

- duction Project. *Journal of UFO Studies*, 3, 59–90.
- Spanos, N., Cross, P., Dickson, K., & DuBreuil, S. (1993). Close encounters: An examination of UFO experiences. *Journal of Abnormal Psychology*, 102, 624–632.
- Stolorow, R. O. (1992). *Context of being: The intersubjective foundation of psychological life*. Hillsdale, NJ: The Analytic Press.
- Strieber, W. (1986). Pain. In D. Etchison (Ed.), *Cutting edge* (pp. 269–290). New York: Doubleday.
- Strieber, W. (1987). *Communion: A true story*. New York: Avon.
- Terr, L. (1994). *Unchained memories: True stories of traumatic memories lost and found*. New York: Basic.
- Uyeda, S. (1971). *The new view of the Earth* (M. Ohnuki, Trans.). San Francisco: Freeman.
- van der Kolk, B. A. (1987). The psychological consequences of overwhelming life experiences. In B. A. van der Kolk (Ed.), *Psychological trauma* (pp. 1–30). Washington, DC: American Psychiatric Press.
- van der Kolk, B. A. (1994). The body keeps the score: Memory and the evolving psychobiology of posttraumatic stress. *Harvard Review of Psychiatry*, 1, 253–265.
- Westrum, R. (1982). Social intelligence about hidden events. *Knowledge: Creation, Diffusion, Utilization*, 3, 382.
- Wilson, J. P. (1990). Post-traumatic stress disorder (PTSD) and experienced anomalous trauma (EAT): Similarities in reported UFO abductions and exposure to invisible toxic contaminants. *Journal of UFO Studies*, 2, 1–17.
- Wilson, S. C., & Barber, T. X. (1978). The Creative Imagination Scale as a measure of hypnotic responsiveness: Applications to experimental and clinical hypnosis. *American Journal of Clinical Hypnosis*, 20, 235–249.
- Wilson, S. C., & Barber, T. X. (1983). *Inventory of Childhood Memories and Imaginings*. Framingham, MA: Cushing Hospital.

“Memories” of Anomalous and Traumatic Autobiographical Experiences: Validation and Consolidation of Fantasy Through Hypnosis

**Martin T. Orne, Wayne G. Whitehouse,
Emily Carota Orne, and David F. Dinges**
*Institute of Pennsylvania Hospital and
University of Pennsylvania School of Medicine*

From the time of Freud and Janet, psychological science has grappled with the trustworthiness of so-called recovered memories of physically or psychologically traumatic experiences that are assumed, for some time, to have been repressed or dissociated from awareness. In a not uncommon psychotherapy scenario, an adult individual who seeks treatment for a current problem, such as an eating disorder or depression, might find that the therapist believes the presenting symptoms to be rooted in a history of childhood abuse or incest, of which the client was previously unaware. The two then embark on a course of “uncovering” therapy, typically using hypnosis or a similar suggestion/imagery-laden procedure, whereupon the heinous “evidence” is gradually dredged from the client’s unconscious. The legitimacy of remembrances obtained in such a context, in the absence of other corroborating evidence, is an issue that is being debated throughout the mental health professions and in courtrooms worldwide. It should be noted, however, that it was an explicit goal of the therapy to excavate the presumed repressed memories of childhood abuse in an effort to alleviate the patient’s current symptoms. Therefore, that the client confirmed

the therapist’s suspicions by reporting recollections consonant with such a history might mean that the events actually took place; alternatively, it is also possible that the therapeutic milieu served to set the stage for the creation of a false memory of childhood abuse.

In a slightly different vignette, the treatment of another individual results in his reporting an episode in which he was transported from his bed and deposited in a high-technology operating room aboard an alien space vessel, where he becomes the subject of an invasive medical examination. Certainly, any claim that this recovered memory represents a literal autobiographical experience would be greeted with skepticism. The memory concerns an occurrence that is so out of the ordinary—and that defies contemporary scientific validation—that it is likely not to be taken seriously. Nevertheless, the manner in which an alien-abduction memory is dealt with in therapy may not differ from the way recovered memories of childhood abuse, or any other autobiographical reminiscences, are treated. In the interest of maintaining a supportive therapeutic context, all such claims understandably receive at least a tentative or working acceptance by the therapist. Further, the tendency to accept a client’s recollections

is based on the belief that the client's present subjective realities are paramount; therefore, in many therapies, historical truth about the past need not be a vital consideration in effective treatment of present-day difficulties (Spence, 1982). As a result, psychotherapy often proceeds blindly with respect to the events that actually transpired in the client's past. Although many therapists consider historical truth about past events to be irrelevant to treatment outcome, there are others who readily adopt, and indeed encourage their patients' acceptance of, the reality of memories recovered in therapy. Notwithstanding such wide-ranging differences in clinical perspective, it is the norm that the client's account is seldom targeted for independent corroboration.

