



# Recovered Memories

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## GLOSSARY

**betrayal trauma theory** A theory that predicts that the degree to which a negative event represents a betrayal by a trusted, needed other will influence the way in which that event is processed and remembered.

**dissociation** A psychological state involving alterations in one's sense of reality and one's identity, hypothesized to influence the storage and accessibility of event memories.

**encoding specificity** The tendency for a prior experience to come to mind when one encounter cues in the environment that correspond to the conditions in which the experience was originally encoded.

**false memory** A memory for an event that did not occur.

**forgot it all along effect** The claim that various biases sometimes cause individuals to overestimate the degree to which they had previously forgotten an experience.

**memory persistence** The degree to which a memory has remained available over time.

**metac consciousness** One's explicit appraisal of his or her own's phenomenological experience. Variations in metac consciousness of abuse experiences have been hypothesized to contribute recovered memories.

**prospective trauma studies** A research methodology in which participants are identified on the basis of their known history of trauma and are then contacted in order to determine their subsequent memory for the trauma.

**psychogenic amnesia** The report of profoundly forgetting experiences hypothesized to be due to psychological rather than physiological factors.

**recovered memory** The recollection of a memory that is perceived to have been unavailable for some period of time.

**repression** A defense mechanism hypothesized to keep unwanted information out of an individual's awareness.

**Recently, there has been disagreement in the public, legal, and academic communities regarding if, how, and why people forget and later recover memories of traumatic life events. This article addresses the specific situation of remembering experiences of childhood sexual abuse, one of the most controversial types of trauma.**

## I. INTRODUCTION

There are many experiences in life that we expect to forget: a name, a birthday, perhaps even a trip we once

took. Typically, however, we expect to remember our most significant life experiences: one's wedding day, the birth of a child, or the death of a parent. Although very significant life events are generally remembered (albeit often far from perfectly) there is at least one type of situation in which people sometimes report forgetting seemingly unforgettable experiences. Specifically, for centuries, people have reported forgetting, and later recovering, memories for traumatic events. For almost as long it seems people have been discussing if, how, and why this phenomenon actually occurs. By the end of the 1900s, this discussion appeared in the popular and academic press as a heated and polarized debate, focused primarily on memory for childhood sexual abuse. On one extreme, it was argued that not only can significant events be forgotten and later recovered but also such recovered memories are intact and accurate. On the other extreme, it was argued that a developing community of hysteria, based on the assumption that almost any adult difficulties were due to forgotten childhood trauma, could convince otherwise normal adults that they were abused as children. All involved in the discussion emphasized the emotional significance of such claims and the importance in furthering our understanding of how trauma can affect memory. Fortunately, much of the fervor seems to have quieted, and what remains are a number of interesting and important scientific questions on the nature of human memory.

This article attempts to give the reader an overall picture of the issues surrounding recovered memories in which individuals report having remembered long-forgotten experiences of trauma. Although this article uses the standard term "recovered memory," we note that some have expressed concerns that this term makes undue assumptions. In particular, it implies that a memory had been entirely "lost," and that the memory that was ultimately recovered is the same as that which was lost. As will be noted, there are many cases in which individuals appear to sincerely believe they have discovered long-lost memories of trauma, even though the accuracy of the memories and/or the degree to which the memories had been entirely lost are unclear. Jonathan Schooler suggested that the term "discovered memory" may be more appropriate because it maintains agnosticism regarding both whether the memory was truly forgotten and the degree to which the memory corresponds to an experience that really occurred. At the same time, however, it respects the integrity of the individual's experience of having made a profound memory discovery. Clearly, the field

would be well served by a careful consideration of the most appropriate term for this contentious construct. Here, we use the standard term recovered memory in deference to the fact that it is currently the most commonly used term in this context.

We begin by briefly summarizing the proposed social situation in which the current debate arose. Then, we present a sample of published research that has attempted to document the forgetting and recovery of memories for childhood sexual abuse. This is followed by a discussion of possible mechanisms for recovered memories, including ones proposed to be specific to traumatic events and others that are more standard mechanisms for remembering and forgetting. Finally, we discuss issues of accuracy in recovered memories.

## II. SOCIOHISTORICAL CONTEXT

The idea that memories of painful events can be selectively forgotten and later recovered has been around at least since the late 19th century, when it was discussed in association with hysteria by Charcot, Janet, and Freud. This concept of repression experienced renaissance periods after each World War, when numerous soldiers reported experiencing an inability to remember and later recovery of parts or all of traumatic combat experiences, then considered a symptom of combat neuroses. Although the topic of war neuroses was periodically addressed and forgotten, it does not appear that the question of whether or not war experiences could be forgotten or recovered was particularly controversial. Furthermore, since it was well-known that the men had been in horrible combat situations, there was little need to doubt their reports of exactly what occurred. When the diagnosis of posttraumatic stress disorder (PTSD) first entered the third *Diagnostic and Statistical Manual of the American Psychological Association*, it included psychogenic amnesia as a symptom of the disorder.

In the 1980s and beyond, individuals began making claims regarding the forgetting and discovery of memories for a topic that was controversial—sexual abuse. The feminist movement of the 1960 and 1970s increased awareness of the prevalence of physical and sexual abuse in the lives of women and children. Furthermore, it was noted that the response to such trauma was similar to the response of the combat veterans to war; the women were displaying the same symptoms of PTSD as the men. Both of these claims in and of themselves were debated. First, it has been

argued that the prevalence of sexual abuse—variously defined—is actually very low. Second, it has been argued that many childhood sexual abuse experiences may not actually be traumatic. Needless to say, determining the precise incidence of sexual abuse and the concomitant trauma that is experienced at the time are complicated issues. Nevertheless, there is a large body of evidence indicating sexual abuse does occur with alarming regularity, and that many experiencers of such abuse find it extremely upsetting.

The major issue in the current controversy surrounds memory. In the 1980s and 1990s, the notion that traumatic events could be forgotten and later accurately recovered received a great deal of public support and attention. Along with this movement came several ideas that would cause the greatest amount of controversy. First, some groups asserted that an individual might have been abused even if he or she did not remember the abuse. Possessing symptoms from a broad list of possible consequences of trauma was proposed to be enough to assume that abuse did occur. Second, therapeutic techniques arose with the prime goal of recovering “repressed” memories. Free association, dream interpretation, hypnosis, and sodium amytal, among other techniques, were used to uncover memories for abuse. Perhaps most critically, a number of individuals were encouraged to bring criminal or civil law suits against their perpetrators based on their recovered memories. Furthermore, numerous states passed special statutes of limitations for cases in which the plaintiffs purport to have only recently remembered the crime. These ideas were soon heavily contested. The inability of researchers to find unique and consistent symptoms of a history of trauma argued against making assumptions that an individual was abused based on his or her current psychological profile. In addition, concern was raised in research, practitioner, and legal communities that the strong influence of therapist beliefs, especially in combination with highly suggestive and aggressive techniques such as hypnosis, could lead to the creation of false beliefs and memories about childhood trauma. The acceptance of recovered memories as legal testimony further increased the emphasis on the accuracy of such memories.

