

## Discovering Memories of Abuse in the Light of Meta-Awareness

Jonathan W. Schooler

**SUMMARY.** Discovered memories of abuse are often viewed with marked skepticism due to the relative dearth of well-corroborated evidence for their occurrence and the absence of a compelling theory to explain them. This article addresses these concerns by reviewing seven recovered (or, as will be explained, what I prefer to term "discovered") memory cases in which there was independent corroborative evidence for the alleged abuse. These cases are considered within the context of a theory of meta-awareness that assumes that experiential consciousness (i.e., the contents of phenomenological experience) can be distinct from meta-awareness (i.e., one's consciousness of their consciousness). In this context, discovered memories can be understood as involving changes in individuals' meta-awareness of the abuse. In some cases, discovered memories may involve *the gaining of a different meta-awareness* of the meaning of an experience. The discovery of this new meaning may become confused with the discovery of the memory itself, leading to the (sometimes erroneous) belief that the memory is just now being accessed for the first time. In other cases, the discovery may involve *the regaining of a prior meta-awareness* of the experience that either deliberately or non-deliberately may have been avoided for

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some time. In still other cases, the discovery may actually involve *the gaining of a previously non-existent meta-awareness* of the experience. A variety of factors ranging from the very straightforward (e.g., age, lack of discussion, stress) to the more esoteric (e.g., dissociation, nocturnal cognitive processing) may prevent incidents of abuse from being initially encoded with meta-awareness. Such non-reflected memories, particularly when they are aschematic and disjunctive with other experiences, may continue to elude meta-awareness until a specific (and potentially obscure) contextual retrieval cue is encountered. Once recalled in the alarming light of meta-awareness, individuals may understand what happened to them, and this discovery may fundamentally change their view of their personal histories. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: <getinfo@haworthpressinc.com> Website: <<http://www.HaworthPress.com>> © 2001 by The Haworth Press, Inc. All rights reserved.]

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Revisiting memories from the distant past is much like rummaging through one's attic. We may be bemused by small forgotten items but we are rarely shocked by the major things we encounter. Occasionally, however, people report being truly stunned when they discover significant and disturbing recollections lurking in their memory. For example, Schooler (1994) described the case of JR who, after grappling with unpleasant feelings that followed a movie involving sexual abuse, suddenly recalled being molested by a priest as an adolescent. JR was reportedly "stunned" by this discovery noting, "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.'"

What could lead to the belief that one had discovered a previously forgotten memory of something as significant as being sexually molested in one's youth? In some cases, such memories may be sincere but fallacious, the unfortunate product of therapists' overly suggestive techniques combined with patients' overly eager imaginations. (For discussions of the very real dangers of false recovered memories resulting from therapy see Lindsay & Read, 1994; Loftus & Ketcham, 1994; Schooler, Bendiksen, & Ambadar, 1997). In other cases, however (such as that of JR's for which corroborative evidence of abuse was obtained), these memories are likely to correspond to actual events. Although some have questioned whether so-called "recovered memories" are ever genuine (e.g., Ofshe & Waters, 1994; Pope & Hudson, 1995), there is growing agreement that they can (at least sometimes) corre-

spond to actual events (e.g., Andrews et al., 1999; Cheit, 1997; Chu, Frey, Ganzel, & Matthews, 1999; Dalenberg, 1996; Duggal & Stroufe, 1998; Kluff, 1998; Lindsay & Briere, 1997; Schacter, 1996; Schooler, 1994, 2000b; Schooler, Bendiksen et al., 1997; Williams, 1995). There remains, however, little consensus regarding the frequency with which recovered memories are authentic or the mechanisms that could lead one to characterize a generally veridical memory as recovered. Indeed, one of the major impediments towards more general acceptance of this phenomenon has been the dearth of compelling theories that might explain how individuals could seemingly lose track of such significant components of their autobiographical memory. The development of theoretical accounts has in turn been hampered by the modest number of well-documented cases, the unique difficulties in corroborating prior forgetting, and the variability of those cases that have been documented. Given these constraints, it is simply infeasible at present to provide an airtight account of the processes that lead individuals to report discovering long forgotten recollections of actual abuse. What is possible, and indeed needed, is an analysis of current evidence within the context of a theoretical account that could (at least in principle) explain how such remarkable discoveries might arise. Towards this end, the present article describes a recent line of case-based research that I and my colleagues (Schooler, 1994, 2000b; Schooler, Ambadar, & Bendiksen, 1997; Schooler, Bendiksen et al., 1997) have been developing to further flesh out the evidence for, and conditions surrounding recovered, or (as will be explained, what I prefer to term) "discovered" memories of abuse. I then introduce two theoretical constructs that may contribute to the process by which individuals conclude that a traumatic memory had previously been entirely forgotten. These include: (a) dissociations between consciousness and meta-awareness, the notion that individuals can be conscious of an experience without being explicitly aware of their appraisal of that experience; and (b) discovery misattribution, the notion that individuals may confuse the source of the phenomenological experience of discovery. Finally, I revisit the previously described cases within the context of these theoretical constructs. The bottom line argument is that the perception that one has remembered a forgotten memory of abuse may result from the sense of discovery that results from changes in individuals' meta-awareness of the abuse experience.

### *DISCOVERED MEMORIES*

Before proceeding, it is necessary to define the term used to describe traumatic memories that are characterized as having been completely forgotten and then later remembered. Such memories are most commonly referred

to as either "repressed" or "recovered"; however, both labels are problematic. The term "repressed" confounds a phenomenon (remembering seemingly forgotten trauma) with a mechanism (a dynamic unconscious defense mechanism that is hypothesized actively to keep the memory from consciousness). The term "recovered" though clearly preferable, implies that the memory had been completely lost and was then subsequently found. However, as will be argued, there are both empirical and theoretical reasons to believe that individuals may have profound discovery experiences in which a new understanding of the memory and/or appreciation of the emotion surrounding it is confused with a discovery of the memory itself. Such confusions regarding what exactly has been discovered may lead individuals to conclude erroneously that the memory had previously been entirely inaccessible. I therefore prefer the term "discovered memory," which keeps open the possibility that individuals could have discovery experiences for memories that were not, at least in some sense, entirely forgotten. The term "discovered" also maintains agnosticism regarding the precise mapping between what is discovered and what actually occurred (i.e., individuals could, in principle, discover memories that are entirely veridical, entirely false, or somewhere in between).

The notion that individuals may discover memories that were never entirely forgotten also has important implications for conceptualizing the type of corroboration that can substantiate discovered memories. Specifically, it suggests that individuals may reasonably be characterized as having authentic discovered memories if they can be shown to: (a) be in possession of memories corresponding to actual events, and (b) sincerely believe that they had discovered long lost memories. Importantly, this definition de-emphasizes the importance of documenting actual forgetting. This is helpful because documentation of forgetting is very difficult if not impossible for a number of reasons. Since remembering is often a personal process, it is simply not clear how one could ever document that a memory had never come to mind. Moreover, theoretically, even if a memory had not come to mind for some period, it is still difficult to distinguish whether it was truly unavailable, or, like many memories from our distant past, simply did not have occasion to be remembered. Although it is quite difficult to find evidence retrospectively to confirm forgetting, it is possible to find evidence that can challenge individuals' accounts of their forgetting. Indeed, in several cases that we have investigated, individuals believed that they had been amnesic for their abuse during a period of time in which others reported that they had talked about it. Importantly, despite their apparent errors in characterizing their forgetting, these individuals still very much perceived their memories as profound discoveries.