Accordingly, memories recovered in psychotherapy typically receive at least tacit validation in an effort to preserve the therapeutic alliance. However, in some cases in which the patient becomes unshakably convinced of their accuracy—despite a lack of credible corroborating evidence—recovered memories can alienate social support networks and foster delusional thinking (e.g., by absolving any personal responsibility, and blaming external forces, for current life difficulties). Clearly, we need a better understanding of the circumstances that lead individuals to embrace recovered memories with such conviction. In this regard, Newman and Baumeister's target article makes an important conceptual contribution.

Based on an extensive review of the alien abduction literature, Newman and Baumeister alert the reader to the astonishing claim that, every day, vast numbers of people in this country report involvement, against their will, with extraterrestrial beings. As a group, these "experiencers" are neither characteristically liars nor psychotic; they are, however, quite convinced of the reality of their abductions, despite a dearth of scientific documentation for any of their claims. Generally, they do not publically disclose their experiences, at least not initially. In fact, many are apparently unable to articulate the belief that they were abducted without the intervention of a mental health practitioner or a support group consisting of people claiming to have been victims of similar alien encounters. Given the fantastic experiences claimed, the lack of corroboration, and the emergence of fully elaborated recollections only following some intervention involving an empathic listener, the evidence would seem to favor an iatrogenic basis for the unidentified flying object (UFO) abduction experience. Newman and Baumeister strengthen this conclusion with a well-supported cognitive-motivational explanation of the phenomenon. They present evidence that a tendency to retreat from self-awareness might provide the motivational substrate for believing that one has been abducted by aliens, as well as accounting for certain consistent themes in abduction narratives. It is important to note that the memories

themselves often develop after hypnosis, which has been found to facilitate the transformation of mental images and vague recollections into compelling pseudomemories that may come to be believed with great conviction.

Our position on this issue agrees substantially with that taken by Newman and Baumeister. In this commentary, we hope principally to amplify concerns about the risk of pseudomemory creation when individuals are exposed to the powerful perceptual, cognitive, and motivational processes that are invoked by the use of hypnosis in treatment. In addition, we seek to share some new insights regarding individual differences in hypnotizability, their relation to subjective experience, and their impact on hypnotically influenced constructive processes of imagination and memory.

Hypnosis, particularly as practiced in therapy, is a process carried out in a dyadic social relationship that operates on a person's subjective experience, producing alterations of perception, memory, and mood in response to appropriate suggestions (M. T. Orne, 1977). Thus, the effectiveness of hypnotic analgesia in, for example, dentistry stems from cognitive/perceptual changes in the patient's experience of a normally uncomfortable or painful procedure, not from any known physiological form of analgesia that might be induced by suggestion or by the hypnotic condition per se. The altered experience might be accomplished by redirecting attention away from the painful stimulation, by focusing attention on a less noxious aspect of the procedure (e.g., the warmth of the dentist's hand against the cheek as the drill is engaged), or by reinforcing a calm, pleasant, and relaxed emotional state (M. T. Orne & Dinges, 1989a). Because the locus of effect of hypnosis resides in the modification of core subjective experience, it can be used therapeutically in the treatment of a wide variety of conditions, including acute and chronic pain, anxiety disorders, and many psychosomatic complaints (M. T. Orne & Dinges, 1989b).

People differ in their ability to experience hypnotic suggestions (Hilgard, 1965). Most people can experience many of the effects of hypnosis; approximately 10% of the general population experience it in a very profound way (e.g., some can rely on it as the sole anesthetic for certain forms of surgery). At the same time, there is also a group of individuals who appear to be essentially unresponsive to hypnosis (approximately 10% to 15% of the general population). It should be noted, however, that modern standardized scales of hypnotic ability adopt the criterion that a test suggestion is passed only if the response is manifest in the subject's overt behavior. Thus, the assessment of hypnotizability, as determined by the number of items passed on an overt, behavioral basis, precludes any exploration of the subjective experiential changes in perception, memory, and mood that define the condi-

tion of hypnosis. Paradoxically, not all individuals who show evidence of having little hypnotic potential, even following multiple assessments, are necessarily lacking in the ability to experience some of the phenomenological aspects of hypnosis. They do, of course, fail to demonstrate the overt behavioral response to many suggestions and thereby are classified as "low hypnotizables." However, we have found that, in several well-screened samples of individuals queried about their subjective experiences to the same suggestions, 27% to 33% of the subjects classified as low hypnotizables (based on standardized hypnotizability scales) reported high levels of perceived hypnotic depth and degree of absorption in the suggested experiences—levels comparable in magnitude to those of subjects classified as "high hypnotizables." In contrast, very few high hypnotizables (i.e., 8% to 13%) reported weak experiences in these subjective dimensions. Thus, it appears that individuals can be considerably more affected by hypnotic procedures than their behaviorally anchored ratings of hypnotic ability would suggest.

