

DISCOVERING FACT
AND FICTION:
CASE-BASED ANALYSES
OF AUTHENTIC AND
FABRICATED DISCOVERED
MEMORIES OF ABUSE

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For over a decade the psychological community has been in the midst of a debate over the status of recovered memories of childhood sexual abuse (CSA). Although practitioners often consider these recovered memories as accurate depictions of events that occurred long ago (Briere, 1992; Courtois, 1988; Herman, 1992), many experimental psychologists have expressed skepticism over the accuracy of such memories and have challenged the notion of concepts like repression (Brenneis, 1997; Kihlstrom, 1996, 1998; Loftus & Ketcham, 1992). While there are likely to be many different reasons for the gulf between experimental researchers and clinical practitioners in this debate, it seems likely that one central factor has been the types of evidence upon which the two traditions have historically relied. Practitioners have a long history, dating back to Freud, of relying on case reports and personal experience to inform theory. In contrast,

experimental psychologists rely primarily on controlled experimental data. The difference in these traditions has colored the manner in which each has viewed the evidence put forth by the "other side". For example, practitioner researchers have argued that the experimental literature on the influence of suggestion on memory provides "no evidence to suggest that psychotherapists have the degree of power and influence that would be required to produce this [fabricated memories] effect" (Harvey & Herman, 1994, p. 296). From the opposite perspective, experimental researchers, trained to rely on solid experimental evidence, have dismissed case-based evidence as "unconfirmed clinical speculations, certainly not as evidence for repression" and have argued that "there is no controlled laboratory evidence for repression" (Holmes, 1990, p. 97).

How are we to make headway on this issue if participants from both sides of the "fence" reject out of hand the forms of evidence provided by the other side? Clearly, we cannot expect individuals to ignore their training and professional experience. Clinicians, many of whom have encountered individuals who they believe to have recovered actual memories, cannot be expected to entirely abandon their intuitive judgment on the basis of seemingly remote experimental studies, many of which involve the rather mundane memories of introductory psychology students. On the other hand, experimental researchers cannot be expected to ignore the well-grounded biases that can confound conclusions not founded in controlled experimentation (e.g. Dawes, 1989). Nor can we ask them to abandon their deep respect for the importance of controlled experimentation in drawing conclusions about basic memory processes. What we might expect from both sides, however, is a willingness to at least explore the possible value of evidence that differs from that for which they were originally trained to use. Clinicians need to consider the implications to their research of experimental findings on memory suggestibility. And experimental researchers need to consider case-based evidence that may provide insights into phenomena that for a combination of pragmatic and ethical reasons cannot be fully captured in the lab.

This chapter represents an effort by the authors, both of whom were trained in basic experimental psychology, to go beyond their customary forms of evidence and explore how case-based data may illuminate the mechanisms that lead individuals to believe they have discovered long forgotten memories of abuse. Although we will focus on an uncanny type of data, we will maintain the theoretical vantage of experimental researchers. In particular we will consider the data from the perspective of the four phases of memory routinely considered when assessing the veracity of memories: encoding, retention interval, retrieval, and post-retrieval. As we hope to demonstrate, these four fundamental phases of memory models provide an invaluable heuristic for (1) defining the key

constructs involved in this controversy, (2) evaluating the evidence supporting these constructs, and (3) considering potential mechanisms underlying them.

ASSUMPTIONS UNDERLYING RECOVERED MEMORIES OF ABUSE

In addition to the clash between the kinds of evidence associated with the practitioner and experimental traditions, another factor which has contributed to the recovered memory controversy has been the loose use of terms and a concomitant and consistent failure to explicate the assumptions underlying those terms. For example, the term "repression" is sometimes used to describe a phenomenon, i.e. cases in which individuals have remembered seemingly forgotten trauma. However, other times it is used to describe a mechanism, a dynamic unconscious defense mechanism that is hypothesized to actively keep the memory from consciousness. Indeed, even within these two general categories usages differ. For example, as a phenomenon, repression is sometimes used to characterize any forgetting of sexual abuse, whereas at other times it is limited to the forgetting of extensive repeated abuse. In its usage as a mechanism, repression is sometimes described as exclusively unconscious forgetting while at other times it includes motivated suppression.

In order to progress on this issue it is critical that we clearly identify the assumptions underlying our terms. Towards this end it is helpful to consider four fundamental phases of memory — the encoding, retention interval, retrieval (which are considered in virtually all discussions of memory) and post-retrieval phase (which is often overlooked but in cases of memory accuracy is equally important). By considering implicit/explicit assumptions of terms in light of these four phases we can be much more precise in identifying core claims and thus establishing what types of evidence might support or contradict those claims.

Encoding assumptions

The first element in any characterization of memory formation is the encoding phase, which corresponds to the situations surrounding the original formation of the memory. In the context of characterizing a memory as "recovered" the critical encoding assumption is that the experience actually occurred. As will be discussed, in many cases there seems to be good reasons to believe that recovered memories were never actually experienced. In other cases, it has been possible to find relatively compelling evidence that supports at least the gist of abuse claims associated

with so-called recovered memories. However, even if the details of the event are generally accurate, individuals' construal of the experience may fundamentally change. As will be argued, the reframing of experiences may play a central role in the experience of "recovering" memories, particularly given that they often involve adults' recollections of childhood events. In short, the notion that a recovered memory, even if it corresponds to a real event, necessarily represents a recovery of the original memory is highly questionable.

Retention interval assumptions

The second phase in the fate of any memory is the retention phase, which corresponds to the period between the time a memory is encoded and the time in which it is retrieved. The retention interval assumptions underlying the claim of a recovered memory are even more daunting than are the encoding assumptions. During the retention interval it is assumed that, for at least a considerable period of time, the memory had been completely forgotten. In this context, however, it is conceptually difficult to define what exactly is meant by forgotten. If a memory had not been thought about for some period of time, does that make it necessarily forgotten? What if a memory came to mind, but its retrieval was subsequently forgotten? What "completely forgotten" typically means is that at the time of recollection, the individual had the *impression* that the memory was previously unavailable. The basis of this impression may involve a variety of factors including (1) an inability to explicitly recall previous acts of remembering, (2) folk theories about the types of experiences that individuals should always remember, and (3) the sense of surprise associated with the recollective experience (Schooler, in press).

Given the vagueness of the construct of complete forgetting, the corroboration of forgetting is equally elusive. Since remembering is often a personal process, it is simply not clear how one could ever document that a memory never came to mind. Moreover, even if a memory had not come to mind for some period, it is still difficult to distinguish whether it was truly unavailable, or like many memories from our distant past, simply did not have occasion to be remembered. Perhaps the most persuasive evidence of forgetting involves cases in which individuals are explicitly asked about their abuse during the retention interval phase and fail to report it (cf. Williams, 1994). However, even here real questions surround whether a lack of report can be characterized as forgetting. A failure to report an experience may occur because the individual is embarrassed and does not want to talk about it. It may also occur because the question does not cue the expected experience. For example, Joselyn, Carlin, and Loftus (1998) found that many individuals who initially responded "no"

when asked if they had ever been sexually abused as a child, subsequently recalled being the victims of particular actions (e.g. being fondled in a way that made them feel uncomfortable). This was not simply a definitional issue, as these individuals often subsequently indicated that the type of specific experience that they reported did in fact constitute sexual abuse. Such a finding suggests that individuals may fail to report abuse memories not because they are entirely inaccessible, but simply because (for a variety of reasons, some of which will be explored later) a query about sexual abuse does not cue their memories.

Retrieval assumptions

The third key phase in discussions of the fate of memories is the retrieval stage in which a recollection corresponding to the original event is brought to mind. The key assumption associated with claims of recovered memories is that at some point the individuals had retrieval experiences in which they perceived themselves to have discovered a long-lost memory. Even if individuals are inaccurate in their assessments of their forgetting, they may still have authentic discovery experiences in the sense that they genuinely *perceive themselves* to have found a previously unknown memory. As will be argued, individuals may have profound discovery experiences corresponding to memories of experiences of which they are known to have possessed some prior knowledge. This point illustrates the need to consider the authenticity of the perception of the discovery of the memory separately from that of the forgetting itself. It also focuses us on what we believe is the defining attribute of memories that are typically characterized as recovered — namely, they are associated with the perception that an individual has made a *fundamental discovery about the contents of his or her own memories*.

Post-retrieval assumptions

Although most discussions of memory typically end with a consideration of the retrieval assumptions, in the context of enduring personal memories, there is a fourth critical stage that needs to be considered, namely, the fate of the memory after it has been retrieved. In eyewitness situations, post-retrieval factors turn out to be critical to individuals' final construals of their memories. For example, with the passage of time and particularly following hearing the input of other witnesses, individuals typically become increasingly confident in their recollections, overestimating their original confidence. In the present context, the critical assumption underlying the characterizing of a memory as recovered is that individuals' construal of what they did and did not know about the memory prior to

recalling it is currently the same as it was when the memory was originally recalled. However, it seems quite plausible that in many cases individuals' beliefs about the nature and magnitude of their discoveries may change with time. For example, they might come to believe that they were more shocked at the discovery than they were originally. Alternatively, they may confuse the nature of the discovery, increasingly recalling the discovery of a new interpretation of an experience with a discovery of the memory for the experience itself.

Discovered memories of abuse

In sum, the characterization of a memory as recovered involves a variety of assumptions regarding the encoding, retention interval, retrieval, and post-retrieval phases of memory. When considered together and taken to their most stringent levels, these assumptions set a target that may simply be impossible for any recollection to live up to. In short, when we carefully decompose the assumptions underlying the classification of a memory as recovered, we quickly see that it is highly unlikely that any memory (or at least not ones that occur naturally over extended durations with standard forms of documentation) will ever fully pass muster on all of the criteria. This leaves us with a phenomenon that is easily dismissed before it is even investigated (which indeed seems to have often been its fate). However, if we focus on what appears to be the truly defining characteristic of "recovered" memories, namely that individuals perceive themselves to have made profound discoveries about their past, we can begin to get a handle on tractable research questions — namely, investigating the various encoding, retention interval, retrieval, and post-encoding factors that can contribute to individual's perceptions that they have discovered long lost memories of abuse. In this context, we believe that the term "discovered memory" more aptly defines the phenomenon in question (Schooler, Ambadar & Bendiksen, 1997a; Schooler, 2000). By discovered memory, we simply mean situations in which individuals sincerely *perceive* themselves to have discovered memories of experiences of which they think they had previously been unaware.

The term "discovered memory" keeps open the possibility that individuals could have discovery experiences corresponding to memories that were not, at least in some sense, entirely forgotten. The term "discovered" also maintains agnosticism regarding the precise mapping between what is discovered and what actually occurred. Individuals could in principle discover memories that were entirely veridical, entirely false, or as may often be the case, somewhere in between. Most importantly, the term "discovered memory" focuses us on the seemingly defining characteristic of these memories, namely that they are associated with the sense that something

very profound has been discovered in one's memory. Armed with the basic construct of discovered memories we can consider actual cases of discovered memories within the context of the critical encoding, retention interval, retrieval, and post-retrieval factors that may characterize each case. In the following analysis we first consider cases of discovered memories that appear to have at least some correspondence to real events. We then consider discovered memories that seem more likely to be the product of suggestion. As will be seen, although there are obviously fundamental differences between discovered authentic and false memories, there are also some important sources of overlap. Moreover, the encoding, retention interval, retrieval, and post-retrieval phase distinctions provide an invaluable heuristic for considering the evidence for and mechanisms surrounding both types of "memories".

DISCOVERED AUTHENTIC MEMORIES

With the above definitional and evidentiary considerations we (Schooler, 1994, in press; Schooler, Ambadar & Bendiksen, 1997a; Schooler, Bendiksen & Ambadar, 1997b) have sought to investigate cases of individuals who reported discovering seemingly forgotten memories of abuse and for which there appeared to be some corroborative evidence that some abuse actually took place. The present discussion includes seven cases. The first six cases have been discussed previously by Schooler et al. (1997a), and Case 7 by Schooler (in press).

These cases were identified through modest networking and are not in any sense a representative sample. In each case, Schooler and colleagues sought to document the individuals' characterization of the encoding, retention interval, retrieval, and post-retrieval of the memory. In addition, they sought independent corroboration of the central claims associated with each stage. The term "corroboration" in these cases is used in its traditional meaning of "to make more certain; confirm; to strengthen" (Costello et al., 1991). Just as a particular experimental result can support a scientific hypothesis without "proving" it, so, too, can corroborative evidence strengthen historical claims without providing incontrovertible documentation.

