquit the guilty — but, more importantly for her, it has kept the innocent out of jail. Despite the harassment, threats of violence and campaigns to get her sacked, she never flinched from speaking out about the science.

It is hard, in fact, to think of a scientist who better epitomises the spirit of the prize or the character of the man it honours. The late Sir John Maddox, the fearsome former editor of *Nature*, believed that the most dedicated scientists revealed their true worth when the chips were down. It is easy to show a public face when everyone loves the science you do; much harder to speak up when the forces of hate are arraigned against you.

It was while the chips were going down — and the battered cod and white wine with it — that Loftus and her five fellow diners pondered a dilemma that she has wrung from the very edge of memory research. Based on her work, academics have shown that individuals can be persuaded to recall an unpleasant incident from their childhood that had never happened. Fascinatingly, people who were given the [false suggestion](#) that they had once overdone the vodka said they were inclined to steer clear of it.

The imagined past, then, is a guide to future behaviour. This raises the possibility of memory being manipulated to achieve certain ends. Could a parent implant a false memory in their child that he or she had once become sick after eating sugary or junk foods, and thereby prevent obesity?

Our table was divided: some saw the utilitarian merit in it, while others felt uncomfortable with the deception required. If we are merely composites of our memories, then parents who nurtured false ones would be denying their child a “true” identity. Manipulation might also stop a child developing self-control and other traits needed for adulthood.

Actually, Loftus argued, parents already fib. Indeed, I have perpetrated fictions throughout my children’s lives — they are called Santa Claus and the tooth fairy. I find particular creative enjoyment in that last untruth: each liberated fang is swapped for a £2 coin and an illustrated update of the tooth fairy’s flourishing castle of enamel. The minor deceit will, I hope, help to shape a more lasting memory of an enchanted childhood, spent with loving parents who cherished every pearly milestone.

Without quite realising it, we parents already have this [post-truth](#) business nailed.

*The writer is a science commentator*