

***Taking the middle line:
can we accommodate both fabricated and
recovered memories of sexual abuse?***

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Psychology is currently in the midst of a fundamental paradigm clash between clinical and experimental views regarding the status of recovered memories of sexual abuse. Many practising clinicians, relying on their own personal experiences, have come to the conclusion that recovered memories of seemingly long-forgotten sexual abuse should generally be considered valid (for example Bass and Davis 1988; Blume 1990; Harvey and Herman 1994; Olio 1994). At the same time, many experimental psychologists have argued, on the basis of the extensive empirical research on memory distortions, that these so-called recovered memories may often be the product of therapists' suggestions (for example Ceci *et al.* 1994a; Dawes 1994; Holmes 1990; Lindsay and Read 1994; Loftus and Ketcham 1994). The discrepancy between these two perspectives is rather extreme and exacerbated because each side of this debate is anchored in a particular epistemological view of what constitutes meaningful evidence, with each discounting the evidence promoted by the other side. For example, clinicians are frequently wary of the applicability of the findings of laboratory studies to their own clinical practices. On the basis of such reasoning, Harvey and Herman (1994, p. 4) argued 'there is no evidence to suggest that psychotherapists have the degree of power and influence that would be required to produce this [fabricated memories] effect'. In contrast, experimental researchers are trained to rely on solid experimental evidence in order to support psychological claims. From this perspective, Holmes (1990, p. 97) recently dismissed the notion of repression observing that 'there is no controlled laboratory evidence for repression'. Holmes (1990, p. 97) further discounts clinical observations suggesting that they 'cannot be counted as anything more than unconfirmed clinical speculations, certainly not as evidence for repression'. Although Holmes's dismissal of the clinical evidence for repression does not necessarily rule out the possibility that recovered memories of sexual abuse might be authentic, it has certainly been used as a strong argument for questioning their validity (cf. Loftus and Ketcham 1994).

In reviewing the evidence on this debate it is difficult to avoid being biased by one's training and professional experience. It is understandable

that clinicians, many of whom have encountered individuals who they believe to have recovered actual memories, would be sceptical of the applicability of laboratory research in discounting their professional conclusions. On the other hand, experimental researchers are understandably wary of the biasing influence of various judgement heuristics (for example confirmation bias (Dawes 1989)) that can confound conclusions not founded in controlled experimentation. Such biases could readily influence the judgements of clinicians, thereby bringing their conclusions regarding the validity of recovered memories into doubt (Dawes 1994; Lindsay and Read 1994). Moreover, the vast scientific documentation of the extent of memory distortions, further fuels researchers' views that recovered memories may simply be the product of suggestion.

Admittedly, the two camps are perhaps not quite as clearly delineated as the above discussion might imply. For example, there are a few experimental researchers who have taken more sympathetic views of the likelihood of authentic recovered memories (cf. Mandler 1995; Morton 1994; Lindsay and Read, 1995; Schacter 1995), including some whose position more closely approximates that of the clinicians (for example Freyd 1994; Pezdek and Roe 1994). There are also some clinicians who have emphasized the dangers and sources of memory fabrication (for example Brown 1995; Haaken and Schlaps 1991; Yapko 1994). Moreover, many discussants from both 'camps' take less extreme positions than those quoted above. Nevertheless, even when writers on the topic attempt to take a more balanced view, their discussions typically take the form of a forceful argument for one alternative, only slightly tempered by conceding the possibility of the other. How should we proceed to reconcile this debate? The magnitude of the rift is sufficiently great that it is tempting to throw up our hands, ignore the other side, and simply continue to communicate with that population of the field with whom we identify. It was, arguably, this belief that 'we will never see eye to eye' that led researchers, disenfranchised with the increasing clinical orientation of the American Psychological Association, to establish a new organization of the American Psychological Society, specifically dedicated to the values and orientations of the psychological research community. More recently, this oil and water quality of the two sides of psychology was revealed by the failure of an APA panel to reach consensus on the recovered memory debate. Instead of presenting a general conclusion, this committee has had to settle for two disparate sets of conclusions: one by the researchers on the committee, the other by the practioners (American Psychological Association 1996).

Unfortunately, the field cannot afford to just agree to disagree. There is simply too much at stake. Our credibility as a scientific discipline is jeopardized if we cannot determine a way to progress in deciding the status of a phenomenon that has been engendering widespread public attention. There are also major legal decisions that need to be reconciled. At the moment many states have introduced laws that make exemptions to the statute of limitations for recovered

memories of sexual abuse. Finally, and perhaps most important of all, are the personal tragedies of individuals who may have authentic 'recovered' memories, as well as accused parents etc whose lives may have been torn apart as the result of a mere fiction.¹

In short, the status of recovered memories of sexual abuse is an issue that demands that we consider all available evidence, whatever form it may take. We must avoid behaving like the proverbial drunk who, upon losing his keys in a dark area, looks for them under a lamp post because 'the light is better'. We cannot afford to only look at that side of the issue that best suits our own professional training. We need to look everywhere, even if it requires adopting new methodologies and sources of evidence. In this chapter we attempt some first steps toward developing a line of analysis that may open a meaningful dialogue between researchers and practioners. Although we have no illusions that this chapter will completely bridge the gap between the two views, we hope to begin to establish a foundation upon which such a bridge may some day be built. Toward this end, we first review the substantial scientific evidence suggesting the powerful role that memory suggestions have in planting fictitious memories of sexual abuse. In this section, we hope to impress on researchers that we are sensitive to the important implications of this literature (indeed the first author has spent most of his career inducing memory distortions). We also hope to at least begin to persuade practioners that there is a real risk that therapists may unknowingly plant suggestions that can lead to the subsequent flourishing of fabricated memories of abuse. We then turn to the existing evidence for recovered memories of abuse. Our conclusion from this section is that although the documented evidence for the factual basis of such memories may be scant, this absence of support may be more a reflection of the quality and extent of prior investigations rather than of the existence of the phenomenon itself. In support of this view, we introduce four cases of recovered memories of sexual abuse for which we personally were able to find corroborating evidence. We consider these cases in light of the various mechanisms that might contribute to the production of recovered memory experiences. This analysis suggests that recovered memories may involve a disparate set of mechanisms, some of which are well established in standard memory findings, some of which require new twists to old findings, and some of which may require the discovery of processes potentially more unique to this situation. We take on this discussion with some trepidation, as we know from experience that this is an explosive topic, laden with emotional mines and conceptual pitfalls. None the less, the seriousness of this topic demands that we find some common ground, even if it requires charting unfamiliar territory.

1 It is important to emphasize here that no one is questioning the validity of the memories of individuals who have maintained intact memories of their abuse throughout their lives. Rather the question involves the status of recovered memories of events believed to have been long forgotten and then suddenly remembered.

EVIDENCE FOR FABRICATED MEMORIES OF SEXUAL ABUSE

We begin our discussion by exploring the various sources of evidence that recovered memories of sexual abuse might, at least sometimes, be entirely fabricated. The malleability of memory represents one of the fundamental findings of cognitive psychology over the last 50 years. From early research on the impact of schemas (for example Allport and Postman 1947, Bartlett 1932) and retroactive memory interference (Barnes and Underwood 1959, McGeoch 1942), to more recent research on misinformation (Ceci *et al.* 1994b; Loftus *et al.* 1989a) and source monitoring (Johnson and Raye 1981; Johnson *et al.* 1993), the converging finding is that memory is highly susceptible to change. This absolutely fundamental aspect of memory has enabled experimental cognitive researchers to readily appreciate the possibility that recovered memories might be fabricated. Indeed, memory malleability is so ingrained in cognitive psychology's basic conception of memory that it has come as somewhat of a surprise to many of us that anyone would doubt that such processes could apply in clinical settings.

Our case for the likely role of fabrication in some recovered memory cases draws on several distinct strands of evidence. First, there is the research from cognitive psychology labs indicating that the mind is capable of confusing fact with fantasy. Second, there is the frequent usage in therapy of practices, such as suggestion and hypnosis, known to produce memory fabrications. Third, there are the various clinical cases of memory recoveries of incredible events, such as alien abductions, that seem best explained in terms of memory fabrication. Fourth, there is the testimony of retractors who believe that they were led to fabricate memories of abuse. And finally, there is the powerful lessons from history on the dangers of discounting individuals' susceptibility to persuasion. We briefly consider each of these sources of evidence in turn.

Cognitive evidence for memory fabrications

There is now a substantial body of research documenting the degree to which individuals' memories can be distorted by the suggestions of others (for a recent review see Garry *et al.* 1995). The resulting memories can be held with as much confidence as real memories (Loftus *et al.* 1989a), can be described in marked detail (Schooler *et al.* 1986, 1988) and are as likely as real memories to be maintained in the face of contradictory information (Loftus *et al.* 1989b). Although much of the research on the impact of misleading suggestion on memory has focused on the altering of relatively minor aspects of individuals' memories, recent research has documented more extensive memory distortions. For example, as a result of suggestions, individuals have come to remember entire childhood events such as being lost in a shopping mall (Loftus and

Ketcham 1994), spilling punch on the bride at a wedding (Hyman 1995), and going to the hospital after getting a finger caught in a mouse trap (Ceci *et al.* 1994b). In a recent particularly compelling example, Kelley and Lindsay (described by Lindsay 1994) found that an experimenter's suggestion caused many right-handed subjects to falsely remember that they had once been left handed! Like their more modest counterparts, these extensive fabricated memories can be described in great detail and maintained in the face of contradiction (Ceci *et al.* 1994b).

In addition to external sources, memory distortions can also arise from individuals' own beliefs, expectations, and motives. When we recall information, we are constantly attempting to fit it into a coherent life narrative (Nelson 1993; Ross 1989). In order to make sense of and fill in the details of their life experiences, individuals often unwittingly introduce memory distortions of their own. One important source of such distortions is general knowledge of different types of generic situations ('scripts') and the events that such situations typically involve (for example Schank and Abelson 1977). Such scripts can enable individuals to supplement their memories with non-factual details (for example Bower 1990) and can even provide the fodder for generating recollections of entire events that never actually occurred (for example Neisser 1981).

The above memory distortion processes can be exacerbated by a variety of individual and situational variables. Suggestions are particularly likely to be incorporated into memory, when introduced: after a significant delay (Loftus *et al.* 1978) by a credible authority (for example Dodd and Bradshaw 1980), or under hypnosis (Orne 1979). Individuals with high trust in authorities, vivid imagery skills, or who score particularly highly on suggestibility or dissociative experience scales are also particularly likely to incorporate suggestions into memory (see Gudjonsson 1992; Hyman and Billings 1995; Schooler and Loftus 1993).

In short, the cognitive literature suggests that people are extremely vulnerable to memory distortion processes, and further helps to indicate what some situations are that are most likely to elicit memory distortions. Particularly critical factors appear to be: the occurrence of leading suggestions from a credible source, the significant passage of time since the original experience occurred, a script for the experience, and a propensity for suggestion either as result of personality factors or through hypnosis. Alarming, all of these factors appear to be present in at least some clinical settings, a topic that we turn to next.

