# **Chapter 1 History of Forensic Interviewing**

Cara Laney and Elizabeth F. Loftus

When a person, whether a child or an adult, makes an accusation of sexualabuse (or is suspected of being a victim in the absence of a specific accusation), forensic interviews are used to explore what really happened. The history of interviews of abuse victims (and purported victims) is complicated, and this history has led directly to many of the specific practices used in forensic interviewing today. Human memory is a central player in this complexity and its tendency to err is central to the need for precise techniques. In this chapter, we discuss some of the key events of recent decades that have helped shape the modern forensic interview. We also describe some of the research that is relevant to the practice.

Events and accusations from the decades of the 1980s and 1990s were particularly relevant to the evolution of the modern forensic interview. The early 1980s saw a raft of highly public accusations of sex abuse by preschool teachers, including accusations of satanic ritual abuse. Later in the 1980s and well into the 1990s, accusations of satanic ritual abuse spread, and others made more mundane allegations of sex abuse and other crimes on the basis of purported "repressed" and "recovered" memories (controversial constructs).

What are the possible explanations for these reports, made by children and adults? There are three basic possibilities. First, it is possible that some of these accusations are true—that these children and adults really did experience atrocities at the hands of their family members and others, and then remembered them accurately, sometimes shortly thereafter and sometimes decades later. Second, it is pos-

1

C. Laney (⊠)

Psychology, The College of Idaho, 2112 Cleveland Blvd, Caldwell, ID 83605, USA e-mail: claney@collegeofidaho.edu

E.F. Loftus

Psychology & Social Behavior, Criminology, Law & Society, Cognitive Sciences, School of Law, University of California, Irvine, 2393 Social Ecology II,

Irvine, CA 92697, USA e-mail: eloftus@uci.edu

sible that the accusers are lying, to benefit themselves or others. Finally, and perhaps most intriguingly, it is possible that these children and adults genuinely believe that they were sexually abused, but these memories are false.

For each of these possibilities, human memory is a central issue. If the events really happened, then we need to ask how accurate children's memory for events is, and whether memory repression and recovery is a reasonable explanation for the changing stories of the adults. If the purported victims are lying, we need to consider how they (especially if they are children) can maintain two inconsistent versions of events in their memory. And finally, if the memories are false, we need to consider where these false memories come from, and how they are maintained. Before we discuss each of these issues, we outline some of the accusations.

#### **Daycare Accusations**

Although accusations made by children have been taken seriously enough to cause serious repercussions for centuries—consider the Salem Witch Trials of the 1690s—the 1980s brought a new raft of accusations and a new moral panic. This time, the accusations were not of witchcraft, but of child sexual abuse. The cultural context was also different. Rather than deep and all-consuming religion, the new context involved a decade of more and more mothers going off to work, and leaving their young children with daycare providers, and also a new broad realization that child sexual abuse was a common occurrence. This realization was fuelled by research conducted in the 1960s (e.g., De Francis, 1969; Kempe, Silverman, Steele, Droegemueller, & Silver, 1962) and later work by Judith Herman (1981) and others working with adults who had long hidden their victimization. An early outcry by feminists that children were being unfairly blamed for their own victimization transitioned into arguments that we must always "believe the children," unless of course the children deny that they have been victimized (Clancy, 2009; Nathan & Snedeker, 1995; Talbot, 2001; Tavris & Aronson, 2007; Zirpolo & Nathan, 2005).

A few key cases led the way, and the memories of the children were key (for discussion, see Nathan & Snedeker, 1995). At the McMartin preschool in Southern California, a mother came forward to say that her child had been sexually assaulted (Nathan & Snedeker, 1995; Talbot, 2001). Subsequent interviews of hundreds of children who had attended the school produced a set of horrible and often bizarre allegations of ritualized sexual abuse, though no physical evidence (despite meticulous searches of dozens of buildings and vehicles). Eventually six teachers in the school were charged with 208 counts of child abuse (Timnick, 1985). The trial process went on for more than 5 years and was the most expensive criminal case in American history (Talbot, 2001). But in the end most charges led to acquittals and others were dropped.

Other cases produced convictions and long prison terms. In Kern County, California, more than 30 people were convicted of abusing their own and other children after interviews produced allegations of eight separate satanic ritual abuse sex rings, in an area

with just 130,000 people (Nathan & Snedeker, 1995). The sentences ranged up to 405 years in prison per person. Kelly Michaels was convicted after children from the Wee Care preschool in New Jersey testified that she had repeatedly raped them with various objects, made them eat feces, and threatened them into silence. She was sentenced to 47 years in prison, but was released on appeal after 5 years (Faison, 1993). These vivid accusations are of course just a (biased) sample of the accusations of the time period (Schreiber et al., 2006). There were also many more accusations (and denials) of more mundane abuse made in more ordinary contexts, without media attention or high-powered legal teams. The vivid cases are useful because they clearly illustrate how forensic interviewing can contribute to false accusations, and because they led to research that has produced better forensic inteview techniques. The goal of these improved techniques is to maximize signal over noise.

#### **Adult Accusations**

Allegations of childsexualabuse are not made exclusively by children. Many people (likely a large majority of those abused as children) do not report that abuse at the time (Goodman, 2006; Hanson, Resnick, Saunders, Kilpatrick, & Best, 1999; London, Bruck, Ceci, & Shuman, 2005). Thus sometimes adults make accusations about abuse that happened years or decades before. Research suggests that these delays occur for three primary reasons. Some reports are delayed because the perpetrator is a close family member (or teacher, or babysitter, or priest) and the victim doesn't even realize at the time that abuse is occurring, often because he or she does not have sufficient understanding of sex or victimization (Clancy, 2009). Other reports are delayed because children are afraid of the consequences of reporting the abuse—that they won't be believed, or that they will be blamed, or that it is simply hard to accuse trusted and respected adults, even when their behavior is horrible (Clancy, 2009). Finally, some individuals claim that their victimization was so traumatic at the time that their memories of their own victimization were repressed and they only remembered years or decades later that they were in fact victims (e.g., Briere & Conte, 1993; Freyd, 1996; Herman & Schatzow, 1987).