With respect to corroborating the actual abuse and the perception of a discovery, it is important to emphasize that for both components, corroborate

does not mean to prove. Just as a particular experimental result can support a scientific hypothesis without "proving" it, so, too, corroborative evidence can strengthen historical claims without providing incontrovertible documentation. There are a variety of types of evidence that can corroborate reported memories of abuse, including medical records, confessions, witnesses to the fact, etc. In the cases that my colleagues and I have investigated, the corroboration of the abuse has come from independent interviews with other individuals who reported either (a) learning about the victims' abuse soon after it occurred, (b) having also been abused by the accused individual, or (c) having personally heard a confession from the alleged perpetrator. Of course, the memories of corroborators might also be in error. However, if such corroborative reports involve longstanding memories, then they are less vulnerable to the concern that they were the products of a recent suggestion. Indeed, even those who are generally skeptical of recovered memories do not question the abuse recollections of individuals who report having maintained longstanding intact memories of abuse (Loftus, 1994). In short, if the recollections of individuals who report discovered memories of abuse can be corroborated by others who have maintained intact memories, then we may have greater confidence that the discovered memories correspond to actual events.<sup>1</sup>

With respect to establishing that individuals perceive themselves to have discovered a previously unknown memory, such perceptions can be documented through interviews in which individuals describe their recollections of their discovery experience and their beliefs about their prior forgetting. Of course, particularly in cases where some time has passed since the memory was first "discovered," it is possible that individuals' recollections of their discoveries might evolve. For example, they might come to believe that they were originally more shocked at the discovery than they actually were. At a minimum, however, individuals' self-reports can establish that individuals *now* perceive themselves to be in possession of a discovered memory.

#### *The Cognitive Corroborative Case-Based Approach*

With the above definitional and evidentiary considerations, my collaborators and I (Schooler, 1994, 2000b; Schooler, Ambadar et al., 1997; Schooler, Bendiksen et al., 1997) have sought to investigate cases of individuals who reported discovering seemingly forgotten memories of abuse. These cases were identified through modest networking and are not in any sense a representative sample. In each case, we sought to document the individuals' characterization of their memory as discovered, and if they recalled the specific situation surrounding the discovery experience. We also sought independent corroboration of the abuse (usually by contacting other individuals who the victim indicated had prior knowledge of either the abuse itself or the abusive tendencies of the alleged perpetrator), and when possible, evidence that

might speak to the nature of the intervening forgetting. Six of these cases, or subsets thereof, have been described previously (Schooler, 2000b; Schooler, Ambadar et al., 1997; Schooler, Bendiksen et al., 1997). Case 7 is a new and especially compelling case that has not been reported before.

*Case 1:* JR (a 39-year-old male) reported discovering a memory of being fondled by a priest during a camping trip at age eleven and subsequently discovering memories of additional incidents of abuse that took place over the next several years. He reported discovering the initial memory at age 30 while lying in bed one night after seeing a movie involving sexual abuse. His characterization of the discovery was as follows: "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." The corroboration: Another individual reported that the same priest had abused him. Although this individual only made his accusation after JR had discovered his memory, he indicated that he had maintained an intact memory of being abused by this priest.

*Case 2:* MB (a 40-year-old female) reported discovering a recollection of being raped while hitchhiking at age seventeen. She reported that the discovery experience occurred when she was thirty-four years old after she heard a friend refer to a young woman as "certainly not a virgin." Her recollection of the discovery experience was that she experienced "complete chaos in my emotions. . . . I was overwhelmed, rather than surprised, surprised is too neutral a feeling for what I felt." The corroboration: An individual who was told about the rape the day it occurred confirmed MB's original recounting of the experience.

*Case 3:* TW (a 51-year-old female) reported discovering a memory at the age of twenty-four of being fondled by a family friend at age nine. She reported that the recollection was triggered after a friend suggested that they hear a talk on sexual abuse. Her characterization of the discovery was as follows: "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." The corroboration: TW's former husband reported that she had talked about the abuse several times prior to this memory discovery experience.

*Case 4:* DN (a 41-year-old female) reported discovering a memory of being raped in a hospital at the age of nineteen and then taking the case to court. She discovered the memory at age thirty-five, while driving home several hours after her group therapist remarked that survivors of childhood abuse, which DN had maintained an intact memory of being, often are victimized as adults. Her characterization of the discovery experience was as follows: "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." The corroboration: DN's

former lawyer confirmed that the case had gone to court and that the perpetrator was found guilty.

*Case 5:* JN (31-year-old female) reported discovering a memory of being molested at age five. The discovery experience occurred when she was eighteen, soon after she became sexually active. JN recalled describing her discovery to her boyfriend soon after discovering the memory: "I just have a recollection of talking about it with him, and talking about the fact that I didn't . . . I remembered this thing happening but I had never remembered it." The corroboration: JN's mother confirmed that this event, as relayed by her older sister at the time, did happen.

*Case 6:* CV (a 52-year-old female) reported discovering a memory of being molested and exposed to masturbation by her stepfather at age ten. This memory discovery experience occurred during several cleanings of her bathroom at the age of twenty-seven. On one occasion CV described it as "a horrible picture [that] popped into my mind . . . it was like a photo. . . . I felt sickened and shocked that I would think of such a disgusting thing." Although CV reported dismissing the initial recollection, during a subsequent cleaning the memory reportedly returned and this time she could not dismiss it: "That horrible picture came into my mind but this time it did not go away . . . a whole reel of pictures started running through my head . . . . I was terrified." The corroboration: Her sister stated that she had also been abused by the stepfather and had maintained intact memories of the abuse, although she had never discussed it with CV.

*Case 7:* DJ (a 28-year-old female) reported discovering memories of being regularly sexually abused by a neighbor over a period of 3 years, from ages 5-7. The alleged abuse included genital fondling, genital rubbing, and attempted although unsuccessful sexual intercourse. As DJ described it, "He would perform sexual acts in front of me, or ask me to perform sexual acts to him . . . it was not normal sex, it wasn't just sexual, it was very kind of sick." DJ reported that the memory discovery experience occurred when she was 16 and saw the person at a dinner party. She characterized the memory discovery as follows: "I was very shocked by the memory, I was very overwhelmed I think would be the word. That's a lot to remember." The corroboration: The mother described a meeting in which the alleged perpetrator was confronted and he admitted the abuse, as well as abusing six or seven other girls.

The above cases demonstrate that it is at least sometimes possible to corroborate the abuse associated with memories that are clearly perceived to have been discovered. Indeed, one of the striking qualities of the characterizations of these memory discoveries is how much they share the phenomenological properties of major personal discoveries. Like classic insight experiences (see Schooler & Melcher, 1995), the phenomenology of the discovery of abuse is characterized by suddenness, immediate unpacking,

and an emotional onrush. With respect to the suddenness of the experience, JR described the discovery as occurring "fairly suddenly." WB described a "sudden and clear picture." TW noted that "the whole thing was evident and immediate to me." DN observed that "all at once I remembered." As DJ observed, "It came all of a sudden." With respect to the immediate unpacking, TW observed, "It was like . . . a package of some sort . . . something there that's completely unwound instantly, and not only the experience but the sequel of the experience." DN recounted, "All at once I remembered . . . not only that I had been a victim, but that I had to go to court." CV described this unpacking as occurring visually, noting, "Suddenly a whole reel of pictures started running through my mind." DJ distinguished it from other recollection experiences noting, "Most memory I've had when I recalled . . . there is sort of a layering system . . . and this was literally like all of those layers of memory hitting me at once."

The emotional impact of the experience was also observed in the majority of cases. JR described his experience as being "stunned." WB noted "complete chaos in my emotions." DN characterized her reaction as "just this extreme emotion of fear and disbelief," and DJ observed, "It was literally like a brick wall just hit me. . . . I just started crying and screaming uncontrollably." Admittedly this is only a small sampling of cases, and it is certainly likely that other cases may be associated with different phenomenological reports. Nevertheless, the consistent role of discovery that we have found in the set of corroborated cases we have investigated supports the contention that the sense of discovery can be an important element of the phenomenon.