Therapy practices

Recently there have been several surveys of licensed clinicians to determine extent of usage of therapeutic techniques that the cognitive literature suggests may be capable of inducing false memories of abuse (for example Polusny

and Follette 1996; Poole *et al.* 1995; Yapko 1994). In a random survey of licensed clinicians from both the US and Britain, Poole *et al.* found a majority of therapists (71 per cent) reported using at least one memory recovery technique to help patients recover memories of abuse. Techniques used in the service of recovering abuse memories included hypnosis (29 per cent), dream interpretations (44 per cent), and the presentation of family photographs as memory cues (47 per cent). Most alarmingly, Poole *et al.* found that 25 per cent used a combination of these techniques as well as endorsing a variety of sentiments suggesting a focus on memory recovery (for example recovery is important for therapy effectiveness, they were sometimes fairly certain about non-reported sexual abuse after one session). These therapists estimated that on average 60 per cent of patients who initially denied any memory of abuse eventually recovered them during the course of therapy (as compared to 35 per cent for therapists who did not show this constellation of beliefs and practices).

One possible criticism of the Poole *et al.* study is that they did not clearly distinguish in their questionnaire between using memory recovery techniques with patients who had no memory of abuse versus patients who may have had some memories of abuse. A number of therapists have pointed out to us that while they are reluctant to use memory techniques on patients denying any abuse, they still feel it is appropriate to use such techniques on patients who already possess abuse memories. However, a more recent survey of licensed clinicians by Polusny and Follette (1996) suggests that a substantial minority of clinicians still reported using a variety of techniques when explicitly asked to indicate 'the MEMORY RECOVERY TECHNIQUES you use with adult clients *who have no specific memory of childhood sexual abuse but who you strongly suspected were sexually abused*'. Using this more stringent criterion, this survey still found substantial usage of a variety of potentially suggestive techniques including recommending books on sexual abuse (33 per cent), guided imagery (27 per cent), hypnosis (20 per cent), and even referral to sexual abuse survivor groups (29 per cent).

In light of the cognitive literature reviewed earlier, the use of memory recovery techniques for the specific purpose of recovering memories of sexual abuse that are unbeknownst to the patient seems quite dangerous indeed! Recommending sexual abuse literature or participation in survivor group clearly communicates to patients that the therapists suspects abuse occurred, i.e. it plants a powerful suggestion from a trusted authority. Techniques such as guided imagery and hypnosis greatly enhance suggestibility. Actual participation in a survivor group or reading books about sexual abuse provide patients with the necessary knowledge regarding the 'scripts' of sexual abuse. In short, while such suggestive techniques might sometimes aid in the recovery of long-lost memories, they represent the very type of procedure that cognitive psychologists would likely recommend if one explicitly wanted to plant a false memory of abuse.

Memories of the incredible

Although there is compelling evidence that individuals can readily distort their memories, and although evidence suggests that the necessary ingredients for the planting of such memories occur in therapy, it still might be questioned whether such processes could lead to the fabrication of memories as significant as being sexually abused (cf. Harvey and Herman 1994). However, consideration of the incredible things that individuals have come to falsely remember suggests that there is no limit to the magnitude of events that can be fabricated in memory. For example, individuals have been known to report recovering memories of having been visited or abducted by space aliens (Persinger 1992) and being stuck in the fallopian tube (Loftus and Ketcham 1994).

Perhaps of all the implausible memories that individuals have been encouraged to remember, the most frightening are the recovered memories of satanic rituals (Ofshe & Waters 1994). Countless patients have been diagnosed as victims of satanic ritual and caused to recall their experiences of abuse. (For a particularly alarming example of this process see *Frontline*, November 1995.) Such recollections have caused patients to be committed to institutions for extensive treatments for years on end. Although the recollections of such abuse are widespread, the evidence for it is scant at best. Indeed, a recent seven year FBI investigation of more than 300 alleged cases of satanic abuse failed to find any substantive evidence of satanic ritual abuse (Lanning 1989). While it is possible that the absence of evidence for such abuse is the consequence of the remarkable cunning of satanic groups, it seems far more likely to be the result of the over-zealous imaginations of certain therapists (see Bottoms *et al.* in press).

Recoveries of memories of the implausible often resemble, in a variety of significant ways, recoveries of memories of sexual abuse. For example, Persinger (1992) found that recovered memories of having been visited or abducted by space aliens were similar to some recovered memories of sexual abuse occurring in survivor support groups, in that they were (1) elicited following the suggestions of the leader of a group, (2) 'remembered' suddenly, (3) associated with a reduction of anxiety and panic attacks, and (4) accompanied by subsequent recollections of additional 'memories'. Others have also noted that recovered memories of implausible experiences such as alien abductions, intruterine trauma, or satanic cult sacrifices, like recovered memories of sexual abuse, often involve great distress (cf. Lindsay and Read 1995). Our point in making the comparison between recovered memories of the incredible and recovered memories of sexual abuse is not to argue that they invariably involve the same mechanisms. Indeed, as we will demonstrate shortly, in contrast to the other types of memories described here, at least some recovered memories of sexual abuse have been shown to correspond to actual incidents. Our point is simply that if individuals can come to (presumably falsely) remember being stuck in the fallopian tube or abducted by aliens, then

there is no principled reason to believe that they should not be equally capable of falsely remembering childhood sexual abuse.

Retractors

If therapists were in fact planting false memories of abuse in patients then one would expect that some patients might eventually come to realize that their memories were false. Recently, there have been a growing number of cases in which individuals come to the conclusion that a recovered memory was nothing more than a collaboration between their imaginations and the suggestions of a therapist. Goldstein and Farmer (1993) provide a number of examples of such retractors including the account of Pasley (1993) who sought treatment for bulimia. Following repeated suggestions by her therapist, often while under hypnosis, Pasley began having bizarre dreams and flashbacks of group sexual abuse and being sexually abused by animals, all of which Pasley's therapist insisted really happened. After four years in therapy, Pasley came to the conclusion that these alleged memories were the product of her therapist's suggestions, a conclusion with which a jury agreed.

Pasley's case is not an isolated instance but rather reflects the sentiment of a growing number of individuals who have come to doubt the veracity of their recovered memories of abuse. It is of course possible that such individuals are merely entering a denial stage (for example Gleaves 1994). However, there is simply no principled reason why we should believe individuals when they recover memories but then disbelieve them when they retract them. Nor, for that matter, can we disbelieve recoveries and use retractions as evidence of memory fabrication. Ultimately, the fact that individuals can shift between believing and disbelieving their recovered memories illustrates the fundamental uncertainty that surrounds such memories. As we will argue, without independent corroboration, any recovered memory might be real, might be fabricated, or might be some complex combination of the two.

Lessons from history

For those stalwart readers who still remain unpersuaded (and we hope you are among the minority) we offer a few final observations. A common error of the twentieth century has been the failure to appreciate just how susceptible individuals can be to the suggestions of individuals in positions of authority. Prior to World War II, few believed that people could be persuaded to carry out the atrocities that are known to have occurred. Prior to Milgram's (1963) classic experiments, nobody anticipated the frequency with which normal subjects could be induced to apply what they believed to be lethal shocks to an innocent volunteer. From the reactions to Orson Welles' broadcast of the Martian invasion to the drinking of Jonestown punch, and from the

readers of sensational tabloids to the misguided youth that follow Aryan Nation propaganda, we see just how persuadable people can be. It seems there will always be people who can be convinced to believe just about anything. Why then should suggestions of prior sexual abuse be any different?

Another important lesson from history is that great damage can be done by well meaning health practitioners. From the leaching of past centuries to the all too recent debacle of lobotomies, members of the healing arts/sciences have all too often harmed those they sought to help because they were unaware of the full impact of their procedures. The errors of the past have led the medical establishment to use great caution in the application of new treatments. If several independent lines of evidence implicate a drug as being dangerous, it typically is used with great caution, or not at all, even if it has not been directly shown to be harmful. So too it seems that the evidence for the possibility of inducing fabricated memories of abuse is sufficiently strong that practitioners should exercise great caution so as to avoid inadvertently contaminating their patients' memories.

We hope to have at least begun to persuade practitioners of the real dangers of planting memories of abuse, and experimentalist that we are deeply aware of the potential sources of false memories of abuse. Before discussing the other side of this issue, however, we feel it is important to make one final admonition. Even those who are persuaded of the dangers of planting false memories, may still continue activities that promote such memories. In other words, practitioners may simply fail to recognize the dangerous practices that they are using. This point is well illustrated by Polusny and Follette's (1996) finding that whereas 89 per cent of their sampled clinicians reported that 'repressed memory therapy' was not appropriate for patients who had no memories of abuse, nevertheless 25 per cent reported that they used retrieval techniques such as guided imagery, assigning books on sexual abuse treatment, and referring patients to sexual abuse survivor groups, in order to help clients remember childhood sexual abuse for which they currently report no memory. This disparity may arise because practitioners, like the rest of us, are susceptible to the belief that practices that are dangerous when in the hands of others, may be safely used by oneself (cf. Wilson and Brekke 1995). It thus seems that increasing awareness of the dangers of false memories of sexual abuse is only the first step. The second, and perhaps even more challenging task, will be to change the specific practices that may lead to such memories.

EVIDENCE FOR RECOVERED MEMORIES

Although often treated as an either/or debate, the claim that some recovered memories of sexual abuse may be the product of suggestion does not necessitate that they all are. Indeed, it seems quite likely that whereas some recovered

memories are the product of suggestion, others may correspond to actual incidents of abuse. However, before considering such evidence it is critical that we precisely define the construct of recovered memories so as to avoid confounding the alleged phenomenon with possible explanations for it (for example repression).

In disentangling the complex evidence surrounding this controversial topic, it is important to note that the construct of recovered memories actually entails several distinct claims, each of which may be associated with different sources of validation. First there is the *reality of the event*, that is, whether the recollection corresponds, in at least a general sense, to an actual event or set of events. Second, there is the *reality of the forgetting*, that is whether the individual was in fact unaware of the existence of the memory prior to the recollection experience. Third, there is the *reality of the recovery experience*, that is, whether the individual had a phenomenological experience of remembering incidents of sexual abuse of which they believe they were previously unaware. In conceptualizing the recovered memory phenomenon it is critical to recognize that these three elements are quite distinct. For example, as already discussed, it is possible that the recovery experience could be sincere, and yet not actually correspond to a real event. It is also possible that the event occurred, but that both the recovery experience and the forgetting were simply contrived in order to enable the individual to begin to discuss the experience. Yet another possibility is that both the memory and the recovery experience actually occurred, and yet is that the degree of prior forgetting is misconstrued, that is the event is believed to have been previously inaccessible, when in fact the individual had previously revealed knowledge of it.

The existence of multiple components to recovered memory claims highlights the fact that these experiences cannot be simply classified into black and white categories of factual or false. Rather, each case needs to be considered from the context of all three of these elements. We now briefly review the existing evidence for recovered memories and then consider the evidence that we ourselves have gathered.

Existing evidence for recovered memories

Although substantial effort has been given to determining the factors that might cause individuals to fabricate recovered memories of sexual abuse, surprisingly little research has been directly devoted to determining the validity of actual reported cases of recovered memories. Moreover, the limited available evidence is subject to criticisms of one sort or another. Nevertheless, given the dearth of investigation on this issue, it is important to consider the available evidence for even if it may not be of the quality that we might like. The existing evidence for recovered memories can be divided into two general categories: public cases that have been discussed in the media, and clinical cases that have been investigated by psychologists.