As in the history of child accusations, the history of delayed reports of child abuse is at times scandalous, and often legally complicated. In one particularly well-publicized case, Eileen Franklin–Lipster reported, after a delay of 20 years, that her father had raped and murdered her childhood friend Susan Nason (Loftus, 1993; Pennebaker & Memon, 1996). Franklin–Lipster claimed that she suddenly remembered the horrible events of 1969 all at once when her own young daughter looked at her a particular way (though later evidence suggested that techniques used in her therapy sessions at the time may have been causal in producing the memories). George Franklin was prosecuted and convicted on the basis of this "recovered memory" evidence, and in the absence of any physical or other evidence. His conviction was subsequently overturned when additional facts came to light, but this was not the end of recovered memories being used as evidence in court.

Holly Ramona accused her father of repeatedly raping her when she was between the ages of five and 16, though she had no memories of these events until she was a 19-year-old college student (Johnston, 1997; Tavris & Aronson, 2007). The memories appeared in her mind in a scattershot fashion while she was being treated by a local therapist for an eating disorder. The therapist told her that 80 % of victims of bulimia, like her, were sexually abused as children (though there is no evidence for this claim; Pope & Hudson, 1992). The memories coalesced into a full, horrible picture when she was interviewed under the influence of sodium amytal. Gary Ramona lost his high-paying job, his house, his marriage, and contact with all three of his daughters (Johnston, 1997).

Additional accusations based on recovered memories followed in the 1990s and beyond. In 1991, Roseanne Barr Arnold was on the cover of *People* magazine, claiming that she had recovered memories of being sexually and emotionally abused by her parents (Arnold, 1991). Also in 1991, former Miss America Marilyn Van Derbur went public with her recovered memories of being raped by her father (Van Derbur, 2003). In 1997, Corwin and Olafson published reports of a teenager called Jane Doe. Corwin had interviewed Doe at the age of six, making accusations of abuse against her mother. When interviewed a decade later, Doe first denied abuse, then watched the tape of the interview of her younger self, and then apparently recovered her memories of that abuse. Thousands of people have been sent to prison or lost their families on the basis of recovered memories like these (False Memory Syndrome, 2009).

Sexual abuse accusations based on recovered memories have become less frequent in recent years, but they have certainly not disappeared. While most of the accusations in the ongoing Catholic Church sex abuse scandal have been cases of delayed reporting where the victims continuously remembered the abuse but were afraid or ashamed to accuse, there have also been a few cases of purported repressed and recovered memories. For example, Paul Shanley, a priest in Boston, was accused by a man in his 20s of sexual abuse years earlier (Rauch, 2005). The man claimed that he had repressed memories of the abuse for decades, and only remembered after the scandal broke in the media. Shanley was convicted in 2005 and sentenced to 12–15 years in prison, and denied a retrial in 2010 (Wolfe & Guyer, 2010).

Other recent accusations of abuse that have developed in therapeutic situations have tended to be about alien abduction and exploitation (Clancy, 2005; Clancy, McNally, Schacter, Lenzenweger, & Pitman, 2002), but these, while certainly interesting to memory experts, are less relevant to forensic interviewing practices.

# Possible Explanations

As mentioned above, there are several possible explanations for the variety of child and adult (delayed) accusations described here. The first of these possibilities is that these accusations reflect the truth. Extensive evidence demonstrates that sexual exploitation and abuse of children is common (Freyd et al., 2005; Vogeltanz et al., 1999).

Perhaps the cases described so far are merely a few particularly extreme examples. To address this possibility, we need to consider the accuracy and suggestibility of children's memory as well as the plausibility of memory repression and later recovery.

### Accuracy of Children's Memory

The general consensus on whether children's memories can be trusted has had its own rocky history. In some eras, people have refused to believe any information provided by children because they were seen as lesser humans. Later, children were seen as incorruptible vessels of the truth—how could they possibly lie, especially about things (like sex) that they know nothing about (Nathan & Snedeker, 1995)? In the last few years, the research community has settled on a more nuanced view: children can usually report accurately on events they have experienced, but their memories are often corruptible in some predictable situations (Ceci & Bruck, 1995; Goodman, 2006; Malloy & Quas, 2009). In general they are somewhat more susceptible to leading questions and other forms of misinformation than adults are (Ceci & Bruck, 1993), perhaps especially when they are asked closed questions (Dickinson, Poole, & Laimon, 2005) and when they are sad (Levine, Burgess, & Laney, 2008). Children's memory and likelihood of reporting victimization also vary somewhat with age and perhaps social status (London et al., 2005).

So what were the interviews like that apparently produced the bizarre allegations of satanic ritual abuse by preschoolers in the 1980s? The social workers who interviewed the McMartin children used several specific techniques to get them to make accusations: asking highly suggestive questions, claiming that others (including older kids) had already made accusations, rewarding accusations, expressing disappointment at non-accusations, repeating questions to imply that a prior answer was inadequate, and asking children to speculate on what might have happened (Garven, Wood, Malpass, & Shaw, 1998; Schreiber et al., 2006). Anatomically detailed dolls, hand puppets, and active engagement in fantasy play were also used extensively in these and other interviews with young children (Nathan & Snedeker, 1995; Zirpolo & Nathan, 2005).

Subsequent research has shown that each of these techniques can dramatically increase the likelihood of false allegations (Bruck & Ceci, 2009; Bruck, Ceci, Francouer, & Resnick, 1995; Garven et al., 1998.) Some of the accusations arising in the daycare scandals of the 1980s may be truthful allegations. But there are good, scientific reasons to believe that many of them are not. In particular, subsequent research has demonstrated that the forensic interviews used in these cases, rather than uncovering the truth, may have perpetuated and even fostered false allegations. As Nathan and Snedeker (1995) argue, "what came from the mouths of babes were juvenile renderings of grownups' anxieties," (p. 3) rather than truthful accounts of their own suffering.

Specifically, in the 1990s, researchers copied some of the techniques used in these interviews (though with much stronger ethical constraints). They found that

they could easily get young children to make accusations that the researchers knew were false, or remember events that researchers were sure had not actually happened (Ceci, Huffman, Smith, & Loftus, 1994; Garven et al., 1998; Garven, Wood, & Malpass, 2000; Leichtman & Ceci, 1995; Poole & Lindsay, 1995, 2001; Schreiber & Parker, 2004; Thompson, Clarke-Stewart, & Lepore, 1997).