Interestingly, the shift in public interest was reflected in popular media. In an analysis of the content of four popular magazines—*Time*, *Newsweek*, *US News and World Report*, and *People*—sociologist Katherine Becker documented this change. According to Becker, in 1991, 80% of articles on childhood sexual abuse cases weighted toward the survivors, with their

memories and therapeutic histories virtually unquestioned. By 1994, 80% of the articles focused on false accusations of abuse and supposedly false memories. A major influence in this shift of media attention was credited to an organization named the False Memory Syndrome Foundation, a support group for parents who claimed to be falsely accused of abusing their children. The foundation, whose board members include many eminent scientists and scholars, argued that there was little evidence that extensive traumatic events could be forgotten and later recovered. Moreover, individuals expressed concern that the social and therapeutic climate was causing an epidemic of false recovered memories.

For a number of years, the controversy was often treated as a black-and-white issue of whether recovered memories should be considered real or false. However, in recent years a more nuanced perspective has emerged in which most researchers and practitioners seem willing to accept that both false memories and authentic recovered memories do in fact occur. The distinct questions of the degree to which a traumatic memory is available over time and the degree to which that memory is accurate are beginning to be disentangled in human memory research. Within the topic of memory availability, the distinction between claims that events can be forgotten and claims that the memory for such events can be recovered has also been noted. Disagreements still exist, particularly with respect to estimation of the relative frequency of authentic and false recovered memories and the precise therapy practices that are or are not appropriate. Nevertheless, a spirit of moderation has emerged in which individuals from alternative perspectives have begun to work collectively to assess the current evidence and identify promising areas for future research.

### III. EMPIRICAL RESEARCH ON RECOVERED MEMORIES

Numerous methodologies have been employed to study forgotten and recovered memories. Here, we present a brief sampling of the different studies. We begin with interview studies on patient populations and survey studies, discussing the advantages and disadvantages of these methods. We then discuss several prospective and case studies that have attempted to address some of the difficulties found in the earlier research.

### A. Studies on Patient Populations

In one of the earliest empirical studies on forgetting of sexual abuse, Judith Herman and Emily Schatzow interviewed women in group psychotherapy for incest. In this sample, 38% reported that they had never experienced amnesia for the abuse, 36% reported experiencing moderate memory deficits, and 26% reported severe memory deficits. Relatedly, Elizabeth Loftus and colleagues interviewed a number of substance abuse patients, most of whom had experienced sexual abuse. Although most of those women reported always remembering the abuse, 12% reported consistently remembering only part of the abuse and 19% said they forgot abuse for period of time only later to have the memory return. However, results from this study must be taken with caution due to the effect of drug abuse on memory. In an additional study, Steven Gold and colleagues surveyed individuals entering therapy for sexual abuse. Approximately one-third reported that they "always contained a fairly complete memory of all or most episodes of abuse" and an additional 16% "remembered at least one episode of abuse in its entirety, but not all of them." About 14% reported having only a partial memory or flashes of recollection for some aspects of the event only. Ten percent "had a vague sense or suspicion but no definite memory" and almost another one-third "completely blocked out any recollection of the abuse."

### B. Survey Studies

In an often-cited study, John Briere and Jon Conte surveyed hundreds of individuals in outpatient therapy, all of whom reported a history of child sexual abuse (CSA). One critical question on this survey asked "During the period of time between when the first forced sexual experience happened and your 18th birthday, was there ever a time when you could not remember the forced sexual experience?" Almost 60% of the respondents answered yes to this question. Similarly, Shirley Feldman-Summers and Kenneth Pope published the results of a randomized national survey of psychologists. Of the respondents who reported experiencing CSA, approximately 40% reported forgetting some or all of the abuse for a period of time. Non-sexual abuse was also reported to be forgotten. Interestingly, about half of these respondents said their abuse memories were triggered by therapy. Half reported having corroboration.

### C. Methodological Issues in Patient and Survey Studies

These studies demonstrate that some people do indeed believe that they experienced abuse as children and subsequently had partial or no memory for the abuse. Furthermore, although there were a few cases of people still reporting difficulty in remembering abuse experiences, most believed they later recovered the previously inaccessible memories. Once again emphasizing the complexity of memory, awareness ranged from vague suspicions to "flashes of recollection" and full knowledge. The patient studies have the advantage of being more in-depth than standard survey studies, although surveys allow for the collection of vast amounts of data.

Although compelling, there are problems with these studies on therapist or patient populations. First, one might be concerned with surveying beliefs about memory in any individual who has been exposed to therapeutic notions of forgetting and recovery, as may happen in any therapy session. Only the study by Gold and colleagues attempted to account for this by conducting the memory interview at the intake interview. However, even they did not indicate which of their participants had received prior therapy. None of the studies can rule out the possibility that therapist or patients' beliefs about memory and trauma have tainted patients' recollection of their past memory. In fact, all retrospective studies suffer from reliance on the biased and difficult task of estimating past states of knowledge, especially in response to one or two nondetailed questions. Imagine trying to estimate if there was ever a period of time in which you had forgotten your sixth birthday party. There was probably a long period of time during which you did not think of the party, but it is very difficult to answer the question, "Could you have remembered if you tried?"

In addition, critics of these studies have raised the issue of corroboration for the abuse. Sexual abuse in particular is one of the most difficult crimes to find objective evidence for, and it is obvious that perpetrators have a great deal of motivation to lie and not confess their guilt. Additionally, one could argue that attempts to seek out corroboration in the therapeutic setting are bad for an atmosphere of trust in the patient. However, in scientific research one wants corroboration. Although Herman and Schatzow reported that three-fourths of the women were able to find independent corroboration, the authors relied on the patient reports of that evidence. Similar to the requirement of corroboration for the abuse, it is

difficult to give evidence that the memory was actually inaccessible had the individual tried to remember the event. Indeed, the study by Gold and colleagues reported their clinical observation that many individual's beliefs about their memories can change over the course of therapy (though this was in the context of an observation that most came to believe they had less complete memories than before). As discussed later, it is possible for individuals to believe they forgot something during a period of time in which they demonstrated awareness of that event.