At the encoding phase, the key issue surrounds documenting the alleged abuse (usually by contacting other individuals who the victim indicated had prior knowledge of either the abuse itself or the abusive tendencies of the alleged perpetrator). Of course, the memories of corroborators might also be in error. However, if such corroborative reports involve longstanding memories then they are less vulnerable to the concern that they were the products of a recent suggestion. Indeed, even those who are generally

skeptical of recovered memories do not question the abuse recollections of individuals who report having maintained longstanding intact memories of abuse (Loftus, 1994). In short, if the recollections of individuals who report discovered memories of abuse can be corroborated by others who have maintained intact memories, then we may have greater confidence that the discovered memories correspond to actual events.¹

At the retention interval phase the key issue is evidence that might speak to the availability of the memory during that phase. As noted, evidence in confirming the unavailability of memories is potentially suspect for a variety of reasons; nevertheless, it is sometimes possible to find disconfirming evidence (i.e. evidence that the memory was in fact available at a time in which it was perceived to be inaccessible).

At the retrieval interval phase, evidence surrounding the authenticity of the characterization of the discovery is also considered. This usually entails the reports of others who heard about the recovery soon after it occurred.

At the post-retrieval phase, evidence surrounds consideration of the time that passed between the alleged occurrence of the discovery and its subsequent investigation, such as evidence from others that the construal of the discovery may have changed.

In the following discussion we first describe the encoding, retention interval, retrieval and post-retrieval characteristics and evidence surrounding the seven cases. We then consider the more general encoding, retention interval retrieval, and post-retrieval mechanisms that might have contributed to these cases.

Case 1

JR is a 39-year-old male whose memory discovery occurred at age 30.

Encoding

JR reported that at approximately age 12 he went on a camping trip with a priest, who during the night fondled his genitals and lay on top of him. JR further alleged that this abuse continued intermittently over the next several years. Corroboration of this abuse comes from several sources. First, JR reported that when he confronted the priest, he acknowledged the molestation and tried to assuage him by indicating that he had sought treatment for sexually abusive clergy following an incident with another individual. JR also reported that several of his brothers had indicated that

¹ Of course, if a discovered memory cannot be corroborated this does not imply that the memory is necessarily false. By the very nature of abuse, many cases may occur without any incriminating evidence to subsequently corroborate it. Indeed, as will be mentioned later, one form of abuse that may be particularly difficult to corroborate (i.e. that which occurs surreptitiously in the home at night) may also be especially prone to forgetting.

the priest had approached them. In addition, subsequent to JR's memory recovery and attempted lawsuit, another individual reported that he too had been sexually approached by the priest. This individual indicated that he had maintained an intact memory of the abuse all of his life, but had previously failed to discuss the memory due to his embarrassment.

Retention interval

Prior to the recovery experience, JR believes that he had no recollection whatsoever about this history of sexual abuse. He stated with confidence that if asked if he had ever been sexually abused he would have unhesitatingly said "no". JR further believed that he forgot the memory of each episode of sexual abuse right after it happened so that when he woke up the next morning he did not have any sense of what had occurred the night before. JR suggested that his immediate forgetting of the incidents accounts for why he continued to willingly go on subsequent trips with the priest. Although it is quite difficult to assess the full extent of JR's forgetting throughout the entire period during which he claims to have forgotten his history of abuse, there is some evidence suggesting that this memory may not have been accessible to him during some periods in his life. Specifically, several years prior to his recovery experience, JR was in therapy with ND regarding an entirely unrelated difficulty. Although the issue of sexual abuse was never raised in these sessions, ND indicated that JR discussed many other intimate aspects of his life, leading ND to conclude that JR was truly unaware of possessing the memories of abuse.

Retrieval

JR provided the following characterization of his retrieval experience. One night JR went to see a movie where the main character grapples with memories of sexual molestation. As the movie went on, JR found himself more and more agitated without understanding why. Hours later, when he was in bed, he remembered the experience of being abused (genital fondling) by a parish priest on a camping trip when he was 12 years old (18 years prior). The memory came "fairly suddenly" with great vividness. As JR described it: "I was stunned, I was somewhat confused you know, the memory was very vivid and yet I didn't know one word about repressed memory." Over the following six to ten months after the first memory was recovered, JR remembered at least 10 other incidents of abuse by the same individual that he estimated occurred over the next several years, all of which were recalled as occurring while the two were on trips to different places.

One possible concern with JR's characterization of his retrieval experience is that JR ultimately pursued legal recourse in this case. Thus, skeptics might argue that JR's recovered memory report was simply a ruse to get past statute of limitation laws. However, it is important to note that at

the time of his recovery (1986) there were no cases in which memory repression had been successfully used as an argument for overturning statute of limitation laws, and indeed it was such laws that ultimately prevented the prosecution of this case. Thus, the recovery of this memory did not occur in an environment in which the possible legal advantages of characterizing it as having been "recovered" would have been appreciated. In addition, further evidence for the authenticity of JR's retrieval experience comes from the accounts of ND. According to ND, JR described his recovery experience to him soon after it occurred in a manner much the same as it was described to us. At that time, JR was very upset about the memory recollection and completely unaware of the phenomenon of recovered memories. As a good friend of JR, ND sees it as inconceivable that JR would have feigned this extremely emotional discovery experience.

Post-retrieval

JR apparently described and re-described his experience to many individuals through out the nine-year duration between the time his memory discovery originally occurred and the time that we interviewed him. Thus there is certainly the possibility that his recollections of the original discovery could have evolved with the passage of time. Nevertheless, the fact that ND recalls JR describing the experience in largely the same terms throughout this duration suggests that post-retrieval factors were at most only modest.

Case 2

WB is a 40-year-old female whose memory discovery occurred at age 40.

Encoding

WB described her original abuse experience as involving forced sexual intercourse while she was hitchhiking at age 16. WB indicated that following her rape experience she described it to several of her co-workers at the camp at which she was working at the time. Corroboration of the rape came from one of those co-workers who was an individual whom she later married. In a separate interview, MB's former husband recounted the day in which she had returned from her day off and reported having had a "bad experience" in which she had sex "involuntarily" but had not protested. A few days later she described it as "something like rape".

Retention interval

WB fluctuated in her characterization of her forgetting. In her initial characterization of her recovery experience (written two days after the experience) WB observed, "In a way, I have managed to repress the *meaning* of what happened all of these years. I may have not completely forgotten the

experience ... but I have pushed it away, minimized it. It wasn't a real rape." Several months later in an interview, when asked if there was ever a time in which she would have honestly believed that she had not been raped had she been asked directly, she observed, "I actually think this is the case." Although WB believed she might have entirely forgotten the memory, in an independent interview her ex-husband disclosed that during the years that they were married WB mentioned in passing several times that she had been raped, but totally without affect. Interestingly, WB has no recollection whatsoever of having mentioned her rape to her ex-husband during their marriage, and was quite startled to learn that she had done so.

Retrieval

The night after a friend described another woman as "certainly not a virgin", WB "awoke with a sudden and clear picture: 'My God... I had been raped'". In a subsequent interview, WB further characterized the recovery experience as "complete chaos in my emotions". There are a number of reasons to believe MB's general account of her retrieval experience. First, she had absolutely nothing to gain by feigning the recovery. The individual who raped her was long gone, so there was no potential legal advantage of framing this recollection as a memory recovery. Second, WB contacted the second author barely a week after the experience occurred, thus reducing the possibility that the memory for the recovery would have been significantly forgotten.

Post-retrieval

Although WB clearly perceived herself as having made an important memory discovery from the outset, there is at least the possibility that her memory of the recollection may have evolved with the passage of time. As noted above, originally she was more ambiguous regarding whether she had discovered the original memory or the meaning of the memory, whereas several months later she was generally recalling herself as having discovered the memory itself. It is thus possible that her memory for the discovery experience may have evolved over time, so that she increasingly believed that the discovery involved finding a long lost memory (as opposed to a never-before-found understanding of that memory).

Case 3

TW is a 51-year-old female whose memory discovery occurred at age 24.

Encoding

TW recounted an experience at 9 in which a family friend attempted to fondle her while she was on a vacation. TW's former husband was

interviewed and reported that she talked about the abuse several times over the course of their marriage (which ended prior to the recovery). She apparently mentioned the abuse in a relatively matter of fact manner, with little expression of emotion and no reference to any memory difficulties associated with the recollection.

Retention interval

According to TW, prior to the recovery she had no recollection whatsoever about the incident. As TW noted, in between the time she told her mother about the experience and the time she actually recovered it, she believed that "the state of my memory in that period was none ... non-existent". However, as noted, her husband indicated that she had talked about the abuse a number of times during their marriage, which was a time that she perceived herself to have been amnesic for the abuse.

Retrieval

TW described her initial recollection of the experience as having occurred in her office after an officemate asked her whether she wanted to go to a talk on child molestation. TW recalled the recollection experience quite vividly, noting that it was extremely different from any other memory experience she had. In this case there was a hint that TW's memory for the discovery experience may have become more severe over time. Specifically, one individual who spoke to her about her recollection several years ago, recalls that while she perceived this recollection as somewhat peculiar, he does not remember her ascribing quite as much emotion or significance to it as she does today.

Post-retrieval

TW's memory discovery occurred 26 years prior to our interview. Thus there is certainly the possibility that her construal of the discovery might have evolved over time. Moreover, an individual who heard her original characterization several years before we interviewed her recalls that she had previously recounted it as a less significant event, which further supports the possibility that the discovery might have increased in significance with time.

Case 4

ND is a 41-year-old female whose memory discovery occurred at age 35.

Encoding

ND reported that when she was in her early twenties she was raped in an elevator of a hospital. She further reported that the case went to court and the alleged perpetrator was found guilty. Because ND's case was actually

taken to trial, corroboration was relatively straightforward. In a telephone interview, her lawyer at the time (who is now a judge) verified that the case did in fact go to court, and that the accused was found guilty of rape. Thus we have incontrovertible evidence for one component of this traumatic experience (taking the rape case to court) and extremely compelling evidence for the other component of this trauma (the rape itself) as the individual was found guilty.

Retention interval

ND was positive that she remembered the attack for approximately two years after the rape while she continued working at the same hospital. She then moved to a different state and worked at a different hospital. At some point following her move, she believed that she completely forgot the whole incident including the trial. Indeed, it was her amazement at having forgotten the rape and the ensuing trial that contributed to the remarkable quality of her recovery experience. In this case we have what might be considered strongest evidence that true forgetting had occurred prior to the recovery. When ND entered therapy for victims of sexual abuse, she was given an initial interview to assess her history of abuse. During this interview (as revealed in hospital records made available to the second author), ND described in detail her abuse as a child, but did not mention her rape experience. However, it is possible that she may not have thought about the rape in the same way that she thought about her early childhood abuse, and so she may have failed to mention it at that time.

Retrieval

ND had been in group therapy for victims of child abuse (a memory that she had kept intact all of her life). At one of the therapy sessions, the therapist mentioned that victims of child abuse often continue to be victimized as adults. On her drive home after the session, she thought about the therapist's remark and then all at once she remembered being raped by a stranger at age 22 (13 years prior). ND recounted her recovery experience as follows:

What she her therapist had said popped into my mind, and then all at once I remembered being a victim when I was like in my early twenties. When I was a nurse at a hospital and it really kind of freaked me out because I remembered that not only had I been a victim but I had to go to court and prosecute the person who had attacked me. And he had been found guilty. And yet I had forgotten all of that.

It is also of interest that the recovery experience is alluded to in her therapy records, further substantiating the validity of her report.

Post-retrieval

ND's memory discovery occurred six years prior to her interview, raising the possibility that her account of this discovery could have changed. However, the fact that she reported the discovery during her therapy sessions supports the view that she perceived herself to have made a discovery at the time.

Case 5

JN is a 31-year-old female who reported a discovery experience soon after she became sexually active at age 18.

Encoding

JN reported that a babysitter fondled her and her older sister when she was age 5. The abuse was corroborated by her mother who indicated that soon after the event took place JN's sister reported it to her.

Retention interval

When asked if there was ever a time in which she had complete prior unawareness of this memory, JN replied, "Yes, Yes, I think there was a time."

Retrieval

JN did not actually recall the precise occasion of her discovery experience although she estimates that it occurred soon after she became sexually active. In particular, she recalled describing her new gained knowledge to her boyfriend noting "I just have a recollection of talking about it with him. I remembered this thing happening but I had never remembered it before." In this case corroboration of the retrieval experience came from the mother who indicated that JN had told her soon after she allegedly recalled the experience, that she had recently remembered being abused by a babysitter and wondered whether or not that had actually happened.

Post-retrieval

JN's discovery occurred 13 years prior to our interview, so, as in many of these other cases, the possibility that her discovery experience recollections evolved is possible. In this case, however, she actually recalls very little of the discovery experience itself, other than that she perceived herself to have discovered a long-forgotten memory of child abuse. The contents of this basic perception were corroborated by the mother who indicated that JN did not have recently remembered the abuse soon after JN reported discovering the memory.

Case 6

CV is a 52-year-old female who recovered her memory at the age of 27.

Encoding

CV described being molested in the bathroom and raped in the bedroom when she was 10 years old. Corroboration of the abuse came from CV's sister who indicated that she had also been molested repeatedly by her father. CV's sister indicated that she had maintained an intact memory of the experience.