For example, Garven et al. (1998) interviewed 3–6-year-old children a week after a class visitor had told them a story and handed out cupcakes. They found that children who were interviewed using social influence ("Well, I already talked to the big kids and they said that Manny did some bad things. I want to see if you have a good memory like they did. Are you smart enough to remember?"; p. 351) and reinforcement (praise for assenting to inappropriate behavior on the part of the visitor) made significantly more accusations (58%) against the innocent class visitor than did children merely asked suggestive questions (17%).

The techniques used by Ceci et al. (1994) were milder. They interviewed 122 3–6-year-olds and gave them lists of events (that had been elicited from the children's parents). Children were told (truthfully) that some events happened to them and some did not (information not normally given to children in the daycare cases). The children were asked to think about these events between seven and ten times, over a total of 10 weeks. Overall, 34 % of the children assented to one or both of the false events.

Thompson et al. (1997) had 5- and 6-year-olds watch a "janitor" either clean toys or play with toys. Each child was then interviewed by two different interviewers in either a neutral way, or a leading way (suggesting that he had either cleaned or played). Children were then interviewed in a neutral way by their parents. The researchers found that the directions of the initial interviews predicted children's ultimate reports. If they were interviewed in a neutral way, their reports were accurate. When the interviews were leading, the reports matched the direction of the interviews, such that children remembered that the janitor had played (or cleaned) with the toys, whether they had seen him cleaning (or playing).

When real cases of abuse were analyzed, it became clear that highly suggestive techniques, like the ones used in the studies just described, had been employed. Sometimes these techniques led to reports of satanic ritual abuse and other extreme brutalization. Yet, in the end, no evidence was ever found that any satanic ritual abuse had actually happened, despite accusations in more than 100 localities in the United States and beyond (Goodman, Qin, & Bottoms, 1994; Nathan & Snedeker, 1995). Other research suggests that the interviews in these media-drenched cases were not in fact typical of the time (Goodman, 2006; Malloy & Quas, 2009; Schreiber et al., 2006; but see Nathan & Snedeker, 1995). Nonetheless, we can learn (and have learned) from what went wrong in these interviews to improve interviewing practices (e.g., Lamb, Hershkowitz, Orbach, & Esplin, 2008). It is also worth noting that the forensic interviewers are not the only people with access to children between the suspected abuse and trial. Nathan and Snedeker (1995) highlight several cases of parents and other relatives beating children who failed to accuse, and denying them food and sleep until they accused. Some accusations are also apparently the product

of custody battles. Forensic interviewers need to be aware that although their actions can certainly have a negative effect on the accuracy of children's memory, they are not the only source of false accusations, and indeed children's memories may have been corrupted even before they arrive for an interview.

#### Repression and Memory Recovery

Sigmund Freud is still a hugely powerful figure in Psychology. The modern idea of memoryrepression is largely derived from his theories of development and defense mechanisms. And yet, Freud himself rejected important aspects of his own theory. In 1933, he wrote "I was driven to recognize in the end that these reports were untrue and so came to understand that the hysterical symptoms are derived from phantasies and not from real occurrences," (Freud, 1933/1999, p. 120). Many modern clinicians and some memory researchers prefer to take Freud at his original word, and argue that research has validated Freud's early claims. (For more thorough analyses of this research, see Davis & Loftus, 2009; Goodman et al., 2003; Laney & Loftus, 2005; Laney & Loftus, 2013; Porter & Peace, 2006.)

The modern explanation of memoryrepression and recovery, revived in the 1970s by feminists and others (Nathan & Snedeker, 1995) suggests that the common response to a traumatic event like childsexualabuse (though see Clancy, 2009) is to bury all awareness and thus memory of that event deep in the subconscious, or perhaps in a separate or dissociated personality. The victim thus becomes entirely oblivious to her (or perhaps his, but not usually) own experience and suffering. This repressed memory does present problems for the victim's future mental health, however, leading eventually to depression or eating disorders or sexual dysfunction. When the victim seeks help for these surface problems, the therapist helps her to recover her memories for the original trauma. Now that she is a capable adult with support from the therapist, she is able to deal with the original trauma in a more useful way, and thus eliminate the resulting problems.

On the surface, this theory provides a nice explanation for what happens when a person must cope with a traumatic situation. The problem is that the theory does not tally with a long history of scientific evidence regarding how human memory works. First, there is copious evidence that the normal response to trauma is a more vivid memory, or even too much memory, not a lack of memory (McNally, 2003; Peace, Porter, & ten Brinke, 2008; Porter & Peace, 2006). Second, there is evidence that no one—not even highly trained therapists—can really tell whether specific memories are true, without some sort of independent corroboration (Campbell & Porter, 2002; Leichtman & Ceci, 1995). And some therapists even argue against seeking any sort of independent corroboration. They argue that to do so is to mistrust the victim of abuse, which is damaging.

In fact it is now clear that certain therapeutic practices are actually causal in producing false memories of victimization, rather than uncovering true memories.

Techniques like guided imagination, dream interpretation, group therapy, hypnosis (and even drugs like sodium amytal) have been modeled in the laboratory to produce false memories (see the section on false memories below). These techniques were widely used in the 1990s (Poole et al., 1995) and the beliefs that underlie their use are still widespread in some circles today (Patihis, Ho, Tingen, Lilienfeld, & Loftus, 2014). These research data provide a better explanation of the existence of noncontinuous memories (including memories of victimization) than does the theory of repression and recovery (though the theory is sufficiently unscientific that it cannot actually be disproved; Clifasefi, Garry, & Loftus, 2007).

Before delving into the false memory literature, though, we will reassess a few of the delayed accusations described above. First, the case of Holly Ramona. Some 4 years after her initial accusations, Gary Ramona sued Holly's therapist for malpractice, on the grounds that they had implanted false memories in his daughter. The jury agreed with him that the therapists' actions had led to the collapse of his family and awarded a \$500,000 settlement (Johnston, 1997; Tavris & Aronson, 2007). Holly Ramona (as well as her mother, grandmother, and sisters) did not accept the verdict and repudiate her memories. Instead, she went to graduate school to become a therapist herself, helping her own clients to recover their buried memories of abuse (Tavris & Aronson, 2007).