Underlying the sense of discovery is the perception that one had no knowledge of having been abused before the memory discovery experiences. In six of the seven cases, individuals were absolutely confident that they had no knowledge whatsoever of having been abused. As already noted, JR believed that if he had been asked, prior to his discovery, whether he had ever been abused, he would "have absolutely, flatly, unhesitatingly said 'no'." Similarly, TW described the state of her memory before the discovery as "none . . . non-existent." ND remarked, "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." And DJ observed, "I am absolutely sure that I forgot about it. . . . I remember feeling some intuitive weirdness about like sex. . . . I definitely never linked it to a memory."

In one case WB (who was raped while hitchhiking) largely believed that she had been entirely amnesic although she did vacillate on this point a bit. When asked whether there was ever a time in which she would have honestly believed that she had not been raped had she been asked directly, she replied, "I actually think this is the case. When I wrote my story about rape 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 experience rape." Nevertheless, she also added the cautionary note "I am really uncertain how I would have responded if someone had asked me directly" [whether she had ever been raped].

Although it was generally believed in all of the cases that the memories had been forgotten, in two cases there was rather compelling evidence of a misconstrual of prior forgetting. In both the cases of TW and WB the victim's ex-husband reported discussing the event with the victim during times in which each had believed that the memory had been forgotten. In both of these cases the individuals were truly shocked to discover that they had been aware of and had talked about the abuse. TW described her reaction upon learning that she had previously told her husband about the abuse in the following manner: "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." Similarly, when asked if she was surprised to learn that she had talked about the abuse experience with her husband years after it had occurred, WB exclaimed, "Very much so!"

The fact that individuals can believe that they had forgotten abuse at a time at which they are known to have been aware of it suggests that individuals may, at least sometimes, become confused about exactly what they are discovering. Rather than discovering the existence of the memory itself, these individuals may be discovering the emotionally disturbing understanding of the experience. Nevertheless, because of the profound sense of discovery, individuals may conclude that they must have just remembered a long inaccessible memory. We have previously termed this phenomenon of underestimating prior knowledge of an experience as the "forgot-it-all-along effect," in deference to the related "knew-it-all-along effect" in which individuals over-estimate their prior knowledge (Fischhoff, 1982). As will be seen, the notion that discovered memories may represent changes in individuals' awareness of the meaning of the experience may provide a core premise by which to understand memory discovery experiences more generally. I now turn to a discussion of such an approach.

#### ***A META-AWARENESS THEORY OF DISCOVERED MEMORIES***

As noted, one central impediment to the general acceptance of discovered memories has been the absence of cognitively-grounded mechanisms that could explain such discoveries. Clearly, given the limitations of the currently available evidence, any account of discovered memories must be considered

tentative at this time. Nevertheless, in the following discussion I will offer a basic framework for understanding discovered memories that although speculative, is consistent with the available data and current cognitive theories (broadly conceived). Towards this end, I first introduce two theoretical constructs: (1) the dissociation between experiential consciousness and meta-awareness, and (2) discovery misattribution, which may help to provide a foundation for understanding discovered memories. I then consider how these constructs may help to account for the various types of discovered memories that have emerged from case analyses such as the ones described above.

#### *DISSOCIATIONS BETWEEN EXPERIENTIAL CONSCIOUSNESS AND META-AWARENESS*

A central element of most characterizations of discovered memories is the notion that an event that was experienced with great intensity becomes completely inaccessible to consciousness, only later to re-emerge abruptly. If we take this claim seriously, then we need to explain how events of such significance could seem to slip in and out of consciousness. Although clearly fundamental, this question may presuppose an overly simplistic dichotomy between conscious and nonconscious knowledge. Specifically, there is a third level of consciousness that may be especially important in the context of discovered memories, namely, one's awareness of what he or she is conscious about. Variations on the distinction between one's ongoing conscious experience and one's explicit understanding of that experience have been made by countless philosophers and a number, although perhaps somewhat fewer, psychologists. Although subtle differences in distinctions abound, what I am terming *experiential consciousness* generally corresponds to what others have referred to as "phenomenal consciousness" (Block, 1992); "phenomenological awareness" (Allport, 1988); "perceptual consciousness" (Armstrong, 1981); or "transitive consciousness" (Rosenthal, 1990). What I am terming *meta-awareness* roughly corresponds to what others have referred to as "introspective consciousness" (Armstrong, 1981); "intransitive consciousness" (Rosenthal, 1990); "representation redescription" (Karmiloff-Smith, 1995); and, most commonly in the psychological literature, "self-awareness" (Duval & Wicklund, 1972; Gibbons, 1990; Lewis, 1991; Stuss, 1991); and "reflective awareness" (Bradley, Hollifield, & Foulkes, 1992; Zoltan, 1999).

Given the existence of these various prior distinctions, the reader may reasonably ask whether it is helpful to introduce yet further terminology, and if so, why I have introduced the specific term "meta-awareness." The two closest, commonly-used terms are probably "reflective awareness" and "self-

awareness.” However, self-awareness has the additional connotation of awareness of one’s personal identity, and reflective awareness has the additional connotation of engaging in active deliberation. In addition, the term meta-awareness naturally fits within the broader cognitive construct of metacognition (one’s knowledge of one’s knowledge), and naturally links to related constructs such as meta-memory (one’s knowledge of one’s memory). In prior discussions (Schooler, 2000a; Schooler, Loewenstein, & Ariely, 2000), I used the term “meta-consciousness” to refer to one’s explicit awareness of conscious experience. The terms “awareness” and “consciousness,” although possessing slightly different denotations, are typically used interchangeably, largely depending on which “sounds better” in a particular context. In the future, it may prove useful to formally delineate a distinction between the terms “meta-consciousness” and “meta-awareness,” or it may suffice to continue to use them interchangeably. In the present context, however, I have found that the term “meta-awareness” seems better suited, and have used it accordingly.

Although the distinction between the basic experience of consciousness and one’s explicit awareness of the contents of that experience is sometimes made, it is more often forgotten. Typically, cognitions are classified as either conscious or unconscious. We tend to overlook the many instances in which we are conscious of a thought, yet not meta-aware that we are having it. This dissociation is well illustrated by an all too familiar example. Imagine that you are reading a very important and difficult paper that you must understand completely. Despite your best intentions at some point during the reading you realize that for the last several minutes (or more!) you have not been attending to the text but rather have been engaged in a vivid daydream of an upcoming vacation. Your experience of the daydream conjures up detailed perceptual images of hot sand, blue waters, and cool breezes. In short, you are clearly experientially conscious of the contents of your daydream. Nevertheless you are not meta-aware of the fact that you are daydreaming. Otherwise, you would not have continued to read the very important paper that you know you are responsible for completely understanding. Although readers surely vary in the frequency with which they catch themselves in these flights of fancy, everyone to whom I have mentioned this phenomenon has conceded (typically with a sheepish grin) that they are all too familiar with the experience.

A critical component of the daydreaming-while-reading example is the jolt of meta-awareness that one experiences upon discovering the lapse. It is much like waking up from sleep, except it is a shift to meta-awareness rather than consciousness. In this moment, one becomes both meta-aware of one’s current state of consciousness (i.e., typically a sense of annoyance at having to go back) and retrospectively meta-aware of one’s prior state of conscious-

ness (i.e., vivid daydreaming). The daydreaming case is a particularly illustrative example of a pervasive fact of everyday life, namely, that although our sentient experience is continuous, our awareness of our awareness is discontinuous. Sometimes we are explicitly attending to what we are doing, but often we are not. In the daydreaming case, we are fully engaged in our musing, and yet we fail to realize that we are daydreaming, as evidenced by the fact that we continue to read. In other cases, the dissociation between consciousness and meta-awareness may be less poignant, but perhaps no less pronounced. For example, in social situations, we often engage in exchanges without explicitly reflecting on our interpretation of the interaction. Indeed, our ability to suspend meta-awareness (or self-consciousness as it is referred to in such situations) is the hallmark of comfortable social situations. Unfortunately, such suspensions of reflections can also lead to awkward sudden resumptions of meta-awareness (the "foot-in-the-mouth" effect).