Retention interval

During the period that CV believes she had been amnesic for the abuse, she recalled several incidents that, in retrospect, she believes were related to the abuse, but which she did not recognize at the time. Several years prior to her memory discovery experience CV had a conversation with a childhood friend who alluded to the abuse. However, CV recalled completely failing to understand what this friend was describing. CV further reported that several weeks prior to her full discovery experience she had a flashback of sorts while cleaning her bathroom, in which she imagined her father in a lewd manner. However, rather than considering it a recollection, she considered it a bizarre thought: "I felt sickened and shocked that I would think of such a disgusting thing about my stepfather and myself."

Retrieval

Allegedly several weeks later after CV's initial (and dismissed) recollective experience, CV had a subsequent recollective experience (again while cleaning the bathroom) in which "That horrible picture came into my mind but this time it did not go away...a whole reel of pictures started running through my head...I was terrified." This time she reports recognizing the flashback as an actual memory. There was no direct corroboration of her discovery experience, although there was no legal benefit for her to deliberately misconstrue her experience as a discovery.

Post-retrieval

CV was interviewed 25 years after her memory discovery, so once again we need to be wary of the possibility that her recollection of the discovery evolved with time.

Case 7

DJ is a 28-year-old female who reported a memory experience that occurred at the age of 16.

Encoding

DJ estimated that she was abused over 30 times between the ages of 5 and 7 by a next-door neighbor who was the father of a friend. She described

the abuse as occurring when she spent the night at her friend's house. The perpetrator allegedly came into her room while she was asleep and took her to his room where "he would perform sexual acts in front of me, or ask me to perform sexual acts to him... it was not normal sex, it wasn't just sexual, it was very kind of sick". The corroboration of the abuse came from DJ's mother who reported that upon learning of the abuse she and the director of the camp at which the alleged perpetrator worked, confronted the man. As she put it, "We brought in the man ... presented him with the story, and he said that it was true. He admitted it." DJ's mother further reported that he also admitted molesting other girls. Subsequent to the confession the perpetrator committed suicide.

Retention interval

Following the end of the abuse experiences, DJ believed that she had entirely forgotten the experience. As she put it, "I am absolutely sure that I forgot about it... I remember feeling some intuitive weirdness about like sex... I definitely never linked it to a memory." Her mother indicated that prior to the discovery experience DJ made no mention of the abuse per se, however, she did express some misgivings about the individual.

Retrieval

DJ described her retrieval experience as occurring at age 16 when she attended a dinner party at which the alleged perpetrator was also present. According to DJ, when she saw him the memory came flooding back. "I was very shocked by the memory, I was very overwhelmed I think would be the word. That's a lot to remember... It literally was like a brick wall just hit me." Corroboration of the retrieval experience came from the mother who confirmed that DJ described the memory discovery to her soon after it occurred. She also noted that during the dinner party she noticed that DJ became suddenly very upset.

Post-retrieval

DJ's memory discovery occurred 12 years prior to our interview, again raising the possibility that her recollection could have changed. However, the fact that her mother reports that she maintained largely the same characterization of her discovery throughout those years suggests that, in this case, post-retrieval factors were likely to be modest.

ANALYSIS OF THE CASE-BASED EVIDENCE FOR DISCOVERED MEMORIES

As the foregoing case summaries illustrate, case-based studies, though not without their limitations, can provide valuable evidence for illuminating

the encoding, retention interval, retrieval, and post-retrieval components of discovered memories. Below we review and evaluate the evidence in support of the individuals' claims regarding these three phases.

Evidence for the encoding phase

With respect to the encoding phase, all of the cases presented here provide supportive evidence that the alleged incidents of abuse actually took place. Admittedly in each case it is possible to construct alternative accounts of how the memories could have been false; however, in our opinion these alternatives seem considerably less likely than the conclusion that these individuals really were abused. In collectively evaluating the evidence in support of the initial allegations of abuse, it may be useful to consider the evidence as a function of its source. In the following discussion we consider the three general types of corroborative evidence involving the reports of others who (1) were abused by the same perpetrator, (2) had been told about the abuse prior to its discovery, and (3) had knowledge regarding the confession of the perpetrator.

The corroboration of the abuse in Cases 1 and 6 involved the reports of others who reported being abused by the same perpetrator. In these cases, it is possible that these individuals generated false memories that implicated individuals who just so happened to have abused other people. However, such an account requires the postulation of a rather remarkable coincidence in both cases. Alternatively, and perhaps more plausibly, the recollections of either the alleged victims in question or the corroborators could have been a product of discussions between the two parties. While we cannot entirely rule out the possibilities that these memories were the product of collusion, in each case there are arguments against this view. In Case 1, JR did not know the corroborating individual until after his recovery; thus it is very difficult to ascribe JR's recollection to the influence of the corroborator. The corroborator of course might have had his memory planted as a function of hearing about JR's accusations; however, as noted, few have so far suggested that adults who report longstanding memories of abuse are likely to be reporting suggested memories. A similar argument holds for Case 6 in which it seems unlikely that CV's discovered memory of a single incident of abuse could have caused her sister to recall an entire history of abuse. It is perhaps more plausible that her sister's experience could have been relayed to CV and caused her recollection of a single abuse episode. However, both individuals claim that they never talked about the sister's abuse prior to CV's memory discovery.

The corroborative evidence for Cases 2, 3, 4, and 5 involved the reports of others who had been told about the abuse prior to its discovery. In Cases 2 and 3 the alleged victims told their husbands about the abuse matter of factly

without any mention of having forgotten the abuse. Indeed for Case 3 this happened the day after the abuse occurred. Thus, in order to dismiss their recollections we must either question the abuse reports of individuals who originally described never-forgotten experiences of abuse or we must question the husbands' longstanding recollections of their wives' reports of abuse. In Case 4 the lawyer of the victim was told about the rape soon after it occurred, and the facts of the case were sufficient to persuade a jury of the guilt of the perpetrator. Thus, in this case the evidence of abuse rests on the previously intact recollection presented by CV soon after the alleged event took place and the recollection of a trial lawyer for the outcome of tried case. Finally in Case 5, JN's mother reported that JN's sister described the abuse done to her and JN soon after it occurred. Thus, to dispute the abuse in this case, we must either challenge the memory of a mother who learned about the abuse of her children, or perhaps more plausibly the memory of a child who has reported abuse immediately after it allegedly occurred. However, though children's memory may be the product of suggestion, we must be very cautious to dismiss such accounts out of hand, particularly when there is no evidence that suggestion played a role in this case.

Finally, in Case 7 the evidence of abuse involved *confessions by the perpetrator*. In Case 7 this confession was communicated to DJ's mother, who in turn described it to us. While the existence of an intermediary provides some possibility for distortion, there seems to be little reason to think that the mother's recollection of such an important fact as a person confessing to the abuse of her daughter would be wholly fabricated.

Evidence surrounding the retention interval phase

Although in each case described above the evidence for the original abuse is (in our view) reasonably compelling, the evidence for forgetting during the retention interval is considerably less strong. As noted in Cases 2 and 3 there is evidence that clearly disconfirms the victim's reports of forgetting, as in both of these cases the victims' husbands indicated that they had referred to the abuse experiences repeatedly during the alleged amnesic periods. In the other cases, there are hints that the memories may have at least been at a reduced degree of accessibility for some period of time. For example, in Case 1, JR's former therapist indicated that prior to the discovery he never made any mention of sexual abuse even though he disclosed many other things. While this is potentially informative, JR's therapist also indicated that he never asked JR about abuse, and it is also possible that JR might have felt reluctant to disclose it. In Case 4, ND did not report her rape experience on her intake interview for childhood sexual abuse. However, once again it is not clear that she would have necessarily

thought about this type of experience in the same context as childhood abuse. In Case 7, DJ made reference to the perpetrator as "kind of a jerk, kind of a nerd", such a description is clearly a long way from identifying him as a child molester, and in this respect does suggest that she did not have full access to her memory of the experience. Nevertheless, the fact that she did refer to him in unambiguously negative terms does suggest that she possessed some knowledge (perhaps only implicit) about having had negative experiences with him.

Evidence surrounding the retrieval phase

In many of these cases individuals' discoveries were reported a significant period of time after the events actually took place. Thus we do need to be potentially concerned that the memories of the discoveries might have evolved with the passage of time. In a number of cases (Cases 1, 2, 4, 5, 7) the individuals told others about their discoveries soon after they occurred. In all of these cases, the individuals originally communicated that they believed they had a significant discovery experience. Although this evidence helps to substantiate that some type of discovery experience did occur in the majority of the cases reported here, we still must be cautious in necessarily assuming that every detail of individual's recounts fully reflected the manner in which the experiences were originally recalled.

Evidence surrounding the post-retrieval phase

In all but one of the cases, the individuals were originally interviewed years after the original discovery of the memory, raising at least the possibility that the individuals' construals of their discoveries could have evolved with time. In two cases there was actually some modest evidence for slight changes in recountings of their discoveries. WB originally seemed confident that she had absolutely forgotten the experience than she was later, and ND was reported by another as having previously recalled the discovery as being less momentous than the manner in which she described it to us. Although the possibility that individual recounts of their discoveries may have evolved with time seems very real, it also should be kept in mind that, in the majority of cases, there was evidence from other individuals that a discovery had been perceived from the outset.

Conclusion

The above analysis of the cases reviewed indicates that it is at least sometimes possible to ascertain with a reasonable degree of confidence that

individuals who perceived themselves to have discovered long-forgotten memories of abuse may be recalling at least the gist of experiences they actually encoded. At the same time, however, we can be far less confident that during the "retention interval" the memories were necessarily as inaccessible as they are reported to have been. We also, in at least some cases, must consider the possibility that individual's construals of their discoveries might have evolved with time. At the very minimum, it seems safe to conclude that individuals who perceive themselves to be in the possession of a discovered memory at the time that they were interviewed, were remembering events which did have some foundation in reality. In the following analysis, we consider the possible mechanisms that could lead individuals to perceive themselves as having discovered long-forgotten memories of abuse that actually occurred.

POSSIBLE MECHANISMS THAT COULD LEAD TO DISCOVERED AUTHENTIC MEMORIES OF ABUSE

Our account of the possible mechanisms that may lead to discovered memories of abuse draws heavily on Schooler's (2000) theory of meta-awareness. Schooler (2000) postulates that experiential consciousness (i.e. the contents of phenomenological experience) can be distinct from meta-awareness (i.e. one being conscious of one's consciousness). Although it might seem that we are necessarily always conscious of our consciousness, a simple example illustrates that this is not so. Imagine that you are reading a very important and difficult paper that you must understand completely. Despite your best intentions, at some point during the reading you realize that for the last several minutes (or more) you have not been attending to the text but rather have been engaged in a vivid daydream of an upcoming vacation. In such cases we can be vividly conscious of the contents of our daydream yet not be meta-aware of the fact that we are daydreaming.

The fact that consciousness can be dissociated from meta-awareness raises the possibility that disjoints between the two may, at least sometimes, have important implications. If meta-awareness is absent from a mundane experience, this is probably of little consequence. If, however, meta-awareness becomes disjointed from the type of highly significant life experience that usually induces reflection, then the subsequent application or reapplication of meta-awareness to that experience may result in a significant sense of discovery. Accordingly, discovered memories are hypothesized to result from a disjointing and subsequent rejoining of consciousness from meta-awareness. This process may involve a combination of factors occurring at the encoding, retention interval, retrieval,

and post-retrieval phases. At the encoding phase, disjoints between individuals' conscious experience and their meta-aware understanding may result from a variety of factors including age, stress, dissociation, and the nocturnal nature of the abuse. Even if an experience is initially encoded with a meta-aware understanding, the meta-aware reflection on the experience may dissipate during the retention interphase as individuals retrieve their abuse memories without reflection. At the time of retrieval individuals may experience a profound sense of discovery that results from gaining, or regaining, a new meta-aware understanding of the experience. Finally, during the post-retrieval phase, individuals may revisit the discovery experience itself in the light of meta-awareness, imposing new interpretations on the nature of the discovery experience and what exactly it was that was discovered. In the following discussion we use the consciousness/meta-awareness distinction as a framework within which to explore the encoding, retention interval, retrieval, and post-retrieval processes that may lead to discovered memories. We emphasize this distinction because of its novelty and potential value in clarifying the mechanisms underlying discovered memories.

Encoding mechanisms

At the time of encoding, it is at least in principle possible that individuals could experience traumatic events without explicitly reflecting on their meaning (i.e. without meta-awareness). A variety of factors could contribute to individuals encoding traumatic experiences without meta-awareness.

Stress

It is known that stress has a dramatic influence on physiological processes in the brain, and that the effect can be specific to certain brain structures that are important for memory. Stress is thought to impair hippocampal integration of memories, leading to a lack of an explicit account of the event. Moreover, when stress occurs, the amygdala — a brain structure important for emotional processing — remains unpaired. A potentially central role of the amygdala in stressful experiences is suggested by LeDoux (1992, 1996), who has demonstrated that the amygdala is critically involved in the learning of fear responses. This idea, coupled with a disruption of the memory consolidation functions of the hippocampus, may be an important contributor in meta-awareness of events. In other words, a failure of the memory of the traumatic experience to be formed under highly stressful situations to be integrated within the frontal cortex and hippocampus might result in a lack of self-awareness of the experience.