Hypnosis, guided imagery, and related techniques are often employed in an attempt to help patients recall information about autobiographical occurrences for which they are experiencing some degree of amnesia. The rationale for these approaches is based on several considerations. First, such techniques allow the patient to temporarily suspend reality orientation, which otherwise might cause the person to vigilantly resist recollections that could be disturbing. (Note, however, that this very same objective depends on lowered critical judgment and a willingness to accept the plausibility of images and impressions that may be rooted in fantasy.) Second, it is often possible, through appropriate suggestions given by the therapist, to help the patient feel comfortable, safe, and secure, thereby reducing the individual's anxiety and eliminating the basis for "motivated repression." Third, the techniques rely extensively on imagination and imagery to mentally recreate the feelings and circumstances (i.e., potential retrieval cues) surrounding the incident in question, such as in the use of age regression. Finally, suggestions can be used to help the patient accept and integrate the recovered memories as well as their meaning into his or her life. Despite such reasoned justification for the use of hypnosis or other suggestive techniques in recovered-memory therapy, two fundamental questions remain: Are there truly any blocked or hidden memories to recover? How can we be certain that the newfound recollections are historically authentic?

Most scientists now agree that the use of hypnosis to facilitate recall often results in an increase in productivity; that is, subjects simply report more information in hypnosis than they do when attempting to recall in the normal waking condition (see M. T. Orne, Whitehouse, Dinges, & E. C. Orne, 1988). Thus, what might appear to be an

enhancement of recall by hypnosis is really an illusion, because subjects report significantly more material—erroneous memories as well as accurate memories. Worse yet, exposure to hypnotic procedures leaves subjects as confident in their inaccurate recollections as they are in their veridical reminiscences (Dinges et al., 1992; Dywan & Bowers, 1983; Sheehan, 1988; Whitehouse, Dinges, E. C. Orne, & M. T. Orne, 1988).

As noted by Newman and Baumeister and documented in some of our earlier work (e.g., M. T. Orne, 1979), instances of hypnotic memory distortion are quite common among high hypnotizables, which suggests that the distortions are a product of the process of hypnosis per se rather than contextually elicited solely by social-psychological factors. This observation has led many to assume that low hypnotizables are not vulnerable to memory contamination by hypnotic techniques. Regrettably, this assumption is flawed and lacks empirical foundation. Because a respectable proportion of low hypnotizables may experience subjective effects of hypnosis that greatly exceed their behaviorally based estimates of hypnotic ability, we proceeded to explore relevant data sets that our laboratory has collected over the past decade for evidence of effects of hypnosis on memory performance in low or medium hypnotizables. In all of these studies, the experimenter was blind to participants' level of hypnotizability. The results of these retrospective analyses are as follows.

1. Medium hypnotizables in hypnosis showed a 49% increase in free-narrative recall productivity relative to a 35% increase for medium hypnotizables who received motivating waking instructions; the corresponding data for high hypnotizables revealed a 60% productivity increase in hypnosis and a 35% increase for the waking condition (from M. T. Orne, 1990).

2. Low hypnotizables who attempted repeatedly to recall a series of pictures over five trials in hypnosis confidently reported increasing numbers of pictures that had not been presented, whereas low hypnotizables who recalled in the waking condition reported few such intrusions (from Dinges et al., 1992, Experiment 1).

3. Low hypnotizables who had approached asymptotic recall levels by completing six consecutive recall trials in the waking condition nevertheless exhibited a significant productivity increase when exposed to an unexpected final recall attempt in hypnosis (from Dinges et al., 1992, Experiment 2).

4. Compared to low hypnotizables who made a recall attempt twice in the waking condition, low hypnotizables who made a recall attempt in the waking condition and then in hypnosis were significantly more likely to misattribute their recollections to the earlier (waking condition) attempt (from Whitehouse, E. C. Orne, M. T. Orne, & Dinges, 1991).