The notion that we are often not explicitly aware of the contents of our thought is consistent with a growing body of research on implicit cognition and automaticity that has documented the surprising degree to which we are not explicitly aware of our goals (Bargh & Chartrand, 1999), interpretations (Wilson, Lindsey, & T. Schooler, 2000), or the bases of our actions (Wegner & Wheatley, 1999). Critically, however, and in contrast to many characterizations of automaticity, the distinction between experiential consciousness and meta-awareness does not necessarily imply that we carry out automatic mental activities unconsciously. Rather, we may experience our own internal states like drivers experience the road, with sentience but without reflection (Bower, 1990), only taking stock of our thoughts when things get difficult.

Lapses in our carrying out of our intended goals (Reason & Mycielska, 1982), as when we discover that we are not thinking about what we intended to be thinking about (e.g., the daydreaming example), are perhaps the most common trigger for meta-awareness. However, the most striking elicitors of meta-awareness occur when we realize the consequentiality of truly significant events, such as births, deaths, and traumas. Such experiences typically force us to take stock of our emotional state, to reflect on our interpretation of the experience, and to communicate our impressions of our reactions to others. Indeed, the propensity of really significant experiences to elicit meta-awareness may explain why traumatic experiences tend to be remembered rather well (Brown & Kulik, 1977), though far from perfectly (e.g., McCloskey, Wible, & Cohen, 1988), and why we find it so surprising that such experiences could ever be forgotten. Interestingly, although serious events typically elicit meta-aware reflection, they do not always do so at the time the event is occurring. Often during very demanding serious events such as avoiding a car accident or engaging in rescue efforts, individuals report that they just acted on the moment, and did not explicitly think about their reac-

tion to it until afterwards. For other less significant experiences we may be even more likely to consider only "what the experience was like" in retrospect, if we consider it at all. Of course, our recollections of the past are not necessarily reflective. Our episodic memories allow us to engage in the equivalent of mental "time travel" (Wheeler, Shess, & Tulving, 1997), whereby we can virtually relive prior experiences, albeit less vividly. In principle, such re-experiencing could, like our original experiences, also lack explicit reflection about how we were feeling, thinking, or interpreting the experiences. But, particularly, when we must communicate our experiences to others, we tend to take explicit stock of what our experience was like. Such reflective and typically verbal narrative analysis of the past is at the heart of the process by which we construct meaning from our life experiences (Fivush & Reese, 1992; Nelson, 1993). Critically, however, if we derive our explicit appraisals of experiences after the fact, then we may develop a retrospective meta-awareness that differ in significant ways from the implicit interpretations that we held at the time.<sup>2</sup> Such new understandings may fold naturally into our recounting of the experience, leading us to believe that we always perceived the experience in this manner (Fischhoff, 1982). Or, if the new retrospective meta-awareness is very different from our original implicit interpretation, it may produce a sense of profound discovery that may be confused with the discovery of the memory itself.

#### DISCOVERY MISATTRIBUTION

Strikingly, given how central assessments of prior forgetting are to the recovered memory debate, very little research has specifically examined how individuals come to decide whether or not a recently recalled memory had been previously forgotten. Nevertheless, through analysis of the problem we can identify several factors that may be important. First, assessments of prior forgetting will depend in part on whether or not one can *recall specific prior episodes of remembering* the experience. If one can do so, then the memory is clearly not going to be characterized as having been entirely forgotten. If one cannot recall specific incidents of prior remembering, then more inferential processes may be required. A second essential factor in assessing prior knowledge of a memory is likely to involve *lay theories about memory* (e.g., Ross, 1989). Individuals will presumably consider how likely it is that they would have encountered a situation that would or should have triggered the memory, and how likely it is that they would currently recall such a remembering occasion. If the experience seems very important and they cannot recall previously remembering it, then they are likely to conclude that it had been forgotten. If, however, the experience seems rather obscure, then an inability to recall prior episodes of remembering may not be taken as very

significant, and they may simply conclude that previous occasion to think about the event had not arisen. Although individuals may engage in such deliberative ruminations about the prior degree of forgetting, it also seems likely that people's immediate *phenomenology at the time of recollection* may also serve as an important factor in their assessment of their prior forgetting. If individuals experience a marked sense of "aha" or surprise when they recall an event (as virtually all of the individuals in the cases described above reported), they are likely to attribute this surprise to having just discovered a previously forgotten memory. In contrast, a more matter of fact recollective experience may lead individuals to believe that the memory had been generally accessible.

If individuals do in fact use their sense of discovery at the time of recollection as a marker for whether or not the memory had previously been forgotten, then the possibility of "discovery misattribution" becomes very real. Considerable research indicates that individuals are remarkably prone to misattributions of the source of their phenomenological experiences. In the social psychological literature, there are the classic examples of misattributions of arousal, such as attributing arousal actually stemming from a shot of adrenaline to the antics of a confederate (Schacter & Singer, 1962), or attributing the arousal resulting from standing on a suspension bridge to the attractiveness of the person standing nearby (Dutton & Aron, 1974). Other social psychological research indicates that misattributions are not limited to arousal. For example, Schwartz and Clore (1983) find that individuals can misattribute feelings of happiness stemming from the current day's weather to their general state of well-being, and Zajonc (1968) reports that the experience of familiarity resulting from subliminal presentations can be misattributed to feelings of liking.

Recent cognitive research has demonstrated that misattributions can also occur for judgments that are not explicitly affective in nature. For example, various studies have demonstrated that individuals can confuse the source of familiarity. Familiarity stemming from prior presentation of an unknown name can cause participants to think the name was famous (Jacoby, Kelley, Brown, & Jasechko, 1989), and familiarity stemming from the repetition of a statement can increase individuals' belief that a statement is true (Hasher, Goldstein, & Toppino, 1977). More recent findings indicate that it is not merely the amount of familiarity but the disparity between expected and actual familiarity that causes misattributions. For example, in a study by Whittlesea and Williams (1998) participants studied both words and non-words, and then were given a test including both words and non-words. The twist was that some of the non-words were pseudohomophones (e.g., FROG spelled as PHRAWG). Although the new pseudohomophone non-words were read slower than the new real words (i.e., they were less perceptually fluent),

they were nevertheless significantly more often classified as "old." Whittlesea and Williams suggest that the tendency to call the pseudohomophones old may have resulted from a misattribution of the surprise that occurred when an unfamiliar letter string suddenly sounded like a real word.

The notion that individuals can misattribute sources of surprise raises the likely possibility that they may also misattribute sources of discovery. Recent research by Schooler, Dougal, and Johnson (1998) addressed this issue by following a list-learning procedure with a word recognition test in which the previously seen items were first presented as anagrams. Consistent with the notion of discovery misattribution, Schooler et al. found that individuals were more likely to call a word old if they had just successfully identified that word in an anagram, compared to when they did not successfully solve the anagram. Schooler et al. suggested that the "self discovery effect" resulted from participants' confusion of the discovery of the solution of the anagram with the discovery of the memory for the word. As will be seen, a similar process may happen in the context of discovered memories, in which individuals may confuse the discovery of their meta-awareness of the experience with the discovery of the memory itself.