Dissociation

Another factor that may prevent a memory from achieving meta-awareness is dissociation. Dissociation is a controversial notion, but is typically defined as a "lack of normal integration of thoughts, feelings, and experiences into the stream of consciousness and memory" (Bernstein & Putnam, 1986, p. 727). During the course of a traumatic event, individuals may dissociate themselves from the ongoing experience — a process that could influence the way in which the experience is encoded and later retrieved. This lack of integration of the event as a whole could prevent the individual from gaining meta-awareness of the event for an extended period of time.

Nocturnal occurrence

Many reported incidents of sexual abuse occur at night, which may contribute to the suspension of meta-awareness during abuse. In fact, the absence of meta-awareness is a key characteristic of nocturnal cognition. Dreams characteristically contain discrepancies and are forgotten upon awakening unless individuals specifically reflect on them soon after awakening (Hobson, 1988). In contrast, lucid dreaming precisely involves becoming self-aware during dreaming and typically works best when the individual is encouraged to regularly meta-aware reflect about the environment during waking hours (Jalberge, 1985). The qualitative difference between normal dreaming and lucid dreaming highlights the lack of meta-awareness that is typically associated with the nocturnal cognition that occurs during dreams.

Lack of schema

Another possible mechanism that could result in the formation of a memory that lacks meta-awareness is lack of schematic knowledge. If the person experiences the abuse at a young age, the person may lack the cognitive faculty to fully understand the nature and extent of the act. In other words, at the time of the event, the victim may not consider the events to constitute sexual abuse. If this were the case, then the individual may have a meta-aware understanding of the experience, as being unpleasant or awkward, but not as sexual abuse. The lack of an adult metacognitive awareness of the experience may thus set the stage for a future memory discovery experience in which the individual develops a newfound understanding of what happened.

Retention interval mechanisms

There are a number of factors during the retention interval that could contribute to memories ultimately being characterized as "discovered".

Non-narratively encoded memories

If memories are initially encoded with a lack of meta-awareness, then during the retention interval they may in fact be less accessible because they have not been integrated into the individual's autobiographical life narrative. This lack of initial meta-awareness may then produce memories that are difficult to retrieve volitionally because they lack an explicit tag by which they might be searched. As a result, these memories may be uniquely dependent on environmental cues to be retrieved, and thus may lie dormant during the retention interval until the appropriate matching environmental cue is encountered. However, even when the memories are retrieved by the appropriate environmental cues, their contents still might not make it to meta-awareness.

Changes in context

If an individual lacked meta-awareness during the encoding of an experience, then it is easy to see how these might be forgotten for extended periods of time. However, what can explain the forgetting of experiences in which there probably was meta-awareness during encoding? One possible explanation is that there may be a change of context between the time of the experience and the individual's present state. This change in context may lead to the experience being thought about less and less until eventually it isn't thought about at all. Both physical and psychological changes of context are crucial. In our seven cases there are numerous examples of individuals who had moved from the original area. For instance, D] discovered her memory of sexual abuse perpetrated by a neighbor when, after having moved to live in a different state, encountered the perpetrator at a dinner party. This case illustrates one of the postulated hallmarks of traumatic memory — that it is especially cue-dependent (Brewin, Dalgleish & Joseph, 1996).

Directed forgetting

Finally, there is considerable evidence that, with intention, individuals can direct themselves to forget at least some types of memory materials. Thus it is at least possible that directed forgetting processes (Bjork, 1989) may contribute to a reduction in accessibility of the memories during the retention interval.

Avoiding meta-awareness

In addition to postulating possible mechanisms by which abuse memories might actually come to be less available during the retention interval, it also is important to identify mechanisms by which the memories might simply "seem" to have been less accessible. In two of the previously reviewed cases, evidence suggests that the individuals misconstrued their

prior forgetting. In the cases of TW and WB, ex-husbands reported discussing the event with the victims during a period of time in which the victims thought they had completely forgotten the abuse. In these case they were described as talking about their experiences rather cavalierly. Also importantly, these individuals entirely failed to recall having talked about these experiences. Although we can only speculate about what might have happened here, one plausible account is that the retrieval experiences themselves occurred with an absence of metacognitionness. The individuals simply did not reflect on the extremely personal experiences that they were describing or on the fact that they were describing them. The absence of metacognition reflection at the time of retrieval may have contributed to the affectively flat manner in which the memories were described to their husbands, and to their subsequent inability to recall their prior retrievals. Indeed it seems quite plausible that one way in which individuals may manage to cope with traumatic experiences is simply to avoid meta-aware reflections of the experiences when they come to mind. Like mountain climbers who know better than to look down, some individuals with traumatic memories may learn (either deliberately or perhaps through some form of conditioning) to not ponder their recollections when disturbing memories come to mind. In this sense, rather than being repressed, traumatic memories may simply be ignored.

Retrieval mechanisms

At one level of analysis, understanding what happens at the retrieval phase is very straightforward. Some memory cue occurred which caused the individuals to remember and reflect on their prior abuse experience. Indeed it is notable that in all of the cases reviewed there was some significant correspondence between the cue that allegedly prompted the memory and the actual abuse experience (ranging from seeing a movie about sexual abuse to actually seeing the perpetrator). Virtually all theories of memory would suggest that such cues would help to increase the accessibility of prior memories.

Changes in meta-awareness of the event

The cases reviewed here suggest that individuals' retrieval experience did not just involve the recollection of the event itself, but also involved a profound sense of personal discovery with an immediate unpacking and emotional omnush reminiscent of classic insight experiences (Schooler & Melcher, 1995). The perception of profound personal discovery at the time of retrieval may hold an important clue towards understanding discovered memories. In particular, from the vantage of metacognition theory, the discovery experience can be reasonably characterized as the

moment in which the individual gains or regains meta-awareness of the experience. If the individuals encoded the experience without meta-awareness originally, then the discovery may involve the first explicit realization of what happened to them. If the memory had previously been explicitly reflected on, then the discovery may involve a re-gaining of meta-awareness of the abuse, after a period of time in which meta-aware reflection of the abuse had been avoided.

Individuals may also impose a new meta-aware understanding of the experience that is qualitatively different from that which originally accompanied the abuse. As WB put it: "In a way, I have managed to repress the *meaning* of what happened...but I have pushed it away, minimized it... It wasn't a real rape." Although WB originally recognized that her discovery might not have been of the memory itself but rather the explicit meaning (or in our terms the metacognition understanding) of the memory, she later began to believe that she had really forgotten the experience. Thus, the discovery of new metacognition understanding of the experience may be confused either at the time or later with a discovery of the memory itself, leading individuals to conclude that they had entirely forgotten and then later suddenly remembered abuse. In short, the key element of the perception that one has retrieved a long lost memory of abuse may be the discovery of a new understanding of the meaning of the experience. This new understanding may or may not also involve a new availability of the memory itself.

Omnush of emotions and the forgot-it-all-along effect

In addition to a new (or renewed) meta-awareness of the event, the sheer emotional impact of thinking about the experience may contribute to the profound sense of discovery associated with the retrieval experience. This profound emotional omnush might be caused by a variety of factors. As noted, an increased appreciation of the significance of the event is likely to be one important factor. In addition, if individuals had attempted to suppress the memory for some period of time, then, when it came back, the well-established emotional rebound effect associated with suppressed thoughts (Wegner & Gold, 1995) might imbue the recollection with extra emotion. This emotion might then be used to make a (potentially faulty) inference about their prior knowledge of the experience, i.e. they may underestimate their prior knowledge of the event, a phenomenon previously referred to as the forgot-it-all-along effect (Schooler et al., 1997b). Accordingly individuals may reason, "If I am this shocked and surprised then I must have previously completely forgotten about the experience."

Post-retrieval mechanisms

Although in the cases reviewed here it seems likely that individuals did in fact have a profound discovery experience corresponding to the memories in question, it nevertheless seems plausible that their recollections of that discovery may have evolved with time. This may further contribute to the belief that they had discovered a previously completely forgotten experience. A number of factors could contribute to such changes.

Lack of meta-awareness at the time of retrieval

In the above analysis it was suggested that many discovered memories may involve a new meta-awareness at the time of retrieval of the meaning and significance of the experience. However, it is also possible that, in some cases, an individual's retrieval experience, by virtue of its sheer emotional impact, itself lacks a meta-aware appraisal. In short, individuals may be simply reeling with emotion, not fully aware of what they are experiencing. Later, as they reflect on the experience, they process the retrieval experience itself in the light of meta-awareness. In short they may say to themselves "Wow, what hit me?". The perception of the discovery of a long-forgotten memory may then be constructed as individuals trying in retrospect to make sense of their experience.

Discussion

As individuals continue to recount their recollections of their discovery experience it may become further schematized and streamlined (e.g. Bartlett, 1932), increasingly focusing on the perceived primary element (i.e. the increased availability of the memory) and de-emphasizing other elements (e.g. the discovery of a new understanding of the experience).

Learning about recovered memories

Finally, exposure to materials that describe recovered memories and repression may further contribute to shaping individuals' beliefs about the prior state of their own memories. As they hear about the way in which memories can be entirely buried and then suddenly return in pristine fashion, they may increasingly reinterpret their own recollective experiences in this light.

Caveats

The above analysis illustrates the promise of case-based studies for both documenting discovered memories of authentic abuse and identifying possible mechanisms that might lead to them. At the same time, however, it is important to emphasize the preliminary nature of both the case-based

analysis presented here and the mechanisms used to account for them. Additional research using the corroborative approach with larger populations and more systematic sampling techniques are needed to determine the frequency with which the various qualities of the discovered memories identified in the cases described above are observed. How often is it actually possible to provide some independent corroboration of the abuse? How common is it for there to be evidence that individuals overestimated their degree of forgetting? To what degree is the profound sense of self-discovery a common ingredient to discovered memories? How often might it be appropriate to characterize discovered memories within the context of the consciousness/meta-awareness distinction? The evidence presented here cannot adequately answer any of these questions, but it does suggest that the pursuit of such questions is important and timely.

DISCOVERED FABRICATED MEMORIES

With the above case-based analysis of the mechanisms thought to be responsible for discovered authentic memories at hand, we next attempt to apply a similar systematic analysis of the critical encoding, retention interval, retrieval, and post-retrieval variables to discovered false memories. At the outset we must concede that, in contrast to the seemingly authentic cases described earlier, to date we have not personally investigated cases in which the evidence suggests that the memories were false. Nevertheless, there have been many well-documented court cases in which individuals (retractors) have provided sufficient evidence to persuade a judge or jury that abuse memories which the retractors once believed were factual, were actually fictions based on their therapists' suggestions. Of course, as with the memories that we have characterized as authentic, there is rarely any way to indisputably *prove* that a memory is false. We hope that readers will concur with us — and with the judges and juries in the respective cases that we review — that the preponderance of evidence in these cases supports the likelihood that the memories were largely fictitious.

How do we know the memories are fabricated?

Needless to say, trying to demonstrate that some event did not occur is difficult. Yet there are several factors that can provide support for the conclusion that abuse did not occur. One of these factors is the claim that satanic ritual abuse (SRA) occurred. Memories of SRA are commonly situated in malpractice suits against former mental health providers, and many of these cases serve as examples in our case-based analysis.

However, despite many allegations of SRA, a significant FBI study found no physical evidence substantiating claims of SRA (Lanning, 1992). Lanning reports that there is little or no corroborative evidence of organized satanic cults. Absence of supporting data for these events, despite extensive searching, suggest that memories of SRA are probably not based on reality. Another factor shedding doubt on the veracity of a memory is the likelihood that events from a certain age can be remembered. Typically, people are unable to remember events that happened prior to their third or at the earliest second birthday (Usher & Neisser, 1993); yet, many fabricated memories concern alleged abuse prior to the lifting of infantile amnesia and sometimes since birth. Also, any lack of physical or medical evidence in situations where it would be expected can also serve as evidence for false memories. For example, in one case in which, under the guidance of a church counselor, a woman came to believe that her father had raped her, got her pregnant and performed a coat-hanger abortion, medical evidence suggested that she was a virgin and that her father had had a vasectomy (Rutherford v. Strand et al., 1996). When available, this type of physical evidence provides further doubts about the credibility of the discovered memory.