Collectively, these findings make it clear that the capacity for hypnotic techniques to access, modify, and create memory material is not limited to individuals with demonstrable behavioral responsiveness to hypnotic suggestions. It is good to bear in mind that our findings of significant hypnotic effects on the memory reports of medium and even low hypnotizables occurred with highly standardized laboratory protocols run blind. It seems reasonable to suggest that, in an appropriately individualized and supportive therapeutic context, even more dramatic effects will be observed across the full spectrum of hypnotizability.

How does one account for the influence of hypnotic procedures on memory processes among low hypnotizables? The answer, we believe, hinges on the process of contextually provided "response validation." In the case of recovered memory therapies, hypnotizability is not a constraining factor because response validation occurs readily and for a broad range of subjective responses. Some individuals might be encouraged by being able to imagine themselves back in an earlier period of their lives. For others, the vividness of detail in their imaginings, or how absorbed they became in the suggested experience, can reinforce their willingness to continue working with hypnotic methods. Many of the subjective experiences called for—to become calm and relaxed, to go "deeper" into hypnosis, to follow along with the hypnotist's suggestions, to tap their imagery processes—are abilities that are shared across a broad range of hypnotizability. What matters most is that the subject be protected from too many failure experiences during hypnosis, which might undermine his or her motivation. But, therapists skilled in the clinical use of hypnosis will tailor their suggestions to the client's level of ability and take other precautions to maintain cooperation and involvement with the prescribed course of treatment. Thus, assuming a mutual commitment by client and therapist to find any hidden or repressed memories, hypnosis sessions will generally continue until the memories emerge.

Unlike a chronic-pain patient seeking relief through the use of suggestion, for individuals seeking lost memories, the risk of becoming quickly discouraged with hypnosis is virtually nil. In the latter context, there are multiple available sources of response validation to sustain the client's credulousness, not the least of which involves recalling information that tends to confirm the beliefs and expectations of the client and/or therapist. In this regard, Spanos, Burgess, and Burgess (1994) surveyed several studies concerned with the hypnotic elicitation of memories for anomalous experiences and found that a reliable determinant of the occurrence of

such memories was the subject's preexisting belief in the possibility of the relevant experience (e.g., reincarnation and past-life personality, UFO abductions, satanic ritual abuse). Thus, fantasies and images conjured in hypnosis will tend to be accepted as valid memories if they are congruent with the client's belief system, whereas incongruent material may be dismissed as mere fantasy.

In the absence of strong prior beliefs on the part of the client, the therapist's own etiological predilections assume a pivotal role. It is important here to recognize that the therapist's communications can confer validity upon the client's memory productions, even when the client has initial reservations about their reality. Laboratory investigations show that the use of hypnotic-like procedures can lead to heightened confidence in false memories related to innocuous, circumscribed experiences in which both the subjects and researchers have very little personal investment (M. T. Orne et al., 1988). How much more credible will such "recollections" become when they conform to beliefs about the etiology of the client's problems that the therapist entertains? Here is a professional, an authority on the subject, who validates the client's memories because they are precisely the kind of remembrances that were sought—recollections of experiences that clinical lore holds to be historically necessary, given the client's presenting symptoms. In this regard, it is not surprising that many noted investigators ("therapists") of the UFO abduction experience are themselves proponents of the reality of alien abductions. Furthermore, such strongly held beliefs and expectations by either the client or therapist will tend to influence the length of treatment as a consequence of the parties' zealotry and persistence in seeking confirmatory support.

Because alien abduction reports have uniformly eluded attempts at scientific documentation, they fall into a class of anomalous experiences that demand an effort to generate plausible alternative hypotheses. Newman and Baumeister have risen to the challenge with an interesting and cogent analysis of the motivational and cognitive processes that appear to be implicated in the UFO abduction phenomenon. Their proposal draws on a great deal of what is currently known about such cases and provides ideas that can be operationalized and tested. Thus, they have managed to isolate the important features of the phenomenon and make them available for scientific analysis.

Our own purpose in this commentary is to call attention to several aspects of the problem that develop after the client has decided to seek professional help, particularly when the therapeutic approach involves hypnosis or related techniques to rehabilitate memory. No known memory-recovery procedure can guarantee the accuracy of recollections that emerge during therapy. In fact, there