#### D. Prospective Studies

Studies employing prospective methodologies have attempted to address the issue of corroboration by identifying individuals with documented abuse experiences and following them to later test their memory for the event. For example, Linda Williams published a study of 129 women whose childhood abuse experiences were documented due to required treatment at a hospital emergency room. In an interview conducted on average 17 years after hospitalization, the women were asked in detail about their abuse histories. Thirty-eight percent of the participants did not recall or did not report the abuse. Importantly, these women were no less likely to disclose personal information than the women who did report the specific abuse experience, suggesting this finding was not just due to an unwillingness to report the event. Williams also ruled out the possibility that all of the nonreporters were simply too young at the time the abuse occurred to remember it, and that the nonreporters likely represented original false reports. In addition to the group that seemed to have forgotten the abuse experience, approximately 10% of the participants reported recovered memory experiences. Based on an analysis of the hospital records, the women who reported recovery experiences had no more inaccuracies in their accounts than the women who reported continuous availability of the memory.

This type of study has the benefit of corroboration for the abuse. Furthermore, the interviews conducted in the Williams study and others like it allow for more in-depth questioning about the person and his or her experiences. Some have criticized the Williams study because it did not specifically ask about the abuse experience in question, thus why participants did not report the abuse experience cannot be definitively argued. In this study, the possibility cannot be ruled out that some individuals either felt disinclined to

report the abuse or conflated the target incident with some other incident that they did recall. However, as described previously, the author made great efforts to rule out this possibility. Another limitation to prospective memory studies is that the evidence that they provide for forgetting only applies to those memories that *were not recalled* at the time of the interview. Since the recovered memories identified in these studies *were recalled* during the interview, these studies do not speak to the degree to which recovered memories are ever fully forgotten. Indeed, as discussed later, case study analyses have provided evidence that individuals may sometimes overestimate the degree that they had previously forgotten memories that they describe as recovered. A final limitation of all of the approaches outlined previously is that they aggregate data across cases, possibly obscuring potentially critical details of individual cases that may provide important clues about the nature of the phenomenon. Case study analyses help to fill this critical gap.

#### E. Case Studies

Another approach for investigating recovered memories is to engage in detailed retrospective analysis of the various elements of individual cases. For example, Jonathan Schooler and collaborators interviewed a number of individuals who reported having discovered previously forgotten memories of abuse. In one case, JR reported that following viewing a movie involving sexual abuse, he suddenly remembered incidents of being molested by a priest on camping trips when he was an adolescent. In another case, DJ reported that following a dinner with a neighbor whom she had not seen in many years, she suddenly recalled that this individual molested her numerous times between the ages of 5 and 7. In each of seven cases collected thus far, the investigators sought independent corroboration of the abuse, usually by contacting other individuals who the victim indicated had prior knowledge of either the abuse or the abusive tendencies of the alleged perpetrator. For example, in JR's case another individual indicated that the priest had attempted to molest him also, and in DJ's case, her mother reported that the alleged perpetrator had confessed. In each of these cases, independent evidence of the abuse was found. Moreover, in each case the individual reported a strong belief that there was a period of time in which he or she did not remember the abuse experience. The individuals also provided numerous details regarding their "memory discovery experiences," which were typically

described as involving shock, surprise, and a sudden unfolding of events. On the basis of the details extracted from these cases, Schooler proposed a number of possible mechanisms that may help to explain what he terms "discovered memories" of trauma.

In addition to Schooler's case studies, at least two other case studies have recently been published. Interestingly, both of these cases are prospective in nature. David Corwin and Erna Olafson published an incredibly detailed case history (including interview transcripts) of a young girl referred to Corwin for a court-appointed evaluation of allegations of physical and sexual abuse against the mother. At the age of 6, this girl made consistent allegations of abuse against her mother. At the age of 17, she requested to see the videotape of herself because she claimed she could not remember what had actually happened to her. During a subsequent interview between Corwin and the girl, she seemed to have a recovery experience, in which the allegations of abuse suddenly, and with great emotion, came back to her. Interestingly, although some of her memory corresponded to what was on record, she seemed to "remember" other information for which there was no evidence and no previous claims.

Sunita Duggal and Alan Stroufe also published a prospective study on a young girl in Minnesota who reported being abused by her father at age 4. Although the father always denied the abuse and the police were not able to obtain enough evidence to press charges, the girl was believed by her therapist, mother, and caseworker. The girl displayed memory for the abuse during all yearly research interviews conducted through the third grade. However, during annual interviews at ages 16 and 17, in structured interviews she denied experiencing sexual abuse in response to general "negative event" questions and questions specifically about sexual abuse. At age 18, she reported recovering her memory for the abuse.

In each of these cases there are compelling reasons to believe that the individual's memory recovery experiences corresponded to actual abuse events because at least some independent corroboration was obtained. However, the toughest critics may point out that corroboration does not absolutely guarantee that the events took place. Even in the prospective cases, there is no definitive evidence of the abuse. Furthermore, there is no way to prove forgetting occurred. Interestingly, in two of Schooler's case studies, participants' judgments about their forgetting were contradicted by close others. In both cases, ex-husbands reported that they had been told about the event; however, the disclosure was remarkably devoid of affect. Although

it is possible that the husbands are the ones who are wrong, the individuals could have made errors in the degree to which they forgot the event or the period of time during which the forgetting occurred. Collectively, the reports and the corroborative evidence suggest the strong likelihood that recovered memories really can occur and can correspond to actual events.

## F. Summary of Research Documenting Discovered Memories

Despite the methodological difficulties involved in documenting recovered memory experiences, there seems to be at least reasonable agreement that individuals can have sincere recovery experiences corresponding to actual abuse that was perceived to have been entirely forgotten. Although the precise degree of forgetting in these cases may be unclear, the fact that individuals regularly perceive themselves to have forgotten the abuse indicates that at a minimum the memory was less accessible (i.e., less likely to come to mind) prior to the recovery, relative to after the recovery. In other words, even the most conservative assessment of the evidence indicates that traumatic memories can fluctuate in their persistence, with periods of time in which the memories are relatively less accessible. It is therefore appropriate to consider the various mechanisms that might in principle influence the accessibility of traumatic memories. In addition, given that estimations of forgetting are often retrospective, it is also important to consider the factors that might influence the judgment of past accessibility.

In reviewing variables that might contribute to the actual and perceived reduction in the accessibility of memories, it is important to emphasize that much research is still needed in these areas before definitive conclusions regarding the relative contribution of various mechanisms will be possible. Nevertheless, it is useful to outline the various mechanisms that current evidence suggests might be involved.