Public cases

We are aware of two public cases for which there appeared to be reasonable corroborative evidence that a recovered memory corresponded to an actual incident of abuse. One case, reported in *U.S. News and World Report* (Horn 1993), describes the recovered memory experience of Ross Chet.² According to this source, several months after learning that his nephew had joined a boys' choir, Chet awoke one night to images of his former choir camp administrator, Bill Farmer, hovering over him. The following day he recovered memories of being sexually abused by Farmer. The *U.S. News and World Report* article describes multiple sources of indirect corroboration of the event. Specifically, the author of this article was able to find other individuals who had independently recorded instances of Farmer's sexual improprieties, both before and after Chet's recovered memory experience. Although these sources of evidence do not conclusively demonstrate that Chet himself was the victim of abuse, their implication of Farmer as a sexual abuser clearly supports the possibility that he may have abused Chet as well.

A second publicly discussed recovered memory claim that has received some corroboration in the public forum is the court case of Commonwealth of Massachusetts versus Porter in 1993. In this case, Frank Fitzpatrick reported that he had been lying in bed with unexplainable anguish when he recalled being sexually molested many years earlier by Father James Porter. Indirect corroboration of this case came from multiple sources. Church officials conceded that they had observed or heard of Porter's sexual improprieties. In addition, after Fitzpatrick made his charges public, nearly 100 people reported having been sexually abused by Porter.

Although these public cases provide some evidence for the claim that recovered memories can correspond to actual events, they have some significant limitations. First, since there are only two of them, researchers could reasonably question their generalizability. Second, while they may help to substantiate the reality of the reported event, they provide no evidence regarding the validity of either the recovery experience, nor the prior forgetting of the memory. Finally, these public cases were not directly investigated by psychologists, making them difficult to compare to more traditional sources of psychological evidence.

Cases investigated by psychologists

The case for recovered memories of sexual abuse would be more compelling if it could be documented by psychological investigators. Such an analysis would help to ensure that the criteria for evidence as applied in other domains of psychological inquiry was as compatible as possible in this domain. Unfortunately, the psychological documentation of recovered memories is

2 It should be noted that the reporter who investigated this case was a friend of Chet's. While such an affiliation need not invalidate the evidence provided, it is possible that the evidence was not collected in a completely unbiased manner.

rather modest. Several studies have elicited retrospective reports of patients reporting prior history of sexual abuse (for example Briere and Conte 1993; Gold *et al.* 1994; Loftus *et al.* 1994b). These studies have found some evidence that patients reporting sexual abuse believe that their memory of the abuse had once been previously forgotten. There are, however, some significant difficulties with these studies. First, it is not clear in these cases that patients absolutely understood what they were being asked, i.e. whether they believe they absolutely forgot the memory or whether they may simply have failed to think about it for some period of time (cf. Ceci *et al.* 1994d). Additionally, these studies did not attempt to corroborate the abuse. Thus, given the evidence already reviewed, it is possible that the patients reporting that they remembered completely forgotten episodes of abuse may have been the victims of memory fabrication. Surprisingly, given the centrality of the question of the validity of recovered memories, there have been very few explicit attempts to corroborate abuse associated with individuals' reports of having forgotten and then recovered memories of abuse. We briefly review the two published efforts to corroborate recovered reports of sexual abuse of which we are aware.

Herman and Schatzow (1987) described their efforts to corroborate the memories of a sample of patients who reported recovered accounts of childhood trauma. Of 53 patients participating in group therapy for childhood abuse, they found that 64 per cent reported severe or moderate forgetting of childhood abuse and 74 per cent were able to provide what the authors viewed as strong corroboration (for example photographic photos, diaries, confessions from the perpetrator). While this study provides suggestive evidence in support of memory recoveries, it is not as well documented as it might be. For example, although the authors gave some examples of corroborative evidence, they did not give a complete characterization of the sources of evidence that they considered as corroborative. Thus there is the possibility that they were relying on evidence that other members of the psychological community might not find compelling. Moreover, these authors made no attempt to independently verify the claims of their patients, but instead relied on the corroborative efforts of the patients themselves. Given that the patients were likely to be motivated to demonstrate the veracity of their experiences, their construal of the corroborative evidence may have been biased. The analysis of this study is further complicated because the authors provided no independent analysis of the group of greatest interest, the 26 per cent who reported completely forgetting their abuse. On the basis of the published manuscript it could be speculated that the corroborated memories were limited to the 74 per cent of the patient population who had full or partial recall. In a personal communication, Herman (June 1994) indicated that there was no relationship in this study between patients' reports of forgetting and their likelihood of providing corroborating evidence. However, the absence of a published analysis of the relationship between corroboration and forgetting makes assessment of this issue difficult. In short, while Herman and Schatzow's study hints at the possibility that recovered memories can

correspond to actual incidents of abuse, there are a sufficient number of flaws in the study that anyone with a sceptical predisposition could readily dismiss it.

The final source of published evidence for recovered accounts of sexual abuse was provided by the first author in a recent paper on the topic (Schooler 1994). This article described the first author's efforts to corroborate a case of an individual who recovered a memory of being sexually abused by a priest. We will defer discussion of the details of this case, so that we can consider it together with three new cases that we have investigated. However, there are several aspects of this case that are important to note here. On the positive side, this case represents to our knowledge the only published analysis in which a psychological researcher provided detailed analysis of both the recovered memory case and the researcher's independent efforts to corroborate that case. The case also differs from prior cases in that there was some, albeit modest, evidence not only for the veracity of the event, but also for the forgetting of the event. Nevertheless, the article only described a single case, thus again bringing its generalizability into question. More compelling evidence would be provided if this case were complemented by additional cases with comparable corroboration. Moreover, systematic analysis of the similarities and differences of the cases might begin to provide a window on the various mechanisms that may be involved in this elusive phenomenon. Towards this end, we review the prior case described by Schooler (1994) along with three³ new cases for which we were able to generate independent corroborative evidence that the recovered memories did in fact correspond to real events.

A corroborated case study approach

Recently we have become acquainted with several cases of recovered memories of sexual abuse for which corroborative evidence was available. These cases were not deliberately sought out: three were discovered by the first author in the course of discussing this issue with colleagues, and one was brought to the attention of the second author in the context of her private practice. Our approach to assessing these cases has been relatively straightforward. We first queried the individuals regarding (1) the recovery experience, (2) their perceptions regarding the prior extent of forgetting, (3) the existence of any sources of corroboration for the event, and (4) the existence of any sources of corroboration for the forgetting. Following our interviews, we attempted to contact other individuals who could corroborate the event and/or the prior extent of forgetting. With respect to the event, corroboration took one of

3 Since the completion of this chapter we have found two additional cases of recovered memories of (single incidents) of childhood abuse that we were personally able to corroborate. These cases share many similarities with the present cases and will be described in subsequent writings on this topic.

two forms. In three of the cases the corroboration involved reports of others who knew of the abuse prior to the recovery experience. In one case, the corroboration involved the report of another individual who was abused by the accused. Corroboration of the prior forgetting was a bit more complex, as it is typically quite difficult to assess whether the absence of discussing an event reflects actual forgetting. Nevertheless, in all of the cases we were able to find some evidence pertinent to the claims of forgetting. For example, in one case the individual in question had actually been interviewed prior to the recovery experience about her sexual abuse history and had disclosed other incidents of abuse, but not the one in question. In other cases, the corroborative evidence suggests that the individuals may have actually been aware of the memory during a period in which they believed themselves to have completely forgotten it.

Ideally, in addition to assessing the validity of the memory and the prior forgetting, it would also be helpful to determine the veracity of individuals' reports of their recovered memory experiences. However, we simply cannot get inside our subjects' heads to see whether their recovered memory experiences really were as they claim. Nevertheless, in each case we provide our reasons for believing that our subjects are accurately describing their recovery experiences, at least to the best of their abilities. Our confidence in our subjects' efforts to accurately recount their phenomenological experience of the memory recovery is ultimately a critical element for understanding the recovered memory phenomenon. If the status of individuals' memory states prior to the recovery experience is often in question, then it may be the phenomenological experience of the memory recovery itself, with its concomitant emotion and surprise, that ultimately distinguishes recovered memories from more conventional recollections.

After we review each of the cases and the corroborative evidence we will then turn to a discussion of the possible mechanisms that may be involved in each of these cases. To foreshadow this section just a bit, consideration of the characteristics of these cases suggests that although there are some notable commonalities to these various cases, there are also some significant differences, suggesting that a complex set of mechanisms that may be differentially involved in the various cases. We will highlight what we consider to be some particularly promising mechanisms, way of the real possibility that other, yet-to-be determined, mechanisms may also be involved.

Case 1

Subject

Case 1 (previously described in part in Schooler (1994)) involves a 39-year-old male, here after called JR. His case was brought to our attention by a colleague of

the first author. JR was interviewed approximately nine years after the recovery experience occurred.

Recovery Experience

JR provided the following characterization of his recovery experience. One night JR went to see a movie where the main character grapples with memories of sexual molestations. 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 previously). 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 ten 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.

Characterization of the forgetting

Prior to the recovery experience, JR believes that he had no recollection whatsoever about this history of sexual abuse. As he put it: 'If you had done a survey of people walking into the movie theater when I saw the movie . . . asking people about child and sexual abuse "have you ever been, or do you know anybody who has ever been", I would have absolutely, flatly, 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.

Corroboration of the abuse

Corroborative evidence in support of JR's claim that he was abused comes from several sources. First, there is JR's account of his attempts to corroborate his memory. JR reported that he directly confronted the priest regarding the prior molestation. According to JR, during confrontation, the priest 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 also indicated that they had been approached by the priest.

In addition to JR's accounts of his corroborative efforts, there is also indirect corroborating accounts of other individuals. First there are the reports of the colleague of the first author (a well respected university professor here after called ND) who introduced us to this case. Although ND only learned of the

events of this case indirectly, he maintained regular contact with JR throughout this ordeal. Thus, ND can, at a minimum, corroborate the temporal order in which the reported corroborating events took place. ND also knows JR quite well and it is therefore of some interest that ND strongly discounts the possibility that JR could have invented all of the corroborating evidence that he reported in their numerous conversations. In addition, subsequent to JR's memory recovery and attempted law suit, another individual reported that he too had been sexually approached by the priest. In a separate telephone interview, this individual described how at age 18 he went to the priest for counselling about homosexuality, whereupon the priest made sexual advances towards him. 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.

Corroboration of the forgetting

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.

Corroboration of the recovery experience

As indicated earlier, it is also quite difficult to conclusively document the authenticity of a recovered memory account. One possible argument against the authenticity of this case is that JR did ultimately attempt to press charges. Thus, sceptics 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.

Further evidence for the authenticity of JR's recovered memory 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 recovery experience.

Discussion of Case 1

Undoubtedly, readers who are sceptical of the recovered memory phenomenon will have found various ways to discount Case 1. Some readers may question whether the corroboration of the event is really as strong as we have suggested. Perhaps, they may argue, our independent source's recollection of abuse was the product of suggestion from having heard about JR's abuse. To this criticism we remind the reader that the corroborating source claimed never to have forgotten about having been sexually abused. Thus, if we are to question his claims, we must also question the claims of all other sexual abuse survivors who, for whatever reasons, have suffered silently about their experiences. And this is a line that, so far, few have been willing to cross (see footnote 1, p. 253). Others may question whether JR's forgetting was really as profound as he suggested. Indeed, we find it a bit difficult (although not impossible) to believe that every experience of sexual abuse was forgotten as soon as it occurred. However, as we will illustrate later, it appears that forgetting processes may not only influence individuals' recollection of the event but also of their prior knowledge of that event. Thus, we need not believe JR's complete assessment of his prior forgetting in order to believe that he had a real recovered memory experience. And this leads us to perhaps the most important aspect of JR's account: his characterization of the recovery experience. Again we concede that some readers may question its authenticity, perhaps suggesting that it was either a convenient way to disclose embarrassing information or a ploy to allow him to overcome statute of limitation laws. However, considering that he had been known to reveal other embarrassing aspects of his life, and at the time of the recovery the statute of limitation laws were still binding, strongly argues against the suggestion that he feigned the recovery experience.

