

teristics, the social environment, and other factors. As one migrates to the extremes, however, the issues become clearer. Which theory produces the better fit? To say that everyone can achieve the degree of pain reduction experienced by my burn patient if they understand what is expected of them and are genuinely willing to try, or to say that certain individuals possess a remarkable ability to alter their perceptions under the right circumstances? If one takes the latter view, the focus of hypnosis research and theory must be the search for the causes of qualitative differences in experience among individuals. The neodissociation interpretation, and other special-process views, may have weaknesses, but the evidence presented by Spanos falls short in proving that hypnosis is better explained as solely a product of the social environment.

## Strong inferences about hypnosis

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Spanos argues that hypnosis is best viewed from a "nonstate," "social-psychological" perspective that places emphasis on the motivated subject's attempt to display behavior regarded as characteristic of a hypnotized person, and the features of the social context that shape these displays. He illustrates his approach with selected examples of research on four phenomena that are central to hypnosis: amnesia, analgesia, the hidden observer, and trance logic. Elsewhere, I have discussed at greater length the social approach to amnesia and certain other aspects of hypnosis – and found it wanting (Kihlstrom 1977; 1978; 1985a; 1985b). In the short space of this commentary, I wish only to make a few general points about Spanos's approach to hypnosis and his characterization of both alternate points of view and the available evidence.

Spanos's point of view is not particularly new: In fact, it has been a constant feature of the hypnosis literature for half a century (e.g., Sarbin 1950; White 1941) or more (Sheehan & Perry 1976; Shor 1979). What makes Spanos's work unique – or, rather, almost unique (Barber 1969; Barber, Spanos & Chaves 1974) – is the vast amount of experimental work performed in order to provide empirical support for what in the past were largely speculative analyses. Given the body of literature marshalled in favor of the social-psychological position, it is disappointing to discover that it fails to clarify certain conceptual points that were treated ambiguously by its forerunners. For example, the "nonstate" approach has frequently taken a debunking attitude – showing, for example, that hypnotic deafness is not really a loss of sensory capacity, or that posthypnotic amnesia is not really an ablation of memory. Given this approach, it is not always clear whether, or in what sense, Spanos considers hypnotic effects to be genuine – that is, the extent to which subjects' behavioral responses to hypnotic suggestions reflect compelling subjective experiences.

Spanos seeks to account for effects such as amnesia and analgesia in terms of self-distraction and strategic self-presentation. In his view, hypnotic subjects deploy attention in such a way as to forestall perceptual awareness or memory retrieval; or they claim amnesia or analgesia in order to convince the hypnotist that they are in fact hypnotized. However, at least so far as memory is concerned, it appears that strategic behaviors of the sort he discusses are not highly correlated with positive response to amnesia suggestions (Kihlstrom 1978; 1985b; Kihlstrom, Easton & Shor 1983; Spanos & Bodorik 1977; Spanos, Radtke-Bodorik & Stam 1980; Spanos, Stam, D'Eon, Pawlak & Radtke-Bodorik 1980). These findings, which are not discussed by Spanos, would seem to present some problems for the hypothesis that amnesia is mediated by self-distraction. A similar anomaly crops up in the literature on analgesia (Miller &

Bowers 1986). Similarly, a number of investigators have found that amnesic subjects who are retested show a spontaneous improvement in memory despite the fact that the amnesia suggestion is still in effect (Bertrand, Spanos & Parkinson 1983; Coe & Yashinski 1985; Howard & Coe 1980; Kihlstrom, Breneman, Pistole & Shor 1985; Kihlstrom et al. 1983; Kihlstrom, Evans, Orne & Orne 1980; Schuyler & Coe 1981; Spanos, Tkachyk, Bertrand & Weekes 1984). This is no way to accomplish strategic self-presentation. Moreover, Spanos does not indicate how the strategic self-presentation accounts for the success of hypnotic analgesia in the clinic, where the effectiveness of suggestions is of considerable consequence; or for the occurrence of suggested effects in self-hypnosis, when there is no hypnotist to convince, and no audience to view the self-presentational display.

