

William James Symposium

WILLIAM JAMES AND HYPNOSIS: A Centennial Reflection

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Like many other early psychologists, William James was fascinated by hypnosis and related phenomena. For James, hypnosis was both an experimental technique for creating divisions of consciousness, and a laboratory model of naturally occurring disorders of awareness. James' treatment of consciousness in hypnosis presages contemporary interests in dissociation and implicit cognition, and underscores the role of the self in conscious mental life. At the same time, James recognized the complexity of hypnosis as an interpersonal process. In the end, James' views suggest how a rapprochement between the cognitive and social approaches to hypnosis might be achieved.

The suggestion-theory may therefore be approved as correct, provided we grant the trance-state as its prerequisite. (William James, 1890/1981, p. 1201)

Like many other psychologists at the turn of the century, including Pavlov, Binet, Janet, and Freud, James was fascinated by the phenomena of hypnosis and related states. With his students in the Harvard Psychological Laboratory, he carried out experiments on sensory and motor functions in hypnosis; and he employed hypnosis in the investigation and treatment of certain cases of mental illness that came to his attention. For James, hypnosis was the technique of choice for creating divisions of consciousness in which two or more streams of thought proceeded simultaneously, one in awareness, the others not. For this reason, James considered hypnosis to be a sort of laboratory model for the investigation of naturally occurring dis-

orders of consciousness—as observed, for example, in the “somnambulistic” states of hysteria and delirium.

Soon after publication of the *Principles*, hypnosis entered the modern period of its history, which brought the interest of psychodynamic psychiatry in unconscious mental life in contact with the interest of experimental psychology in methodological rigor and quantification (for comprehensive reviews, see Hilgard, 1987; Shor, 1979). At the very beginning, this period was marked by a high level of clinical activity centered around Morton Prince, James' colleague at Harvard. Prince founded both the Harvard Psychological Clinic and the *Journal of Abnormal and Social Psychology* (now the *Journal of Abnormal Psychology*). The Clinic declared the independence of personality and abnormal psychology from psychiatry and medicine; the *Journal* was the first periodical devoted to experimental psychopathology, and served as the prime venue for the publication of clinical and experimental studies of hypnosis—a tradition that continues today.

In 1923, a surge of experimental work began with a Harvard doctoral dissertation by P.C. Young (supervised by William McDougall), consisting of 21 experiments on various aspects of sensation, perception, and memory. Later, Henry Murray, Prince's successor at the Harvard Psychological Clinic, instigated a series of studies relating hypnosis to personality functioning. Other investigators, such as George Estabrooks (at Colgate) and Milton Erickson (at Worcester State Hospital), also developed extensive programs of hypnosis research. The early phase of modern hypnosis research culminated in Clark Hull's massive program, largely carried out at Wisconsin, and leading to 32 published papers and many more unpublished experiments, all of which were summarized in his book (Hull, 1933). Hull introduced the concept of hypothesis testing to hypnosis re-

search, and left a legacy of 142 unperformed experiments that would make a serviceable grant proposal even today.

Except for its use as an adjunctive technique in psychotherapy, interest in hypnosis waned in the years surrounding World War II. But beginning in the late 1950s and early 1960s, there occurred a virtual explosion of activity, with the establishment of several major laboratories devoted to hypnosis research (for an overview, see Sheehan & Perry, 1977). At Stanford, the laboratory led by E.R. Hilgard and J.R. Hilgard conducted systematic investigations of individual differences in hypnotizability, their correlates, the hypnotic control of pain, and many other topics. Other laboratories were established at Harvard and later at Pennsylvania, by M.T. Orne; at the Medfield Foundation near Boston, by T.X. Barber; at Sydney, Australia, by J.P. Sutcliffe; and at Berkeley, by T.R. Sarbin. Interest in hypnosis remains high, and nearly all of the currently active investigators in the field can trace their intellectual lineage more or less directly to one of these major enterprises.