The case of Jane Doe has received extensive attention from the research community. Skeptical of the evidence provided by Corwin and Olafson (1997), one of us (Loftus) and fellow psychologist/lawyer, Mel Guyer, dug into the case to discover more (Loftus & Guyer, 2002). We searched public records to find the identities of those involved and then interviewed several of them. We found that Corwin and Olafson had been biased in their reporting of events, and that there were good reasons to consider the possibility that Jane's initial allegations of abuse had been false, produced in aide of a bitter custody dispute. Thus, rather than triggering a recovery of true abuse memories, the emotionality of her younger self in the videotape had merely persuaded the older Jane (falsely) that she had been abused. (See also Geis, Loftus, & Taus, 2009, for details of the aftermath of this publication.)

Although Holly Ramona and Jane Doe held fast to their recovered memories in the face of substantial contradictory information, others have retracted their recovered memories (Maran, 2010; Ost, Costall, & Bull, 2002). This (small) literature suggests that retracting recovered memories is a long and difficult process of detecting and working through logical inconsistencies in memories that is very different from the process of recovering memories.

What does this discussion of supposedly repressed and recovered (and perhaps even retracted) memory have to do with the practice of forensic interviews? The point of a forensic interview is to uncover the truth of what really happened, not merely what the interviewee remembers happening. As such, the source of the memories matters. This issue will be addressed further in the section on false memories below. For the cases where the truth doesn't seem to be a good explanation of the accusations of sexualabuse made by children or adults, there remain two additional possibilities: intentional lying and false memory.

#### Intentional Lies

There is evidence that some children and adults knowingly make false accusations of sexualabuse. For example, at least one of the McMartin accusers has since come forward to say that he was never abused, and intentionally lied to investigators in order to be helpful (Zirpolo & Nathan, 2005). Several of the accusers in the Kern County cases also retracted their allegations in their 20s, saying that they had never been abused (Jones, 2004).

Apart from isolated examples, there is an extensive psychological literature on deception and its detection (e.g., C.F. Bond & DePaulo, 2006; Ekman, 2001; Granhag & Vrij, 2005; Vrij, 2008; Wolpe, Foster, & Langleben, 2005). Lying is an intensely human activity that we all engage in—deeply intertwined with emotion and social relationships. Complicated lies can be hard to maintain, and professional lie detectors (police officers and other investigators) attempt to use this against liars, seeking out inconsistencies and using their experience and beliefs about lying to call out liars. Despite this, the evidence suggests that even young children can and do lie, and even highly trained adults are generally poor at detecting lies. Tools for lie detection, including the polygraph, also have a poor track record in scientific analysis (National Research Council, 2003).

Forensic interviewers need to know that lies are possible, even from children making accusations of sexualabuse, and that they are probably not as good as they think they are at detecting lies. The research indicates that most people perform no better than chance at detecting the lies of others (C.F. Bond & DePaulo, 2006; G.D. Bond, Thompson, & Malloy, 2005; Vrij, 2008), with most people demonstrating a tendency to label statements as truthful unless they have a good reason to suspect otherwise. Of particular relevance to forensic interviewing, this "truth bias" has been shown to be particularly strong when statements are presented in audio-visual format rather than in transcript form (Bond & DePaulo, 2006; Burgoon, Blair, & Strom, 2008). Additional research suggests that people tend to use the wrong cues, especially visual cues, to detect lying (Akehurst, Köhnken, Vrij, & Bull, 1996), though they are more likely to use content information when they have more content-relevant knowledge (Reinhard, Sporer, Scharmach, & Marksteiner, 2011).

One potential solution to the problem of detecting deception is specific training on this skillset—what are the most indicative cues to lying, and how are these best detected? Unfortunately, research demonstrates that even good quality (scientifically based) training can fail to improve detection deception skill (Akehurst, Bull, & Vrij, 2006), and training based on common (but inaccurate) interrogation manuals (especially that of Inbau, Reid, Buckley, & Jayne, 2001) is likely to make trainees' skills even worse (Kassin & Fong, 1999; Mann, Vrij, & Bull, 2004).

## False Memory

We have already alluded above to the possibility that many of the more outlandish accusations made by children and adults claiming recovered memories of abuse may in fact be false memories. That is, these individuals genuinely believe that they

have experienced satanic ritual abuse or other horrors that they have not actually experienced. Human memory does not work like a video recorder (see Clifasefi et al., 2007). Instead memory is reconstructive and malleable. New information, new assumptions, existing knowledge, stereotypes, and other experiences are blended together with accurate memory information, so that memory changes over time. Leading questions and other forms of misinformation have been shown to alter the memories of adults (Davis & Loftus, 2007; Loftus, 2005) and children (as discussed above).

Researchers have also been able to create false memories out of whole cloth in the minds of their subjects (Hyman, Husband, & Billings, 1995; Loftus & Pickrell, 1995; Porter, Yuille, & Lehman, 1999). Early false memory research specifically modeled traumatic childhood events (but in an ethically acceptable way), and used procedures that mimicked the therapist techniques that researchers feared were causing false memories in the real world. Loftus and Pickrell (1995) gave college students false memories for being lost in a shopping mall for an extended period of time and then rescued by an older adult, using a diary and brief repeated interview procedure. Hyman et al. (1995) used a similar procedure to get college student subjects to believe that they had been hospitalized overnight as children. Porter et al. (1999) got subjects to believe that they had been attacked by a small animal or suffered a serious indoor or outdoor accident.

Researchers also modeled other therapeutic techniques, including dream interpretation (Mazzoni, Loftus, Seitz, & Lynn, 1999), guided imagination (Garry, Manning, Loftus, & Sherman, 1996; Heaps & Nash, 1999), hypnosis (Scoboria, Mazzoni, Kirsch, & Milling, 2002), using (genuine) childhood pictures to cue memories (Lindsay, Hagen, Read, Wade, & Garry, 2004), and social modeling (Peterson, Kaasa, & Loftus, 2009). Mazzoni et al. (1999), for example, had undergraduate subjects participate in what they believed were two different studies. In the first study, they were asked how confident they were that they had experienced certain events in childhood, including having been harassed by a bully, twice, about four weeks apart. In the second study, which took place between the two parts of the first study, subjects met a clinical psychologist (actually one of the study's authors) who interpreted a recent dream. No matter the content of the dream, the psychologist always interpreted it as being "the overt manifestation of repressed memories of events that happened before the age of 3," (Mazzoni et al., 1999, p. 129), specifically the event of having been bullied. After this strong and personalized suggestion, fully half of the experimental subjects (those whose dreams had been interpreted) became more confident that they had been bullied, compared to just 11 % of the control subjects.

