

On the Edge of Science: Coping With UFOlogy Scientifically

Kenneth S. Bowers and John D. Eastwood

*Department of Psychology
University of Waterloo*

One of the interesting issues raised by Newman and Baumeister's target article is the boundary that separates scientific from nonscientific claims. Clearly, Newman and Baumeister take the position that abductees' unidentified flying object (UFO) claims are not scientific—that they cannot be upheld by independent observations and are inconsistent with others (e.g., being abducted in the presence of people who do not witness anything unusual). Indeed, one suspects that Newman and Baumeister reject such claims on the grounds that the antecedent likelihood of being abducted by UFO aliens is quite low—almost as low as a patient's claim that a past life accounts for his or her current difficulties in living. It is a general rule-of-thumb that, when the antecedent likelihood of a proposition is low, the evidence for it must be especially compelling to disinterested and competent observers before the claim is able to attain scientific status—and this is certainly not the case for claims about alien abductions or past lives.

Newman and Baumeister offer their own, two-part theory of the origins of such abduction experiences. The first part of their theory invokes fantasy proneness, hypnosis, and suggestion as the main basis for "remembered" abductions. The argument is that people seek therapeutic help in the face of distressing and/or unexplained life events. If the therapist happens to be a UFO aficionado, these beliefs can be implicitly or explicitly suggested to a receptive person. Being receptive in this context implies two things: (a) People's reality testing and critical functioning are at low ebb, somewhat as they would be during hypnogogic and hypnopompic states, and (b) some people (viz., high hypnotizables) are very responsive to suggestive communications that they enact and experience in a way that is experienced more as a visitation than as something they do (Woody, Bowers, & Oakman, 1992). If an implicit or explicit suggestion involves recalling a UFO abduction, a hypnotized person will often oblige with a compelling mnemonic experience (Bowers & Hilgard, 1988).

However, even a compelling experience of this kind does not necessarily compel belief in a corresponding external reality. On the basis of a large-scale study comparing people who had had UFO experiences versus those who had not, Spanos, Cross, Dickson, and DuBreuil (1993) concluded that, despite its importance, "sleep-related imagery of unusual beings . . . [is] unlikely to produce believed-in UFO experiences. Also likely to be required is a belief system that assigns at least some initial credibility to the extraterrestrial hypothesis" (p. 631). (Similar

conclusions flowed from research concerned with the believed-in reality of past lives—Spanos, Menary, Gabora, DuBreuil, & Dewhirst, 1991.) So, a UFO abduction experience probably needs to be supplemented by a prior belief in the reality of UFOs in order to maximize the likelihood that a person will attribute such an experience to an actual abduction. The question thus becomes: What drives people's belief in UFOs? The answer, according to Newman and Baumeister, is the need for people to escape self and self-control through humiliating, masochistic-type fantasies. This proposal comprises the second, motivational, portion of Newman and Baumeister's theory.

We agree that suggestion is an important ingredient in UFO fantasies. Moreover, we find Newman and Baumeister's masochistic/motivational account of UFO abductions more plausible than the literalist view they reject. But, to what extent does it count as a scientific explanation, and how critical is it as an explanation for the recent rash of UFO abductions?

Newman and Baumeister argue for their motivational thesis on the basis of similarity of masochists' and UFO abductees' psychological profiles, although they are somewhat selective in the points of similarity. Points of difference—such as the fact that masochists act out masochistic sexual impulses in real life, whereas abductees do so only in fantasy—are less well attended to. In any case, Newman and Baumeister's argument implies that the intrapsychic forces operating on UFO abductees are at least to some extent unconscious. That is, the masochistic need to lose self temporarily is not the *abductees'* explanation for their experience of being kidnapped by aliens. If it were, they would not be abductees, because the entire enterprise would then be too transparent for them to be bamboozled in the first place. Abductee reports occur precisely because the psychological motivations for "remembered" masochistic humiliations are not conscious.