#### **APPLYING THE META-AWARENESS THEORY TO THE VARIETIES OF MEMORY DISCOVERY EXPERIENCES**

Having reviewed the distinction between experiential consciousness and meta-awareness and the notion of discovery misattribution, we can now turn to the application of these constructs to the various specific mechanisms that may be involved in discovered memories. At its simplest level, my basic premise is that *memory discoveries result from an abrupt change in individuals' meta-awareness of their abuse*. For individuals who had previously thought about the event, this discovery may either involve a new meta-awareness of the event, or a re-accessing of an old meta-awareness that had been avoided for some time. For individuals who previously had not developed a meta-awareness of the experience, this discovery represents the full coming to terms of the previously unprocessed meaning of their experience. In either case, the intensity of the discovery may lead individuals to conclude that they are recalling a memory that had been previously entirely forgotten. In the following discussion I will outline the three general types of meta-awareness discoveries that I hypothesize may take place: (1) changing meta-awareness, (2) re-accessing a meta-awareness that had not been visited for a while, and (3) gaining meta-awareness for the first time.

*CHANGING META-AWARENESS OF AN EXPERIENCE*

In several of the cases reviewed here it is apparent that individuals were initially meta-aware about the occurrence of their abuse experiences, as clearly evidenced by the fact that they described their experiences to others. TW described her molestation experience while on a vacation to her mother soon after they returned. WB confided her rape experience to her boyfriend the day after it happened, and DN actually took her case to court, and thus, must have engaged in elaborate reflection on her experience. Nevertheless, it seems quite likely that shifts in individuals' meta-awareness of the experience over time may have fundamentally contributed to the discovery experiences. In several of these cases it seems quite plausible that the critical shift involved a fundamental change in their interpretation of the experience. For example, TW reported that, although she originally experienced the fondling abuse at age nine as unpleasant, the sexual inappropriateness of the experience was not the most salient aspect of it at the time. As she notes, the most notable unpleasantness of the experience was her feeling that the person had become angry: "I remember this guy was making some kind of disgusted sound . . . then he pushed me away. And my immediate interpretation was that I had done something wrong, and that I was some how at fault." In contrast to her original meta-awareness of the experience as an awkward social situation, her memory discovery experience occurred specifically in the context of seeing a talk on sexual abuse. At this time she may have developed a new meta-awareness of the meaning of the experience, realizing that this childhood event was actually sexual abuse. The sense of surprise and emotion associated with this new meta-awareness of the meaning and implications of the experience may have then been misattributed to the discovery of the memory itself, leading her to think the memory had been previously completely forgotten. This belief may have been further reinforced because in the context of recalling the memory in an affectively upset meta-aware state, she may have had difficulty accessing prior retrievals that occurred in an affectively flat non-meta-aware state. (Interestingly, her husband indicated that when she had referred to the event previously, she had described it matter-of-factly, with little affect.)

A similar scenario seems appropriate for WB. At the time that the event first occurred, although realizing that the experience was negative, she framed it as a sexual experience gone awry. In effect, her original meta-awareness of the experience was that she had had "bad sex" which she had "made such a mess out of . . . by resisting what I thought was supposed to be a sexual experience." However, when subsequently cued by the notion that a woman was no longer a virgin, she re-appraised her own experience, realizing that she had lost her virginity to a rape. Now, rather than thinking of the experience as a sexual experiment gone awry, she viewed it as a rape. With



this new meta-aware perspective her first thoughts were "My god . . . I had been raped! . . . That's a crime! I was 16, just a kid! I couldn't defend myself!" This sudden change in understanding and the consequent experience of discovery that it entailed may have led her to believe, or at least perceive the likelihood, that the memory had been previously entirely forgotten. Moreover, as in the prior case, the striking disparity between the manner in which she recalled the experience now, vs. in the interim where she had described it in an affectively flat way to her husband, may have precluded her recollection of those prior retrieval episodes, thereby further encouraging the conclusion that the memory had been entirely forgotten.

Although these are only two examples, it seems likely that many cases of discovered memories may have operated in a similar fashion. In such cases, individuals have had an important memory discovery, not necessarily of the memory itself so much as the meaning of the experience and its implications for the individuals' view of themselves. Nevertheless, individuals may attribute their strong sense of discovery to the finding of a forgotten memory, a conclusion that is further supported by their inability to recall prior episodes of remembering that lacked their current meta-aware perspective.

#### *RE-GAINING ACCESS TO META-AWARENESS*

Although some cases of discovered memories might be accounted for based on a change in the original meta-awareness of the experience, in other cases this account falls short. For example, DN, who was raped as an adult and went to court, clearly possessed at the time a comparable meta-awareness of what had happened to her. Nevertheless, it still seems quite plausible that such cases may involve fluctuations in meta-awareness. DN mentioned that she specifically recalled having maintained an intact memory for the experience for at least several years after the events took place. After that, however, she moved to a new location and had fewer opportunities to be specifically cued regarding the experience. It seems likely that during this time, she avoided thinking about the experience by controlling her meta-monitoring system.<sup>3</sup> Like meditators who can allow thoughts to come and go without "engaging them," when the thought of her rape experience crossed DN's mind, she may have simply let it pass without explicitly attending to it. By not taking stock of the memory, it may have ceased to jar her, making the recollections less memorable, and failing to reinforce her meta-awareness of the experience. In short, although the experience may never have actually been truly forgotten in the sense of being entirely unavailable, by consistently avoiding reflecting on the event, she may have gradually lost a meta-awareness of the experience. Consistent with this view, when she was specifically encouraged to think of specific incidents of adult sexual abuse, the memory

(being, in fact, available) was relatively quickly accessed. However, by thinking about the experience specifically in the context of abuse, she was now forced to re-gain meta-awareness of it. And once again the shock at the discovery of the meta-awareness of the experience may have led her to conclude that she previously had lost all knowledge of the experience.

CV's case of being raped and molested once by her stepfather may also fit with the notion of avoidance of meta-awareness. In this case, her abuse was actually alluded to by a family friend a number of years after the experience. However, rather than trying to think through what the friend was referring to she recalls specifically avoiding giving it much thought. As she observed "I had absolutely no idea what she was talking about. . . . I didn't understand anything about the experience and I didn't want to." Similarly, her memory discovery experience was initially preceded by several earlier recollective events in which she imagined images of her stepfather exposing himself to her in the bathroom, but failed fully to take stock of what she was recalling. She notes that the image "left my mind immediately, without me even attempting to understand it." Here again it seems that she may have simply been avoiding reflecting on the information that was available to her. Finally, she had a recollective experience that was too strong to ignore, and she was forced to re-gain a meta-awareness of the unpleasant events.

In sum, although clearly speculative, it seems quite plausible that even the memory discovery experiences of individuals who were initially aware of the full egregiousness of their abuse may involve a discovery of meta-awareness. However, in such cases, rather than discovering a new interpretation of the event, individuals may be re-discovering a meta-awareness that they had let slip from consciousness. Indeed, the notion that individuals could learn simply not to take notice of unwanted thoughts provides a reasonable account of defense mechanisms without having to assume that unwanted thoughts are forcefully kept from entering consciousness. Rather than being repressed, some unwanted thoughts may simply be ignored (for similar suggestions, see Bower, 1990; Bowers & Farvolden, 1996; Brewin, 1997; Erdelyi, 1996).