The following cases of discovered fabricated memories are generously taken from the legal arena. The main reason for this bias is two-fold. First, legal cases retain a lot of documented evidence that can be consulted and evaluated, providing a kind of corroboration. Second, when following a thorough review of all of the available evidence where a court rules affirmatively in a malpractice case concerning a former patient against a therapist for using suggestive techniques that induced false memories, it strengthens our confidence that the discovered memories were fabricated rather than authentic. We next review seven cases, which are taken from a sample of malpractice suits claiming injury to misdiagnosis and false memory implantation. As with the seemingly authentic discovered memories, in each case we review the relevant encoding, retention interval, retrieval, and post-retrieval factors that are known about each case. Although this basic division of the memory process similarly applies to fabricated memories, its application is somewhat different. In the case of false discovered memories, there is typically no evidence for the encoding of the experience at the time it is alleged; rather the evidence for encoding is seen in the context of therapy where the seeds of the memory are first planted. Following this initial "planting" the retention interval corresponds to the period where the therapist encourages memory recovery with hypnosis, visualization, and other techniques, resulting in the development of the memory. The retrieval phase involves the time at which the patient finally comes to accept the therapist's suggestions as real memories. Finally, at least in the cases that we are reviewing here, the

post-retrieval phase involves a growing skepticism of the memory, leading ultimately to a complete rejection of the memory and resentment towards the therapist for planting it.

Case 1

Elizabeth Carlson's memory discovery experience occurred at age 35. She was 59 at the time of the malpractice trial against her former psychiatrist (Carlson v. Humenansky, 1996).

Encoding

Carlson was referred to a psychiatrist while being treated for severe depression. The psychiatrist, Humenansky, immediately suggested that her problem was not depression, but probably multiple personality disorder (MPD). She further suggested that MPD was associated with forgotten childhood sexual abuse, so she was probably abused. Carlson noted that when her therapist told her that she wasn't responsible for her current depression, but that uncontrollable past events were to blame, she felt a sense of relief concerning her situation.

Retention interval

Since Carlson didn't have any "memories" yet, her therapist suggested several techniques. In particular, Humenansky used hypnosis and sodium amytal to help Carlson remember the childhood events. During the trial, Richard Olshé, an expert on cults and the suggestive techniques that they use, detailed specific coercive and suggestive statements made by Humenansky during a sodium amytal interview she had conducted with Carlson. Guided imagery was also conducted in a similar suggestive manner, with Carlson being instructed to imagine scenes of abuse by different people even though she had no such memories. Carlson was given books to read, such as Bass and Davis's *The Courage to Heal* (1988) and books about MPD cases, and was instructed that if anything felt uncomfortable to her while she read them, it was an indication that similar things had happened to her. All of these measures were used in the hope of memory recovery, in conjunction with administration of strong medications such as several benzodiazepines, Ativan, Prozac, and various other drugs.

Retrieval

Carlson eventually entered group therapy with other MPD patients. As a result of the treatment, Carlson says she developed a false belief that she was part of an intergenerational satanic cult, participating in satanic rituals, and she eventually became suicidal. Carlson had become convinced that she had created multiple personalities to deal with supposed

sexual assaults by her parents, relatives, and neighbors. Carlson's mental condition had deteriorated, rather than improved.

Post-retrieval

Carlson began to doubt her memories when she got a new prescription that made her feel better, causing her to flush all her other pills down the toilet. During group therapy, the participants began to notice the similarity in their abuse memories, and how they resembled events in the books they had been given to read. Other patients even admitted that they had made up alters to fit in with the group. Carlson confronted Humenansky concerning this revelation, and soon the therapist dropped all of her MPD patients. The jury found Humenansky negligent in failing to meet recognized medical standards and that her diagnosis, care, and treatment were direct causes of harm to Carlson. Carlson and her family were awarded \$2.5 million in damages.

Case 2

Patricia Burgus's memory discovery experience occurred at age 30. She was 41 when she received a settlement in a medical malpractice suit against her psychiatrist (Burgus v. Braun et al., 1997).

Encoding

Patricia Burgus entered therapy for post-partum depression, but was soon diagnosed with MPD and placed in the dissociative disorders unit of Bennett Braun at Rush-Presbyterian Hospital in Chicago. Braun then told Burgus that it was likely she was involved in a cult that participated in satanic ritual abuse, since this was typical of patients with MPD. Braun's beliefs, regardless of Burgus's lack of memories, are highlighted by his extensive publications documenting his view that MPD is caused by repressed memories of trauma (e.g., Braun, 1986), and his role as a founding member of the International Society for the Study of Multiple Personality and Dissociation. Furthermore, he failed to advise Burgus that the diagnosis of MPD was controversial and didn't obtain informed consent, instead eventually telling her that the memories being uncovered represented real memories of actual historical events. Burgus noted the use of authoritative suggestions that implied that she had to remember in order to get better.

Retention interval

Burgus claims that hypnosis and other treatments, such as drug therapy, were used in an effort to help her to remember. During testimony at a disciplinary hearing of Braun, Burgus noted, "we were put on massive experimental medicines, we were hypnotized, we were brainwashed". Burgus's sons were also hospitalized because they were told that they

may be genetically predisposed to MPD. Under high doses of medication and hypnosis, Burgus now says that reality and fantasy blended together. In the complaint against Rush-Presbyterian, Burgus states that Braun prescribed Inderal, Halcion, Xanax, sedatives and hypnotic psychotropic drugs at experimental, untested, and medically inappropriate dosage levels. Additionally, Burgus was occasionally kept in leather restraints during therapeutic sessions.

Retrieval

Burgus recovered memories of being part of a satanic cult, including cannibalism, being sexually abused by numerous men, and abusing her own two sons. She eventually became convinced that she had over 300 alternative personalities as a result of repeated and extensive traumatic childhood abuse. To exemplify the pervasiveness of the belief in this memory, her husband brought to the therapist some hamburger meat served at a picnic to run tests on to determine if its origin was human.

Post-retrieval

Burgus often questioned the validity of her memories, but she was repeatedly told that she was the only one to express doubt. Finally, when she got out of the hospital, Burgus couldn't find any proof of her memories and began to get even more suspicious. Her case against Braun was settled in the amount of \$10.6 million, and Braun's medical license has since been revoked.

Case 3

Lynn Carl's memory discovery experience occurred approximately when she was 40 years old. She was 46 at the time of the trial (Carl v. Peterson et al., 1997).

Encoding

Lynn Carl initially entered therapy for depression. She was soon diagnosed with MPD, and was hospitalized for two years at Spring Shadows Glen in the dissociative disorders unit.² The treating mental health workers indicated

² In October of 1997 a federal grand jury indicted a psychiatric hospital administrator and four mental-health practitioners in Houston on counts of conspiracy and mail fraud, charging therapists with having intentionally misdiagnosed MPD for money (U.S. v. Peterson et al., 1997). This was the first time criminal charges had arisen from false memory allegations. The indictment alleged that the former employees of Spring Shadows Glen Hospital gained millions in fraudulent insurance payments by eliciting statements of satanic ritual abuse and cult activities and other false experiences and memories from patients. This case declared a mistrial in February 1999 due to jury problems, and the judge stated that there is not to be a retrial because of the toll on witnesses. The hospital's controversial dissociative disorders unit was closed in March 1993 after state investigators cited the unit for excessive use of physical restraints on patients, and censorship of patient mail and phone calls.

to Carl that they believed she had experienced satanic ritual abuse as a child. When Carl told her therapists that she didn't believe any such events had happened, she was told that her memories had been repressed in order to deal with the satanic ritual abuse. During the trial it was evident that Keraga, one of the treating therapists, failed to obtain informed consent and failed to disclose to Carl that memories recovered through hypnosis might not be reliable. Carl was also authoritatively told that she had to remember in order to become better, and that unless she continued recovering memories about the abuse, she would remain in denial and her children wouldn't get well.

Retention interval

In order to help Carl to remember the supposed SRA, hypnosis was extensively used during her therapeutic sessions. Additionally, physical restraints were periodically used, and contact with anybody from outside the unit (including mail) was prohibited.

Retrieval

Carl became convinced that she had developed more than 500 personalities because of repressed memories of involvement in a satanic cult. This included murder, cannibalism, sexual abuse and incest, and eventually the belief that she abused her own children. Earlier, she was forced to report herself to the police as a child abuser even though she had no detailed memory of abusing her own children. As a result of this confession, the children were removed from her custody. Moreover, despite seeing no improvement in Carl, Keraga continued with the treatment. One of Carl's therapists testified that she didn't know if the specific memories that Carl recovered in therapy were true, but said she believed the gist of them.

Post-retrieval

After two years of therapy Carl left the hospital and was cut off from her family. She later underwent therapy in Florida and then Baltimore, and began to realize the memories she had were false. She eventually won a \$5.8 million judgment for medical negligence during psychotherapy that allegedly produced false memories of SRA.

Case 4

Diana Halbrooks was 36 years old at the time of her discovery experience and was 47 at the time of the trial (Halbrooks v. Moore, 1995).

Encoding

Halbrooks sought treatment for recurring depression and familial conflicts. She began attending group counseling sessions with Moore, a

licensed professional counselor and ordained minister. To Halbrooks' surprise, Moore suggested that she suffered from MPD and started her with group therapy with other MPD patients. Halbrooks noted that when she began attending a Saturday morning group, none of the group members, including herself, was reporting parental sexual abuse.

Retention interval

In her testimony, Halbrooks alleged that Moore exerted an ever-increasing control over her and caused her to disassociate from her family and have an unnatural and unhealthy dependence on him. After reading several MPD books and within a year of group treatment, a large percentage of the group members believed they suffered from parental sexual abuse. Similarly, initially only one group member believed she was the victim of SRA, but by the time Halbrooks left the group three years later, a large number of group members had such beliefs.

Retrieval

Halbrooks discovered false memories of being a victim of sexual abuse, child abuse, and incest from several family members. Moore had also convinced her that she suffered from MPD. Interestingly, Halbrooks testified that she attributed her visions and memories of abuse to hearing other group members talk each week about their abusive experiences.

Post-retrieval

Halbrooks began to doubt her memories after leaving therapy. The jury found Moore guilty of negligence and that his actions were the proximate cause of damage to Halbrooks. She was awarded \$105,000 and the defendant was found 60% liable.

Case 5

Nicole Althaus was 16 years old at the time of her discovery experience. At the time of the trial she was only 19 (Althaus v. Cohen, 1994).

Encoding

Althaus entered therapy when she became depressed because her mother was seriously ill. She initially confided in a teacher, who suspected that her depression stemmed from something other than her mother's illness. Althaus initially denied having memories of abuse events, and the teacher indicated that she probably repressed them. Althaus began seeing a psychiatrist, Cohen, who diagnosed her as suffering from post-traumatic stress disorder brought on by sexual abuse, despite having no memory of the alleged abuse.

Retention interval

During the course of therapy, Cohen refused input from the parents or any other outside sources concerning her suspicions. After reading several books about abusive experiences, Althaus began having nightmares about being abused herself. These dreams were interpreted by her therapist as being snippets of real memories.

Retrieval:

Althaus claimed that she had become convinced that her father had sexually abused her, and eventually believed that she had been raped and tortured and had given birth to three children, all of whom were murdered. Other reports from Althaus suggested that her grandmother flew about on a broom, that she was tortured with medieval humbiscrows, and that she was raped in view of diners in a crowded restaurant. As Althaus's charges became progressively more outlandish, the stories were never challenged. Although Cohen said that she never believed the wildest tales of orgies, murder and torture, she said that it was her job to treat Althaus, not investigate her. As a result of Althaus's allegations of sexual molestation and ritual abuse, her parents were arrested on more than one occasion. Even though Althaus brought criminal charges against her parents, the court noted that the psychiatrist knew that at least some of the girl's allegations were not true, but she essentially validated unwittingly false testimony during and before the criminal proceedings. In fact, Cohen repeatedly stated that she was not required to make any determinations about the credibility of Althaus's allegations.

Post-retrieval

The criminal charges against the parents were withdrawn after Althaus underwent an independent psychiatric evaluation. The court-appointed psychiatrist testified that she suffered from borderline personality disorder and that the abuse allegations were a product of the disorder, which rendered Althaus unable to distinguish fact from fantasy. In the malpractice trial, the court ruled that a duty was owed to the accused parents as well as the defendant therapist's patient. The jury awarded Althaus and her parents \$272,232 in compensatory damages against the psychiatrist for failure to properly diagnose and encouraging her to believe in fictitious events.

Case 6

Mary Shanley's discovery experience occurred when she was 39 years old and she was 45 around the time of the trial (Shanley v. Peterson et al., 1996; Shanley v. Braun et al., 1997).

Encoding

Shanley entered therapy because she was suffering from increased anxiety, depression, and panic attacks after undergoing a total hysterectomy and being attacked by a parent in her classroom. She was soon diagnosed with MPD and told by Braun, her psychiatrist, that she had to uncover repressed memories of early childhood trauma because dissociative disorders are usually caused by SRA (Braun is the same psychiatrist who treated the patient in Case 2, in which his unsubstantiated beliefs about repressed memories of trauma were in question). At one time an "expert" in satanic cults was brought in (a Chicago police officer who acted as a private consultant), who was able through the use of an international cult-awareness network computer to verify that not only was she in fact a five-generation Satanist, but that she was satanic cult royalty. She was sent to a hospital in Houston for deprogramming, and eventually her 9-year-old son was sent to the same hospital with an MPD diagnosis. During the entire ordeal, Shanley expressed doubts concerning her memories, initially denying having any knowledge of the alleged abusive and satanic events. In Braun's notes of therapeutic sessions he noted that "she was struggling with the acceptance of the diagnosis of MPD and dissociation, having a high level of denial". Moreover, Shanley was isolated from outside influences since her therapists didn't allow contact with anyone outside of the unit, and threatened her if she attempted to leave the hospital.