THE MAJOR PHENOMENA OF HYPNOSIS

James construed hypnosis as a social interaction in which one person (the hypnotist) offers suggestions to another (the subject) for experiences involving alterations in perception, memory, and voluntary action. In his discussion of these “symptoms of the trance,” James covered all the classic phenomena: ideomotor and challenge suggestions, positive and negative hallucinations, age-regression and other delusions, posthypnotic suggestion, and posthypnotic amnesia. In discussing the sensory alterations induced by hypnosis (grouped under the broad category of anesthesia), James noted that hypnotic analgesia is powerful enough to employ in surgical proce-

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dures. And he correctly discounted purported demonstrations that hypnotic suggestion can coerce antisocial or self-injurious behavior. He was also aware, as many others of his time were not, that all the effects of hypnosis are the result of suggestion, and that little or nothing of interest happens if subjects are merely given a hypnotic induction without further intervention or instructions from the hypnotist.

Occasionally, James' description went wide of the mark. For example, he appears to have thought of posthypnotic amnesia as a spontaneous, rather than suggested, phenomenon. Perhaps for this reason, he repeatedly identified hypnosis with sleep and somnambulism—a reasonable error, given the fact that the analogy with sleep gave hypnosis its very name. And while he made passing mention of the difficulties encountered in hypnotizing young children, the mentally ill, and the mentally retarded, James largely failed to appreciate the importance of individual differences in hypnotizability (Hilgard, 1965b)—a fact that plays a critical role in contemporary research, whatever the predilection of the investigator.

By and large, however, James' description of hypnosis would seem familiar to any contemporary observer. One mark of the advances made by the field over the past 100 years is the development of a large experimental literature that attempts to understand these effects and their underlying mechanisms using the conceptual and methodological tools of modern experimental psychology (for periodic reviews of this literature, see Hilgard, 1965a, 1975; Kihlstrom, 1985). For example, we now know that James' enthusiasm for sensory hyperesthesia, and for the ability of hypnotized subjects to transcend their normal cognitive and motor capacities, was misplaced. On the positive side, there are a number of psychophysical and psychophysiological investigations of the reductions of felt pain reported by subjects given suggestions for hypnotic analgesia. There is another body of research comparing the behavior of age-regressed adults to that of actual children, studies of the effects of positive and negative hallucinations on sensory-perceptual tasks, investigations of the impact of hypnotic suggestions on emotion and mood, and a vast amount of re-

search concerned with the effects of hypnosis on learning and memory.

COGNITION AND ALTERED CONSCIOUSNESS IN HYPNOSIS

James was quite clear that the phenomena of hypnosis represented disruptions of the monitoring and control functions of ordinary waking consciousness. In the case of hypnotic anesthesia (by which he meant the abolition of felt sensation in any modality, not just tactile), he noted that they were frequently content specific—for example, it can be suggested that the subject is blind to one object, or one class of objects, but not others. In a clever series of demonstrations, James suggested blindness for a single line drawn on a sheet of paper. When the retinal image of the line was doubled by means of a prism, the subject was able to see the duplicate but not the original; when the prism was removed, the duplicate disappeared from view. Nevertheless, the subject was able to see other lines subsequently drawn around the original; and when the unseen line was incorporated into the drawing of a new object, it was seen clearly.

On the basis of evidence such as this, James inferred that such effects were not sensory in nature. Of the anesthetized subject, James concludes:

He has *felt* it, but not *perceived* it. . . . [P]aradoxical as it may seem to say so, he must distinguish it with great accuracy . . . in order to remain blind to it. . . . He 'apperceives' it, as a preliminary to not seeing it at all! . . . We have, then, to deal in these cases neither with a sensorial anaesthesia, nor with a mere failure to notice, but with something much more complex; namely, an active counting out and positive exclusion of certain objects. (1890/1981, pp. 1206, 1207–1208, emphasis in original)

James wryly remarked: "How to conceive of this state of mind is not easy" (1890/1981, p. 1207). Here, then, James noted the paradox of the "Judas eye" that was later to plague Freud, Bruner, and others working in the area of perceptual defense and repression: identification of an object or event—what James, following Herbart and others, referred to as *apperception*—is a necessary precondition to excluding it from conscious awareness (see Hilgard, 1969). But such

a state of affairs is not possible given theories of the mind that identify consciousness with attention, and the higher mental processes involved in perception, memory, and thought (Kihlstrom, 1987). The problem continues to vex psychology today, as seen in the current controversy over the limits of preconscious semantic processing.