A frequent retort to these studies from the recovered memory community was that researchers were merely recovering genuine memories rather than implanting false ones (e.g., Freyd, 1998). In response to this critique, false memory researchers began implanting impossible false memories, including meeting Bugs Bunny at Disneyland (impossible because Bugs is a Warner Brothers character; Braun, Ellis, & Loftus, 2002) and leading subjects to misremember events as having happened in the laboratory when they had not (Goff & Roediger, 1998; Thomas & Loftus, 2002).

Other false memory implantation techniques are simpler, designed to give large numbers of subjects false memories quickly (Berkowitz, Laney, Morris, Garry, & Loftus, 2008; Bernstein, Laney, Morris, & Loftus, 2005; Laney & Loftus, 2008; Laney, Morris, Bernstein, Wakefield, & Loftus, 2008). An important goal of this research is to root out differences between true and false memories that could be useful to forensic interviewers and other actors in the legal system. In the false feedback technique, subjects (normally undergraduates) attend the lab on two occasions, about a week apart. On the first occasion they are given sets of questionnaires on a particular theme (childhood experiences with food, childhood experiences at Disneyland, etc.) and are told that their data will be entered into a special computer system for analysis. When they return to the lab, they are given a short set of supposedly computer generated feedback that is actually the manipulation of the study. Subjects are told that they had a certain experience as child. The extent to which the subject accepts the feedback, as well as several other characteristics of their memories, are then assessed.

In these false feedback studies the typical sample size is over 200, and approximately a third of experimental subjects form false beliefs or memories (with this proportion exceeding half for some items; Laney & Takarangi, 2013). These numbers allow researchers to compare the false memories of some subjects to the true (that is, consistently held from before any manipulation) memories of other subjects. If consistent differences could be found between true and false memories, this would be a boon to forensic interviewing and the legal system generally. So far, researchers have looked for differences in confidence, detail, brain activity, consequentiality, longevity, language use, and emotional content (Bernstein, Laney, Morris, & Loftus, 2005; Lampinen, Meier, Arnal, & Leding, 2005; Laney, Bowman Fowler, Nelson, Bernstein, & Loftus, 2008; Laney & Loftus, 2008; Laney & Takarangi, 2013; Sederberg et al., 2007; Vrij, 2005). So far, none of these analyses have produced useful (consistent, substantial) differences between true and false memories. That is, although some studies produce significant differences between mean levels of confidence or detail between true and false memories, these differences are never sufficient to categorically distinguish whether a particular memory is true or false (Bernstein & Loftus, 2009; Laney & Loftus, 2008; Vrij, 2005). For example, Laney and Loftus (2008) found that false memories of emotional childhood events (being hospitalized overnight, catching one's parents having sex, or witnessing a physically violent fight between one's parents) could be just as emotional and just as confidently held as true memories for the same events, such that neither confidence nor emotionality was sufficient to identify a particular memory as true. Further research is needed to identify other potential differences between true and false memories that could be used to determine whether a particular memory arising in a legal context is true or false.

To address this problem from a different angle, a small number of studies have asked whether individuals can differentiate between true and false memories when given transcripts or videos of people telling the truth or describing false memories (Campbell & Porter, 2002; Heiss, Laney, Kaasa, & Loftus, 2013; Leichtman & Ceci, 1995). Although this literature is much smaller than that comparing true

statements to lies (as discussed above), the broad conclusions are the same: third parties are not very good at differentiating between true and false memories once they have been established. The implications of this for the practice of forensic interviewing are clear, if not optimistic. Interviewers need to be aware the false memory is a realistic explanation of a particular report, and that there is no magic bullet (besides corroborating evidence) to determine whether a particular memory is true or false.

# Conclusions and Implications for Forensic Interviewing Practices

Forensic interviews with suspected abuse victims are walks through well-charted but still dangerous territory. These interviews delve into human memory, a deep and rich source of information, but also a home for misinformation. Interviews can produce true and accurate reports of events—even traumatic and uncomfortable to discuss events. But they can also fail to detect—or even produce—highly corrupted false reports. Children's memories can be tainted by leading questions and biased interviews. Adults are also susceptible, and interviewers should be especially suspicious of reports of non-continuous memories. Children and adults do lie, and these lies can be difficult to detect. Children and adults can produce memories that are entirely false, and these memories can be emotional, detailed, confidently held, and consequential in their lives.

The solution to this difficult situation is to arm oneself with the latest research and best practices for conducting scientifically sound forensic interviews. This book is designed to help in that goal.

#### References

- Akehurst, L., Bull, R., & Vrij, A. (2006). The effects of training professional groups and lay persons to use criteria-based content analysis to detect deception. *Applied Cognitive Psychology*, 18, 877–891.
- Akehurst, L., Köhnken, G., Vrij, A., & Bull, R. (1996). Lay persons' and police officers' beliefs regarding deceptive behaviour. *Applied Cognitive Psychology*, 10, 461–471.
- Arnold, R. (1991, October 7). A star cries incest. *People Magazine*. Retrieved from http://www.people.com.
- Berkowitz, S. R., Laney, C., Morris, E. K., Garry, M., & Loftus, E. F. (2008). Pluto behaving badly: False beliefs and their consequences. *American Journal of Psychology, 121*, 643–660.
- Bernstein, D. M., Laney, C., Morris, E. K., & Loftus, E. F. (2005). False beliefs about fattening foods can have healthy consequences. *Proceedings of the National Academy of Sciences*, 102, 13724–13731.
- Bernstein, D. M., & Loftus, E. F. (2009). How to tell if a particular memory is true or false. *Perspectives on Psychological Science*, *4*, 370–374.
- Bond, C. F., & DePaulo, B. M. (2006). Accuracy of deception judgments. *Personality and Social Psychology Review*, 10, 214–234.