In posing their psychological account of UFO abductions, Newman and Baumeister are in the psychoanalytic tradition, at least to the extent that they would endorse Freud's (1901/1953) claim that "unconscious ideas, unconscious trains of thought, and unconscious impulses [are] no less valid and unimpeachable psychological data than conscious ones" (p. 113). However, Crews (1993, 1994a, 1994b), in recent efforts to rebut the reality of repressed/recovered memories of child abuse—and all things Freudian into the bargain—argued that there is nothing to choose, "on scientific grounds" (Crews, 1995, p. 72), between Freud's version of psychoanaly-

sis and any updated version of it. The unstated but strong implication is that all such theorizing is doomed because unconscious determinants of human behavior (at least of the intrapsychic kind) are intrinsically unscientific. This is a serious indictment that, if taken as the final word on the matter, undoes at the outset any scientific pretensions of Newman and Baumeister's motivational account of UFO abductions. Although their theory is not explicitly Freudian, it has unmistakable allegiance to the power of unconscious ideas and impulses to move and shape human behavior in ways that seem puzzling on the surface. In that sense, the theory's Freudian provenance is unmistakable.

But is it really epistemologically impossible, as Crews seemed to imply, for science to concern itself with such unconscious, intrapsychic influences? A more typical skeptical reaction about the "Freudian unconscious" in general, and about repression in particular, is that there are few or no empirical grounds for crediting the historical reality of sexual abuse—say, that has been repressed and then recalled for the first time in the course of therapy many years after it allegedly took place (e.g., Loftus & Ketcham, 1994; Ofshe & Watters, 1994). It is not that such a possibility is epistemologically beyond the pale; it is simply empirically empty. In light of these considerations, we can reasonably ask the following question: If we do not jettison Newman and Baumeister's motivational account of fantasied UFO abductions on principle (a la Crews), is their theory empirically tenable, or is its claim to being scientific due primarily to the fact that it replaces an extremely implausible, literal account of such abductions? We now examine this possibility.

As Nisbett and Wilson (1977) showed, people explain their behavior not on the basis of introspectively accessible, unimpeachable data but on the basis of theories or mental heuristics that might be correct but are frequently wrong—as theories are wont to be (see also Bowers, 1984; Lyons, 1986). Determining the validity of such theories is quite a different and far more difficult process than generating them in the first place. Accordingly, most people most of the time simply accept as true a self-generated account of their own experience on the grounds that it feels right, that it is accompanied by a great deal of emotion, that it makes sense, that it fits with what they already believe, or that it must be true "because, otherwise, why would I have thought of anything so crazy?" So convincing can these self-generated theories be that it often never occurs to people to question their validity. Accordingly, when a person recalls being abducted, the simplest explanation is that he or she was abducted.

However, as implied by Spanos's research on UFOs and past lives (Spanos et al., 1993; Spanos et al., 1991), such a reaction is by no means necessary. A person who has a bizarre experience of this kind might remain

skeptical in the face of it and might ask whether he or she was dreaming, drugged, hypnotized, or in an otherwise altered mental state that might have generated or permitted such an experience. Such questions are the beginning of science; in effect, they represent an attempt to disconnect a compelling experience or behavior from what we might term its *constitutive explanation*. A constitutive explanation is one in which an experience and the explanation of it are conflated, such that the experience or behavior virtually constitutes the explanation of it. Thus, the experience of being abducted by aliens is explained by being abducted by aliens; the experience of remembering something is explained by something remembered; a person's experience of having another personality is explained by the existence of another personality; facilitated communication (Biklen, 1990; Green, 1994) explains facilitated communication. The problem with such accounts is not that they are necessarily wrong; the problem is that the powerful experience or behavior is insufficient for validating its constitutive explanation. A scientific account of a phenomena begins with questioning such constitutive explanations, and such questioning typically means that something less salient and conspicuous than the experience itself is eventually invoked as an explanation of it.