James wrestled with this paradox, but he did not solve it. Based on the doctrine of *esse est sentire* (to be is to be sensed), James held that the idea of unconscious thought was a contradiction in terms. But he was equally clear that consciousness—thought—could be divided into two or more streams. Each stream of consciousness is identified with a self that can engage in the full range of mental life. However, only one self can be represented in phenomenal awareness at any time; the others may be thought of as dissociated. The self that is accessible to awareness at any given moment may be thought of as primary, the others secondary, tertiary, etc. Thus, in contemporary terms, information can be processed by these dissociated selves that is unknown or unappreciated by the primary self. In order to avoid the negation of consciousness implied by the adjective "unconscious," James preferred to speak of "co-conscious" or "sub-conscious" mental states.

Like Janet, on whose work he drew, James believed that such a division in consciousness, so dramatically apparent in cases of hysteria and multiple personality, occurred to a lesser degree in hypnosis. More recently, Hilgard (1977) has revived this viewpoint in his "neodissociation theory of divided consciousness." According to Hilgard, consciousness may be divided into multiple, simultaneous streams of information-processing activity; dissociation occurs when one or more of these streams influences experience, thought, and action outside of phenomenal awareness. The shift in awareness is exemplified by the anesthetics, negative hallucinations, and amnesias of hypnosis; the information-processing activities of the dissociated stream of consciousness are seen in the contradictions and paradoxes so apparent in the hypnotic subject's behavior.

There has been some tendency among contemporary psychologists and cognitive scientists to regard the concepts of

consciousness and awareness as a part of an outmoded folk-psychology that is ripe for discard. At the same time, however, the need for psychologists to take phenomenal awareness seriously has been underscored by recent studies of both brain-damaged patients and intact subjects. For example, patients suffering bilateral damage to the medial temporal lobe or diencephalon display a gross anterograde amnesia, meaning that they cannot remember events that occurred postmorbidly. Nevertheless, these patients show priming effects and other evidence that some information about these events has been encoded in memory, and actively influences subsequent experience, thought, and action. On the basis of such evidence, Schacter (1987) and others have drawn a distinction between explicit and implicit memory: Explicit memory involves the conscious re-experiencing of a past event, while implicit memory is revealed by a change in task performance that is attributable to such an episode, regardless of whether the event is consciously recollected.

The concept of implicit memory may be expanded to cover a wide range of complex mental processes that take place outside of conscious awareness (Kihlstrom, 1987, in press): in implicit memory, we see the influence of a past event in the absence of conscious recollection of that event; in implicit perception, the conceptually similar impact of a *current* event; and in implicit thought, incubation and feeling-of-knowing effects suggestive of problem-solving outside of awareness. Evidence in support of these concepts is rapidly accumulating from studies of both brain-damaged and normal subjects and is prompting renewed speculation about the biological basis of conscious awareness (Schacter, in press). However, it should be noted that much of this contemporary work across psychology as a whole reflects James' early ideas about conscious awareness—ideas that were stimulated, first and foremost, by his observations of hypnosis and related states.

SUGGESTION, EXPECTATION, AND EXPERIMENTAL DEMANDS

Coupled with his fascination with parapsychology and the occult (as evi-

denced especially by chapters 8–10 of the *Principles*, dealing with consciousness and the self; see also James, 1902; Taylor, 1983), the wide variety of claims that James endorsed for the powers of hypnosis might seem to mark him as an extremely credulous observer of the phenomenon. To the contrary, James' treatment of hypnosis shows him to be an astute observer of the subtle interactions between hypnotist and subject. Familiar with Bernheim's critique of Charcot (Ellenberger, 1970), James clearly understood that the major phenomena of hypnosis may be shaped by expectations and communications arising from the hypnotist, from other subjects, and from the general cultural milieu.