## IV. THEORIES AND MECHANISMS OF RECOVERED MEMORIES

### A. Mechanisms Specific to Emotional Events

#### 1. Psychodynamic Theories of Repression

Freudian notions of repression argue that painful or threatening material can be selectively, though

effortfully, kept out of conscious awareness. According to Freud, the memory or impulse still exists as a disconnected idea that can affect the person despite lack of conscious awareness. Importantly, the material can later return to conscious awareness. In this view, repression is a protective device. Forgetting occurs to ease pain. Whether Freud considered repression to be an intentional or unintentional occurrence is still a matter of debate since Freud was inconsistent in his writings. Similarly, how this selective awareness occurs is also unknown. Regardless, the notion of repression remains well-known by the layperson and is popular within many mental health communities.

In 1990, David Holmes published an article titled "The Evidence for Repression: An Examination of Sixty Years of Research." Although he noted the observation that Freud was often ambiguous and inconsistent about the exact definition of repression, Holmes decided to investigate experimental evidence for the "conventional use" of the concept. According to Holmes, this conventional definition contains three necessary elements: (i) the selective forgetting of painful information, (ii) it must be involuntary, and (iii) the information can be recovered under the right conditions. His review addressed several different experimental approaches to finding a mechanism for this definition of repression. These areas included the differential recall of pleasant and unpleasant memories, differential recall of completed and incomplete tasks, changes in recall associated with the introduction and elimination of stress, individual differences in repressive tendencies, and perceptual defense. Based on the results of his literature review and some resulting investigations, Holmes concluded that there is no laboratory evidence of a mechanism for Freudian repression.

Holmes' article has been frequently cited as evidence that recovered memories cannot occur. However, it is important to point out that his work investigates mechanisms for repression, not the phenomenon of memory inaccessibility. Furthermore, since the publication of Holmes' studies there have been a number of laboratory studies that offer evidence of repression-like mechanisms. Several studies have investigated the memory performance of individuals who are classified as "repressors"—people who report low anxiety and simultaneously report using various defensive strategies (such as trying not to think about things that bother them). In a study by Penelope Davis it was found that repressors recall fewer negative childhood memories than do nonrepressors. In a related study by Lynn Myers and colleagues, it was found that when

instructed, repressors were better than nonrepressors at forgetting negative words that they had recently read. Of course, findings such as these do not necessarily demonstrate that individuals can massively repress severely emotional experiences, but no laboratory experiment could ethically be expected to demonstrate such repression.

Currently, the following conclusions regarding evidence for repression are probably warranted. First, the question of whether or not individuals can forget extensive incidents of trauma is independent of whether the specific mechanism of repression contributes to such forgetting. Second, although laboratory evidence has been difficult to obtain, there have been a number of studies that can be interpreted as supporting the notion that defensive strategies may lead to the forgetting of some negative material. Finally, regardless of one's opinions on the laboratory evidence for repression, its applicability to the forgetting reported in recovered memories is limited because traumatic experiences are ultimately much more emotional, and the alleged forgetting is reportedly much more extensive, than anything that can be expected to be produced in the laboratory.

## 2. Dissociation during Traumas

Similar to the notion of repression, theories on traumatic dissociation propose that some individuals may psychologically separate themselves from overwhelming negative experiences. Pierre Janet first identified the phenomenon in the late 1800s and proposed that the intense emotion aroused during trauma could interfere with the assimilation and integration of perceptions, thoughts, and experiences. Current understanding of the phenomenon argues that there are three components to an acute dissociative response: derealization (alteration in one's perceptions), depersonalization (alteration in one's sense of self and connection to one's own body), and memory disturbances. Further research has identified a persistent, dissociative personality trait that seems to lie on a continuum throughout all members of the population. In addition to having a joint component of derealization and depersonalization and a memory disturbance component, this concept includes a measure of absorption, the ability to become "lost" in one's thoughts or activities.

The concept of dissociation is central to current research and psychiatric theorizing about trauma. Acute dissociative responses have been identified in survivors of overwhelming traumas such as combat,

sexual abuse, accidents, natural disasters, and fires. Furthermore, it has been argued that immediate dissociative responses to trauma predict poorer psychological recovery. Additionally, trait dissociative tendencies seem to be higher in individuals with a traumatic history. How acute dissociative responses and trait dissociation are related is unclear. Researchers have distinguished between normal and pathological dissociation in the trait variable, arguing that the absorption factor does not seem to be related to pathological dissociation. Thus, it may be that a preexisting dissociative tendency can lead to an acute dissociative response to trauma, which in turn increases one's dissociative tendencies. Of primary interest to the current discussion is how an acute dissociative response or dissociative tendencies may affect memory.

One possibility is that an acute dissociated state leads to poor encoding of a traumatic event. In this situation, trauma memories could be fragmentary or missing but could not be completely recovered. The second possibility is that the dissociated state is functionally distinct from the normal state of mind, leading to state-dependent effects in which dissociated material cannot be retrieved until one once again enters the dissociated state of mind. Experimental research has demonstrated that memory can improve if one is in the same mood or physical location at the time he or she tries to recall something as he or she was at the time he or she learned the information. Thus, material learned while dissociated may be difficult to remember when one is in a normal state of mind but more easily retrieved when one returns to the dissociated state. In a study using highly hypnotizable undergraduates, Heidi Sivers and Gordon Bower gave participants a series of items to learn while in either a hypnotically induced "dissociated" or "normal" state. They then asked the participants to later recall the items, again while in a dissociated or normal state. Although they had hypothesized that state-dependent memory would be found, instead they found what appeared to be very poor recall of the learn-dissociated items regardless of retrieval state. This suggests that dissociation was indeed negatively affecting the original encoding of the material learned.

Jennifer Freyd and colleagues relatedly found that dissociative trait can affect attention and memory. Using a measure called the Dissociative Experiences Scale (DES), they identified members of the general population who were either high or low on dissociative tendencies. They discovered that highly dissociative individuals are worse at filtering out irrelevant materi-

al in tasks that require attending to a select portion of incoming information. However, these same people are better at tasks that require attending to more than one thing at a time. In a different task, high and low DES individuals were asked to learn portions of a list containing neutral and trauma-relevant words. If asked to simply recall everything, there were no differences between the two groups. However, when their attention was divided at learning by an additional task, high DES participants recalled fewer trauma-related and more neutral words than did low DES participants. In both learning conditions, high DES participants recognized fewer trauma-related and more neutral words than did low DES participants. These findings suggest that dissociation may be adaptive in keeping threatening information from awareness in certain circumstances. In particular, attentional context may be a central factor in understanding when dissociative tendencies are most likely to help people keep threatening information from awareness. Thus, the lack of integration of experiences, memories, and thoughts creates an environment that requires constant divided attention and encourages cognitive strategies for functioning efficiently in such environments.