#### *GAINING META-AWARENESS FOR THE FIRST TIME*

Typically when individuals experience traumatic events, especially novel ones, it seems likely that meta-awareness will be activated either during the episode or soon thereafter. This meta-awareness of the consequentiality of traumatic experiences may account for why such experiences are typically remembered so well (Koss, Tromp, & Tharan, 1995). And indeed, this is one reason why researchers have had such difficulty believing that discovered memories could ever really have been truly forgotten. However, if meta-

awareness of traumatic experiences was (somehow) prevented, this could certainly contribute to the failure of that experience to be integrated into one's narrative autobiographical memory. Indeed, the notion that individuals could possess purely experiential traumatic memories that are not integrated into one's life narrative is central to several accounts of discovered memories (Freyd, 1996; van der Kolk, 1994). Moreover, if individuals had memories that were encoded exclusively at an experiential level, without reflection, then they might not be categorized in a manner that would allow deliberate access. Rather, they might only come to mind when characteristics of the environment sufficiently overlapped with the characteristics of the original memory. In fact, this distinction between verbally accessible memories (VAMs) and situationally accessible memories (SAMs) has specifically been proposed to distinguish those traumatic memories that are integrated with autobiographical memories from those memories that remain fragmented and only come to mind given appropriate situational cues (Brewin, Dalgleish, & Joseph, 1996). The obstacle is explaining how it could be that memories that should be the most likely to trigger meta-awareness could instead be encoded without it. In the following discussion, I will consider five possible mechanisms that could prevent initial meta-aware encoding: (1) lack of discussion, (2) age, (3) stress, (4) dissociation, and (5) nocturnal occurrence.

*Lack of discussion.* A necessary, though probably not sufficient, condition for a memory to exist without ever having been examined in the light of self-awareness is that it must never be explicitly described to anyone else. Self-awareness is centrally associated with social interactions, and articulation of experiences by necessity demands that one reflect (at least to some degree) on the experience. Moreover, there is some evidence that experiential memories may qualitatively change when they are articulated (Freyd, 1983; Schooler & Engstler-Schooler, 1990). Because of the unique dynamics of sexual abuse situations (i.e., they are embarrassing and often are perpetrated by an individual who does not want the experience to be disclosed), they may be more likely than other traumatic experiences to go without discussion. Indeed, the particular propensity for sexual abuse experiences to go without disclosure may be one reason why, at least anecdotally, sexual abuse is more likely to be associated with discovered memories than with other types of traumas. Nevertheless, although a lack of discussion may be a pre-condition for the formation of a memory that occurs without meta-awareness, it clearly does not insure such memories. I suspect we all have experiences on which we privately reflected but never communicated to others. Thus, we must look elsewhere to identify factors that may actually preclude meta-aware processing.

*Age.* One factor that perhaps is the most plausible for preventing the initiation of meta-awareness of traumatic experiences is age. A large body of research indicates that self-awareness does not arise until nearly two years of

age, which, perhaps not coincidentally, is precisely the time at which individuals' earliest enduring memories tend to occur (see Wheeler et al., 1997). Although self-awareness can occur as early as two, the regularity with which children engage in self-reflection seems likely to increase with age. Accordingly, if younger children are generally less inclined to engage in meta-reflection, then they may be more apt to experience disturbing events without necessarily explicitly reflecting on them. Moreover, because of their age, such children may not view abuse experiences as seriously as do adults, thus further increasing the possibility that meta-awareness of the experience may be avoided.

JN, who was fondled at age five, may well provide an example of a situation in which age may have prevented meta-awareness of the experience, which in turn may have enabled the memory to have been forgotten and then discovered. In contrast to the other cases analyzed so far, JN did not engage in one of the central processes that encourage meta-awareness: the recounting of an experience to others. In her case, her older sister reported the occurrence of the experience, and the issue was never broached with her. Thus, she had the opportunity to allow the experience to pass without reflection. Moreover, given the ambiguity of a fondling situation, it seems quite plausible that JN may not have fully appreciated the seriousness of the events at the time. Indeed, although JN reported that she perceived the experience as negative at the time, she conceded that she probably did not view it as negatively as she does today. Thus, it seems quite plausible that JN's age may have led her to experience the abuse without much meta-awareness, which in turn may have prevented the experience from becoming integrated into her autobiographical memory. Instead, it awaited situational cues that were not present until she was much older and became sexually active. Strikingly, although apparently dormant for 13 years, the memory came flooding back very soon after the cues became present. Moreover, the recollection was experiential (she recalled the memory quite vividly), but without any sense of integration into her life narrative (i.e., she was not sure whether it was real). In short, JN's memory discovery experience is entirely consistent with the view that, due to her age at the time of the event, she created an experiential memory of which she did not become meta-aware until it was situationally cued as an adult.

*Stress and Brain Activation.* Stress is known to have a number of profound effects on the brain and cognition (LeDoux, 1994). Animal models suggest that extremely high levels of stress both increase activation of the amygdala and decrease activation of the hippocampus (e.g., LeDoux, 1992; Nadel & Jacobs, 1998). Stress is also likely to reduce the activation of the frontal cortex, which is highly susceptible to cognitive load (of which stress is a major source). Since the frontal cortex is hypothesized to be important for both self-awareness (Stuss, 1991) and the integration of memories into readi-

ly retrievable autobiographical memories (van der Kolk, 1994; Wheeler et al., 1997), it seems quite plausible that non-meta-aware traumatic memories could be formed by highly stressful situations that prevent the frontal cortex and hippocampus from integrating and imposing self-awareness on the experience.

*Dissociation.* Another, albeit controversial, factor that could in principle result in the formation of a memory that lacks meta-awareness is dissociation. Dissociation is typically defined as a "lack of normal integration of thoughts, feelings, and experiences into the stream of consciousness and memory" (Bernstein & Putnam, 1986, p. 727). As noted earlier, one plausible account of dissociation is that it specifically involves lapses of meta-awareness, which arguably provides the glue by which stream of consciousness is held together. Accordingly, when in situations in which the comprehension of an experience is simply too daunting, some individuals may be able to suspend meta-awareness processing. By eliminating self-reflection, individuals may in effect be able to feel detached from their experience. One possible interpretation of these dissociative experiences is that they result from a fundamental elimination of meta-awareness. Although tentative, the suggestion that dissociative tendencies involve a profound lack of meta-awareness would also be consistent with the items found on the Dissociative Experience Scale (DES) (Bernstein & Putnam, 1986) such as, "Some people have the experience of driving a car and suddenly realizing that they don't remember what has happened during all or part of the trip," or "Some people find that sometimes they are listening to someone talk and they suddenly realize that they did not hear part or all of what was said." Such items suggest that dissociative individuals may in fact go for extended periods without meta-awareness of what they are doing, which is precisely what one would expect if dissociation involves an abandonment of standard meta-aware processes.

Although there seems to be good reason to think that dissociation may involve a breakdown in meta-aware processing of experiences, the question remains how individuals achieve this. One possibility is that individuals may be meta-aware of the efforts in which they are engaging to detach themselves from their experience, while at the same time succeeding in suspending meta-awareness about the actual meaning of what is happening to them. Such a partitioning of meta-awareness is broadly consistent with individuals' phenomenological reports. For example, DJ described recalling herself having "the ability to literally detach myself from my body and look at myself, down, like I was on top of the roof. . . . I remember thinking to myself 'hey I'm on top of this ceiling looking down, that's not really me.'" Such accounts suggest the paradoxical possibility that individuals may use meta-aware strategies in order to suspend their meta-awareness of what is happening to them. Alternatively, individuals may actually have no meta-awareness whatsoever

during dissociative episodes. Rather, the meta-aware experiences that individuals report (such as DJ's claim that she can "remember thinking to myself") may in fact be retrospective reconstructions. It may be that people are simply not capable of reconstructing what the experience of a total lack of meta-awareness is like. Accordingly, the notion that one was explicitly aware of becoming detached from one's body during an episode of abuse may represent an illusion resulting from the attempt to impose a retrospective meta-aware understanding on an experience that was originally inherently void of meta-awareness.