Retention interval

Shanley started to have dreams in which abusive events occurred. In an attempt to help Shanley recover memories, she was informed that her dreams of abuse were indicative of real memories and that she should believe them. Shanley testified that she was given such high amounts of salt when her blood pressure became too low, that her body retained the fluid. She was told that this was a body memory of a pregnancy when she was in the cult. Shanley commented that several times her already high levels of medication were increased in an attempt to elicit more memories and in an effort to decrease switching between her alleged alter personalities. Physical restraints were used during abreactive therapy sessions when therapists tried to bring forth her alter personalities. She testified that she was placed in restraints more than 100 times during her hospitalization, sometimes for as long as 20 hours at a time. In the insurance fraud criminal trial against the hospital that treated Shanley (see footnote 2), a claims reviewer for an insurance company testified that, at the time of the review, she was concerned that Shanley had been hospitalized for more than a year with little improvement. Shanley actually remained in the hospital for more than two years.

Retrieval

Shanley claims that she had 10,000 alters. One of the treating psychiatrists allegedly was able to communicate with Shanley through the use of "finger signals", and diagnosed her as MPD "polyfrAGMENTED". Braun's notes in a discharge summary contend that Shanley had memories of her brother being put in a cage with a dog and having to kill the dog, being taken home with a nurse after cult meetings, being conditioned through electrical shock and other tortures, drinking blood from a cow, being put in a cold bin, and being stripped of all of her clothing, to name a few.

Post-retrieval

Eventually Shanley was released from the hospital, and, in the absence of the suggestive influence of her therapists, came to realize that her memories weren't memories after all. Her case was settled out of court under confidential terms.

Case 7

Nadean Cool's age at the time of her discovery experience was 34. She was 44 at the time of trial (Cool v. Olson, 1997).

Encoding

Plagued with problems of depression after a traumatic event experienced by a family member, Cool started therapy with Olson, which spanned over a six-year period. To her surprise, she was diagnosed as having MPD and was told that she probably couldn't remember some horrible satanic childhood events. Cool stated that she trusted her psychiatrist completely, to the point that she believed whatever he told her, especially the comment that she needed to remember events in order to get better.

Retention interval

During treatment, Olson put Cool under hypnosis. She was told to separate parts of her ego, such as her anger side, and was regressed back to childhood. Cool testified that before Olson hypnotized her for the first time, he never warned her of the risks involved or that false memories might occur. He also insisted that if she denied the memories evoked under hypnosis she would never get better. When Cool asked after hypnotic sessions why she had not remembered such child abuse, Olson convinced her that under hypnosis you become someone else and only that person remembers these things. Additionally, Olson performed an exorcism on her to rid her of demonic spirits. He also prescribed a regimen of drugs, some addictive, but far beyond what is acceptable, leading to hallucinations. It also appears that the psychiatrist used fear to convince Cool

that her family and members of a satanic cult wanted to kill her, further alienating her from outside sources.

Retrieval

Cool believed that she had more than 120 personalities, including a duck, angels that talked to God and Satan, and was the bride of Satan. She believed that she had been a member of a satanic cult, had killed babies, and had eaten human flesh. Cool also came to believe that she had knifed babies in the heart and passed them around for other cult members to eat. To become Satan's bride, Olson told Cool that she had to be raped by 60 or 70 men and have sex with animals. He said the only way Cool would get better was to describe such acts to him in detail. Her psychiatrist believed that the personalities were brought on by sexual and physical abuse she suffered when she was young. As her mental condition deteriorated and she became more hopeless, Cool attempted suicide several times during her therapy.

Post-retrieval

Finally, Cool told Olson that she was discontinuing treatment because she felt like dying all the time and couldn't see how she'd ever get better. "When I understood what it was really like was when the compound in Waco burned down and all those people followed that man to their deaths and Jim Jones' followers killed themselves," Cool noted, comparing her experience to the brainwashing of cult members. Cool received \$2.4 million in an out-of-court settlement with the psychiatrist.

ANALYSIS OF THE CASE-BASED EVIDENCE FOR FABRICATED MEMORIES

The preceding case summaries highlight many components that are potentially crucial during the encoding, retention interval, retrieval, and post-retrieval stages of fabricated memories. Below we review and evaluate the evidence in support of the individuals' claims regarding these four phases.

Evidence surrounding the encoding phase

There appear to be two general trends that occur during the encoding phase. Firstly, there is usually some form of a suggestion of past abuse that the patient is unaware of, and this suggestion usually stems from the conclusion that the patient has multiple personality disorder. In Case 1, even though Carlson entered therapy with complaints of depression, she

was diagnosed with MPD and told that MPD was associated with forgotten childhood sexual abuse. Similarly, Burgus in Case 2 was diagnosed with MPD and told that she was likely involved in a cult that participated in satanic ritual abuse since that was typical of patients with MPD, despite Burgus's initial complaint of post-partum depression. Carl's therapists in Case 3 emphasized that even though she entered therapy for depression with no memories of childhood abuse, she really had multiple personalities and that her memories had been repressed to deal with the horrible events. In Case 6, Shanley's experience was similar, which isn't all that surprising because one of her treating psychiatrists was one of Carl's. Shanley was diagnosed with MPD, despite complaints of anxiety and depression, and was told that she had to uncover repressed memories of early childhood trauma because MPD is usually caused by satanic ritual abuse. A similar scenario occurred in with Cool, Case 7. Cool entered therapy because she felt guilty about a traumatic event experienced by a family member, but soon found out that she had MPD and had to remember sexually abusive events in order to get better. Althaus in Case 5 became depressed over a family member's illness, but was informed by several mental health practitioners that she really was suffering from repressed memories of abuse and post-traumatic stress disorder. In all of these examples, each of the patients had entered therapy in search of relief from depression, anxiety, or guilt, but were instead diagnosed with MPD and blatantly told about memories of abuse that were repressed (despite having no such memories).

Secondly, in response to the initial suggestions of abuse and diagnosis of MPD, many of the patients expressed doubt over the therapist's assertion. Carl in Case 3 stated that she argued with the therapists that she didn't believe what she was being told, and that these alleged satanic abusive events had never occurred. Likewise, in Case 4, Halbrooks was placed in group therapy for parental sexual abuse, even though she denied having any memories. Althaus in Case 5 initially denied having any memories of childhood abuse despite her therapist's persistence that she was abused. In the remaining four cases, all of the patients also denied having any form of memory for the alleged traumatic childhood events, causing them to initially express doubt. However, many of them also noted that they placed an extraordinary amount of belief and trust in the practitioner.

Evidence surrounding the retention interval phase

In all of the cases the evidence for the retention interval is very compelling. After the initial suggestion of abuse by the therapist, in each case various techniques were used to help the patient to remember the unrecalleable

memories. In every case there were reports of suggestive techniques (i.e. memory recovery techniques) being used by the therapists. These methods ranged from hypnosis to guided imagery and from dream interpretation to drug therapy. In an attempt to foster memory recovery, a plethora of techniques were used with Carlson in Case 1. Both hypnosis and sodium amytal were used in conjunction with suggestive statements offered by the therapist. Additionally, Carlson imagined various abusive acts committed by numerous people, despite having no real memories. Books outlining abusive acts were offered as an exercise in memory recovery in that Carlson was told that if anything she was reading made her feel uncomfortable, then similar things had happened to her. Hypnosis and experimental levels of various medications were administered to Burgus in Case 2, who noted that under this regimen she began to confuse reality and fantasy. The predominant technique in Case 3 was also the use of extensive hypnosis. The recovery of memory for Halbrooks, Case 4, seemed to rely on the mixture of group therapy and the fact that all of the group members were reading the same books on childhood sexual abuse and SRA. The confluence of reading material and dream interpretation also appears to be the predominant technique used with Althaus in Case 5. Dream interpretation was also important in Shanley's experience (Case 6), along with the use of massive amounts of drugs and physical restraints. Finally, in Case 7 the mixture of hypnosis and drugs led to Cool's hallucinations, which were then interpreted as real memories. The use of hypnosis in these therapeutic situations was often not accompanied with any warnings about the risks involved or that the memories might be the result of imagination. In contrast, the memories that appeared under hypnosis were blatantly portrayed as factual events.

Evidence surrounding the retrieval phase

In all of the cases, the retrieval of the alleged fabricated memories did not occur immediately after therapy began. The course of memory fabrication appears to require both the use of suggestive techniques and an extended period of time. It seems that the amount of time that had passed before the individuals in our seven cases came to believe that the memories were real ranged from a couple of months to a year. Cases 1 through 7 all recovered memories of abuse that they did not have prior to entering therapy. Some of these recovered memories appear to have felt like very real memories, accompanied by vivid images and bodily sensations, while others appear to rely more on the firm belief that these horrible events had happened in the absence of this vivid conscious experience. Cases 1, 2, 3, 6, and 7 had all believed that they were all part of different intergenerational satanic cults, involving baby breeding,

blood drinking, cannibalism, murder, and orgies. Whether or not these beliefs were accompanied with false vivid recollections is unclear; however, it is clear that these beliefs dramatically altered their lives. Similarly, the woman in Case 5 claimed that she had given birth to three children and had murdered all of them (despite being only 16 years old), that she was raped in front of people in a crowded restaurant, and even that her grandmother flew around on a broom. In each of these instances the memories or beliefs were not present when the patient initially entered therapy, but only came into existence after the suggestive techniques were used for an prolonged period of time.

Despite the outlandishness of some of the claims, many of the therapists didn't doubt the veracity of their patient's memories, or didn't find it necessary to question them. Take, for example, this court statement by the therapist in Case 1, "I've never had somebody recover a memory that was wrong. I don't believe in false memories." In Case 3 one of the therapists testified that she believed the gist of the memories that Carl recovered in therapy, but didn't know if the specifics were accurate. It appears that this wasn't important for treatment. Althaus's practitioner (Case 5) claimed that it wasn't her job to investigate the veracity of her memories, only to treat her. However, this same therapist testified in court concerning the alleged parental sexual abuse, despite disallowing any input from the parents during the course of therapy. Cool, who thought she had over 120 personalities including angels and the bride of Satan, attests that her therapist uncritically accepted whatever came out of her mouth. This non-critical acceptance, and blatant belief that everything must be uncovered before the patient can get better, probably was a major contributor to many of these cases of fabricated memories.

Evidence surrounding the post-retrieval phase

Documenting post-retrieval factors is also important in gaining a finer understanding of false memories. Although the specifics are not clear in some of our cases, there do appear to be several factors that can account for the retraction of previously held memories and beliefs. First, several of the patients began to seriously doubt their memories when they were able to leave the therapists' influence. This appears especially to be the situation in Cases 2, 3, 6, and 7. Other patients started to question their memories after they stopped taking the massive amounts of medication that had previously kept them in a suggestive state, such as Case 1, while others began to wonder why everyone in their group had similar memories, such as Case 4. Finally, when Althaus in Case 5 had to be independently evaluated by a psychiatrist in the child abuse case against her parents, she came to realize that she was misdiagnosed with MPD and

that what she was reporting as memories weren't really memories after all. What this analysis suggests is that when the patients are taken out of the situation in which they are cut off from outside influences, given massive amounts of drugs, and extensively hypnotized, then they are able to think clearly again and seriously examine their claims.

Conclusion

The above analysis of the seven cases indicates that at least sometimes it is possible to ascertain with a reasonable degree of confidence that individuals who perceived themselves to have retrieved long-forgotten memories of abuse may be recalling suggested events and histories that were the product of questionable techniques. In the following analysis, we consider the possible mechanisms that could lead individuals to perceive themselves as having discovered long-forgotten memories of abuse that didn't actually occur.

POSSIBLE MECHANISMS THAT COULD LEAD TO DISCOVERED FABRICATED MEMORIES OF ABUSE

Next we will discuss the encoding, retention, retrieval, and post-retrieval factors that may have contributed to the discovery of the fabricated memories. Supplementary evidence from empirical studies of retractors will also be addressed when appropriate.

The encoding phase

As noted in all of the cases, the patients arrived in therapy with no memory of ever having been abused and no evidence that they had in fact been abused. Nevertheless a variety of conditions occurring during the process of therapy seem likely to have led to the encoding of memories that never actually occurred.