Taken by themselves, self-distraction and self-presentation are coherent and respectable hypotheses, even if they are not empirically correct. But they are very different arguments, and taken together they muddle the analysis. Consider first the issue of whether, and in what respect, hypnotic responses are genuine. Subjects who distract themselves from the critical memories or stimuli might conceivably be called amnesic or analgesic, though many investigators would want to reserve the label "amnesic," for example, for those who cannot remember despite trying actively to do so. But this is not what happens in the case of strategic self-presentation, which by definition would imply that the subject remembers the material or feels the pain despite the suggestion to the contrary. In any event, to what end is there self-distraction, if self-presentation is the only goal? And why is self-presentation necessary, if self-distraction is successful? It is highly unfortunate that Spanos does not clearly distinguish between these two different accounts of hypnotic suggestion – for example, by indicating the circumstances under which one explanation is preferable to the other.

Spanos frequently uses a strategy of taking a finding from one experiment and showing how it can be eliminated or reversed by appropriate wording of instructions to the subject. As an example, consider the study in which some subjects are told that they will not remember learning a list of familiar words, and others are told that they will not know what the words mean (Spanos, Radtke & Dubreuil 1982). In the former case, recall was disrupted without corresponding disruptions in word-association performance; in the latter, both recall and word association were affected adversely. Spanos interprets the results in terms of the subject's construal of task demands, which is about all he can do within an exclusively social-psychological framework. But consider an analogous case: an experiment in which some subjects respond successfully to suggestions for blindness and others to suggestions for deafness. If an investigator concluded from such results that hypnotic response depends on the wording of suggestions and the subject's construal of task demands, a reader might be forgiven for thinking this is a trivial point. But if one went further and asked how these suggestions interacted with perceptual-cognitive structures and processes, one might be led in some interesting directions. The finding that hypnotic suggestions for amnesia selectively disrupt episodic but not semantic memory is of some interest, given the hypothesis that episodic and semantic memory are somehow different (Tulving 1983; 1984b; see also Kihlstrom 1984b). Spanos's a priori insistence that *everything* must be accounted for in terms of real or perceived task demands blinds him to a quite interesting discovery: that an appropriately worded suggestion can produce a kind of hypnotic aphasia or agnosia.

Spanos characterizes the alternative "state," or "special-process," view of hypnosis as holding that "hypnotic behavior differs qualitatively from nonhypnotic behavior." He further implies that investigators who have worked within this tradition have been unduly credulous and have ignored social influences on experience, thought, and action in hypnosis. However, it would seem difficult to support these characterizations on the

basis of contemporary work. Hilgard, one of the investigators who apparently exemplifies the "state," or "special-process," view, has explicitly rejected the idea of hypnosis as a state (Hilgard 1977b; see also Kihlstrom 1984a), and has further argued vigorously for the proposition that hypnosis *shares* certain central features with phenomena such as imaginative involvement, dreams, and hysteria (Hilgard 1977a; 1979). And Orne, apparently another prototypical state theorist, has been so centrally concerned with debunking exaggerated claims for hypnosis (Evans & Orne 1965; Orne 1951; Orne, Soskis, Dinges & Orne 1984), and with elucidating the interpersonal influences on hypnotic phenomena (Evans & Orne 1971; Orne 1959; Orne & Evans 1965), that he is frequently mistaken for a member of the "nonstate," or "social-psychological," camp.

Although much of the literature is "consistent" (to use a phrase that recurs frequently in Spanos's paper) with the social-psychological point of view, much of it is also "consistent" with the alternative "special-process" point of view. Partly, this is because there are more anomalies in the available evidence than would appear from Spanos's account. But (and this is the more important point) *there is no contradiction between the two approaches* (Kihlstrom 1985a; 1985b; Kihlstrom et al. 1980; Laurence, Perry & Kihlstrom 1983). Whatever "special processes" may occur in hypnosis are the result of the hypnotist's suggestion, and the subject's interpretations of those suggestions are shaped by the wider social context in which they are given.

The point of this comment is not that the social-psychological approach is wrong; it is merely incomplete. Doubtless, hypnotic subjects are motivated to comply with the hypnotist's suggestions; doubtless, their responses will be shaped by the precise form that these suggestions take, the exact manner in which they are assessed, and the wider context in which hypnotic procedures take place; they may even engage in strategic behavior intended to help the suggestions work. But these facts don't undercut an analysis of amnesia in terms of retrieval processes, or analgesia in terms of perception, or the hidden observer in terms of dissociation; they just make it more interesting. Consider an analogous analysis of academic performance in schoolchildren. The observation that students who like their teachers and persevere at their schoolwork score higher on mathematics tests than those who do not would not undercut an analysis of mathematical problem-solving in terms of comprehension processes and skill acquisition; they would simply flesh it out and make it more complete. By the same token, an analysis of mathematics skill that ignored the social conditions in which cognitive competencies are acquired and utilized would be incomplete.