Our understanding of state and trait dissociation is thus still growing. For now, it remains a concept based primarily on clinical observation and self-report, lacking a known cause or mechanism. This has led many research psychologists to view the concept and its attendant hypotheses skeptically. Although much more research is needed before we fully understand what dissociation is, at a minimum measures that purportedly measure dissociation have proven to be a useful tool for predicting both the response to trauma and performance on a number of standard cognitive tasks. This is currently an area being heavily researched, and it is hoped that our understanding of the concept and its relation to trauma and memory will continue to grow.

### 3. Brain Theories on "Processing"

There now exists a reasonable amount of evidence to support the idea that emotional information is processed and remembered through partially different pathways than nonemotional memories. Highly arousing situations may increase the involvement of an area of the brain called the amygdala. Interestingly, Joseph LeDoux has discovered evidence that there are two primary information pathways involved with the amygdala. One pathway is fast, has only generic



information, and does not involve interaction with the areas of the brain involved in the higher processing systems of thinking, reasoning, and consciousness (the cortex). A second, slower and more refined pathway sends input to the amygdala through the sensory cortex. LeDoux suggests that the fear reaction system involves parallel transmission to the amygdala from these two pathways. The subcortical pathway provides a crude image of the external world, whereas a more detailed, accurate, and perhaps conscious representation comes from the cortex. Interestingly, a third input system comes from the sensory-independent hippocampus. The hippocampus is the area of the brain argued to be primarily responsible for normal long-term memory. This hippocampal pathway seems to be involved in the integration of individual stimuli (sights, sounds, and sensations) during learning in order to create a broader context. The hippocampus also seems to play a role in integration at retrieval.

There is evidence that extreme and continuous stress damages the hippocampus. For example, monkeys who died due to extremely stressful living conditions showed damage to subregions of the hippocampus. Relatedly, many different research labs have found decreases in hippocampal volume in Vietnam War veterans with PTSD compared to noncombat control subjects. Based on this research, it is possible that the fear-conditioning pathways may correspond in some way to claims made regarding traumatic memory. The first two pathways are sensory specific, with one occurring completely without cortical involvement, suggesting it may be possible to process some fear-related information with little or no conscious awareness. The second pathway involves some areas of higher processing. Thus, it is possible that the sensory-dependent memories (memories that do not arise unless one is exposed to a specific, sensory cue) are related to representations held within this second system. Because this system is responsible for stimuli discrimination, it may have important ramifications for cue sensitivity. Processing in these cortical areas would allow the individual to be consciously aware of sensory information during the experience. However, extreme terror and fear would interfere primarily with the third pathway projecting to the hippocampus, perhaps the area responsible for integrating those representations into a complex whole. This would result in the isolated sensory recollection posited by some models of traumatic memory. Although these suggestions are highly speculative, there is currently a great deal of research in investigating the neural correlates of traumatic forgetting and memory recovery.

#### 4. Betrayal Trauma Theory

Betrayal trauma is a theory proposed by Jennifer Freyd that addresses both the how and why issues of forgetting of traumatic experiences. In this theory, she argues that amnesia for childhood abuse exists, not for the reduction of suffering but because not knowing about abuse by a caregiver is often necessary for survival. From a logical analysis of developmental and cognitive research, she argues that a cognitive information blockage under certain conditions, such as sexual abuse by a parent, can be expected. This is the "why" portion of the argument that childhood abuse is forgotten.

Betrayal trauma theory proposes a two-dimensional model of trauma. One dimension addresses terror, the emotional state required in the definition of traumatic response. This dimension corresponds to threats to life—things that actually can cause one bodily harm and often do. Another dimension is that of betrayal and threats to social relationships. In this case, the event involves a treacherous act by someone depended on for survival. Some traumas are high on both these dimensions; for example, sadistic abuse by a caregiver, the Holocaust, some combat experiences, and many childhood sexual abuse situations. These events are both terrorizing and involve a betrayal of a relationship. Although the fear dimension is important for some of the anxiety responses found in PTSD, amnesia is especially likely to occur for the events that are high in betrayal.

Betrayal trauma theory leads to specific predictions about the factors that will make amnesia most probable. One notable factor is the individual who is perpetrating the abuse. According to this theory, childhood sexual abuse is more likely to be forgotten if it is perpetrated by a parent or other trusted caregiver. If a child processes the betrayal in the normal way, he or she will be motivated to stop interacting with the betrayer. Essentially, the child needs to ignore the betrayal in order to preserve the attachment. Thus, for a child who is dependent on a caregiver, the trauma of abuse, by the very nature of it, demands that information about the abuse be blocked from mental mechanisms that control attachment and attachment behavior. How is a child to manage this on a long-term and sometimes nearly daily basis? How is the child to succeed at maintaining this necessary relationship when a natural response is to withdraw from the source of the pain? Betrayal trauma theory proposes that the child blocks the pain of the abuse and betrayal by isolating knowledge of the abuse/betrayal

from awareness and memory. There are various avenues for achieving this isolation, one being conscious memories without affect and another being the isolation of knowledge of the event from awareness.

Freyd relies on numerous concepts from cognitive psychology to support the "how" argument of betrayal blindness. She points to mental mechanisms for processing information in parallel, selective attention, sharability of information, and the time course of complex information processing to support the fact that knowledge can be isolated by interrupting the extended processing of complex events. Furthermore, she mentions research on inhibition and recovery of well-formed memories. In summary, there are multiple ways for the abused child to disrupt knowledge integration and awareness of the abuse while facilitating the important and crucial relationship. Furthermore, there are multiple ways for the adult survivor of childhood abuse to recover these memories, and these will depend in part on how the memories were isolated in the first place. At the same time, this cognitive plausibility does not negate the potential for false memories to occur. Indeed, the cognitive mechanisms that support knowledge isolation and recovery may be in part the same mechanisms that may support memory errors.

To support the notion that amnesia will be more likely the more dependent the victim is on the perpetrator, Freyd reanalyzed three sets of extant data, including those described in the Feldman-Summers and Pope and Williams papers articles discussed previously. This investigation indicated that amnesia rates are higher for parental or incestuous abuse than for nonparental or nonincestuous abuse. Furthermore, she and her students collected survey data questioning individuals' memory for a wide array of specific situations of physical, emotional, and sexual abuse in childhood. The preliminary results support the prediction that the greater the victim's dependence on the perpetrator, the less persistent are memories of abuse. Together, these data sets suggest that social dependence may play an important role in memory for traumatic events.