- Bond, G. D., Thompson, L. A., & Malloy, D. M. (2005). Vulnerability of older adults to deception in prison and nonprison contexts. *Psychology and Aging*, 20, 60–70.
- Braun, K. A., Ellis, R., & Loftus, E. F. (2002). Make my memory: How advertising can change our memories of the past. *Psychology & Marketing*, 19, 1–23.
- Briere, J., & Conte, J. (1993). Self-reported amnesia for abuse in adults molested as children. *Journal of Traumatic Stress*, 6, 21–31.
- Bruck, M., & Ceci, S. J. (2009). Reliability of child witnesses' reports. In J. L. Skeem, K. S. Douglas, & S. O. Lilienfeld (Eds.), *Psychological science in the courtroom: Consensus and controversy* (pp. 149–171). New York, NY: Guilford.
- Bruck, M., Ceci, S. J., Francouer, E., & Resnick, A. (1995). Anatomically detailed dolls do not facilitate preschoolers' reports of a pediatric examination involving genital touching. *Journal of Experimental Psychology. Applied*, 1, 95–109.
- Burgoon, J. K., Blair, J., & Strom, R. E. (2008). Cognitive biases and nonverbal cue availability in detecting deception. *Human Communication Research*, *34*, 572–599.
- Campbell, M. A., & Porter, S. (2002). Pinpointing reality: How well can people judge true and mistaken emotional childhood memories? *Canadian Journal of Behavioural Sciences*, 34, 217–229.
- Ceci, S. J., & Bruck, M. (1993). The suggestibility of the child witness: A historical review and synthesis. *Psychological Bulletin*, 113, 403–439.
- Ceci, S. J., & Bruck, M. (1995). *Jeopardy in the courtroom: A scientific analysis of children's testimony*. Washington, DC: American Psychological Association.
- Ceci, S. J., Huffman, M. L. C., Smith, E., & Loftus, E. F. (1994). Repeatedly thinking about a nonevent: Source misattributions among preschoolers. Consciousness and Cognition, 3, 388–407.
- Clancy, S. A. (2005). Abducted: How people come to believe they were kidnapped by aliens. Cambridge, MA: Harvard University Press.
- Clancy, S. A. (2009). The trauma myth: The truth about the sexual abuse of children—and its aftermath. New York, NY: Basic Books.
- Clancy, S. A., McNally, R. J., Schacter, D. L., Lenzenweger, M. F., & Pitman, R. K. (2002). Memory distortion in people reporting abduction by aliens. *Journal of Abnormal Psychology*, 111, 455–461.
- Clifasefi, S. L., Garry, M., & Loftus, E. F. (2007). Setting the record (or video camera) straight on memory: The video camera model and other memory myths. In S. Della Sala (Ed.), *Tall tales about the mind and brain: Separating fact from fiction* (pp. 60–75). Oxford, England: Oxford University Press.
- Corwin, D. L., & Olafson, E. (1997). Videotaped discovery of a reportedly unrecallable memory of child sexual abuse: Comparison with a childhood interview videotaped 11 years before. *Child Maltreatment*, 2, 91–112.
- Council, N. R. (2003). The polygraph and lie detection. Washington, DC: National Academy Press.
- Davis, D., & Loftus, E. F. (2007). Internal and external sources of misinformation in adult witness memory. In M. P. Toglia, J. D. Read, D. F. Ross, & R. C. L. Lindsay (Eds.), *The handbook of eyewitness psychology* (Memory for events, Vol. 1, pp. 195–237). Mahwah, NJ: Lawrence Erlbaum.
- Davis, D., & Loftus, E. F. (2009). The scientific status of "repressed" and "recovered" memories of sexual abuse. In J. L. Skeem, K. S. Douglas, & S. O. Lilienfeld (Eds.), *Psychological science in the courtroom: Consensus and controversy* (pp. 55–79). New York, NY: Guilford.
- De Francis, V. (1969). Protecting the child victim of sex crimes committed by adults. Denver: American Humane Association.
- Dickinson, J. D., Poole, D. A., & Laimon, R. L. (2005). Children's recall and testimony. In N. Brewer & K. D. Williams (Eds.), *Psychology and law: An empirical perspective* (pp. 151–176). New York, NY: Guilford.
- Ekman, P. (2001). Telling lies: Clues to deceit in the marketplace, politics, and marriage. New York, NY: Norton.
- Faison, S. (1993, March 27). Child-abuse conviction of woman is overturned. *The New York Times*. Retrieved from http://www.nytimes.com.