Regardless of the precise mechanism by which dissociation may allow for the suspension of meta-awareness about an experience, it seems quite plausible that such a suspension may occur. Like the driver who is conscious of the driving experience, but entirely non-reflecting on what s/he is doing, so too the dissociative individual may experience the abuse, and yet somehow manage not to reflect on it. The conscious experience of the abuse may be laid down in memory, but in the absence of reflection, access to the memory may be limited to experiential cues that correspond to the specific conditions in which the memory actually occurred. Consistent with this latter claim, in the case of DJ it was indeed a very specific environmental cue (actually seeing the perpetrator again) that apparently elicited the memory.

*Nocturnal Occurrence.* One final factor that may contribute to the suspension of meta-awareness during abuse has been surprisingly absent from consideration in discussions of discovered memories, namely the fact that many reported incidents of sexual abuse occur at night. Arguably one of the key characteristics of nocturnal cognition is an absence of meta-awareness. A lack of meta-awareness can explain why individuals fail to notice the remarkable discrepancies that occur in dreams. It also explains why dreams can be so completely and utterly forgotten. Indeed, dreams seem only remembered if individuals specifically reflect on them soon after awakening (Hobson, 1998). Further evidence for the critical role of meta-awareness in mediating the qualities of nocturnal consciousness comes from research on lucid dreaming, which specifically involves becoming self-aware during dreaming (LaBerge, 1985). One of the best ways to encourage the occurrence of lucid dreaming is to encourage regular meta-aware reflection about one's environment during waking hours (LaBerge, 1985). The striking qualitative differences between lucid dreaming and normal dreaming, both with respect to the control that individuals have over the dream environment and with regard to the dream's subsequent memorability illustrate the fundamental lack of meta-awareness that is typically associated with the nocturnal cognition that occurs during dreams.

Although tentative, it seems at least plausible that the absence of meta-aware reflection associated with dreaming cognition may carry over to other

nocturnal experiences that immediately precede or follow sleep. We have probably all heard (or participated) in anecdotes of nocturnal conversations that are completely forgotten by morning. And indeed there is a small amount of literature on the significant amnesia associated with events that occur following awakenings in the middle of the night (Bonnet, 1983). It thus seems quite plausible that such amnesias may stem from the lack of meta-aware reflection that is associated with nocturnal cognition.

The fact that meta-awareness may be more apt to be completely suspended at night may help to explain some of the more severe claims of precipitous forgetting that some individuals with discovered memories have reported. For example, JR reported that by the time he woke up in the morning he had forgotten the abuse that happened the night before: "When I woke up in the morning I didn't have any knowledge of what had happened the night before, which is why I could continue to go on trips with him and enjoy it."

In one of the best documented public cases, Ross Cheit, who discovered memories of nocturnal molestation by a camp counselor (which were corroborated by a tape-recorded confession by the perpetrator) similarly characterized his experiences as having been entirely forgotten by morning. As Cheit described in the *Providence Sunday Journal* (Stanton, 1995, May 8, p. A-19), "When morning came, life at Camp Wallace Alexander would slide back into its familiar grooves, the nocturnal ritual would fade into the shadows." "In the daytime," Cheit says, "he was my friend." In a personal communication, Cheit further substantiated this characterization, saying, "I am confident as I can be that I did not think of the abuse in the daytime" (personal communication, R. Cheit, November 1997).

A similar claim of precipitous forgetting of nocturnal abuse also characterizes another one of the best-corroborated claims of authentic discovered memories, that of the former Miss America, Marilyn Van Derbur. Van Derbur discovered memories of years of sexual abuse by her father, which were corroborated by her sister who reported having maintained intact memories of similar abuse. Like JR and Cheit (as cited in Stanton, 1995), Van Derbur indicated that the abuse exclusively occurred at night and that by morning the memories had evaporated. She described her forgetting as follows: "During the days . . . I, the 'day child', had no conscious knowledge of my traumas and the terrors of the 'night child'. . . . I believed I was the happiest person who ever lived" (as cited in Terr, 1994, p. 124). Van Derbur attributed her forgetting of her nocturnal experiences to a splitting between "a day child" and a "night child." However, perhaps a more parsimonious explanation is that at night when the abuse took place, Van Derbur, like Cheit and JR, may have lacked the meta-awareness processes that typically enable such experiences to be integrated into memory.

Clearly, we must be very cautious at this time in drawing any strong conclusions regarding the possible role of nocturnal occurrence of abuse and its possible ramifications for meta-awareness and memory consolidation. Nevertheless, it is certainly striking that in three of the best documented cases of discovered memories of extensive abuse for which precipitous forgetting was claimed, all occurred at night and all were alleged to have been entirely forgotten by morning. Given that disturbing dreams can be lost in a similar fashion, and that dream consciousness is typified by a lack of meta-awareness, it seems quite plausible that the alleged precipitous forgetting of abuse in these cases may have resulted from the severe disruptions of meta-awareness associated with nocturnal consciousness.

*Prevention of post-experience retrospective meta-awareness.* One challenge to all of the above accounts of how individuals could fail to develop meta-aware understandings of their experiences is: Why aren't the experiences retrospectively assessed in the light of meta-awareness? As noted earlier, we all have had stressful experiences in which it seemed that we just acted without reflecting on the experience at the time. Typically, however, as soon as the experience ends, we put it into perspective. So why does this not also happen in the cases alluded to above? Several essential factors may contribute to individuals' sustained failure to become meta-aware of abuse experiences that are not initially processed with meta-awareness. As already noted, age and lack of rehearsal may be important in this regard. In addition, it is possible that some inhibition of monitoring processes (outlined in the context of temporarily losing meta-awareness) may also be important in some of these situations—particularly in the case of dissociation, where it seems possible that individuals may deliberately inhibit meta-awareness of the experience both during and after its occurrence. In the context of nocturnal experiences, a variety of factors may conspire to prevent retrospective meta-awareness. First, various physiological nocturnal processes that have been associated with dream forgetting (Hobson, 1985) may also contribute to the forgetting of nocturnal abuse. Second, if individuals awake with some vestige recollections of the atrocities that happened to them the night before, they may fail to believe that these bizarre events were real, dismissing them instead as very "bad dreams" (see Johnson, Kahan, & Raye, 1984).

A final factor that may play an important role in the sustained lack of retrospective meta-awareness of abuse experiences is schematicity and connectivity with other life events. When a disturbing experience occurs without meta-awareness, but nevertheless fits into the continuous framework of one's life experiences, it may be relatively easy to "work one's way back" to the event and reconstruct the experience in the light of meta-awareness. However, if an experience is completely bizarre and somehow disconnected to any other understandable life experience, it may be very difficult to reconstruct



deliberately the experience retrospectively. This seems especially clear in the context of nocturnal abuse experiences perpetrated by a known caregiver. They are bizarre, occur in isolation, often in the dark, and may be difficult to reconcile with pre-existing schemata (e.g., the perpetrator may be an otherwise loving and kind individual). In the absence of meta-aware processes that enable individuals to take special note of the distinctive experience, like bizarre dreams these aschematic experiences may be very difficult to reconstruct and recall in retrospect. In short, when experiences connect in some natural way to the events that precede and follow them, then it may be straightforward to impose meta-awareness on the experiences retrospectively. If, however, meta-awareness is, for the various reasons mentioned above, prevented during an experience, and if that experience is fundamentally disjointed from the other experiences in one's life, then it may be more difficult to retrieve retrospectively the memory and to impose meta-awareness on it. In such cases, the memory may await experiential cues to return. Moreover, by the virtue of the unique quality of the experience, it may take some time before the appropriate cues are encountered.