In psychology, there are two main alternatives to constitutive explanations—environmental and intrapsychic explanations. Intrapsychic explanations of experience and behavior are by their very nature hidden from view and can be known only by their manifestations. The problem with such accounts is the dearth of constraints on inferences from observed effects to inferred causes. Consequently, the imagination and convictions of the observer can overdetermine the specification of internal structures and motives of the person observed. Indeed, as argued elsewhere (Bowers & Farvolden, in press), such observer biases can implicitly suggest the very phenomenon that are then taken to be independent evidence for the validity of the observer's theory.

None of this implies that there are no unconscious intrapsychic structures and motivations that are important to understanding human behavior and action; it just means that it is difficult to know when you've got it (more or less) right. Accordingly, Newman and Baumeister's masochistic/motivational hypothesis of UFO abductions might be correct; currently, however, its main claim to being scientific is that the antecedent likelihood of the hypothesis being true is greater than the constitutive explanation it replaces. In our view, however, the proposed motivational theory has to be subjected to much harsher empirical challenges before it can emerge as a truly credible scientific account of UFO abductions. We suggest such a challenge at the end of this commentary.

In contrast to intrapsychic accounts of behavior and experience, explanations that depend on external, environmental variables are (more or less) easy to manipulate in order to see their effects on the behavior and experience of the person. The history of experimental psychology is a celebration of this possibility. However, such research does not tell us what the truly important independent and dependent variables are. Those decisions are based on best guesses about how people tick—what their motives, mental mechanisms, and intrapsychic structures are like. It is simply naive to assume that these decisions can be avoided or that they can be made exclusively on empirical grounds (Fletcher, in press; Kukla, 1989).

Both intrapsychic and environmental accounts of experience and behavior are potentially more scientific than constitutive explanations, for the simple reason that they “de-conflate” the explanation from the events to be explained. Once begun, this odyssey is never-ending, because each observation suggests more questions. By comparison, constitutive explanations tend to truncate or terminate inquiry.

If de-conflating experience and explanation is the beginning of science, the ongoing process of science involves reducing the idiosyncratic contribution of the observer to an explanation of the observed. The experimental method seems ideally suited to this process because it places the strongest constraints on inference. But there are limits here. First, even with the experimental method, it is impossible to eliminate the role of the observer on the observed, which will always be introduced at the level of deciding what experiment is worth performing. Second, it is not possible to manipulate a significant source of contribution to human experience and behavior—namely, intrapsychic determinants, some understanding of which is so decisive in determining what observations to make.

Fortunately, there are other ways of placing controls on observation that help to reduce the idiosyncratic contribution of the observer to the observed. In personality research, for example, Block’s (1971) innovative use of Q-sort methodology minimizes the observer’s idiosyncratic contribution to the observed. Newman and Baumeister have begun the attempt to ground their masochistic theory of UFO abductions with something like controlled observations, and, in that sense, it offers the promise of a scientific account of bizarre experiences. But, in our view, Newman and Baumeister have a long way to go before their theory becomes scientifically compelling.

One problem we see with the masochistic/motivational component of Newman and Baumeister’s theory is that it has difficulty explaining various kinds of UFO experiences—not all of which are humiliating and degrading (see, e.g., Spanos et al., 1993). Another problem is that it underestimates the power of suggestion to

generate various kinds of UFO abduction memories. And, by *suggestion*, we do not limit ourselves to hypnotic or hypnotic-like suggestion, but to subtle means of inducing and altering beliefs, feelings, attitudes, and behaviors in a manner that has been wittingly or unwittingly exploited for centuries by the military, healers, salesmen, political ideologues, and religionists (see, e.g., Conway & Siegelman, 1979; Deikman, 1994; Dyer, 1985; Frank, 1973; Lifton, 1963) and that more recently has been studied by social psychologists (Cialdini, 1993). These kinds of influences apparently have little to do with hypnotic responsiveness (Moore, 1964; but, for a caveat to this generalization, see Woody, Oakman, & Drugovic, 1995).