We will defer a detailed discussion of the possible mechanisms that led to this recovery experience for the moment, although we alert the readers to some of the themes of this recovery which will be seen in other cases and which may help our understanding of this phenomenon. These themes include: (1) the correspondences between the curing conditions and the original memory; (2) the suddenness of the recollection experience; (3) the extreme shock and emotion associated with the recovery; and (4) the possibility that the experience may have been interpreted differently at the time of recovery than it was when it actually occurred. We turn now to a consideration of three new cases.

Case 2

Subject

Case 2 involves a 40-year-old female hereafter called WB. WB came to the attention of the second author (a practising clinician) as a result of a referral

from a patient. WB sent the second author a letter describing her recovered memory experience one week after it was recovered. Although the second author subsequently treated WB, it is important to emphasize that the recovery experience occurred outside of and prior to therapy.

Recovery experience

In her initial letter, WB described her recovery experience which was triggered by a conversation with a male friend at a party. Apparently, WB commented to a male friend about his advances towards a young woman. He defended himself by saying 'She isn't exactly a virgin', which upset WB to such a degree that she left the party in a rage. The following night she had stormy nightmares and then awoke the next morning with the startling recollection of having been raped at knifepoint while hitchhiking when she was a teenager (20 years previously). As WB put it in her original letter: 'I awoke the next morning with a sudden and clear picture: "My God . . . I had been raped!! I was 16, just a kid! I couldn't defend myself.' In a subsequent interview, WB further characterized the recovery experience suggesting that it was 'complete chaos in my emotions'. Following her recollection, WB experienced a violent emotional reaction that lasted all day. She then experienced a 'kind of confused relief . . . everything seemed very far away . . . just sort of numb and paralyzed'. She even wondered whether she might have 'made the whole thing up'. However, several days later her emotions returned, and she realized she needed help.

Characterization of the forgetting

WB's characterization of her memory prior to the recovery reveals a marked sensitivity to the inherent difficulty of estimating a prior knowledge state from the vantage of a new state. When asked whether she was surprised, at the time of the memory recovery, by the existence of this memory, she observed that she was quite startled, noting 'I was overwhelmed, rather than surprised, surprised is too neutral a feeling for what I felt.' Although she indicated that she was shocked to recall that she had been raped, on several occasions she suggested that she might have possessed some prior memory for the event. For example, in her original letter 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.

Later in an interview, when asked if there was ever a time in which she believes she was completely unaware that this event occurred, she suggested that it:

It is something like, you know, your first day at school or your 10th birthday. You

know that the event occurred, but you don't think about it, or even remember how it was, but you know it was there.

Thus, on the one hand WB suggested that she was startled to recall that she had been raped, yet at the same time she recognizes the possibility that she may have had some knowledge about the experience all along. This ambiguity regarding her prior state of memory is further illustrated by her response to the question of whether she thinks there was ever a time in which she would have honestly believed that she had not been raped had she been asked directly. In response, she observed:

I actually think this is the case. When I wrote my story about rape (WB is a novelist) I can honestly say I had absolutely no connection to the fact that it had been a personal experience. I was writing it 'on behalf of others', I thought this is what it must be like for those who experienced rape. I am really uncertain how I would have responded if someone had asked me directly.

Although it is difficult to fully resolve WB's perceptions of her prior memory state for the rape, two conclusions from this discussion seem clear. (1) Her marked shock at the recollection of this event suggests that it (or at least its emotional significance) was not entirely accessible to her prior to the recovery experience. (2) Individuals can have unambiguous memory recovery experiences even when their prior memory state is ambiguous, even to them.

Corroboration of the experience

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. One of those co-workers was an individual whom she later married. In a separate interview, WB'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'.

Corroboration of the forgetting

As described above, WB experienced real ambiguities regarding her prior awareness of the rape. Her ex-husband's recounting of her discussions of the rape during the marriage further highlight this ambiguity. In an independent interview, her ex-husband further 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.

Corroboration of the recovery experience

There are a number of reasons to believe WB's account of her recovery experience. First, there was absolutely nothing for her 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. There was also partial corroboration of the recovery experience by the individual who was at the party where the precursors to the memory recollection were first planted. Specifically, the individual whose comments prompted WB was also a patient of the second author, and recounted WB's behavior at the party in a manner closely corresponded to WB's description.

Discussion of Case 2

Case 2 illustrates some of the complexities of the recovered memory experience. On the one hand, this case is quite compelling with respect to corroboration of the abuse event with independent verification by an individual who was present immediately after the event occurred. On the other hand, the nature of the forgetting that preceded the recovery is of real question. And indeed, it is clear that the subject was aware of the rape many years after it occurred. Despite these complications, several traits of this case fit into the emerging picture of the recovered memory process: (1) the memory was triggered by a cue that had some resemblance to the original abuse: the mentioning of the virginity of a young woman (WB was a virgin when the incident occurred); (2) the recovery experience involved a sudden startling recollection associated with great emotion (in this case contrasting prior seemingly non-affective recollections); (3) there is the possibility that the interpretation of the event may have changed: a brutal rape rather than an unpleasant sexual experience; (4) it is extremely difficult to remember the prior state of one's memory for an abuse event after a recovery experience.

Case 3

Subject

Case 3 involved a 51-year-old female (hereafter called TW). TW's case was brought to our attention through a colleague of the first author. TW was interviewed approximately 17 years after her recovery experience.

Recovery experience

In a telephone interview, TW described a memory recovery experience that took place in her office. One afternoon, TW's office mate asked her whether she wanted to go to a talk on child molestation. TW turned to her office mate to say either yes or no, when all of a sudden she had a very vivid and immediate memory about being molested when she was nine years old (16 years previously). TW recalled the recollection experience quite vividly noting:

I've never experienced [anything] like that before, it was like a . . . a package of

some sort . . . something there that's completely unwound instantly and not only the experience was available but the sequel of the experience . . . telling my mother later when we returned to my house in Jamaica . . . The whole thing was evident and immediate to me, simultaneously . . . altogether . . . so the package had been unwrapped or something. And it was very different from any memory I've ever had before or since.

As in the other cases, when TW recovered the memory she was quite startled. As TW describes it: 'When I first remembered it, I was surprised. Completely taken back by it. Then I . . . I don't even remember speaking . . . I was completely out of it.' In short, TW had what is now appearing to be the standard phenomenological experience of a recovered memory: marked surprise at the sudden unfolding of a powerfully emotional and vivid memory of seemingly forgotten sexual abuse.

Characterization of the forgetting

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.' She was consequently quite astonished, when she learned later that she actually had told her former husband about it. According to TW, upon the encouragement of friends familiar with recovered memory controversy, she asked him whether or not she had told him about having had any bad experiences in Jamaica. He indicated that she had previously mentioned having been sexually abused. TW had no recollection whatsoever of such a discussion, or even of being aware of the memory at the time her husband indicated that she had mentioned it to him. As TW observed in describing her reaction to learning of this earlier conversation:

I felt like falling over. Absolutely shocked and floored that it happened. And I still am. . . . I can't remember telling him, I can't think of anything about the memory before [the recovery], and it's very disturbing, actually.

In short, TW was as startled at her forgetting that she once had remembered this memory as she was at having forgotten it in the first place.

Corroboration of the event

TW's former husband was interviewed to determine whether in fact TW had discussed the abuse with him. He reported that she talked about the abuse several times over the course of their marriage (which ended prior to the recovery). As in the previous case of WB, 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.

Corroboration of the forgetting

In the case of TW, there is suggestive evidence that her forgetting may have involved a failure to remember her prior knowledge of the event. Specifically,

even though her original recollection was of not having spoken to anyone about the event, the corroborative interview with her husband clearly indicates that she was aware of the event during a period of time in which she believed herself to have forgotten it. Her ex-husband also corroborated her surprise at discovering that she had told him about the experience, further substantiating her claim that she had actually forgotten that this memory had once been intact.

Corroboration of the recovery experience

As in the other cases described here, there is no reason to believe that TW intentionally fabricated her recovery experience. She was not pursuing legal recourse regarding the accused individual and would have nothing that we can see to gain from deliberately misleading us. It might be noted that the recovery did occur quite some time ago and consequently her recollection of the recovery experience may have altered somewhat over the years. Indeed, one individual who spoke to her about her recollection several years ago, recalls that while she perceived this recollection as somewhat peculiar, he does remember her ascribing quite as much emotion or significance to it as she does today.

Discussion of Case 3

Case 3 illustrates a number of the characteristics seen in some of the earlier cases. As in the other case, her recovery experience was triggered by a related event which elicited a sudden emotional unravelling of a surprisingly extended memory of which she believed herself to be previously unaware. As in the prior case of WB, this powerfully emotional recollection strikingly contrasts with her earlier affectively flat recollections (of which she still does not recall). Case 3, thus, also provides the most compelling evidence yet that recovered memory experiences can be associated with a misrecollection of the prior knowledge state. At the time of her memory recovery, TW believed that she had not remembered this event since soon after its occurrence, when in fact there is clear evidence that she was talking about it years later. While this brings into question the extent of her forgetting of the event itself, it highlights the degree to which individuals can forget their prior knowledge about an event. It also illustrates once again that the critical element of memory recovery experiences may be the individual's perceptions of their memory at the time of the recovery, not their actual memory state prior to the recovery.

Case 4

Subject

Case 4 involves a 41-year-old female (hereafter called DN) who brought her case to the attention of the first author following a colloquium presentation that he gave on this topic. She was interviewed approximately six years after her recovery experience.

Recovery experience

DN 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 previously). DN 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.

The sudden memory of the incident elicited a very intense emotional state that required her to pull off the road. As DN put it:

I had to just sit there for a while because it was just this extreme emotion of fear and total disbelief. Disbelief that it happened, disbelief that I could have forgotten something that traumatic.

Characterization of the forgetting

DN was positive that she remembered the attack for the approximately two years after the rape that 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. As DN put it: 'It's like how could I forget this. As horrible as it was having to go to court . . . and having to tell what happened and everything, how could I forget that? I had no idea when I did forget it but I really feel that it had been totally forgotten until that night.'

Corroboration of the event

Because DN'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.

Corroboration of the forgetting

In this case we have what is perhaps the strongest evidence from any of the cases described here that true forgetting had occurred prior to the recovery.

When DN 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 first author), DN described in detail her abuse as a child, but did not mention her rape experience. While it is possible that she simply failed to disclose the rape at this time this seems relatively unlikely for the following reasons: the fact that she previously took the case to trial clearly establishes her history of a willingness to talk about the rape; the incidents that she did disclose were comparably embarrassing; and as soon as she had the memory recovery experience she mentioned the rape at therapy. Of course, 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. However, together with her self-report of her shock at the recovery experience, her failure to mention her rape in the initial assessment interview is at least strongly suggestive that actual forgetting did in fact take place.

Corroboration of the recovery experience

As in the other cases, there is no reason that we are aware of to believe that DN intentionally fabricated her memory recovery experience. DN sought legal recourse prior to the memory recovery experience and there is no legal benefit that she would have gotten from construing her memory as a recovery. It is also of interest that the recovery experience is mentioned in her therapy records, further substantiating the validity of her report.