Therapist suggestion

The initial idea that people have hidden histories of childhood abuse is often suggested by the therapist, most often by therapists who have a strong belief that adult maladjustment and psychopathology are the result of childhood abuse and other trauma (e.g. Blume, 1990; Briere, 1997; McCann & Pearlman, 1990). In certain circumstances a variety of techniques, known collectively as memory work, are used to help patients recover, explore, and integrate traumatic memories (McCann & Pearlman, 1990). Although not every therapist adheres to this assertion, there are

many documented cases in which therapists have blatantly told patients, in the absence of any memory, that they were abused as a child and they need to remember what happened (Olshe & Watters, 1994; de Rivera, 1997; Lief & Felkewicz, 1995). This is especially notable in the cases reviewed above, such as Althaus, Burgus, and Carl. In a study of 40 retractors, 93% of the respondents recovered memories during therapy, and 89% of these stated that their therapist offered a direct suggestion that they were victims of sexual abuse prior to any recovered memories, despite the fact that they entered therapy for family or marital problems, depression, eating disorders, and anxiety-related issues (Lief & Felkewicz, 1995). In another analysis of retractors, many patients were told that they had the symptoms of someone who had been sexually abused, even though they had no such memory (de Rivera, 1997).

In medical malpractice cases against therapists, it is often the case that the therapists had an underlying belief that repressed memories of childhood trauma, and sometimes SRA, were the catalyst for current adult problems. This belief appears to be the rule rather than the exception in all of our cases of retractors. For example, Dr. Braun, a defendant in two of the cases, has published extensively on his view that MPD is caused by repressed memories of trauma (Braun, 1986), and played a key role in defining the modern approach to MPD.

Suggestions from authority figure

The encoding of false memories appears to rely on the suggestive influences coming from a respected authority figure. When a person enters therapy it is because the patient trusts and respects the therapist's expertise in the hope of being cured. For instance, one retractor stated, "I had doubts all the time, but I was told that this was my denial, my not wanting to get well. I believed the therapist. After all, who was I to question someone who was supposed to know everything? I looked at him as a god who could do no wrong" (Lief & Felkewicz, 1995, p. 424). Additionally, Lief and Felkewicz (1995) found that when retractors were asked what most influenced the development of their memories, the most common response was the therapist. In our case of Burgus, she explained that she was told that until she hit rock bottom and remembered everything, she would never get better. And, in the case of Carl, her therapist told her that unless she continued recovering memories about the abuse, she would remain in denial and wouldn't get better.

Indeed, Herman (1992) bluntly states that "the patient enters therapy in need of help and care. By virtue of this fact, she voluntarily submits herself to an unequal relationship in which the therapist has superior status and power" (p. 134). The former patient in Case 7 stated, "This type of therapy does the same thing to you. You believe it, you do what you're

told. It's like a guru-type of relationship you had with this physician and you trust him completely, and I did." It is important to note that the use of authority has been established as a key component in heightening interrogative suggestibility (Gudjonsson, 1992) and false confessions (Kassin, 1997a), suggesting that the similarity among these types of situations might be a viable avenue for future research.

Another factor that may contribute to memory fabrication that is related to the authoritarian nature of the relationship is when patients are deprived of contact with the outside world, either by becoming an inpatient or cutting off contact with family members who do not believe the memories. As an example, Shanley in Case 6 was not allowed contact with anybody outside of the dissociation unit as part of her treatment. She was also told that there would be serious consequences if she attempted to leave her voluntary confinement.

Uncertainty

People want to know why they are experiencing mental and emotional disturbances. This search for meaning makes people more susceptible to outside influences in the effort to construct a narrative to explain their current problems. These judgments of reality depend on the person's belief system, and if the therapist repeatedly asserts that the patient was sexually abused, this belief becomes instilled in the patient and the search begins. People start to hypothesize what happened for a sense of closure and relief, and the recovery of memories of abuse offers a solution to this uncertainty about the source of the patient's problems. As an example, when Carlson's therapist told her that her problems with unhappiness stemmed from MPD, her life made sense to her for the first time. She had been unemployed for four years and had been hospitalized five times for depression. The blame didn't fall on her, but on her alternate personalities, and this offered a sense of relief.

Reinterpretation of past events

People may have always had continuous recall of other non-abusive but unpleasant childhood experiences and reinterpret them as abusive if it has been suggested to them that they were abused. Memories of past experiences are distorted to make them congruent with present beliefs and attitudes (Dawes, 1989). In an effort to recover memories, other unpleasant experiences may be recalled under the guise of abuse, when in fact it may have been an innocent spanking or necessary enema. This appears to be true with one of de Rivera's (1997) cases, whose father spanked her and asked her to pull her pants down, and her mother gave her an enema at age 5. These events were reinterpreted as abusive when memory recovery became the goal of therapy. When another patient exerted effort in an

attempt to recover memories, she paid more attention to her dreams and strange sensations she had experienced since childhood (de Rivera, 1997). However, as noted by Lynn, Stafford, Malinoski and Pinar (1997) this patient's strange sensations are most likely attributable to sleep paralysis, but they were reinterpreted as memories of abuse since that was her predominant belief and attitude.

Books

Along with explicit and implicit suggestions of abuse, if a patient has a suspected history of childhood abuse she is often provided with books about incest, repression, MPD, or SRA. A widely known example is Bass and Davis's (1988) *The Courage to Heal*. In the absence of any true memory, these books provide schemas of childhood abuse that patients may later use in reconstructing their past. In Lief and Felkewicz's (1995) analysis of retractors, 75% had read *The Courage to Heal* and 80% reported reading other self-help literature. In particular, one retractor noted that her therapist had her read several books and take notes: "He provided reading materials, books, articles on MPD, PTSD, Satanism" (de Rivera, 1997, p. 428). Humenansky gave Carlson *Sybil* to read, and told her that anything in it that startled or offended her was probably something that happened to her that was a repressed memory; she also read *The Courage to Heal* and *The Three Faces of Eve*. Carlson says that she was also given videotapes, and that if she felt any physical discomfort while watching them it was a sign that those things had happened to her. Humenansky based much of her practice on *The Courage to Heal* and *Sybil*, and said that she was also influenced by watching the authors on television talk shows. Halbrooks in Case 4 says that most of her satanic memories came from materials she had read, saw, and discussed.

The media

A final factor that may play an important role in the encoding of false memories is that many false beliefs about MPD and SRA are propagated by the media. Talk shows have featured individuals who claim to have forgotten horrific childhood events, and have remembered the episodes through hypnosis or through the diagnosis of MPD. Yet, no mention is made that the validity of MPD has recently been called into question; most specifically the underlying claim that MPD is the result of repressed childhood abuse (Hacking, 1995). With such a positive and reinforcing response and a community of believing — almost a celebration — it is easy to see why some people have the desire to remember such events and lack the critical defenses to prohibit such false memories. Like reading material, the media coverage of MPD and SRA provides people with schemas of what should happen in these circumstances, providing

material for future patients to use to incorporate into their own memories. For instance, Halbrooks (Case 4) realized that something was amiss when she found that her memories were similar to those of other people in her survivor group — all the memories of SRA followed a similar pattern. This observation suggests that people have the schematic information to use in discovering fabricated memories.

The retention interval phase

In addition to encoding factors, there are several factors that encourage the growth of the memory during the retention interval. Memory work, unfortunately, contains many elements that are very suggestive, sometimes yielding memories that are grossly distorted or false outright (e.g. Kihlstrom, 1997; Lindsay & Read, 1994; Loftus & Ketcham, 1992). So, in an attempt to help patients get better, therapists may unknowingly (or knowingly) incorporate techniques that have been shown to generate inaccurate and blatantly false memories. It is clear that these techniques increase the risk of distorted or false memory, because they create, and capitalize on, the conditions for interrogative suggestibility to occur in therapy (Shobe & Kihlstrom, in press).

In one study of retractors, it was found that 78% of the sample experienced deep relaxation, 75% age regression, 73% guided imagery, 70% dream interpretation, and 68% hypnosis techniques in therapy (Lief & Felkewicz, 1995). These techniques often suspend reality orientation and lower critical judgment and deserve further consideration than is currently allowed in our discussion.

Hypnosis

A prominent view of trauma therapists is that hypnotic techniques help patients access repressed and dissociated memories (Dolan, 1991; McCann & Pearlman, 1990). A trance state is induced, and then several techniques may be used to help patients to remember. A common approach is to use age regression in which the client is told that she is getting younger and younger, back to the time of the trauma. At that point the person becomes the child once again and talks about what she sees. Or, screen techniques require the patient to project the traumatic images or thoughts onto an imaginary screen. The images and thoughts do not have to be accurate portrayals of the traumatic event that is remembered; they can be whatever the patient chooses (Pricc, 1986).

The social context of hypnosis increases the suggestibility of the hypnotized person. To demonstrate, when subjects were given pre-hypnotic suggestions that being hypnotized would help them to remember past lives, the type of lives remembered was dramatically influenced (Spanos,

Menary, Gabora, Dubreuil, & Dewhirst, 1991). The social context contained within the hypnotic setting suggests to people that they should adopt a lax standard for distinguishing between reality and fantasy, making retrieval of false memories more likely. To highlight this concern, several professional institutions have issued guidelines about hypnosis and suggestibility such as the American Society of Clinical Hypnosis, the American Psychological Association, and the American Medical Association. The suggestive effects of hypnosis on memory have been discussed elsewhere (Lindsay & Read, 1994; Orne, Whitehouse, Orne & Dinges, 1996).

Indeed, it is hard to find a case of false memory, through retractors and legal cases, in which hypnosis was *not* used. In Case 7, Cool's psychiatrist put her under hypnosis, during which she revealed 126 separate personalities that were allegedly brought on by childhood sexual abuse. The use of hypnosis in malpractice cases is the rule rather than the exception — hypnosis was used in every single case, leading people to develop alternative personalities and remember SRA. In Carlson's case, she said that the psychiatrist used hypnosis and a "truth serum" to help to recover previously unimagined memories of abuse by her family members as part of satanic cults. One retractor noted, "my therapist insisted that hypnotically induced memories were true memories" (Lief & Fetkewicz, 1995, p. 427). Another retractor stated that "after arguing for two or three months with the therapists that I had no memories, I guess I broke. Then he got me to do hypnosis. I left thinking I had been satanically abused, hung up, taped, hot wax poured on me" (Lief & Fetkewicz, p. 425).

Medication

In therapy, medication is often given to treat depression and other problems. However, when large doses are given, patients become more receptive to suggestive techniques. This appears to be true in many of our cases. Burgus states that reality and fantasy blended together as she received high doses of medication along with hypnosis. A recent complaint against Dr Braun by the Illinois Department of Professional Regulation states that Burgus received Inderal, Halcion, Xanax, sedatives and hypnotic psychotropic drugs from Dr Braun, at doses at experimental, untested, and medically inappropriate levels. The Board also noted in their complaint that Dr Braun prescribed these medications knowing that they would increase the patient's vulnerability to suggestion. Similarly, Shanley alleges that at one time her already high levels of medication were increased further to produce more memories of her involvement in the satanic cult. Carlson in Case 1 also received strong medications such as Valium, Halcion, and Xanax (benzodiazepines), Ativan for anxiety, Pamdior, Desyrel, Prozac for depression, and Restoril for insomnia. Under

the influence of these drugs, it isn't surprising that Carlson remembered bizarre and implausible events.

Repetition

The use of suggestive techniques increases familiarity and confidence, and creates source confusion. The more a fictitious image or fragment is used, the more likely it will be accepted either by the process of repetition or through source-monitoring difficulties. So, when patients are repeatedly trying to uncover images or memories, whatever is uncovered will seem familiar and valid. Similar to Dywan's (1995) illusion of familiarity, during hypnosis when a person attempts to retrieve information, the items remembered are generated more vividly and with greater fluency and are more likely to induce the feeling of familiarity. Familiarity is an important component in determining the status of a memory (Mandler, 1980) and if a false sense of familiarity is capitalized upon, then the resulting decision may be inaccurate (Park, Shobe & Kihstrom, 2001).

Visualization

Many of the techniques used in memory recovery rely on visualization and imagination. A prominent technique is guided imagery, which begins with the patient picking a focal point and allowing himself to imagine what would have happened next (McCann & Pearlman, 1990). The truth about whatever the patient remembers while imagining usually waits until later. This exercise may provide the impetus for feelings of familiarity associated with the projected images and thoughts, making it later difficult to decide the validity of the memory. In a compelling laboratory demonstration, the mere act of imagining a childhood event that didn't occur increased subjects' confidence that it did indeed occur (Carry, Manning, Loftus & Sherman, 1996). Another problem with visualization techniques is that each reevaluation of a suspected event increases the perceptual detail that accompanies it, diminishing the ability for source monitoring (Johnson, 1988).

Take, for example, Case 1, in which Carlson did visualization exercises at the urging of her therapist, imaging scenes of abuse by various people. Carlson says that after using this technique she came to remember being molested by 50 relatives. Another technique used was guided imagery, in which Carlson was talked through an imaginary scene in order to uncover buried memories. It is through this exercise that Carlson remembered cannibalism.

Dreams

Dream content is sometimes interpreted to reflect repressed childhood events (Williams, 1987). It has been suggested, by a well-read author, that

repressed memories often surface through fragments or symbols, suggesting that dreams can be a gateway to repressed memories (Fredrickson, 1992). Despite this assertion, it has been demonstrated that the verifiability of flashbacks and dreams even in people who have documented trauma is suspect (Brenneis, 1997; Frankel, 1994). A therapeutic situation in which memory recovery is the central focus can be detrimental as well. The dream content of a group of college students in group therapy was determined by the person's pre-sleep experience (Berget, Hunter & Lane, 1971). The material that was aroused during the therapy sessions was represented and worked over in the dreams, such that the content of the dreams was related to the material discussed in the preceding group session. So, if a therapist suggests that a patient was abused, this suggestion may become the basis for future dream content, even if it is false, strengthening the memory. Finally, dream content is mistaken for real memories.