Any sort of personal peculiarity, any trick accidentally fallen into in the first instance by some one subject, may, by attracting attention, become stereotyped, serve as a pattern for imitation, and figure as the type of a school. The first subject trains the operator, the operator trains the succeeding subjects, all of them in perfect good faith conspiring together to evolve a perfectly arbitrary result. With the extraordinary perspicacity and subtlety of perception which subjects often display for all that concerns the operator . . . it is hard to keep them ignorant of anything which he expects. Thus it happens that one easily verifies on new subjects what one has already seen on old ones, or any desired symptom of which one may have heard or read. (James, 1890/1981, pp. 1201–1202)

This passage represents a number of themes that have emerged over and over in the modern period of research, and that have formed the basis for a thorough social-psychological approach to hypnosis (for a review, see Spanos & Chaves, 1989). Thus, Orne (1959) showed that the hypnotic subject's behavior was strongly influenced by demand characteristics inherent in the experimental situation, and developed the "real-simulating" paradigm to disentangle the essence of hypnosis from sociocultural artifact. Sarbin and Coe (1972) argued that hypnotic subjects strive to enact the role of a hypnotized person, as it is defined by the hypnotist and the culture at large, and identified a number of contextual variables that are important to the success of this role enactment. Barber (1969) emphasized the importance of the subject's attitudes, motivations, and expectancies,

and the cognitive strategies deployed by subjects in response to explicit and implicit experimental demands (see also Barber, Spanos, & Chaves, 1974).

Barber's position has been expanded and refined by Spanos (1986; Spanos & Chaves, 1989), who has developed a sophisticated "cognitive-behavioral" account of hypnosis in terms of attribution theory and other elements of contemporary cognitive social psychology. Like Sarbin and Coe (1972), Spanos begins with the proposition that the hypnotic subject is actively engaged in strategic self-presentation, the goal of which is to respond positively to the suggestions by the hypnotist. Thus, hypnotic behavior is shaped by such contextual cues as the precise wording of suggestions, knowledge derived from precept and example, and any other information available in the situation at hand. Subjects do whatever they can to achieve the suggested effects. Further, while much of the subjects' behavior is intended to convince the hypnotist that they are, in fact, hypnotized, certain features of the hypnotic context lead some subjects to deceive themselves about their behavior. Thus, the subject who actively distracts himself from a pain stimulus may come to believe that he actually feels no pain; and the subject who deliberately responds to a posthypnotic suggestion may come to believe that she did so involuntarily.

A large amount of empirical research by Spanos and his colleagues, as well as other investigators, provides support for the social-psychological view (Spanos, 1986; Spanos & Chaves, 1989). For example, performance on scales to measure hypnotizability, self-reports of involuntariness in response to suggestion, and subjective judgments of hypnotic depth, all are influenced by the context in which the tests are given, the manner in which the questions are worded, and the subject's goal of convincing observers that he or she is truly hypnotized. Other effects, such as analgesia, hallucinations, and amnesia, are influenced by the precise wording of the suggestions, as well as by the subject's interpretations of these suggestions, and expectations derived from the wider context in which the experiment takes place. Moreover, careful questioning often reveals that subjects deliberately deploy cognitive strategies (e.g., self-distraction) in an at-

tempt to achieve the effects suggested to them. Taken together, these sorts of findings strongly indicate that hypnotic behavior is, as James clearly understood it to be, appreciably influenced by social processes.

COGNITIVE AND SOCIAL PROCESSES IN HYPNOSIS

Some contemporary investigators argue that hypnosis reflects a special mental state characterized by a division of consciousness, and a dissociation of one stream of thought from phenomenal awareness. Others deny the importance of special mental mechanisms, and argue that hypnotic behavior can be understood in terms of conventional social influence processes. On the surface, it would seem difficult to have it both ways. Because of this, perhaps, these alternative viewpoints have stimulated an expanding literature involving competitive (and sometimes retaliatory) hypothesis testing, played out as a zero-sum game ruled by principles of strong inference, in which a point scored by one side is automatically toted as a strike against the other, and vice-versa.