Discussion of Case 4

Case 4 has many of the characteristics that we found in the earlier cases. As in the prior cases, the memory was prompted by a cue corresponding to the original incident (in this case learning that childhood victims of sexual abuse are often abused as adults). The nature of the recovery experience was also quite similar, with a sudden emotional onrush in which the entire experience seemed to unfold all at once. In addition to these similarities, there were also some differences. Unlike several of the prior cases in which it is clear that memory was possessed at a time when it was believed to be forgotten, in this case there is at least suggestive evidence that DN may have had complete forgetting of the experience. DN's case is also particularly notable because it entailed forgetting of both the rape and of the subsequent trial, both of which were corroborated. It is sometimes suggested that while forgetting of a single incident is possible, forgetting of an entire period of abuse is not possible (Ofshe and Watters 1994). Arguably, being raped and then having to testify about it in court constitutes an extended period of abuse, consequently the fact that both elements of this recovered memory were corroborated suggests that recovered memories of extended incidents of abuse can be veridical.

MECHANISMS THAT MAY CONTRIBUTE TO PERCEIVED RECOVERIES OF AUTHENTIC MEMORIES

Our discussion so far has focused on attempting to delineate the characteristics of memory recovery experiences corresponding to authentic memories. We have intentionally avoided speculating about the mechanisms underlying these recovery experiences because all too often mechanisms and the phenomenon itself are hopelessly intertwined, thereby further confounding an already complex and controversial topic. For example, the construct of recovered memories is often treated synonymously with the construct of repression. However, as illustrated below, there are many other mechanisms that might, in principle, account for memory recovery experiences. In the following discussion we consider our four cases in light of such mechanisms. We first briefly review the possible applicability of standard factors typically associated with variations in the accessibility of normal memories. In keeping with standard discussions of memory processes we first consider encoding factors, then storage factors, and finally retrieval factors. This section is based on the premise that even though we cannot be certain whether the memories involved in these cases were ever entirely forgotten, it nevertheless seems quite likely that they fluctuated in accessibility, i.e. there were some points in time in which the individuals were more aware of these memories than others. Thus, an understanding of the possible mechanisms that could have contributed to changes in the accessibility of these memories is likely to be helpful, even if the memories were never entirely unavailable. Indeed, in our subsequent discussion of possible non-standard cognitive mechanisms that may be involved, we specifically argue that the access of these powerful emotional memories may (at least sometimes) cause a misconstrual of the degree to which the memories were previously unavailable.

We must emphasize that this analysis is meant to be illustrative not definitive. We are not claiming that these mechanisms entirely account for all recovered memory cases, nor even necessarily for the four that we have documented here. Moreover, as we illustrate below, it is quite likely that these experiences may draw on an interacting assortment of processes, with potentially different combinations of mechanisms contributing to each case. Nevertheless, we believe these mechanisms provide a useful starting point for a discussion of how basic cognitive processes might be integrated into an understanding of a phenomenon that basic cognitive psychologists have had considerable difficulty conceptualizing and therefore accepting.

Encoding factors

There are a number of characteristics of the encoding of these memories that could have reduced the initial accessibility of these memories, thereby causing their subsequent retrieval to be perceived as a memory 'recovery'. As will be seen, some apply better than others.

Salience

Generally speaking, the more salient an experience the more likely it is to be remembered (for example Wagenaar 1986). The salience of traumatic experiences has been used in the past to help to account why they are often remembered quite well (for example Brown and Kulik 1977; Femina *et al.* 1990; Malmquist 1986), and indeed, the fact that salient negative experiences are often remembered all too well has been used as a powerful argument to question the pervasiveness of recovered memories of abuse (Loftus 1993; Lindsay and Read 1995). Given the role of salience in enhancing memory performance, one possible interpretation of the initial reduced accessibility of the experiences described above is that they were not interpreted as being that important at the time. Changes in the perceived importance of these experiences may well have contributed to the reduced accessibility in some of the above cases. For example, as will be discussed in the reinterpretation section below, it is possible that WB may not have fully interpreted her experience as a rape at the time that it occurred. Similarly, TW, being only nine when the alleged fondling took place, may not have viewed it as significant an experience as she does today. Although low salience may partially account for these two cases, we should be cautious in assuming that low salience was responsible for the reduced accessibility of these memories. The individual who spoke to WB the day after she was raped, indicated that she was quite upset about the experience at the time. Similarly, TW's recalls of having expressed marked concern about the experience to her mother, were sufficient, she claims, to cause the family to never return to their favourite vacation place. Thus, while these experiences may not have been as salient at the time as they are today, they were still probably pretty significant, and likely more significant than other memories that these individuals never believe they forgot. Furthermore, the issue of salience seems inapplicable to the accessibility of the experiences reported by both JR and DN. Admittedly, JR might not have perceived the priest's advances as negatively as he does today (see reinterpretation section) nevertheless it is hard to imagine that a 12- to 15-year-old boy would not find a long-term sexual relationship with a priest quite memorable. Finally, DN clearly found her abuse quite salient as it was sufficient to cause her to press charges. In short, although salience may have played a role in some of these cases, it does not appear to offer a full account for the fluctuations in the accessibility of these experiences.

Duration

Another encoding factor known to influence subsequent memory performance is whether the memory corresponds to a single isolated event or is repeated over a duration of time. Although repetition may cause individuals to forget the details of specific incidents, it typically leads to excellent memory for the gist of the experience (Schank and Abelson 1977). Indeed, the issue of the

duration of the abuse has been a critical dividing line for the types of abusive incidents that have been considered possible to be forgotten. For example, O'She and Watters (1994) suggest that the forgetting of extended durations of abuse would require 'robust repression', a phenomenon for which they claim there is no evidence. Similarly, although Lindsay and Read (1995) are more sympathetic to the notion of authentic recovered memories, they nevertheless conclude that forgetting of repeated incidents of abuse is likely to be especially rare. In this context, it should be noted that several of our cases involved memory recovery experiences corresponding to extended incidents. JR recalls incidents of abuse spanning several years. While we cannot confirm the specifics of these individual incidents, his report of having going on numerous overnight trips with the priest over a period of several years (a memory which he claims was always intact) is at the least very supportive of JR's current recollection of multiple incidents of abuse. DN provides another example of an individual whose abuse covered an extended duration. Although the rape itself was brief, the subsequent trial lasted for several months. During this time DN was subjected to all of the pain, stress, and embarrassment that accompanies trying to successfully prosecute someone for rape. While this may not be sexual abuse in the standard sense, it clearly represents an extremely disturbing situation that spanned an extended period of time. Indeed, DN's case highlights the fact that most traumatic sexual abuse incidents, even if they physically occurred at only one brief moment in time, would be expected to psychologically extend over a much greater duration as the individual attempts to grapple with the experience.

Storage factors

There are also a number of standard storage factors that could have influenced the accessibility of the memories in the previous cases. We briefly consider several such factors.

Rehearsal

Rehearsal is another factor long known to increase memory retention (for example Atkinson and Shiffrin 1969). Explicit rehearsal (recounting a memory to someone else) is particularly important because it can help individuals to integrate memories into their life narrative (Nelson 1993). It is thus of some note that in three of the four cases, documented incidents of explicit rehearsal occurred. WB discussed her hitchhiking rape with her co-workers/friends at the time and also mentioned the experience several times in passing to her husband. TW similarly discussed her sexual molestation in Jamaica with her mother after it happened, and later on with her husband. Finally, DN went through excruciating rehearsal processes in the context of testifying about the rape in court. JR does not appear to have engaged in any explicit rehearsal prior to his recovery. However, as mentioned before, he seems likely to

have been the victim of multiple incidents of abuse, thereby providing an external source of rehearsal. Thus, an absence of rehearsal also does not seem to provide a full account of the reduced accessibility of the memories in these cases.

Interference

Another possible storage mechanism that could, in principle, have been responsible for the temporarily reduced accessibility of the memories in these cases is interference. Considerable evidence suggests that exposure to related similar events can cause confusion and reduced accessibility of individual experiences (for example Neisser 1981; Underwood 1967; Wagenaar 1986). Such interference has been suggested by several researchers (for example Loftus *et al.* 1994a; Schooler 1994) as a possible account for the recent observation that victims of sexual abuse can forget documented incidents of abuse (Williams in press). Accordingly, if individuals have been the victims of multiple incidents of sexual abuse (as most of the individuals in the Williams study were) then interference between the various incidents might cause them to confuse or forget individual incidents. However, an interference account does not seem to explain the forgetting reported here. In three of the four cases the subjects were aware of no other incidents of sexual abuse other than those associated with the memory recovery experiences. DN was aware of having been sexually abused by family members as a child. However, such childhood abuse seems markedly different from an adulthood rape by a stranger and thus seems unlikely to have been a source of interference.

Directed forgetting

Another potentially promising storage factor that may have played a role in several of these cases is directed forgetting. It is now well established that active attempts to forget information can result in reduced access to that information (for example Bjork 1989). In fact, there is evidence that directed forgetting may have been involved in at least one of the cases described here. When asked whether she could recall ever intentionally trying to put out of her mind the experience of being raped while hitchhiking, WB specifically replied in the affirmative noting: 'I tried not to think about it.' Interestingly, none of the other individuals recalled intentionally trying to put the memory out of their minds. For example, DN had no recollection of intentionally trying to forget being raped in the hospital noting 'I really don't remember putting it out of my mind, and I really don't know when I forgot it. I really didn't try to forget it, it was just like it never happened until all at once . . . it came back.' A similar absence of intentional forgetting were reported by JR and TW. It is possible that these individuals simply forgot that they engaged in directed forgetting. Alternatively, it may be that directed forgetting was important in some of the cases but not others.

Delay

A final potentially relevant storage factor long known to influence the accessibility of memories is the simple passage of time (for example Ebbinghaus 1913). In all of the cases, many years passed between the occurrence of the event and the subsequent recovery experience. Thus the simple passage of time may have contributed to our subjects' forgetting. As the saying goes 'Time heals all wounds.' Although decay may have contributed to the forgetting associated with these incidents, it should be noted that the experiences of the second and third decades of life (during which the majority of these abuse events occurred) are often the most memorable (Conway and Rubin 1993). Thus the passage of time, while potentially important, may not alone account for the reduced accessibility of the memories in these cases.

Retrieval factors

Standard memory mechanisms also suggest a number of retrieval factors that might in principle help to account for the recovered memory experiences. Unlike encoding and storage factors, retrieval factors seem more contributive to the recovery experiences than to the forgetting experiences. However, as will be seen, one of the retrieval factors (encoding specificity) can account for both the forgetting and the recovery.

Reinterpretation

Changes in individuals' interpretations of events can sometimes result in their retrieval of previously inaccessible information (for example Anderson and Picher 1978). It is thus possible, that changes in the interpretation of the experiences could have been involved in at least some of the present recovered memory experiences. For example, WB specifically acknowledged that initially she had tried to frame the experience as not being as serious as she later concluded it was. It also might be noted that WB's experience occurred in the 1960's a time in which sexual encounters were perceived differently than they are today, thereby also potentially contributing to a shift in WB's interpretation of this experience. It is also possible that JR might have initially had some ambivalence about the priest's sexual advances, which later were recalled as a negative experience. Such changes in perspective on the events could well have led to the access of previously inaccessible information. Moreover, if the experiences were later recalled as worse than they were originally perceived, this could help to account for the severe emotional upset that was associated with the retrieval. At the same time, however, we must be cautious in pushing this reinterpretation explanation too far. DN, for example, unambiguously initially interpreted her experience as rape and pressed charges accordingly. And as already argued, all four cases were quite likely to have found these experiences to be extremely salient at the time.