- False Memory Syndrome Foundation (2009, Summer). *Newsletter*. Retrieved from http://www.fmsfonline.org.
- Freud, S. (1999). The standard edition of the complete psychological works of Sigmund Freud. New York, NY: Vintage. Original work published 1933.
- Freyd, J. J. (1996). *Betrayal trauma: The logic of forgetting childhood abuse*. Cambridge, MA: Harvard University Press.
- Freyd, J. J. (1998). Science in the memory debate. Ethics & Behavior, 8, 101-113.
- Freyd, J. J., Putnam, F. W., Lyon, T. D., Becker-Blease, K. A., Cheit, R. E., Siegel, N. B., & Pezdek, K. (2005). The science of child sexual abuse. *Science*, *308*, 501.
- Garry, M., Manning, C. G., Loftus, E. F., & Sherman, S. J. (1996). Imagination inflation: Imagining a childhood event inflates confidence that it occurred. *Psychonomic Bulletin and Review*, 3, 208–214
- Garven, S., Wood, J. M., Malpass, R. S., & Shaw, J. S., III. (1998). More than suggestion: The effect of interviewing techniques from the McMartin Preschool case. *Journal of Applied Psychology*, 83, 347–359.
- Garven, S., Wood, J. M., & Malpass, R. S. (2000). Allegations of wrongdoing: The effects of reinforcement on children's mundane and fantastic claims. *Journal of Applied Psychology*, 85, 38–49.
- Geis, G., Loftus, E. F., & Taus, V. (2009). Loftus: Determining the legal ground rules for scholarly inquiry. *Journal of Forensic Psychology Practice*, *9*, 147–162.
- Goff, L. M., & Roediger, H. L., III. (1998). Imagination inflation for action events: Repeated imaginings lead to illusory recollections. *Memory & Cognition*, 26, 20–33.
- Goodman, G. S. (2006). Children's eyewitness memory: A modern history and contemporary commentary. *Journal of Social Issues*, 62, 811–832.
- Goodman, G. S., Ghetti, S., Quas, J. A., Edelstein, R. S. Alexander, K. W., Redlich, A. D., & Cordon, I. M. (2003). A prospective study of memory for child sexual abuse: New findings relevant to the repressed-memory controversy. *Psychological Science*, 14, 113–118.
- Goodman, G. S., Qin, J., & Bottoms, B. L. (1994). Characteristics and sources of allegations of ritualistic child abuse. Washington, DC: National Center on Child Abuse and Neglect.
- Granhag, P. A., & Vrij, A. (2005). Deception detection. In N. Brewer & K. D. Williams (Eds.), *Psychology and law: An empirical perspective* (pp. 43–92). New York, NY: Guilford.
- Hanson, R. F., Resnick, H. S., Saunders, B. E., Kilpatrick, D. G., & Best, C. (1999). Factors related to the reporting of childhood rape. *Child Abuse and Neglect*, 23, 559–569.
- Heaps, C., & Nash, M. (1999). Individual differences in imagination inflation. *Psychonomic Bulletin and Review*, 6, 313–338.
- Heiss, M.S., Laney, C., Kaasa, S.O., & Loftus, E.F. (2013). *Judging Memory: How people differentiate between true witness statements, false witness statements, and outright lies.* Manuscript in preparation.
- Herman, J. (1981). Father-daughter incest. Cambridge, MA: Harvard University Press.
- Herman, J. L., & Schatzow, E. (1987). Recovery and verification of memories of childhood sexual trauma. *Psychoanalytic Psychology*, *4*, 1–14.
- Hyman, I. E., Jr., Husband, T. H., & Billings, F. J. (1995). False memories of childhood experiences. Applied Cognitive Psychology, 9, 181–197.
- Inbau, F. E., Reid, J. E., Buckley, J. P., & Jayne, B. C. (2001). Criminal interrogation and confessions (4th ed.). Gaithersburg, MD: Aspen.
- Johnston, M. (1997). Spectral evidence: The Ramona case—Incest, memory, and the truth on trial in Napa Valley. Boulder, CO: Westview Press.
- Jones, M. (2004, September 19). Who was abused? The New York Times. Retrieved from http://www.nytimes.com.
- Kassin, S. M., & Fong, C. T. (1999). "I'm innocent!": Effects of training on judgments of truth and deception in the interrogation room. *Law and Human Behavior*, 23, 499–516.
- Kempe, C. H., Silverman, F. N., Steele, B. F., Droegemueller, W., & Silver, H. K. (1962). The battered-child syndrome. *The Journal of the American Medical Association*, 181, 17–24.

- Lamb, M., Hershkowitz, I., Orbach, Y., & Esplin, P. W. (2008). *Tell me what happened: Structured investigative interviewing of child victims and witnesses*. Chichester, UK: Wiley.
- Lampinen, J. M., Meier, C. R., Arnal, J. D., & Leding, J. K. (2005). Compelling untruths: Content borrowing and vivid false memories. *Journal of Experimental Psychology. Learning, Memory,* and Cognition, 31, 954–963.
- Laney, C., Bowman Fowler, N., Nelson, K. J., Bernstein, D. B., & Loftus, E. F. (2008). The persistence of false beliefs. Acta Psychologica, 129, 190–197.
- Laney, C., & Loftus, E. F. (2005). Traumatic memories are not necessarily accurate memories. Canadian Journal of Psychiatry, 50, 823–828.
- Laney, C., & Loftus, E. F. (2008). Emotional content of true and false memories. *Memory*, 16, 500–516.
- Laney, C., & Loftus, E. F. (2013). Recent advances in false memory research. South African Journal of Psychology, 43, 137–146.
- Laney, C., Morris, E. K., Bernstein, D. M., Wakefield, B. M., & Loftus, E. F. (2008). Asparagus, a love story: Healthier eating could be just a false memory away. *Experimental Psychology*, 55, 291–300.
- Laney, C., & Takarangi, M. K. T. (2013). False memories for aggressive acts. *Acta Psychologica*, 143, 227–234.
- Leichtman, M. D., & Ceci, S. J. (1995). The effects of stereotypes and suggestions on preschoolers' reports. *Developmental Psychology*, 31, 568–578.
- Levine, L. J., Burgess, S. L., & Laney, C. (2008). Effects of discrete emotions on young children's suggestibility. *Developmental Psychology*, 44, 681–694.
- Lindsay, D. S., Hagen, L., Read, J. D., Wade, K. A., & Garry, M. (2004). True photographs and false memories. *Psychological Science*, 15, 149–154.
- Loftus, E. F. (1993). The reality of repressed memories. American Psychologist, 48, 518-537.
- Loftus, E. F. (2005). Planting misinformation in the human mind: A 30-year investigation of the malleability of memory. *Learning and Memory*, *12*, 361–366.
- Loftus, E. F., & Guyer, M. J. (2002). Who abused Jane Doe? The hazards of the single case study. *Skeptical Inquirer* 26 (May–June), 24–32; (July–August), 37–40, 44.
- Loftus, E. F., & Pickrell, J. E. (1995). The formation of false memories. *Psychiatric Annals*, 25, 720–725.
- London, K., Bruck, M., Ceci, S. J., & Shuman, D. W. (2005). Disclosure of child sexual abuse: What does the research tell us about the ways that children tell? *Psychology, Public Policy, and Law, 11*, 194–226.
- Malloy, L. C., & Quas, J. A. (2009). Children's suggestibility: Areas of consensus and controversy. In K. Kuehnle & M. Connell (Eds.), *The evaluation of child sexual abuse allegations: A comprehensive guide to assessment and testimony* (pp. 267–297). Hoboken, NJ: Wiley.
- Mann, S., Vrij, A., & Bull, R. (2004). Detecting true lies: Police officers ability to detect suspects' lies. *Journal of Applied Psychology*, 89, 137–149.
- Maran, M. (2010). My lie: A true story of false memory. San Francisco, CA: Jossey-Bass.
- Mazzoni, G. A. L., Loftus, E. F., Seitz, A., & Lynn, S. J. (1999). Changing beliefs and memories through dream interpretation. *Applied Cognitive Psychology*, 13, 125–144.
- McNally, R. J. (2003). Remembering trauma. Cambridge, MA: Harvard University Press.
- Nathan, D., & Snedeker, M. (1995). Satan's silence: Ritual abuse and the making of a modern American witch hunt. New York, NY: Basic Books.
- Ost, J., Costall, A., & Bull, R. (2002). A perfect symmetry? A study of retractors' experiences of making and then repudiating claims of early sexual abuse. *Psychology, Crime & Law, 8*, 155–181.
- Patihis, L., Ho, L. Y., Tingen, I. W., Lilienfeld, S. O., & Loftus, E. F. (2014). Are the "memory wars" over? A scientist-practitioner gap in beliefs about repressed memory. *Psychological Science*, 25, 519–530.
- Peace, K., Porter, S., & ten Brinke, L. (2008). Are memories for sexually traumatic events "special"? A within-subjects investigation of trauma and memory in a clinical sample. *Memory*, 16, 10–21.