So it is with hypnosis. Spanos may wish to argue that past investigations have ignored the role of social-psychological processes in hypnosis. True, many of us do not typically manipulate social-psychological variables in our experiments. But this is not because we deny the importance of such variables. *It is because we take their effects for granted and wish to determine what other processes may also be involved.* The impact of social processes on hypnotic subjects was demonstrated long ago – and by "state," "special-process" theorists at that (e.g., Janet 1895; Orne 1959; 1970). The mechanisms of compliance, persuasion, self-presentation, and causal attribution have long been understood by social psychologists, without the benefit of hypnosis research. Hypnotic phenomena are interesting because they may teach us something *new* about psychological functioning – for example, something about dissociation or subconscious mental processing (e.g., Hilgard 1977a). Far from being a "special" psychological process "unique" to hypnosis (Spanos's characterization of the alternative point of view), it appears that dissociation can be understood in terms of the same principles that govern normal perception and memory – but principles that are quite different from those that Spanos has in mind.

Despite the obvious attractions of strong inference and com-

petitive hypothesis testing, it is not clear that our knowledge of hypnosis – or of anything interesting – will be advanced by pitting one point of view against another. Some experiments can reveal the external, social processes that shape the subjects' interpretations of the hypnotist's suggestions; others can reveal the internal, mental processes by which the suggestions are executed. Ultimately, a comprehensive understanding of hypnosis will require a creative synthesis of both lines of research, one that is undertaken in the spirit of discovery and is committed to the proposition of *both-and* rather than *either-or*.

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### Role playing versus response expectancy as explanations of hypnotic behavior

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Spanos has made impressive contributions to a massive body of data supporting the proposition that no special state or other process unique to hypnosis is needed to explain hypnotic behavior. He has also elucidated cognitive strategies by means of which many subjects enable themselves to experience hypnotic phenomena. However, it does not follow that all hypnotic behavior can be understood as voluntary responses aimed at impression management. Instead, data are more consistent with the following conclusions: (1) Hypnotic subjects are motivated to experience suggested effects rather than to convey the impression that they are hypnotized. (2) Subjects behave as if their responses were nonvolitional only to the extent that they experience them as such. (3) Hypnotic experiences are generated by response expectancies (expectancies of nonvolitional responses).

Simulators engage in "deliberate actions" aimed at "conveying the impression" that they are hypnotized. If the behavior of "real" hypnotic subjects were due to this motive, it would be indistinguishable from that of simulators. "Real" subjects "report accurately about their experience," even when honesty reveals less than optimal performance, because their behavior is not primarily aimed at impression management. Similarly, the partial responding of the vast majority of (moderately suggestible) subjects cannot be accounted for in terms of role playing. It is unlikely that people select particular levels of hypnotizability to display to experimenters. It is more likely that their overt behavior is a valid index of their experience of suggested effects.

If subjects were trying to convey an impression rather than to experience an effect, then the presence of someone to impress would greatly affect hypnotic behavior. However, data obtained by Kirsch, Carone, and Johnston (1986) indicates that it does not. Simulators and highly hypnotizable "reals" were observed surreptitiously while they were alone in a room listening to tape-recorded induction and test suggestions. They were then observed again while listening to the same recording with an experimenter present. Whereas the presence of an experimenter greatly enhanced the responsiveness of simulators, it had no effect on the behavior of highly hypnotizable "reals." *All* of the nonsimulating subjects were as responsive when alone as they were when an experimenter was present.

There is no reason to assume that if hypnotic responses are involuntary then special mechanisms unique to hypnosis are required to explain them. Response expectancies generate a wide variety of automatic responses in nonhypnotic contexts and provide a more parsimonious explanation than role playing of many hypnotic phenomena (Kirsch 1985). Because the experience of nonvolitional behavior is defined "as central to the role