is strong evidence that hypnotic-like procedures that invite fantasy, lower critical judgment, and encourage the use of imagery and imagination to breach gaps in recollection (i.e., indulge confabulatory processes) will yield less reliable recall, including pseudomemories that come to be believed with great conviction. We maintain that it is a mistake to assume that highly hypnotizable or "fantasy-prone" individuals (Lynn & Rhue, 1988) are uniquely at risk for hypnotically produced memory alterations of this type. Surveying a decade of our own work concerning hypnotic effects on memory, we have determined that medium as well as low hypnotizables show many of the same vulnerabilities as high hypnotizables, including increased productivity, escalated confidence in the accuracy of erroneous recall, and source misattributions regarding the temporal context in which information was first reported. In addition, we find that the subjective experiences of some low hypnotizables match those of high hypnotizables, thereby legitimizing aspects of their hypnotic performances and strengthening the credibility of their memory productions. Given that suggestions utilized for memory retrieval in hypnosis often do not place extraordinary or even exclusive demands on subjects' hypnotic talents, their effects may be virtually equipotent across a wide range of hypnotizability. This possibility implies that knowledge of an individual's hypnotic ability may no longer be a viable yardstick against which to assess the likelihood of hypnotically or imaginably produced memory distortions. Hypnosis provides a license for fantasy—whether the client possesses the skills of a hypnotic virtuoso or is someone who has little requisite talent but who nonetheless is motivated to actively indulge a therapeutic script prescribed by his or her therapist. In view of these considerations, the most prudent course is to be aware that "memories" recovered with techniques of this variety warrant a strong dose of skepticism and must first be independently corroborated if they are to be taken outside the therapeutic context.

Notes

The substantive view on which this commentary is based developed from research supported in part by Grants MH19156 and MH44193 from the National Institute of Mental Health, U.S. Public Health Service; in part

by Grants 82-IJ-CX-0007 and 87-IJ-CX-0052 from the National Institute of Justice, U.S. Department of Justice; and in part by the continued support of the Institute for Experimental Psychiatry Research Foundation.

References

- Dinges, D. F., Whitehouse, W. G., Orne, E. C., Powell, J. W., Orne, M. T., & Erdelyi, M. H. (1992). Evaluating hypnotic memory enhancement (hypermnnesia and reminiscence) using multitrail forced recall. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *18*, 1139–1147.
- Dywan, J., & Bowers, K. S. (1983). The use of hypnosis to enhance recall. *Science*, *222*, 184–185.
- Hilgard, E. R. (1965). *Hypnotic susceptibility*. New York: Harcourt Brace & World.
- Lynn, S. J., & Rhue, J. W. (1988). Fantasy proneness: Hypnosis, developmental antecedents, and psychopathology. *American Psychologist*, *43*, 35–44.
- Orne, M. T. (1977). The construct of hypnosis: Implications of the definition for research and practice. *Annals of the New York Academy of Sciences*, *296*, 14–33.
- Orne, M. T. (1979). The use and misuse of hypnosis in court. *International Journal of Clinical and Experimental Hypnosis*, *27*, 437–448.
- Orne, M. T. (1990). *The use and effectiveness of hypnosis and the cognitive interview for enhancing eyewitness recall* (Final report submitted to the National Institute of Justice). Merion Station, PA: Institute for Experimental Psychiatry.
- Orne, M. T., & Dinges, D. F. (1989a). Hypnosis. In P. D. Wall & R. Melzack (Eds.), *Textbook of pain* (2nd ed., pp. 1021–1031). London: Churchill Livingstone.
- Orne, M. T., & Dinges, D. F. (1989b). Hypnosis. In H. I. Kaplan & B. J. Sadock (Eds.), *Comprehensive textbook of psychiatry/V* (pp. 1501–1516). Baltimore: Williams & Wilkins.
- Orne, M. T., Whitehouse, W. G., Dinges, D. F., & Orne, E. C. (1988). Reconstructing memory through hypnosis: Forensic and clinical implications. In H. M. Pettinati (Ed.), *Hypnosis and memory* (pp. 21–63). New York: Guilford.
- Sheehan, P. W. (1988). Confidence, memory, and hypnosis. In H. M. Pettinati (Ed.), *Hypnosis and memory* (pp. 95–127). New York: Guilford.
- Spanos, N. P., Burgess, C. A., & Burgess, M. F. (1994). Past-life identities, UFO abductions, and satanic ritual abuse: The social construction of memories. *International Journal of Clinical and Experimental Hypnosis*, *42*, 433–446.
- Spence, D. P. (1982). *Narrative truth and historical truth: Meaning and interpretation in psychoanalysis*. New York: Norton.
- Whitehouse, W. G., Dinges, D. F., Orne, E. C., & Orne, M. T. (1988). Hypnotic hypermnnesia: Enhanced memory accessibility or report bias? *Journal of Abnormal Psychology*, *97*, 289–295.
- Whitehouse, W. G., Orne, E. C., Orne, M. T., & Dinges, D. F. (1991). Distinguishing the source of memories reported during prior waking and hypnotic recall attempts. *Applied Cognitive Psychology*, *5*, 51–59.