- Pennebaker, J. W., & Memon, A. (1996). Recovered memories in context: Thoughts and elaborations on Bowers and Farvolden (1996). *Psychological Bulletin*, 119, 381–385.
- Peterson, T., Kaasa, S. O., & Loftus, E. F. (2009). Me too!: Social modeling influences on early autobiographical memories. *Applied Cognitive Psychology*, 23, 267–277.
- Poole, D. A., & Lindsay, D. S. (1995). Interviewing preschoolers: Effects of nonsuggestive techniques, parental coaching and leading questions on reports of nonexperienced events. *Journal of Experimental Child Psychology*, 60, 129–154.
- Poole, D. A., & Lindsay, D. S. (2001). Children's eyewitness reports after exposure to misinformation from parents. *Journal of Experimental Psychology. Applied*, 7, 27–50.
- Poole, D. A., Lindsay, D. S., Memon, A., & Bull, R. (1995). Psychotherapy and the recovery of memories of childhood sexual abuse: U.S. and British practitioners' beliefs, practices, and experiences. *Journal of Consulting and Clinical Psychology*, 6, 426–437.
- Pope, H. G., & Hudson, J. I. (1992). Is childhood sexual abuse a risk factor for bulimia nervosa? American Journal of Psychiatry, 149, 455–463.
- Porter, S., & Peace, K. (2006). The scars of memory: A prospective, longitudinal investigation of the consistency of traumatic and positive emotional memories in adulthood. *Psychological Science*, 18, 435–441.
- Porter, S., Yuille, J. C., & Lehman, D. R. (1999). The nature of real, implanted, and fabricated memories for emotional childhood events: Implications for the recovered memory debate. *Law* and *Human Behavior*, 23, 517–537.
- Rauch, J. (2005, March 14). Is Paul Shanley guilty? If Paul Shanley is a monster, the state didn't prove it. *Reason Magazine*. Retrieved from reason.com/archives.
- Reinhard, M.-A., Sporer, S. L., Scharmach, M., & Marksteiner, T. (2011). Listening not watching: Situational familiarity and the ability to detect deception. *Journal of Personality and Social Psychology*, 101, 467–484.
- Schreiber, N., Bellah, L. D., Martinez, Y., McLaurin, K. A., Strok, R., Garven, S., & Wood, J. M. (2006). Suggestive interviewing in the McMartin Preschool and Kelly Michaels daycare abuses cases: A case study. *Social Influence 1*, 16–47.
- Schreiber, N., & Parker, J. F. (2004). Inviting witnesses to speculate: Effects of age and interaction on children's recall. *Journal of Experimental Child Psychology*, 89, 31–52.
- Scoboria, A., Mazzoni, G. A. L., Kirsch, I., & Milling, L. S. (2002). Immediate and persisting effects of misleading questions and hypnosis on memory reports. *Journal of Experimental Psychology, Applied*, 8, 26–32.
- Sederberg, P. B., Schulze-Bonhage, A., Madsen, J. R., Bromfield, E. B., Litt, B., Brandt, A., et al. (2007). Gamma oscillations distinguish true from false memories. *Psychological Science*, 18, 927–932.
- Talbot, M. (2001, January 7). The lives they lived: 01-07-01: Peggy McMartin Buckey, b. 1926: The devil in the nursery. *New York Times*. Retrieved from http://www.nytimes.com.
- Tavris, C., & Aronson, E. (2007). Mistakes were made (but not by me): Why we justify foolish beliefs, bad decisions, and hurtful acts. Orlando, FL: Harcourt.
- Thomas, A. K., & Loftus, E. F. (2002). Creating bizarre false memories through imagination. *Memory & Cognition*, 30, 423–431.
- Thompson, W. C., Clarke-Stewart, K. A., & Lepore, S. J. (1997). What did the janitor do? Suggestive interviewing and the accuracy of children's accounts. *Law and Human Behavior*, 21, 405–426.
- Timnick, L. (1985, January 25). McMartin student appears to recant earlier testimony. *Los Angeles Times*. Retrieved from http://articles.latimes.com.
- Van Derbur, M. (2003). Miss America by day: Lessons learned from ultimate betrayals and unconditional love. Denver, CO: Oak Hill Ridge Press.
- Vogeltanz, N. D., Wilsnack, S. C., Harris, T. R., Wilsnack, R. W., Wonderlich, S. A., & Kristjanson, A. F. (1999). Prevalence and risk factors for childhood sexual abuse in women: National survey findings. *Child Abuse and Neglect*, 23, 579–592.
- Vrij, A. (2005). Criteria-based content analysis: A qualitative review of the first 37 studies. *Psychology, Public Policy, and Law, 11*, 3–41.

- Vrij, A. (2008). Detecting lies and deceit: Pitfalls and opportunities (2nd ed.). Chichester, England: Wiley.
- Wolfe, A. J., & Guyer, M. J. (2010). Repressed memories in a controversial conviction. *Journal of the American Academy of Psychiatry and the Law*, 38, 607–609.
- Wolpe, P. R., Foster, K. R., & Langleben, D. D. (2005). Emerging nanotechnologies for lie-detection: Promises and perils. *The American Journal of Bioethics*, 5, 39–49.
- Zirpolo, K., & Nathan, D. (2005, October 30). McMartin pre-schooler: 'I lied': A long-delayed apology from one of the accusers in the notorious McMartin Pre-School molestation case. *The Los Angeles Times*. Retrieved from http://web.archive.org/.