One of our favorite illustrations of this kind of suggestion occurs in Clark’s (1971) biography of Albert Einstein. Clark indicated how Einstein was recruited to Zionism early in his career. Kurt Blumenfield, a propagandist, was the point man for this endeavor, and he carefully plotted Einstein’s conversion to the cause. Clark quoted Blumenfield:

Utilizing [Einstein] for publicity purposes was only successful if I was able to get under his skin in such a way that eventually he believed that the words had not been put into his mouth, but had come forth from him spontaneously. (p. 380)

We propose that, if compelling, hypnotically suggested experiences are combined with prior and relevant belief-altering manipulations, then it would maximize the likelihood that a person subjected to such a two-pronged campaign of persuasion would become especially vulnerable to adopting the propagandist’s views.

Something like this double whammy appears in fact to occur in the context of therapy that is overly organized around the recovery of memories of childhood sexual abuse (Bowers & Farvolden, in press; Pendergrast, 1995; Yapko, 1992). Note first that patients seeking therapy are typically distressed and emotionally aroused—a prime psychological condition for producing significant change (Frank, 1973). Given such a susceptible person, recovered memory therapy seems devoted to increasing, in the client’s mind, the antecedent likelihood that unremembered abuse might account for current distress and difficulties in living—whatever they might be (Tavris, 1993). Although a patient might originally regard this theory with some skepticism, repetitions of it both inside and outside the therapeutic context makes it more familiar—and familiarity is an important antecedent of credibility (Begg, Anas, & Farinacci, 1992). In addition, that abuse is not initially recalled is consistent with the theory that abuse memories have been repressed. Accordingly, the inability to recall the abuse helps to increase the plausibility that such abuse might have occurred.

Suppose at this point that hypnosis is used to create a vivid mnemonic experience of having been abused.

We argue that such an experience combined with the increased plausibility of abuse as an explanation of adult problems will together generate a powerful but unwarranted conviction in the historical reality of previously unremembered abuse. (We emphasize that this scenario is in competition with a legitimate view that abuse did in fact occur and was repressed. We do not agree with the wholesale disavowal of repression as proposed by Ofshe & Watters, 1994, among others, although we do think it is a rare event. The details of this position are presented in another article—Bowers & Farvolden, in press.)

It is our claim, and our challenge to Newman and Baumeister, that something much like this state of affairs can account for most reports of UFO abductions. First, a patient seeks a therapist's help to better understand and resolve distressing or even bizarre experiences. Second, during the course of therapy, various therapeutic suggestions increase in the patient's mind the antecedent likelihood that UFOs exist, that UFO abductions are possible, and that such abductions can cause considerable distress. Third, the therapist provides a hypnotically suggested abduction experience that can be interpreted in light of this belief.

One implication of this position is that the particular content of the therapeutically induced experience/belief system is more dependent on the therapist's prior convictions than on the motives and intrapsychic structure of the patient. Thus, a patient seeking help from a therapist who believes in UFO abductions is apt to end up believing he or she survived a UFO abduction, whereas the same patient seeking help from a therapist who believes in the pathogenic character of repressed memories of abuse is apt to end up believing that he or she was sexually abused as a child.

We can formulate our prediction in terms of a hypothetical regression equation: When we take into account (a) the prior beliefs of the therapist (i.e., whether or not the therapist was a UFOlogist), (b) whether or not hypnosis is used during the course of therapy, and (c) the patient's hypnotic ability, and we enter each as a predictor variable in a regression equation, masochistic motivation (however assessed) will predict little or no independent variance regarding whether or not patients recall a UFO abduction. If we are wrong—that is, if a measure of masochistic motivation does predict substantial and unique variance—Newman and Baumeister's motivational account of abduction memories will have survived a serious empirical challenge, thereby increasing its claim to being a valid scientific account of a puzzling phenomenon.