By contrast, one of the salient features of James' treatment of hypnosis in *Principles* is that he simultaneously acknowledged the validity of both viewpoints. On the basis of his observations, James concluded that hypnosis involves genuine, subjectively compelling, alterations in conscious awareness; but he also acknowledged that hypnosis is powerfully shaped by the social context in which the hypnotic encounter takes place. For James, there was no contradiction between these two conclusions. As indicated by the epigram to this paper, he felt that the induction of a trance state, characterized by dissociation, was necessary for suggestion to have its effect. Modern research shows, however, that some subjects can experience hypnotic effects without benefit of an induction procedure. Thus, we might want to reverse James' epigram: perhaps suggestions, administered to individuals with particular cognitive capacities or dispositions, eventuate in a state of divided consciousness reflected in some aspects of hypnotic experience and behavior.

James felt no need to choose between

these alternative accounts of hypnosis: nor should we. The real theoretical advance will not come when one account lies dead on the floor, but rather when the two positions are reconciled in a way that recognizes the inherent value of them both. Some moves toward this reconciliation are already apparent. Thus, Coe (1978) distinguished between hypnotic *doings*, in which the subject is an active participant who makes things happen; and hypnotic *happenings*, in which the subject is a passive participant to whom things happen. Possibly, under some circumstances, the subject's active participation in the hypnotic encounter leads the hypnotic experience to take on a life of its own, as it were, in which hypnotic phenomena are experienced as happenings rather than doings. Similarly, Kirsch and Council (1989) argued that hypnotic subjects are motivated to experience the effects that are suggested to them, as they understand the hypnotist's intentions, and that their deliberate, strategic actions are executed in order to experience the effects, rather than to persuade an observer (or themselves) that they are deeply hypnotized.

Signs of a rapprochement between the special-state and social-influence views of hypnosis are most apparent in the work of McConkey and Sheehan (McConkey, 1983; Sheehan, 1989; Sheehan & McConkey, 1982), who emphasize that cognitive and social factors interactively shape the subjective experience of hypnosis. The essential variability and individual differences observed in hypnotic behavior underscore the need to understand when and how one type of process is exerting a major influence, and when and how it is the other. Thus, hypnotic subjects are seen as cognitively active participants who process the information they receive from the hypnotist and other sources in a way that allows them to experience the suggested effects and enact the desired behavior in the hypnotic setting.

In turn, the hypnotic setting is recognized as a social context of some complexity. Just as outside the hypnotic setting, however, behavior in the context of hypnosis is ultimately the outcome of a reciprocal interaction between internal personal factors and external environmental influences. As James essentially viewed it, social processes in the major

form of the hypnotist's communications motivate subjects and potentiate events in their thought processes that ultimately shape the experience and behavior of hypnotized subjects. The hypnotic setting is created by the people in it and it necessarily reflects their thoughts, feelings, and motives. And the hypnotic experience is created by the words of the hypnotist, translated by the subjects' ways of thinking in a manner that reflects their skills and allows shifts to occur in their phenomenal experience.

UNTIL CONVERGENCE COMES

Ultimately, the convergence of the two viewpoints that exist today—and that existed at the time of James—into a comprehensive, unified account of hypnosis requires a Jamesian ability to see hypnosis as a complex phenomenon involving both cognitive and social mechanisms. Until such a convergence is achieved, the best approach would seem to be a pluralistic one, in which proponents of the two viewpoints freely conduct research in a way that optimally tests their own hypotheses. We need to develop the best understanding possible of the underlying processes, and to link what is known about hypnosis to what is known about other aspects of mental life. Certainly, such an approach would be well within the spirit of insatiable curiosity, and open inquiry, that James brought to psychology in the earliest days of our science.

Acknowledgments—The point of view represented herein is based on research supported in part by Grant #MH-35856 from the National Institute of Mental Health, and by grants from the Australian Research Council to Kevin M. McConkey. We thank Terrence M. Barnhardt, Bernadette C. Bibb, Richard A. Bryant, Lawrence J. Couture, Martha L. Glisky, Sheila Mulvaney, Daniel L. Schacter, Douglas J. Tataryn, and Betsy A. Tobias for their comments at various stages. Reference citations in this essay are necessarily selective.

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