Hypernesia

Another retrieval factor that could, in principle, be involved in recovered memory experiences is hypernesia; the increased recollection of information following multiple retrieval attempts (for example Erdelyi and Kleinbard 1978; Mandler 1994). In the context of recovered memories, hypernesia might occur in situations in which individuals are repeatedly encouraged to attempt to recall memories of abuse during therapy. In such situations, hypernesia processes might enable individuals to discover memories that they initially had failed to recall (cf. Bower 1990). (Of course, memory fabrication processes might equally well lead to the recovery of memories that never actually occurred.) In the present case, hypernesia processes appear to be of no relevance to three of the cases where recollection occurred without even a single active attempt to recall an incident of abuse. Hypernesia might, however, have played some roles in DN's recovery of being raped in the hospital. In DN's case, her recovery experience followed several prior attempts to remember earlier incidents of sexual abuse. Thus, hypernesia represents yet another process that may be differentially involved in the various cases.

Encoding specificity

Of all of the standard memory mechanisms reviewed so far, encoding specificity (Tulving and Thompson 1973) seems to have the clearest role in every case. The encoding specificity principle states that the probability of retrieving a memory is maximized when the retrieval conditions correspond to the encoding conditions. A clear correspondence between the encoding and retrieval conditions is one of the striking similarities between all four of the cases described here. JR recalled his sexual abuse after seeing a movie in which the main character grappled with her experiences of abuse. WB recalled being raped as a virgin, when a friend made some disparaging remarks about the virginity of another woman. TW spontaneously remembered her childhood sexual abuse when the topic was raised in conversation by her office mate. DN recovered her memory after being prompted to think about adult sexual abuse by her therapist. In short, although these memories felt as if they occurred 'out of the blue', in fact, in each case there were appropriate retrieval conditions, which according to the principle of encoding specificity would have been useful cues for eliciting the memories.

Although the encoding specificity principle seems to apply quite well to each of these cases in the sense that there is a clear correspondence between the original experience and the retrieval conditions, encoding specificity also seems to pose somewhat of a puzzle. Specifically, it is hard, although perhaps not inconceivable, to believe that these individuals could have gone for the duration that they claimed to have without encountering other equally relevant conditions that should have, according to encoding specificity, prompted the retrieval of the memory. There are a number of possible resolutions to this puzzle. For example, it may be that retrieval following reinstatement

of encoding conditions is a probabilistic process, such that on any given cueing situations there is some probability that the critical memory will be retrieved (cf. Raaijmakers and Shiffrin 1981). If this probability is sufficiently low, this could account for why prior potential cueing conditions failed to elicit the memory. Another possibility is that encoding specificity interacts with other mechanisms, so that even though the cue conditions may have been appropriate at prior times, these other mechanisms prevented access. Yet a third possibility is that these individuals may in fact have been cued and remembered the experiences previously, but simply forgot these prior remembering experiences; we will return to this possibility when we discuss the forgot-it-all-along effect.

Accounting for some of the unusual characteristics of recovered memories

Consideration of the possible standard memory mechanisms suggest that, some of these mechanisms (for example directed forgetting, reinterpretation, hypernesia, encoding specificity) may play an important role in some memory recovery experiences. At the same time, however, it must be conceded that some of the characteristics of these experiences at least appear to differ from standard memory recollection experiences. We consider several of these distinctive characteristics, and then introduce a few new constructs that might help further clarify the phenomenon.

The phenomenology of the recovered memory experiences

Although the four cases that we described differed in a number of ways, there is one respect in which all four were strikingly similar: the manner in which they described the recovery experience. All of the recovery experiences were characterized as suddenly and vividly coming out of nowhere, followed by a great onrush of emotion. As WB put it 'like a flood, the locks were opened'. As TW put it 'like a . . . a package of some sort . . . something there that's completely unwound instantly'.

This startling emotional recovery of a seemingly intact memory is simply an aspect of autobiographical memory that has not been well documented in the past. We just do not know how often individuals are startled by the sudden recollection of significant memories. Do people ever have the experience of saying, for example, 'My God, I just suddenly remembered I had my tonsils out. I can't believe I forgot that!' Although full resolution of this issue awaits further research, there is a hint in the literature that such experiences may be rather commonplace. Read *et al.* (cited in Lindsay and Read 1995) found that 31 per cent of 204 undergraduates reported having experienced 'recovered' memories of long-forgotten autobiographical experiences. Although it is not clear whether these individuals also experienced the emotional 'rush' associated with recovered memories reported here, it seems quite plausible that many of

them may have been quite surprised at the product of their recovery experiences. Clearly, systematic efforts (perhaps using diaries or health records as a source of corroboration) need to be conducted to determine how unique the recovered memory phenomenon is to the retrieval of memories of sexual abuse.

Although there is little parallel to the recovered memory experience in the autobiographical memory literature, there are other domains in which a somewhat similar phenomenon has been reported. One such domain is insight problem solving (cf. Schooler and Melcher 1995). Like recovered memories, insight solutions involve situations in which a coherent bit of knowledge startlingly pops into mind in a surprisingly intact form, followed by an onrush of emotion (Schooler *et al.*, 1995). Although the emotion associated with insight is often positive (Gick and Lockhart 1995), this is probably because the sudden solution is desirable; one might well imagine situations in which insights might be associated with equally strong negative emotions. For example, imagine what Einstein's experience might have been like if he suddenly had the insight that his formula could lead to the production of weapons of mass destruction! Thus, it seems that recovered memory experiences might well be conceived of as a type of memory insight, and processes previously examined in the context of insight (cf. Sternberg and Davidson 1995) might be useful for helping us to better conceptualize recovered memories as well.

Another domain in which a phenomenon comparable to the recovered memory experiences have been reported is the flashbacks of individuals suffering from post-traumatic stress disorder (PTSD) (McGee 1984; Williams 1983). Like the recovered memory experiences described here, such flashbacks often involve the extremely vivid recollection of a traumatic experience along with a great onrush of emotions. Although such flashbacks typically occur with individuals who are in the midst of grappling with their traumatic experiences, flashbacks can, like recovered memories, also occur after durations in which individuals experience relatively few symptoms (Christenson *et al.* 1981). Like recovered memories, traumatic flashbacks can also be prompted by cues corresponding to the encoding situations. These parallels suggest that recovered memory experiences may also share some mechanisms with traumatic memory flashbacks (Schooler 1994).

The forgot-it-all-along effect

The startling surprise and emotional onrush associated with recovered memories may be related to another remarkable characteristic of at least two of the cases described here: the capacity to forget about a period in which one was aware of the memory and discussed it with others. Both WB and TW were astounded to discover that they had told their husbands about the incidents at a time in which they thought the memory had been forgotten. To our knowledge, this profound *underestimation* of one's prior memory state has not been documented in the literature before. However, the *overestimation* of prior knowledge has been well documented. Research on the 'knew-it-all-along effect' has demonstrated that

individuals who are told facts about a topic tend to misremember that they previously knew those facts, even when independent evidence suggests that they did not (Fischhoff 1982). The basic explanation of this effect is that individuals use their current knowledge state to infer their earlier knowledge.

It seems quite possible that a process analogous to the knew-it-all-along effect may occur in the context of some recovered memories. As with the knew-it-all-along effect, recovered memory experiences can be associated with a misconstrual of one's prior knowledge state, except that the knowledge is *underestimated* rather than *overestimated*. This bias may also be the result of inferences stemming from one's knowledge state at the time of the memory recovery. The marked shock and onrush of emotion associated with the recovered memory experience may influence individuals' assessments of their prior knowledge. For example, 'If I am this shocked and surprised then I must have previously completely forgotten about the experience.' Although previous complete forgetting is one possible explanation for the recoverer's shock and emotion, it is not the only one. For example, at the time of retrieval the individual may reinterpret the experience in a more negative light than it was originally perceived. This shock at the severity of the abuse may then be misattributed as being a shock at the remembering itself. Alternatively, it may also be that if one does not access a very emotional memory for some period of time, one may be startled by how much emotional power the memory still has, particularly if the recollection is associated with the huge emotional onrush (mentioned above) that can sometimes co-occur with recollections of traumatic experiences. This shock at the emotional power of the memory may once again be misattributed as occurring because the memory was previously completely unavailable. In short, the emotional onrush associated with the recollection of traumatic memories may cause individuals to mistakenly believe that their memory must have been forgotten all along in order for it to pack that much punch.

It is clear that this 'forgot-it-all-along' account applies, at least to some degree, in several of our cases. Both WB and TW believed that they were unaware of the memory at a point in time in which corroborative evidence indicates that they were in fact aware of it. However, their reported recollections at that time were affectively quite flat, strongly contrasting with the subsequent emotional onrush that they experienced at the time of the memory recovery. Thus there is the real possibility that they may have erroneously attributed this difference in their emotional reaction to the memory to a difference in their actual awareness of the memory. Indeed, WB was cognizant of her difficulty in determining what exactly she was so startled about at the time of her memory recovery. Although the forgot-it-all-along effect appears to apply well in at least several of these cases, it should be noted that the fact that these individuals misremembered their memory state at certain points in time does not necessarily demonstrate that they have not actually forgotten the incident at some time prior to the recovery. Moreover, for JR and DN we have no evidence for memory misconstrual but we have at least suggestive evidence

that the abuse incident was not readily accessible at points in time in which the memories might have been expected to have been retrieved. Thus, although this 'forgot-it-all-along' account is quite possibly an important element in some recovered memory experiences, it is unlikely to provide the whole story.

The forgetting of extremely salient experience

Understandably, researchers are wary of drawing on special mechanisms to account for a memory phenomenon that might be more parsimoniously accounted for by known mechanisms. We are sympathetic to this perspective, and as the above discussion illustrates have devoted considerable effort to developing conceptualizations of recovered memories that do not necessarily require any 'special mechanisms'. At the same time, however, we believe that it is premature to rule out the possibility that more unusual forgetting and remembering mechanisms may be at play. It is certainly the case that each of our four subjects perceived their recovered memory experiences as absolutely qualitatively different from any other forgetting/remembering experience that they had ever had. And indeed we must concede that the experience of suddenly remembering extremely salient life events that spanned extended durations (JR and DN) stretches the bounds of standard memory mechanisms. (Indeed it is the implausibility of such experiences from the perspective of standard memory models that has likely contributed to the scepticism of many cognitive psychologists toward these types of recovered memories). We therefore think it is important to at least keep the door open to the possibility that recovered memories may be the consequence of memory processes that are not readily observed under more standard memory conditions.