We realize that there are logistic and ethical difficulties involved in actually performing this experiment. More-

over, one implication of this program of research is that conclusions about unconscious intrapsychic influences are made by default—that is, by first accounting for the effects of all of the most plausible environmental influences on experience and behavior. Note that it is relatively easy to vary one independent variable in an experiment to see if it has the predicted effect, but the analogous effort to infer the impact of a proposed intrapsychic influence requires “pre-accounting” for a plethora of plausible external influences on the behavior in question. It seems unfair. But it is not epistemologically impossible.

In general, these considerations make rigorous inferences regarding intrapsychic determinants of experience and behavior difficult. The upshot of this state of affairs is that we are often compelled to proceed with experimentally controlled but analog observations that seem remote from the fascinating issues of real life. Alternatively, we can proceed on the basis of theories that have a certain degree of antecedent plausibility (at least for some people) but that have very little scientific support of a more rigorous kind. This has always been the fate of psychoanalytic hypotheses regarding the human condition, which have never had much appeal to the mainstream scientific establishment and which are now being seriously challenged because of social problems that adherence to some of them has wreaked (e.g. Ofshe & Watters, 1994; Loftus & Ketcham, 1994; Pendergrast, 1995). Our hunch is that Newman and Baumeister's motivational account of UFO memories will suffer a similar fate.

Notes

Preparation of this commentary was aided by a grant from the Social Sciences and Humanities Research Council of Canada.

We thank Patricia Bowers for her very helpful comments on a draft of this commentary.

Kenneth S. Bowers and John D. Eastwood, Department of Psychology, University of Waterloo, Waterloo, Ontario, N2L 3G1, Canada. E-mail: kbowers@watarts.uwaterloo.edu.

References

- Begg, I. M., Anas, A., & Farinacci, S. (1992). Dissociation of processes in belief: Source of recollection, statement familiarity, and the illusion of truth. *Journal of Experimental Psychology: General*, *121*, 446–458.
- Biklen, D. (1990). Communication unbound: Autism and praxis. *Harvard Educational Review*, *60*, 291–314.
- Block, J. (1971). *Lives through time*. Berkeley, CA: Bancroft.
- Bowers, K. S. (1984). On being unconsciously influenced and informed. In K. S. Bowers & D. Meichenbaum (Eds.), *The unconscious reconsidered* (pp. 227–272). New York: Wiley.
- Bowers, K. S., & Farvolden, P. (in press). Revisiting a century-old Freudian slip: From suggestion disavowed to the truth repressed.