#### **CONCLUSION**

In sum, the present article has attempted to document and explain how individuals can come to discover seemingly forgotten memories of actual abuse. Although the extent of this phenomenon remains to be determined, the case studies presented here suggest that individuals can have sincere memory discovery experiences corresponding to actual incidents of abuse. An analysis of the possible mechanisms that might lead to such memory discoveries suggests the potential importance of two theoretical constructs: (1) experiential consciousness/meta-awareness dissociations—the notion that individuals can have an experience (experiential consciousness) without being explicitly aware of their interpretation of the experience (meta-awareness), and (2) discovery misattribution—the notion that individuals can confuse the experience of discovering a meta-awareness of a prior experience with the discovery of the memory itself. In this context, discovered memories can be understood as involving changes in individuals' meta-awareness of the abuse. In some cases, such changes may involve the gaining of a new meta-awareness of the meaning of the experience, leading to a profound sense of discovery that persuades individuals, rightly or wrongly, that they are accessing the memory for the first time. In other cases, the change may involve regaining meta-awareness of an event that, through either the deliberate or non-deliberate manipulation of the monitoring system, has not been reflected on for some time. In still other cases, the memory may not have been encoded with any meta-awareness in the first place, as a consequence of a variety of encoding

factors, ranging from the very straightforward (e.g., age, lack of discussion, stress) to the more esoteric (e.g., dissociation, nocturnal cognitive processing). Such purely experiential memories, particularly when they are disjunctive with other experiences, may continue to elude retrospective meta-awareness, thereby making them difficult to retrieve deliberately. Instead, they may await unique contextual cues that overlap with the original experiences. Ultimately, such experiential memories of trauma may, in principle, be no different from other, more everyday non-reflected memories that are similarly triggered by experiential cues, but with one central difference. Whereas most memories that are processed without reflection are relatively mundane in nature, non-reflected abuse experiences pack a hidden charge (their unrecognized personal significance), which, like psychological time bombs, literally explode when exposed to the light of meta-awareness.

In closing, it seems appropriate to consider some of the issues left open by the present analysis. Although the present account of discovered memories must be viewed as speculative, many of the suggestions made here are testable. For example, if dissociations between consciousness and meta-awareness are common, then it should be possible to induce them in the lab. (In fact we probably do so all the time, but simply do not appreciate the fact that our participants have caught themselves zoning out.) If individuals make errors in their assessments of forgetting based on discovery misattribution, then experimentally induced "aha" experiences may alter estimations of forgetting. If nocturnal cognition has unique qualities that make individuals especially prone to the formation of memories that can be both precipitously forgotten and yet still recoverable, then such patterns may well be demonstrable in sleep laboratories. While some of the claims suggested in this article may be amenable to laboratory investigation, others will need to rely on the theoretically rich but methodologically thorny corroborative case-based approach outlined here. With larger samples, and a greater variety of characterizations of forgetting, important key hypotheses raised in this analysis could be tested. For example, if a change in meta-awareness of the experience is a key component of the phenomenon, then the sense of discovery that such changes are likely to entail should prove to be a distinguishing feature of discovered memories (particularly ones that are corroboratable). If discoveries of one's meta-awareness of an experience can be confused with discoveries of the memory itself, then instances of such "forgot-it-all-along" errors in estimated forgetting should be found more widely. Finally, if nocturnal abuse is particularly likely to lead to precipitous forgetting, then there should be a relationship between the time at which abuse is alleged to have occurred and the manner in which it is characterized as having been forgotten. Importantly, although many issues (arguably most) of the claims made here remain to be tested, this analysis paves the way for theoretically driven laboratory and

field research that may either substantiate the present theory, or provide the basis for a better one.

In addition to raising many issues that require additional testing, the present analysis has also left a number of difficult issues unaddressed, in particular, the controversial legal and therapeutic implications surrounding discovered memories. Having training in neither clinical practice nor jurisprudence, I am wary of treading these dangerous waters. Nevertheless, a few cautious observations may be in order. From a therapeutic perspective, a central question is whether it is helpful to expose abuse memories to the light of meta-awareness. Ultimately this is an empirical question, upon which the jury is still out. One clear risk, however, is that the new found meta-awareness of abuse may not only reactivate old traumas but may also produce new ones as individuals come to appraise their experience in a way they never did before. From a legal perspective, a central issue is establishing the degree to which true "discovery" was involved (see Schooler, 1999). On the one hand, the present analysis suggests that individuals may be accurate in their characterization of the abuse, without necessarily being accurate in their characterization of the forgetting. On the other hand, the present analysis also suggests that individuals with discovered memories of authentic abuse might well have a newfound understanding of the harm they incurred. Finally, from both perspectives, the fact that there are viable theoretical ways to account for the experienced discovery of even extended and severe abuse means that the theoretical inconceivability of such discoveries cannot be used as grounds for dismissing them.

Although much of this article has explored the implications of meta-awareness and discovery misattribution for accounting for discovered memories of real events, it may also have important theoretical implications for discovering false memories. For example, if individuals can confuse the source of discoveries, then one might confuse the discovery of new insights about oneself (e.g., that one feels ambivalence towards a parent) with a discovery about their past (e.g., that one was abused by that parent). If some traumatic experiences are encoded without meta-awareness, and if meta-awareness is necessary for weaving experiences into coherent integrated narrative memories, then traumatic memories that have avoided the light of meta-awareness may be especially prone to distortions, substitutions, and source monitoring errors. Finally, if nocturnal cognition impairs meta-awareness, which in turn dulls the line between reality and fantasy, then whereas sometimes real abuse may be forgotten like dreams, other times dreams may be remembered as real abuse.

Ultimately, of course, the arguments underlying much of the speculations in this article rest on the distinction between experiential consciousness and meta-awareness. If this distinction fails, then many of the arguments made

here will undoubtedly fail as well. If, however, it is possible for one to be conscious during an experience without being meta-aware of that experience, then we potentially gain a whole new locus for dissociations of thought. Such dissociations may not only help to clarify discovered memories, but may also illuminate a variety of other domains, such as automaticity (Bargh & Chartrand, 1999), awareness of emotions (Zajonc, 1980), mental control (Wegner, 1994), implicit attitudes (Wilson, Lindsey, & T. Schooler, 2000), and addictive behaviors (Tiffany & Carter, 1998), to name but a few. Whereas many cognitive distinctions may continue to be best characterized in terms of the standard division between conscious and unconscious thought, others may now be better conceived as straddling the typically ignored line between consciousness and meta-awareness.

#### NOTES

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

2. Of course, tacit interpretations of experiences are obligatory at all levels of processing, from assigning figure and ground to determining whether a situation requires approach or avoidance. However, just as animals are assumed to interpret their environment without explicit awareness of their interpretations, so too it is assumed that we may routinely interpret our experiences without explicitly reflecting on those interpretations.

3. The fact that meta-awareness comes and goes suggests the existence of some type of meta-monitoring system that determines when meta-awareness is needed. Wegner (1994) has proposed an elegant theory of the monitoring of unwanted thoughts that might provide the basis for such a meta-monitoring system. Wegner postulates the existence of two processes: a control process that searches for anything but the unwanted thought, and an automatic process that monitors the success of the control process by remaining vigilant for the unwanted thought. In contrast to the present discussion, Wegner suggests that the automatic monitoring process searches the contents of thoughts that are in pre-consciousness (i.e., activated but not in consciousness). However, he does not explicitly consider the distinction between consciousness and meta-awareness, and thus does not address the likely case in which an individual may consciously entertain unwanted thoughts without being explicitly aware of doing so. Nevertheless, his model clearly handles such cases by simply assuming that the monitoring system can also monitor the contents of consciousness in order to alert one that s/he is ruminating on an unwanted thought. In effect, the monitor may bring to meta-awareness the basic message "there you go again."

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