Several cases of retractors in malpractice suits exemplify this concern. Shanley reports that her psychiatrist informed her that dreams of abuse are real memories and that she should believe them. Additionally, after it was suggested to Althaus that she was abused, she began to have nightmares about being abused, especially after she was given several books with detailed descriptions of abuse cases. The therapists then took these dreams as a sign that her recollections of abuse were returning. After the dreams began, during an interview with police Althaus said that she had been abused. Yet, during the trial when her attorney asked her if it had ever happened, Althaus responded, "No, I was more or less reporting what was in my dreams."

The retrieval phase

Vague memories and source-monitoring failures

When fabricated memories are first "uncovered", they are usually vague and fuzzy, but this usually doesn't deter the therapist from accepting them as valid and providing encouragement for new memories. Indeed, some sources promoting memory retrieval techniques claim that memories uncovered will be vague, sketchy, and hazy, even after many workings and, moreover, that these qualities signify the authenticity of the memory (Bass & Davis, 1988). One patient in de Rivera (1997) had no clear memories, but had sensations, feelings, and fuzzy dreams that were interpreted as veridical memories signifying that abuse had occurred. In Shanley's court testimony in the criminal case of Spring Shadows Glen, she said that when she expressed doubts about her satanic abuse memories her therapists would threaten her if she tried to leave.

Additionally, it appears that false memories arise from a blending of information that was both experienced and imagined, further making source monitoring difficult. This blending can have detrimental effects when therapists take the memory at face value. When Burgus's sons in Case 2 were hospitalized for three years under Braun's care, they were encouraged to develop alter personalities and remember episodes of abuse, receiving stickers when they told "yucky secrets". Interestingly, during court testimony, Dr Braun gave one of 5-year-old John's memories as proof of satanic activities — sticking a knife in a man's abdomen and how the intestines popped out and smelled terrible. This story could only come from direct experience, Braun said. Burgus says that she informed Braun that her son had seen a Star Wars movie in which something similar happens, in which Luke Skywalker cuts open the beast he was riding, all the guts spill out and he comments on how rancid it smells. Braun didn't think to consider that John's memory was taken from the movie.

Reinforcement

Another factor in the final acceptance, or retrieval of fabricated memories is reinforcement, whether it is through explicit or implicit feedback. This reinforcement of memory recovery supports a confirmation bias as well. Many retractors were rewarded with attention and care when memories were recovered, especially the more traumatic the memories (Lief & Fetkewicz, 1995). Rewards and encouragement were given in response to recovered memories. "The sick thing about this was that I was getting a lot of attention ... and so I continued the process", states a former patient in de Rivera (1997, p. 284). This reinforcement of recovered memories creates a high demand for patients to remember. However, there is evidence that high demand to remember events that are implausible actually increases the probability that they will be "remembered" (Green, Lynn & Malinoski, 1998). In these experiments, subjects initially reported their earliest memory, and then were told to visualize, focus, and concentrate to remember earlier memories. Subjects in the condition with a high demand to remember reported their earliest memory at 2.8 years, down from 3.7 years. The lowest memory age was 1.6 years. Subjects in the low demand condition went down to only 3.45 years. In other words, a high demand to remember lowered the earliest memory reported to an age where it seems unlikely that the memory was valid.

Group therapy

Often when a person has a suspected history of childhood abuse, she joins a support group at the suggestion of her therapist. The goal of this group therapy is to help the patient to remember and recover, even if she has no firm memory of abuse. In this situation material from other members in

the group can become blended into the memories recovered by the patient, especially when there is peer pressure from the others to remember, only to be reinforced and accepted when memories are recovered. In Cases 2 and 4 the former patients eventually entered group therapy with other MPD patients and noted the influence of group therapy on their memory recovery.

Non-critical acceptance of memories

Finally, false memories of SRA supported by the diagnosis of MPD would not be able to propagate without the unabashed acceptance by therapists. This relates to the difference between historical truth and narrative truth (e.g. Spence, 1984), and while it can be debated whether or not it is the clinician's responsibility to determine if uncovered memories are veridical, when so much devastation results from these memories it is hard to see why they are not concerned with their accuracy. As Peterson, a defendant in Case 3, noted during trial, "They bring the content to therapy. The therapist does not." Or, "memories like these can't be implanted. You have to experience it," and "It came out of her mouth". Statements such as these signify the role of the therapist in validating the fabricated memories. As another example, a retractor noted, "I had many, many doubts, but my therapist didn't respond well to my doubts. She seemed more interested, more responsive, and more sympathetic if I suspected abuse...finally I gave in..." (Lief & Felkewicz, 1995, p. 423).

Interestingly, most of the literature on memory work does not address or explore the issue of alternative explanations. Of course, the therapist's task is not determine if the historical truth is accurate, but rather if the narrative truth makes sense. However, Burgus noted that her psychiatrist told her that the memories being uncovered represented real memories of actual historical events and that she was the only one questioning the validity of the memories. Burgus was never advised about the possibility that the memories may be due to the suggestive techniques she experienced, nor was she ever told about the debate within the mental health community about the MPD diagnosis. And, in Carl's case, her therapist testified that she didn't know if the specific memories Carl recovered in therapy were true, but said she believed the gist of them. Moreover, therapists never warned her that the memories she recovered through hypnosis and other forms of psychotherapy might be unreliable.

Similarly, in the case of the young patient Althaus, the Althaus contend that Cohen failed to consider that the allegations were being made up or were false, and that her inaccurate diagnosis caused Nicole to hold these false beliefs. No alternative explanation of Althaus's psychological state was ever examined or investigated, and eventually the psychiatrist was found liable of negligent treatment for the increasingly

bizarre allegations made by Althaus. Non-critical beliefs such as these on the part of the treating mental health worker lay the groundwork for the creation of fabricated memories.

Additionally, in many of the documented false memory cases, no informed consent was given to patients about the use of memory recovery techniques such as hypnosis, and the controversial nature of the MPD diagnosis. In several cases the defendant therapist failed to inform the patient that the techniques used were unsupported by any reliable scientific evidence or that the diagnoses were controversial (Cases 2, 3, 6, 7). The non-critical acceptance of recovered memories was also the focus of a complaint filed against Bennett Braun, a treating psychiatrist in two of our cases. The negligence cause of action included the implantation or encouragement of false memories of childhood abuse through the use of suggestive techniques. This indictment also seemed to suggest that the therapist knew of the suggestive nature of his techniques, but didn't stop to consider the validity of what was being reported or express concern to his patient.

The post-retrieval phase

None of the cases in our case based analysis would be available if those involved had never begun to doubt their memories and retract their claims. The process of retraction that occurs during the post-retrieval phase is just as important to our analysis as the creation of the false memories. However, the available evidence for this end of the process is not as extant as the evidence for the suggestive influences used to form the false memories. How does a person become to doubt his or her own memories? Carlson stated that she came to realize the absurdity of the memories after she stopped taking some of her medication, and during group sessions she started to note certain things. All of the participants had similar abuse memories, and those memories seemed awfully similar to the stories in the books they read. Eventually, one woman admitted to making up an alter, and that got the ball rolling. Carlson phoned Humenansky to make an appointment, and at that point Humenansky forbade all further contact between the two. And in another case, Burgus states, "I started to check out certain things that we had now based our lives on, these horror stories. I couldn't find any proof of anything."

Several cases from de Rivera's (1997) analysis of retractors highlight important factors in the retraction process. One former patient's husband warned her off medications and made her stop going to group meetings. Another's new therapist taught her to deal with current problems and doubted her belief in abuse. Finally, while hospitalized and after she stopped taking medication, another former patient with the help of a

friend realized that flashbacks of giving birth at 13 were flashbacks of actual birth of her daughter. This undermined her entire belief system. It appears that when the suggestive influences are withdrawn, people are able to examine their memories critically.

Caveats

This review of possible mechanisms derived from a qualitative analysis of seemingly false memory cases suggests a host of encoding, retention interval, retrieval, and post-retrieval factors that provide the fertile ground in which discovered false memories may be planted, raised, and harvested. Despite the promising nature of this analysis, we again must emphasize the preliminary nature of this analysis and the need for caution in interpreting the cases and mechanisms suggested. As a number of authors have articulated, there are inherent challenges in the analysis of retractor cases in general, and against specific articles particularly due to methodological problems, including representativeness, sample size, interviewing technique and, objectiveness (e.g., Coons, 1997; de Rivera, 1997; Gudjonsson, 1997; Kassir, 1997b). Future expansions of case-based evidence for false memories might profitably compare cases of discovered memories on the basis of whether or not corroboration of the memories can be found. If certain conditions are found to be more likely associated with memories that are corroborated, and other conditions associated with memories that tend to be uncorroborated, then this would provide important additional insights into the factors that may particularly lead to false memories. Indeed, one very strong prediction that emerges from the above analysis is that memories that are discovered outside of the context of therapy should on average be more likely to be potentially corroborated than those that are discovered within the context of aggressive memory recovery therapy. It is also important to determine whether corroboration can ever be found for the abuse memories of individuals who ultimately retract their memories. Although we think it is reasonable to assume that the former abuse memories of retractors, for which no corroboration exists, are often likely to be false, it cannot be assumed that a memory was necessarily false just because it was retracted. Indeed, it seems quite plausible that many of the same mechanisms such as suggestions and pressure from authority figures that can lead to the formation of false memories of abuse, might also lead to the retraction of real memories of abuse.

CONCLUSIONS

This review of the case-based approach to the study of authentic and fabricated discovered memories highlights the utility of the approach in

gaining a finer understanding of the encoding, retention interval, retrieval, and post-retrieval mechanisms that may contribute to such memories. Undoubtedly some readers steeped in the experimental tradition, and (probably others as well) have serious misgivings about aspects of the case analysis described here. How do we compare case studies involving retrospective reports of experiences that often occurred many years prior to controlled experimental studies? How do we determine the standards of evidence in qualitative cases? How do we deal with issues of replication and accessibility of data? How do we separate the scientific issues under question from the legal, political, and ethical issues that surround this controversy? These are just some of the reasonable concerns that individuals might voice about the approach presented here.

As experimental psychologists, we are extremely sympathetic to the above concerns and indeed have grappled with them seriously ourselves. Ultimately, we believe the issue of how exactly to fit case-based analyses into the science of psychology is a question which remains to be resolved. Clearly, some headway on this matter can be made by conducting more extensive studies, with larger populations, an explicit sampling procedure, and coders who rate the strength of the corroboration blind to any additional information associated with the case. However, even with such measures, many of the limitations to the case study approach will remain. Nevertheless, it must be emphasized that the case study approach, despite its many imperfections, addresses issues that are especially elusive from the perspective of a strict experimental approach. Experimental investigations of the processes that might lead to discovered authentic memories are fundamentally limited by the time scale of the process, the trauma of the experience, and the ecological settings in which such memories are formed and retrieved. Experimental investigations of discovered false memories are constrained by ethical limitations in the degree of coercion that can be applied and the types of experiences that can be suggested. (Not to mention the huge amount of time necessary to mimic the amount of effort often expended in therapy before recovered memories are "found".) In short, despite their imperfections, case studies are strongest precisely where experimental studies are weakest, as they provide a natural opportunity to study the recollection of memories that (at least sometimes) can be shown to be associated with highly traumatic experiences and/or highly suggestive therapeutic practices.

Although both the experimental and the case-based approaches have severe limitations, ultimately the combination of the two approaches offers great promise. There are many ways in which at least some of the hypotheses suggested by case-based studies might profitably be explored in the lab. For example, if, as the case-based analysis suggests, discovered memories of trauma can result from dissociations between consciousness and

meta-awareness, then similar dissociations might also be seen in the laboratory. Similarly, if individuals can confuse the discovery of a new understanding of an experience with the discovery of the memory itself, then similar discovery misattributions should be producible in the laboratory (see Schooler, Dougal & Johnson, 2000). The implications of laboratory studies might also be profitably applied in case studies. For example, recent investigation by Wegner, Dunn and Schooler (2000) suggest that the act of trying not to think about highly unlikely experiences actually increases individuals' subsequent estimation that those experiences actually occurred. Such findings suggest that cases in which individuals reported having received suggestions of abuse, and then subsequently tried not to think about it, might be associated with memories that are especially difficult to corroborate. By using the two approaches in tandem, the field may be able to move beyond the polarizing questions of whether recovered memories are authentic v. false, or whether laboratory v. case-based studies are the more appropriate forms of evidence in this controversy. Instead, drawing on the unique strengths of each approach we may begin to understand how individuals can come to discover memories of abuse that are sometimes grounded in fact and at other times only fiction.

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