- Psychological Bulletin*.
- Bowers, K. S., & Hilgard, E. R. (1988). Introduction: Some complexities in understanding memory. In H. Pettinati (Ed.), *Hypnosis and memory* (pp. 3–18). New York: Guilford.
- Cialdini, R. (1993). *Influence: Science and practice* (3rd ed.). Glenview, IL: HarperCollins.
- Clark, R. (1971). *Einstein: The life and times*. New York: World.
- Conway, F., & Siegelman, J. (1979). *Snapping: America's epidemic of sudden personality change*. New York: Delta.
- Crews, F. (1993, November 18). The unknown Freud. *New York Review of Books*, pp. 55–66.
- Crews, F. (1994a, November 17). The revenge of the repressed (Pt. 1). *New York Review of Books*, pp. 54–60.
- Crews, F. (1994b, December 1). The revenge of the repressed (Pt. 2). *New York Review of Books*, pp. 49–58.
- Crews, F. (1995, April 20). [Letter to the editor]. *New York Review of Books*, pp. 72–73.
- Deikman, A. J. (1994). *The wrong way home: Uncovering the patterns of cult behavior in American society*. Boston: Beacon.
- Dyer, G. (1985). *War*. New York: Crown.
- Fletcher, G. J. O. (in press). Realism versus relativism in psychology. *American Journal of Psychology*.
- Frank, J. D. (1973). *Persuasion and healing: A comparative study of psychotherapy* (Rev. ed.). Baltimore: Johns Hopkins University.
- Freud, S. (1953). Fragment of an analysis of a case of hysteria. In J. Strachey (Ed. & Trans.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 7, pp. 7–122). London: Hogarth. (Original work published 1901)
- Green, G. (1994). Facilitated communication: Mental miracle or sleight of hand? *Skeptic*, 2, 68–76.
- Kukla, A. (1989). Nonempirical issues in psychology. *American Psychologist*, 44, 785–794.
- Lifton, R. J. (1963). *Thought reform and the psychology of totalism*. New York: Norton.
- Loftus, E., & Ketcham, K. (1994). *The myth of repressed memory: False memories and allegations of sexual abuse*. New York: St. Martin's.
- Lyons, W. (1986). *The disappearance of introspection*. Cambridge, MA: Bradford.
- Moore, R. K. (1964). Susceptibility to hypnosis and susceptibility to social influence. *Journal of Abnormal and Social Psychology*, 68, 282–294.
- Nisbett, R., & Wilson, T. D. (1977). Telling more than we can know: Verbal reports on mental processes. *Psychological Review*, 84, 231–254.
- Ofshe, R., & Watters, E. (1994). *Making monsters: False memories, psychotherapy, and sexual hysteria*. New York: Scribner's.
- Pendergrast, M. (1995). *Victims of memory: Incest accusations and shattered lives*. Hinesburg, VT: Upper Access.
- Spanos, N. P., Cross, P. A., Dickson, K., & DuBreuil, S. C. (1993). Close encounters: An examination of UFO experiences. *Journal of Abnormal Psychology*, 102, 624–632.
- Spanos, N. P., Menary, E., Gabora, N. J., DuBreuil, S. C., & Dewhirst, B. (1991). Secondary identity enactments during hypnotic past-life regression: A sociocognitive perspective. *Journal of Personality and Social Psychology*, 61, 308–320.
- Tavris, C. (1993, January 3). Beware the incest survivor machine. *New York Times Book Review*, p. 1.
- Woody, E. Z., Bowers, K. S., & Oakman, J. M. (1992). A conceptual analysis of hypnotic responsiveness: Experience, individual differences and context. In E. Fromm & M. Nash (Eds.), *Contemporary hypnosis research* (pp. 3–33). New York: Guilford.
- Woody, E. Z., Oakman, J. M., & Drugovic, M. (1995). *A re-examination of the role of nonhypnotic suggestibility in hypnotic responsiveness*. Unpublished manuscript, University of Waterloo, Waterloo, Canada.
- Yapko, M. D. (1992). *Suggestions of abuse*. New York: Simon & Schuster.

The Construction of Space Alien Abduction Memories

Steven E. Clark

*Department of Psychology
University of California, Riverside*

Elizabeth F. Loftus

*Department of Psychology
University of Washington*

Carl Sagan (1993) suggested that the “pay dirt” of space alien abduction accounts is not in what they might tell us about alien visitation but in what they might tell us about ourselves. We (Clark & Loftus, 1995) echoed this view in a recent review of Mack’s (1994) *Abduction: Human Encounters With Aliens*. In their target article, Newman and Baumeister present a large shovelful of just the kind of pay dirt that Sagan and we described.

Newman and Baumeister present an impressive review of the abduction literature—a literature that presents itself as strong evidence against the authenticity of space alien abduction narratives. Newman and Baumeister argue that space alien abduction narratives are a variety of false mem-

ory, reconstructed with the suggestion of hypnosis, with details drawn from popular culture (and perhaps an obsessed subculture) that is filled with images of space alien visitation. The critical question for the skeptic of space alien abduction stories is: How can so many people (Newman & Baumeister give a high estimate of 3.7 million) hold so tenaciously to detailed narratives of their own lives that are false not merely in their details but at their very core? The skeptic of the skeptic might argue that surely 3.7 million people can’t be making these stories up. Can human memory invent such stories?

Yes. With some help.