There are hints from the present cases that certain specialized mechanisms may be at work. For example, all four of our subjects reported deep shame about their experiences. It is possible that shameful memories may trigger self-defence mechanisms that enhance memory distortion and forgetting. Such mechanisms might bear some relationship to the general self-enhancement memory distortion processes occasionally included in discussions of standard memory processes (for example Greenwald 1980). However, the possible role of shame in causing disturbing memories to be reduced in accessibility would probably not represent a memory mechanism that occurs every day, and might well resemble those sometimes proposed to be involved in repression (Lewis 1990).⁴

We recognize that specialized processes that have been hypothesized to

4 It should be noted that there does not appear to be any clear consensus about what the construct of repression really means. For example, Freud originally defined repression as occurring when 'A hysterical subject seeks intentionally to forget an experience or forcibly repudiates, inhibits and suppresses an intention or idea' (Freud 1940, p.153). However, others have defined repression as an *involuntary* mechanism that automatically leads to the forgetting of unwanted memories (for example Erdelyi 1990; Holmes 1990). Still others defined repression in terms of a particular outcome, i.e. profound forgetting of traumatic life events (for example Ofshe and Waters 1994). In our view the field might be well served if the term repression were dropped altogether and replaced with less loaded and more precisely defined terms.

help account for recovered memories such as repression (for example Erdelyi 1990), dissociation (for example Spiegel and Cardena 1991), or trauma-induced physiological processes (Southwick *et al.* 1993; van der Kolk 1988) have not been well examined within the framework of cognitive psychology, making them difficult for cognitive psychologists to accept. However, cognitive psychology is not so advanced that we can assume that we understand all of the basic mechanisms involved in the complexities of autobiographical memory. Given the current limitations in our understanding of autobiographical memory, we should be most cautious in discounting possible mechanisms that go beyond the fray of our existing knowledge. This is not to say that the specialized mechanisms that have been proposed to date are necessarily the correct ones, merely that we should keep our minds open to the possibility that some, perhaps yet to be defined, mechanism(s) may be critically involved in this remarkable type of memory experience. After all, scientific advances are riddled with examples of instances in which the phenomenon preceded an understanding of the mechanisms underlying it.

CONCLUSION

Summary

In this chapter we have attempted to demonstrate that both fabricated and recovered memories are likely to correspond to real phenomena. With respect to fabricated memories, there is now a large body of research documenting the ease with which memory can be distorted and the extent to which individuals can come to remember fantastic events that are highly unlikely to have occurred. When these properties of memory are combined with the suggestive memory techniques known to be used in therapy, the possibility of the formation of memory fabrications becomes quite real.

With respect to recovered memories, we offered four case studies of recovered memory accounts for which we were able to provide independent corroborative evidence, suggesting that the memories did in fact correspond to actual incidents of abuse. We believe that these cases provide an existence proof for at least the phenomenological reality of recovered memory experience; i.e. that the experience of suddenly remembering an incident of sexual abuse that is believed to have been previously forgotten can in fact correspond to a real incident. A brief analysis of the possible mechanisms leading to such phenomenological experiences suggests that they may be the result of some standard, and some perhaps less standard, cognitive mechanisms. With respect to standard mechanisms, it seems quite clear that in all four cases recovery was initiated by cues sharing some significant similarities with the original experience, thus strongly implicating the possible role of encoding specificity. The startling quality of the recovered experiences and their emotional potency

(also exhibited in all four cases) further suggests the possible role of processes akin to those leading to ‘a-ha’ insight experiences, and perhaps also associated with the emotional flooding of traumatic PTSD flashbacks.

Although we have provided what we believe to be compelling evidence for the validity of the phenomenological experience of recovered memories, our evidence for the extent of the prior forgetting was less clear cut. On the one hand, several of our cases provided at least suggestive evidence that actual forgetting may have occurred. On the other hand, other cases provided strong evidence that individuals can underestimate the extent of their prior memory leading to our suggestion of a ‘forgot-it-all-along’ effect analogous to the ‘knew-it-all-along’ effect, except that individuals underestimate rather than overestimate their prior knowledge state. We hope that this example of a likely role of a memory distortion processes in at least partially accounting for recovered memories may help cognitive psychologists to more readily conceptualize and ultimately accept recovered memories as a real phenomenon. Recovery experiences corresponding to authentic memories may well be viewed as yet another example of the distorting quality of memory that cognitive psychologists have so effectively documented over the years. In some cases, these distortions may not surround the original memory itself, but rather individuals’ recollection of their subsequent self-knowledge of that experience. Other potential memory distortion factors may include, directed forgetting, reinterpretation, ego maintenance, and/or some other yet-to-be-discovered sources of memory impairment.

Two looming questions

Having argued that there is good reason to believe in *both* fabricated and authentic recovered memories, two difficult questions naturally arise: (1) Which is the more likely?, and (2) How can we distinguish between them? Determining the relative incidence of authentic and fabricated recovered memories will probably never be fully possible because we can never be certain about memories for which there is no corroboration. At the same time, future careful and systematic studies using well defined sampling techniques and independent corroboration of abuse could at least provide some bottom line estimates. Moreover, by comparing the frequency of memory corroboration for individuals drawn from different populations, such as patients of therapists using more and less suggestive memory techniques, we could begin to get a sense of the relative likelihood that recovered memories are the product of suggestion. Of course, even if it is possible to establish some approximate figures for the frequency with which recovered memories correspond to actual versus fabricated abuse, this still would be of only modest help for individuals who believe themselves to have recovered memories of abuse. If the above corroborative case analyses were conducted, we might begin to identify certain characteristics that tend to distinguish corroboratable versus non-corroboratable memories, for example

whether or not they were induced in the context of suggestive therapy. In the present study, all four corroborated recovered memories occurred outside of therapy and were associated with marked surprise. It might well turn out that these attributes are particularly associated with corroboratable recovered memories, and hence might serve as possible indicators of a memory’s likely authenticity. However, even if such associations are found they are unlikely to perfectly distinguish real from fabricated memories (cf. Schooler *et al.* 1986). Thus, in the absence of actual corroborative evidence, science may never be able to tell an individual for certain whether his/her memory is real or simply the product of fabrication. Such an individual, like the field as a whole, may have to come to accept the fundamental ontological uncertainty of many recovered memories.

Final remark

In this chapter we have tried to maintain a balanced perspective, to objectively document the evidence as we see it, to highlight what we consider the strengths and weaknesses of each source. Despite our efforts, we recognize that some will remain unpersuaded because ‘remarkable claims require remarkable evidence’ (Brewer personal communication). This basic epistemological observation gets right to the heart of this debate since the claims of each side might be seen by some as implausible. Some might find it difficult to conceive that vivid and detailed memories of sexual abuse could simply be fabricated, while others might find it harder to accept the notion that experiences of sexual abuse could be forgotten and then suddenly remembered. Which of these two views is seen as more remarkable may powerfully influence how one perceives the evidence and thus further fuel the polarization on this topic.

It is our hope that we have begun to illustrate how both sides of this issue become at least a little less remarkable when considered in the context of the well known fallibility of memory. If individuals can remember bizarre events such as being abducted by space aliens, why is it all that much more remarkable that individual might falsely remember being sexually abused? If memory for events is so vulnerable to distortion, then why shouldn’t knowledge about what one remembers also be vulnerable to distortions. In the end, recovered memories of both fabricated and actual events may come to be understood as different examples of the many remarkable ways in which memory can misrepresent and obfuscate the past.

ACKNOWLEDGEMENTS

The writing of this chapter was supported by a grant to the first author from the National Institute of Mental Health. We thank Stephen Fiore, Stephen Lindsay,

Elizabeth Loftus, George Mandler, Tonya Schooler, and Joseph Melcher for their helpful comments on earlier drafts.

REFERENCES

- Allport, G.W. and Postman, L.J. (1947). *The psychology of rumor*. Henry Holt, New York.
- Anderson, R.C. and Piche, J.W. (1978). Recall of previously unrecallable information following a shift in perspective. *Journal of Verbal Learning and Verbal Behavior*, 17, 1-12.
- American Psychological Association. (1996). *Working Group on Investigation of Memories of Childhood Abuse*, final report. Washington, D.C.
- Atkinson, R.C. and Shiffrin, R.M. (1968). Human memory: a proposed system and its control processes. In *The psychology of learning and motivation*, Vol. 2, (ed. K. Spence and J. Spence), pp. 89-195. Academic, New York.
- Barnes, J.M. and Underwood, B.J. (1959). 'Fate' of first-list associations in transfer theory. *Journal of Experimental Psychology*, 58, 97-105.
- Bartlett, F.C. (1932). *Remembering*. Cambridge University Press.
- Bass, E. and Davis, L. (1988). *The courage to heal: a guide for women survivors of child sexual abuse*. Harper and Row, New York.
- Bjork, R.A. (1989). Retrieval inhibition as an adaptive mechanism in human memory. In *Varieties of memory and consciousness: essays in honour of Endel Tulving*, (ed. H.L. Roediger and F.I.M. Craik), pp. 309-30. Erlbaum, Hillsdale, NJ.
- Blume, E.S. (1990). *Secret survivors: uncovering incest and its aftereffects in women*. Ballantine, New York.
- Bottoms, B.L., Shaver, P.R., and Goodman, G.S. An analysis of ritualistic and religion related child abuse allegations. *Law and Human Behavior*. (In press.)
- Bower, G.H. (1990). Awareness, the unconscious, and repression: an experimental psychologist's perspective. In *Repression and dissociation*, (ed. J.L. Singer), pp. 209-31. University of Chicago Press.
- Briere, J. and Conte, J. (1993). Self-reported amnesia for abuse in adults molested as children. *Journal of Traumatic Stress*, 6, 21-31.
- Brown, D. (1995). Pseudomemories, the standard of science and the standard of care in trauma treatment. *American Journal of Clinical Hypnosis*, 37, 3-29.
- Brown, R. and Kulik, J. (1977). Flashbulb memories. *Cognition*, 5, 73-99.
- Ceci, S.J., Crotteau, M.L., Smith, E., and Loftus, E.F. (1994a). Repeatedly thinking about a nonevent: source misattributions among preschoolers. *Consciousness and Cognition*, 3, 388-407.
- Ceci, S.J., Loftus, E.F., Leichtman, M.D., and Bruck, M. (1994b). The possible role of source misattributions in the creation of false beliefs among preschoolers. *International Journal of Clinical and Experimental Hypnosis*, 42, 304-20.
- Christenson, R.M., Walker, J.I., Ross, D.R., and Mattibe, A. (1981). Reactivation of traumatic conflicts. *American Journal of Psychiatry*, 138, 984-5.
- Conway, M.A. and Rubin, D.C. (1993). The structure of autobiographical memory. In *Theories of memory*, (ed. A.F. Collins, S.E. Gathercole, M.A. Conway, and P.E. Morris), pp. 103-37. Erlbaum, Hove, East Sussex.
- Dawes, R.M. (1989). Experience and the validity of clinical judgment: the illusory correlation. *Behavioral Sciences and the Law*, 7, 457-67.
- Dawes, R.M. (1994). *The house of cards*. Maxwell Macmillan Canada, Toronto.
- Dodd, D.H. and Bradshaw, J.M. (1980). Leading questions and memory: pragmatic constraints. *Journal of Verbal Learning and Verbal Behavior*, 19, 695-704.
- Ebbinghaus, H. (1913). *Memory: a contribution to experimental psychology*. Columbia Teacher's College, New York.
- Erdelyi, M.H. (1990). Repression, reconstruction, and defense: history and integration of the psychoanalytic and experimental frameworks. In *Repression and dissociation*, (ed. J.L. Singer), pp. 1-31. University of Chicago Press.
- Erdelyi, M.H. and Kleinbard (1978). Has Ebbinghaus decayed with time? The growth of recall (hypernesia) over days. *Journal of Experimental Psychology: Human Learning and Memory*, 4, 275-89.
- Femina, D.D., Yeager, C.A., and Lewis, D.O. (1990). Child abuse: adolescent records vs. adult recall. *Child Abuse and Neglect*, 14, 227-31.
- Fischhoff, B. (1982). For those condemned to study the past: heuristics and biases in hindsight. In *Judgment under uncertainty: Heuristics and biases*, (ed. D. Kahneman, P. Slovic, and A. Tversky), pp. 335-51. Cambridge University Press, New York.
- Freud, S. (1940). Sketches for the preliminary communication of 1893. In *The standard edition of the complete psychological works of Sigmund Freud*, (ed. J. Strachey), 1, 145-54. Hogarth Press, London.
- Freud, J.J. (1994). Betrayal trauma: traumatic amnesia as an adaptive response to childhood abuse. *Ethics and Behavior*, 4, 307-29.
- Garry, M., Loftus, E.F., and Brown, S.W. (1995). Memory: a river runs through it. Special issue: the recovered memory/false memory debate. *Consciousness & Cognition: An International Journal*, 3, 438-51.
- Gick, M.L. and Lockhart, R.S. (1995). Cognitive and affective components of insight. In *The nature of insight*, (ed. R.J. Sternberg and J.E. Davidson), pp. 197-228. MIT Press, Cambridge, MA.
- Gleaves, D.H. (1994). On 'The reality of repressed memories'. *American Psychologist*, 49, 440-1.
- Gold, S.N., Hughes, D., and Hohnecker, L. (1994). Degrees of repression of sexual abuse memories. *American Psychologist*, 49, 441-2.
- Goldstein, E. and Farmer, K. (ed.). (1993). *True stories of false memories*. Sires Publishing, Boca Raton, FL.
- Greenwald, A.G. (1980). The totalitarian ego: fabrication and revision of personal history. *American Psychologist*, 35, 603-18.
- Gudjonsson, G.H. (1992). *The psychology of interrogations, confessions and testimony*. Wiley, New York.
- Haaken, J. and Schlaps, A. (1991). Incest resolution therapy and the objectification of sexual abuse. *Psychotherapy*, 28, 39-47.
- Harvey, M.R. and Herman, J.L. (1994). Amnesia, partial amnesia and delayed recall among adult survivors of childhood trauma. *Consciousness and Cognition*, 3, 295-306.
- Herman, J.L. and Schatzow, E. (1987). Recovery and verification of memories of childhood sexual trauma. *Psychoanalytic Psychology*, 4, 1-14.
- Holmes, D. (1990). The evidence for repression: an examination of sixty years of research. In *Repression and dissociation: implications for personality theory, psychotherapy, and health*, (ed. J. Singer), pp. 85-102. The University of Chicago Press.
- Horn, M. (1993). Memories lost and found. *U.S. News and World Report*, November 29, 53-63.
- Hyman, I.E. (1995). False memories of childhood experiences. *Applied Cognitive Psychology*, 9, 181-97.