Although the betrayal trauma theory has considerable potential, current evidence in support of it is largely preliminary and exclusively correlational in nature. Although a relationship has tentatively been observed between reported memory persistence and the relationship of the victim to the alleged perpetrator, it does not necessarily follow that the cause of this relationship is betrayal trauma processes. In principle, a variety of other potential factors could

account for these correlations, including age at the time of the event, differences in the interpretations of abuse associated with caretaker vs stranger abuse, differences in the likelihood of talking about the two types of abuse, and/or differences in the likelihood that the memories of the two types of abuse may be fabricated. Freyd and colleagues are currently measuring some of these potentially confounding variables and will be able to evaluate statistically the contribution of these covarying factors in predicting memory impairment. Preliminary analyses indicate that one factor, age at the time of the event, does not account for memory persistence over time. Some issues will require specialized populations. For instance, to evaluate the possibility that there is a difference in the likelihood that memories of types of abuse are fabricated, it will be necessary to use a prospective methodology with documented abuse samples. In correlational research there is always the possibility of unmeasured confounds; because we cannot ethically vary many of the factors of interest related to real abuse, the best we can currently do is to systematically evaluate the contribution of covarying factors that we identify as possibly accounting for differences in rates of reported forgetting.

None of the theories discussed here—repression, dissociation, or betrayal trauma—are exclusive of many standard memory mechanisms that can affect whether any type of information is encoded, stored, or recalled over time. In fact, betrayal trauma theory incorporates many of them. In the next section, we review a number of more standard memory mechanisms that have been proposed to play a role in traumatic amnesia.

## **B. Well-Established, or Non-Trauma-Specific, Memory Mechanisms**

Although many accounts of recovered memory have focused on processes that may be unique to trauma, other approaches have emphasized the various general memory/forgetting mechanisms that could be involved. There are several well-documented general memory mechanisms that seem readily applicable to the current discussion. Here, we review the mechanisms we believe are most relevant.

### **1. Simple Forgetting**

Many observers have noted that we routinely forget all sorts of experiences in life. In one survey, Don Read

found that a significant proportion of people reported recovering memories for all sorts of significant but nontraumatic life experiences. Thus, in many cases the forgetting of childhood abuse may simply reflect the passage of time and the fact that we simply cannot constantly remember the plethora of experiences from our past.

## 2. Directed/Intentional Forgetting

In many cases individuals may try to forget their unpleasant abuse experiences. In fact, there is a large body of laboratory research indicating that people can intentionally forget information when they try. In numerous word-list learning paradigms it has been repeatedly demonstrated that individuals can intentionally forget something. In a typical experiment, participants are given an initial list of words and then told to forget that list and focus on remembering a new list of words. They are then surprised with a memory test for all of the items, including items presented on the first list. The results demonstrate that memory for items on the first list is worse in individuals who were instructed to forget the list than in individuals who were told to remember both lists. Thus, individuals can intentionally forget information.

Many have interpreted these results as due to selective rehearsal. It could be that the first list is simply rehearsed less in the "forget" than the "remember" condition. Relating this to forgotten memories of childhood sexual abuse, a lifetime of avoiding the thought of the abuse or keeping the abuse secret would lead to poor memory due to a lack of rehearsal. Additional directed forgetting studies have attempted to equate intentional rehearsal or use incidental memory and have still found poorer memory for the first list. Furthermore, if nonrecalled forget and remember items are later re-presented for learning, evidence for a "release from inhibition" is found in that original forget items are recalled better than original remember items. This line of cognitive research has been used as support for the notion that information can be intentionally inhibited from conscious awareness and later recovered.

## 3. Interference Theories of Memory

Countless examples of word-list learning experiments have demonstrated that if two related pieces of information are learned, practice of one piece of information can interfere with the ability to remember the other piece of information. This can take the form

of prospective interference, in which past information interferes with the ability to retrieve new information. One example of this phenomenon is having difficulty remembering a friend's married name because her maiden name keeps popping to mind. Alternatively, retrospective interference can occur, in which the learning of new information interferes with the ability to recall old information; the new married name gets in the way of recalling the friend's maiden name. In either case, recall of one set of information "interferes" with the ability to recall the other. When considering traumatic experiences, imagine the child who's favorite uncle sexually abused him on one occasion and takes him to a ball game on another. The child may rehearse the uncle-ball game association repeatedly while never rehearsing the uncle-abuse experience due to pressure not to disclose, threats or denial from the uncle, or numerous other reasons. According to standard interference theories of memory, the strengthening of the uncle-ball game association would actually decrease the ability to recall the uncle-abuse situation.

## 4. Change in Understanding/Reinterpretation

It is frequently proposed that an individual who experiences CSA may not fully understand the event at the time it originally occurs. Knowing when an unfamiliar type of touch is acceptable instead of abusive, for example, may require understanding of social norms and the intentions of the individual doing the touching—a difficult task for an adult, let alone a young child. It has been demonstrated that individuals have very poor memory for information for which they do not have a "schema" or knowledge system. For example, in one research study, participants who read an ambiguous passage had very poor memory for the content of the passage unless a title presented ahead of time indicated what the story was about. In this laboratory study, it was found that if the title was presented after the story, memory was even worse than if no title was provided. Thus, if a person has no way to label, understand, or describe an experience, memory for that experience may suffer.

Even if an event is learned and understood in one manner, a later reinterpretation of the event as "abusive" may cause one to feel like the event is being recalled for the first time. Furthermore, changes in the interpretation of an event may activate previously inaccessible information. Again turning to psychological research studies, it was demonstrated that individuals who were told to read a description of a house from the perspective of a robber remembered

different information than did individuals who read the same description from the perspective of a home buyer. Interestingly, when told afterwards to take on the other role, participants recovered previously unremembered information in line with the new perspective. Therefore, an individual who interprets an event in a different way could actually retrieve additional information related to the new interpretation.

### **5. Encoding Specificity/State Dependency**

As mentioned previously, an additional relevant mechanism is found in encoding specificity or state dependency theories. Encoding specificity theory states that the probability of retrieving a memory is maximized when retrieval conditions correspond to the encoding conditions. Similarly, state dependency argues that memory improves if one is in the same state of mind at the time of recall as when he or she originally learned the information. For example, psychologists Baddeley and Godden had scuba divers learn two lists of words, one while under water and one while on dry land. On a subsequent memory test, it was discovered that individuals recalling information while on dry land remembered more words from the list learned in the same physical location. Likewise, individuals recalling under-water recalled more under-water-learned words. Similar results have been found in studies comparing happiness to sadness and drunkenness to sobriety, among other mind states. Strikingly, when considering the case examples given in support of recovered memories, in all the cases collected by Schooler and the Corwin case there was notable correspondence between the original abuse situation and the situation in which the memory was ultimately recalled. Furthermore, it is possible that the proposed knowledge isolation, or the fragmentary nature of traumatic memory, could make such memories even more dependent on highly specific cues, thus making the events irretrievable except in very limited circumstances.

### **C. Speculative, Non-Trauma-Specific Memory Mechanisms**

In addition to the previously mentioned well-established, non-trauma-specific memory mechanisms, there are more speculative memory mechanisms that may play an important role in recovered memories. Although these mechanisms remain to be definitively

established, they are largely consistent with extant evidence and are worthy candidates as possible accounts for at least some recovered memories.

#### **1. The "Forgot It All Along" Effect**

In several of his cases, Schooler found that the individuals underestimated their prior knowledge about the event as evidenced by the fact that others reported they had talked about the abuse during the time that they thought they were being amnesic. Schooler likens this to a similar bias in individual's estimates of past knowledge, the "knew it all along" effect. The premise of the knew it all along effect is that a person who is told something new comes to believe that he or she knew it all along. This happens because the current knowledge state is used to infer the earlier knowledge state. Although there has been little research to date on cases of underestimations of prior knowledge, it seems reasonable to suppose that if one can use one's current knowledge state to overestimate prior knowledge, one may also use it to underestimate prior knowledge. In the context of an emotional onrush associated with thinking about memories of abuse, individuals may assume that they had no previous knowledge about their abuse. They may reason, "If I'm this shocked and surprised now, then I must have previously completely forgotten about the experience." In short, individuals may misattribute the emotional onrush associated with thinking about the event to the emotional onrush of discovering the memory. Future research is needed to determine whether and, if so, to what degree this intriguing mechanism, which is consistent with apparent mischaracterizations of forgetting in several of Schooler's cases, applies more generally to recovered memory cases.

#### **2. Precipitous Forgetting of Nocturnal Experiences**

Recently, Schooler proposed that there may be something "special" about nocturnal experiences that could lead them to be forgotten almost immediately after occurring. Although characterizations of forgetting as precipitous are certainly not ubiquitous, it has been reported. One possible explanation is that various physiological processes that contribute to dream forgetting may also contribute to the forgetting of nocturnal abuse. Individuals often, indeed usually, forget dreams, even traumatic and disturbing ones. Schooler argues there are a number of striking

parallels between dream forgetting and allegations of forgetting of sexual abuse. First, sexual abuse, like dreams, often occurs at night while the individual is in bed. Second, like dreams, sexual abuse experiences are often bizarre, occur in isolation, and may be difficult to reconcile with preexisting schemata and other events. In fact, descriptions of dissociated experiences often include the statement "it was as if I was dreaming." These parallels between dreams and nocturnal abuse may both contribute to the forgetting of such abuse and to the dismissal of such recollections as being merely "bad dreams," especially in children, who have lesser ability to distinguish between reality and fantasy. In support of this notion, laboratory studies have demonstrated increased forgetting for materials presented immediately prior to sleep onset and immediately after awakening. However, there is no direct empirical evidence that such memories can later be recovered.

### 3. Metaconsciousness

Recently, Schooler proposed a theory of metaconsciousness that assumes that experiential awareness (i.e., the contents of phenomenological experience) can be distinct from metaconsciousness (i.e., one's explicit understanding of his or her phenomenological experience). In this context, recovered memories involve changes in individuals' metaconsciousness of the abuse. In some cases, they may involve the gaining of a different metaconsciousness of the meaning of an experience, which may become confused with the discovery of the memory. The result of such confusion would be the sometimes erroneous belief that the memory is just now being accessed for the first time (similar to the notion of reinterpretation discussed earlier). In other cases, the memory discovery may involve regaining a prior metaconsciousness that was avoided for some time. In still other cases it may involve the gaining of a previously nonexistent metaconsciousness of the experience. A variety of factors ranging from the very straightforward (e.g., age, lack of discussion, and stress) to the more esoteric (e.g., dissociation and nocturnal cognitive processing) may prevent incidents of abuse from being initially encoded with metaconsciousness. Such nonreflected memories, particularly when they are aschematic and disjunctive with other experiences, may continue to elude metaconsciousness until a specific contextual retrieval cue is encountered. Once recalled in the light of metaconsciousness, individuals may understand what happened to them, and this discovery may fundamentally

change their view of their personal histories. Again, research is needed to establish the role that changes in metaconsciousness of abuse may have in contributing to recovered memories.

### D. Conclusions Regarding Theories and Mechanisms of Recovered Memories

Currently, understanding of the mechanisms behind recovered memory experience has resulted in many advances, but there is much to uncover. It seems likely that no one cognitive process will be able to explain all forgetting and recovery of awareness for traumatic events. Indeed, a range of devices, from standard memory mechanisms to processes unique to trauma, should come into play, influenced by the nature of the trauma, the situation in which it occurs, and the immediate and subsequent reaction of the survivors and their social network. Thus, scientific research and discussion on the topic of recovered memories must reflect this complexity and not attempt to reduce the answer of whether traumatic experiences can be forgotten or if they can be accurately recovered to a simple "yes" or "no."

Memory in general is a reconstructive process. We use our current knowledge and understanding to recreate our knowledge of the past. Thus, all memory has the potential for inaccuracy. For centuries, the reliability of our knowledge of the past has been discussed. Of particular relevance to the current discussion is how emotion influences memory. We know that emotion influences the persistence or availability of events over time. Within the range of everyday events, we tend to remember emotionally arousing events more than the mundane. For extraordinary events, extreme emotion is claimed to make an experience impossible to forget (as seen in traumatic flashbacks of PTSD) or difficult to remember (as discussed in this article). What is currently unclear is the degree to which emotion influences the probability of inaccuracies in memory.

### V. ISSUES OF ACCURACY AND INACCURACY IN RECOVERED MEMORIES

Although there are good reasons to believe that many recovered memories of abuse correspond to actual events, there are also compelling reasons to be concerned that some recovered memories may be false. A variety of lines of research raise the specter of false recovered memories.

### A. Research Supporting False Memories

First, individuals can remember, sometimes in excruciating detail, memories of events that are extraordinarily unlikely to have occurred. For example, Michael Persinger found that individuals can recover memories of alien abductions in a manner that at least superficially resembles that associated with some recovered memories of sexual abuse.

Second, under certain experimental conditions, subjects can be induced to recall "memories" of disturbing events that never happened. For example, Ira Hyman and colleagues planted, in a sizeable minority of participants, a variety of mildly upsetting and somewhat bizarre memories, such as spilling punch on a bride's parents at a wedding.