- Hyman, I.E., Jr. and Billings, F.J. (1995). Individual differences and the creation of false childhood memories. (Submitted).
- Johnson, M.K., Hashtroudi, S., and Lindsay, D.S. (1993). Source monitoring. *Psychological Bulletin*, *114*, 3-28.
- Johnson, M.K. and Raye, C.L. (1981). Reality monitoring. *Psychological Review*, *85*, 67-85.
- Lanning, K.V. (1989). Satanic, occult, ritualistic crime: a law enforcement perspective. *The Police Chief*, October, 62-83.
- Lewis, H.B. (1990). Shame, repression, field dependence, and psychopathology. In *Repression and dissociation*, (ed. J.L. Singer), pp. 233-57. University of Chicago Press.
- Lindsay, D.S. (1994). Contextualizing and clarifying criticisms of memory work. Special issue: the recovered memory/false memory debate. *Consciousness & Cognition: An International Journal*, *3*, 426-37.
- Lindsay, D.S. and Read, J.D. (1994). Psychotherapy and memories of child sexual abuse: a cognitive perspective. *Applied Cognitive Psychology*, *8*, 281-338.
- Lindsay, D.S. and Read, J.D. (1995). 'Memory work' and recovered memories of childhood sexual abuse: scientific evidence and public, professional, and personal issues. *Psychology, Public Policy, and Law*, *1*, 846-908.
- Loftus, E.F. (1993). The reality of repressed memories. *American Psychologist*, *48*, 518-37.
- Loftus, E. and Ketcham, K. (1994). *The myth of repressed memory: false memories and allegations of sexual abuse*. St Martin's Press, New York.
- Loftus, E.F., Miller, D.G., and Burns, H.J. (1978). Semantic integration of verbal information into visual memory. *Journal of Experimental Psychology: Human Learning and Memory*, *4*, 19-31.
- Loftus, E.F., Donders, K., Hoffmann, H.G., and Schooler, J.W. (1989a). Creating new memories that are quickly accessed and confidently held. *Memory and Cognition*, *17*, 607-16.
- Loftus, E.F., Korf, N., and Schooler, J.W. (1989b). Misguided memories: sincere distortions of reality. In *Credibility assessment: a theoretical and research perspective*, (ed. J. Yuille), pp. 155-74. Klumer, Boston.
- Loftus, E.F., Garry, M., and Feldman, J. (1994a). Forgetting sexual trauma: what does it mean when 38% forget? *Journal of Consulting and Clinical Psychology*, *62*, (6), 117-81.
- Loftus, E.F., Polonsky, S., and Fullilove, M.T. (1994b). Memories of childhood sexual abuse: remembering and repressing. *Psychology of Women Quarterly*, *18*, (1), 67-84.
- Malmquist, C.P. (1986). Children who witness parental murder: post traumatic aspects. *Journal of the American Academy of Child Psychiatry*, *25*, 320-5.
- Mandler, G. (1995). The abuse of repression. *Applied Cognitive Psychology*, *9*, 539-41.
- McGee, R. (1984). Flashbacks and memory phenomena. *Journal of Nervous and Mental Disease*, *174*, 4-14.
- McGeoch, J.H. (1942). *The psychology of human learning*. Longmans, Green, New York.
- Milgram, S. (1963). Behavioral study of obedience. *Journal of Abnormal and Social Psychology*, *67*, 371-8.
- Morton, J. (1994). Cognitive perspectives on memory recovery. *Applied Cognitive Psychology*, *8*, 389-98.
- Neisser, U. (1981). John Dean's Memory: a case study. *Cognition*, *9*, 1-22.
- Nelson, K. (1993). The psychological and social origins of autobiographical memory. *Psychological Science*, *4*, 1-8.
- Ofshe, R. and Watters, E. (1994). *Making monsters: false memories, psychotherapy, and sexual hysteria*. Scribners, New York.
- Olio, K.A. (1994). Truth in memory. *American Psychologist*, *49*, 442-3.
- Orne, M.T. (1979). The use and misuse of hypnosis in court. *International Journal of Clinical and Experimental Hypnosis*, *27*, 311-41.
- Pasley, L.E. (1993). Misplaced trust. In *True stories of false memories*, (ed. E. Goldstein and K. Farmer), pp. 347-65. Sirs Publishing, Boca Raton, FL.
- Persinger, M.A. (1992). Neuropsychological profiles of adults who report 'Sudden remembering' of early childhood memories: implications for claims of sex abuse and alien visitation/abduction experiences. *Perceptual and Motor Skills*, *75*, 259-66.
- Pezdek, K. and Roe, C. (1994). Memory of childhood events: how suggestible is it? *Consciousness and Cognition*, *3*, 374-87.
- Polunsky, M.A. and Follette, V.M. (1996). Remembering childhood sexual abuse: a national survey of psychologists' clinical practices, beliefs, and personal experiences. *Professional Psychology: Research and Practice*, *27*(1), 41-52.
- Poole, D.A., Lindsay, D.S., Memon, A., and Bull, R. (1995). Psychotherapy and the recovery of memories of childhood sexual abuse: U.S. and British practitioners beliefs, practices, and experiences. *Journal of Consulting and Clinical Psychology*, *63*, 426-37.
- Raaijmakers, J.G. and Shiffrin, R.M. (1981). Search of associative memory. *Psychological Review*, *88*, 93-134.
- Ross, M. (1989). Relation of implicit theories to the construction of personal histories. *Psychological Review*, *96*, (2), 341-57.
- Schachter, D. L. (1995). Memory wars. *Scientific American*, April, 134-9.
- Schank, R.C. and Abelson, R. (1977). *Scripts, plans, goals, and understanding*. Erlbaum, Hillsdale, NJ.
- Schooler, J. (1994). Seeking the core: issues and evidence surrounding recovered accounts of sexual trauma. *Consciousness and Cognition*, *3*, 452-69.
- Schooler, J.W. and Loftus, E.F. (1993). Multiple mechanisms mediate individual differences in eyewitness accuracy and suggestibility. In *Mechanisms of everyday cognition* (ed. J.M. Puckett and H.W. Reese), pp. 177-203. Erlbaum, Hillsdale, NJ.
- Schooler, J.W. and Melcher, J.M. (1995). The ineffability of insight. In *The creative cognition, approach*, (ed. S.M. Smith, T.B. Ward, and R.A. Rinke), p. 351. MIT Press, Cambridge, MA.
- Schooler, J.W., Gerhard, D., and Loftus, E.F. (1986). Qualities of the unreal. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *12*, 71-181.
- Schooler, J.W., Clark, C.A., and Loftus, E.F. (1988). Knowing when memory is real. In *Practical aspects of memory*, (ed. M. Gruneberg, P. Morris, and R. N. Sykes), pp. 83-8. Wiley, New York.
- Schooler, J.W., Fallschore, M.F., and Fiore, S.M. (1995). Epilogue: putting insight into perspective. In *The nature of insight*, (ed. R.J. Sternberg and J.E. Davidson), pp. 559-87. MIT Press, Cambridge, MA.
- Southwick, S., Krystal, S.M., Morgan, J.H., Andrew, C., and Johnson, D. (1993). Abnormal noradrenergic function in posttraumatic stress disorder. *Archives of General Psychiatry*, *50*, (4), 266-74.
- Spiegel, D. and Cardena, E. (1991). Disintegrated experience: the dissociative disorders revisited. *Journal of Abnormal Psychology*, *100*, 366-78.

- Sternberg, R.J. and Davidson, J.E. (ed.). (1995). *The nature of insight*. MIT Press, Cambridge, MA.
- Tulving, E. and Thompson, D.M. (1973). Encoding specificity and retrieval processes in episodic memory. *Psychological Review*, **80**, 352-73.
- Underwood, B.J. (1967). Interference and forgetting. In *Human learning and memory: selected readings*, (ed. N.J. Slamecka), pp. 3-13. Oxford University Press, New York.
- van der Kolk, B. (1988). The trauma spectrum: the interaction of biological and social events in the genesis of trauma response. *Journal of Traumatic Stress*, **1**, 273-90.
- Wagenaar, W.A. (1986). My memory: a study of autobiographical memory over six years. *Cognitive Psychology*, **18**, 225-52.
- Williams, C.C. (1983). The mental foxhole: the Vietnam veteran's search for meaning. *American Journal of Orthopsychiatry*, **53**, 1, 4-17.
- Williams, L.M. Recall of childhood trauma: a prospective study of women's memories of child sexual abuse. *Journal of Consulting and Clinical Psychology*. (In press.)
- Wilson, T.D. and Brekke, N. (1995). Mental contamination and mental correction. unwanted influences on judgments and evaluations. *Psychological Bulletin*, **116**, (1), 117-42.
- Yapko, M. (1994). *Suggestions of abuse: real and imagined memories*. Simon & Schuster, New York.