Third, a variety of psychotherapeutic techniques such as visualization repeated retrieval attempts, dream interpretation, and hypnosis can increase individual's beliefs that unlikely events actually occurred. For example, Mary Anne Garry and colleagues found that visualization techniques increased many peoples' beliefs that they might have experienced events (such as putting a hand through a window) that they previously reported were very unlikely to have happened.

Fourth, these techniques correspond, with disturbing closeness, to those argued to be used by a sizeable minority of clinicians in their aggressive efforts to recover memories of abuse. For example, in a national survey of licensed practitioners, Mellisa Polusny and Victoria Follete found that more than 25% of therapists reported using guided imagery, dream interpretation, bibliotherapy regarding sexual abuse, referral to sexual abuse survivors' group, and free association of childhood memories as memory retrieval techniques with clients who had no specific memory of childhood sexual abuse.

Finally, many individuals with recovered memories conclude that their memories are false. For example, a review by Joseph de Rivera reported that more than 300 people have retracted charges of sexual abuse based on memories recovered in psychotherapy.

### B. Discussion of False Memory Research

The previously mentioned findings raise the real concern that individuals may, as a consequence of aggressive memory therapy techniques and other social pressures, develop recovered memories for events that never happened. However, just as some

cautions are appropriate in interpreting the evidence in support of authentic recovered memories, so too some caveats are in order in interpreting the evidence for false memories.

A central potential limitation of the evidence for false memories is that for ethical reasons it is simply not feasible to attempt to induce false memories that are as emotionally disturbing as sexual abuse. Thus, some have raised the question of whether research on the more benign false memories that have been produced in the lab (such as being lost in a mall or spilling punch on someone in a wedding) would generalize to falsely recalling being abused by one's parents. Although the issue of generalization is important, it should be pointed out that real-world recollections of highly unlikely events, such as past life, prenatal, and UFO-associated traumas, suggest that false memories of even highly disturbing experiences are possible.

Furthermore, it has been argued that false memory research investigating the creation of memory errors, including those that have been characterized as involving the creation of false memories, has not been focused on the phenomenology of recovered memories per se. In other words, it has not fully addressed the experience of the individual at the time of recollection. Thus, is it unclear if the false memory is experienced as recovered from a previously inaccessible state or as a continuous memory. On the basis of such observations, it has been suggested that false memory research may only be applied to the question of memory accuracy when individuals believe they have always remembered something. However, in some laboratory studies, such as that of Ira Hyman mentioned previously, participants typically denied the suggested experiences when first asked about them. Only after engaging in extensive visualization did some subjects come to remember the suggested events. This process of nonrecall followed by considerable effort and eventual recall is in fact akin to recovered memories. Therefore, although this is an area of dispute, it seems clear that false memories of both continuous and recovered memories can occur and are important topics for further investigation.

Another concern regarding false memory studies involves the degree to which the ideas that individuals generate are best described as false memories. Many studies that have been characterized as involving the creation of false memories have not actually caused individuals to specifically recall events that never occurred but rather have caused them to believe that such events might have occurred. For example, as

noted previously, when individuals are encouraged to imagine various unlikely events, they subsequently estimate that such events are more likely to have occurred. However, in research on the topic, individuals did not actually report remembering these events. This and other studies of its type might be better characterized as involving false beliefs about memory rather than false memories per se. Although false beliefs about memory are clearly relevant to this discussion, future research is needed to determine whether a false belief can transform into a full-fledged false recollection.

Critics have also noted that in much of the false memory research there is no way to be certain that the allegedly false events did not actually take place. For example, in one very influential false memory study by Elizabeth Loftus and Jacqueline Pickerel, college student participants came to remember being lost in a mall, even though a parent had indicated that such an experience had not occurred. Given how common it is to be lost in a mall (probably many readers have had this experience), these findings could be interpreted as cases in which the parents forgot the critical incident. Indeed, little research has specifically examined whether parents' memories are necessarily any more accurate than their adult children's. Research that increases the estimated probability that highly unlikely events occurred beyond what can be reasonably expected (e.g., 25% of students remembering spilling punch on a bride at a wedding) provides more conclusive evidence that memories can be planted for specific events that never occurred. Nevertheless, in these cases it seems quite plausible that individuals' false memories might incorporate details from related events that did occur (spilling a drink at some other social occasion). In more naturalistic cases it is similarly possible that individuals who report UFO traumas with sexual elements experienced and forgotten more mundane sexual abuse. Research is needed to investigate the relationship between actual experiences and the probability of accepting a false event as having occurred.

Relatedly, some have suggested that in order for individuals to develop false memories they must have some sort of "schema" or "knowledge structure" through which to create the false information. For example, Kathy Pezdek and colleagues were unable to plant false memories for experiences that individuals had little knowledge about (e.g., receiving a rectal enema) or that they perceived as being highly implausible (e.g., Jewish students receiving communion). Importantly, however, one of the central components

of many therapy practices, self-help groups, talk shows, and books is that they provide individuals with a clearer picture of abuse scenarios and persuade them that such scenarios might in fact apply to them. The resulting increased knowledge and plausibility of the abuse scenarios may be just what it takes for the abuse suggestion to take hold.

Ultimately, our understanding of the recovered memory phenomenon will require us to develop a broader appreciation of the various ways in which individuals can acquire false beliefs about their personal memories. We need to continue to investigate the various conditions that can lead individuals to accept false memories as being true. At the same time, we also need to understand the likely (though less often considered) factors that may cause individuals to reject true memories as being false, as for example might occur following the application of pressure from an authority figure insisting that an event never occurred (such as a perpetrator denying abuse). In addition, we need to attend to the various mechanisms that may lead individuals to generate false beliefs about the degree to which a memory had or had not persisted over the years.

## VI. CONCLUSIONS

In the new millennium, we can be hopeful that the old polemics regarding whether recovered memories are false or authentic will increasingly be replaced by a more nuanced understanding of the issue. It will be understood that recovered memories may vary in their degree of accuracy, ranging from largely accurate to entirely false, with many gradations of gray in between. Moreover, the issue of accuracy in recovered memories will be carefully separated from consideration of the degree to which they are forgotten. Careful analyses of the variables that may lead individuals to perceive themselves to have recovered long-lost memories of trauma seem likely to identify a plethora of important mechanisms, some trauma specific and others general to all memories, and some known for years and others only recently conjectured. Such advances will help to reveal the important insights into the human mind that can be gained by exploring this unequivocally remarkable phenomenon. It is hoped that these insights will help and perhaps even provide some consolation to the untold numbers whose personal tragedies serve as the inspiration for this research.

**See Also the Following Articles**

CONSCIOUSNESS • DREAMING • MEMORY, OVERVIEW •  
SEXUAL BEHAVIOR • UNCONSCIOUS, THE

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