Hypnotic Involuntariness: A Social Cognitive Analysis

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We thank Hal Arkes, John Brentar, Bruce Carlson, Wendi Cross, Phoebe Ellsworth, Joseph P. Green, Irving Kirsch, G. Daniel Lassiter, Nicholas P. Spanos, Steven J. Sherman, Auke Tellegen, and anonymous reviewers for their helpful comments on drafts of this article.

Received Date: October 28, 1988; Revised Date: February 23, 1989; Accepted Date: July 24, 1989

Abstract

The experience of involuntariness is a hallmark of hypnosis. A framework for understanding involuntary experiences that draws from social psychological and cognitive perspectives on hypnotic responding is presented. There are at least 5 reasons to reject the hypothesis that hypnotic responding is automatic and involuntary: (a) Hypnotic responses have all of the properties of behavior that is typically defined as voluntary. That is, they are purposeful, directed toward goals, regulated in terms of subjects' intentions, and can be progressively changed to better achieve subjects' goals. (b) Hypnotizable subjects can resist suggestions when resistance is defined as consistent with the role of a good hypnotized subject. (c) Hypnotic behaviors are neither reflexes nor manifestations of innate stimulus–response connections. (d) Hypnotic performances consume attentional resources in a manner comparable with nonhypnotic performances. (e) Hypnotic subjects' cognitive activities clearly demonstrate their active attempts to fulfill the requirements of hypnotic suggestions, which include experiencing suggestion-related effects as involuntary.

The experience of involuntariness is one of the hallmarks of hypnosis. Indeed, hypnotized subjects frequently report a sense of diminished control of suggestion-related behavior. Descriptions such as automatic, compelled, and effortless color many subjects' accounts of their hypnotic experience. In 1941, R. W. White maintained that suggestion-related involuntariness was so central to the experience of hypnosis that theorists were called on to address this domain of experience. Hypnosis theorists have risen to the challenge of attempting to account for what Weitzenhoffer (1974) has termed the classical suggestion effect: the subject's “transformation of the essential, manifest, ideational content of a communication” (p. 259) into behavior that is considered involuntary.

What is meant by the term involuntary? According to I. Kirsch (personal communication, February 18, 1989), the term could be defined in at least three ways. An action could be termed involuntary if it is beyond one's control, so that one could not act otherwise, even if he or she wished to. In this article, we present data that show that hypnotized subjects are in fact able to resist suggestions when resistance is scripted by features of the hypnotic context. A second meaning of the term could be that the suggested response occurs automatically, without effort of
any sort to make it occur, even if the subject might be able to prevent it from occurring if he or she so desired. We argue that hypnotic responses are not involuntary in this sense, inasmuch as hypnotic responses are brought about by goal-directed strategies and actions. A third sense in which a response could be classified as involuntary is if the subject simply experiences an action, without direct volitional effort. Only in this sense could hypnotized subjects' responses be considered involuntary or nonvolitional. Nevertheless, we contend that despite subjects' perceptions of diminished volitional control during hypnosis, they in fact retain control over their actions. From the fabric of role demands inherent in hypnotic communications and other aspects of the hypnotic context, hypnotized subjects produce the experience of involuntariness. The identification of action as involuntary is thus a creative rather than a passive, automatic act.

What hypnosis alters, then, is not so much actions as how they are construed. What is special about hypnosis is no more than the cultural connotations associated with it, the mystery in which it is veiled, and the ritualistic inductions and suggestions that script hypnotic performance. According to our analysis, hypnotic behavior and involuntary experiences represent the endpoint of social and cognitive processes that are common to mundane social behaviors. We present an overview of major accounts of hypnotized subjects' involuntary experiences and then provide a social cognitive analysis that draws from broadly defined social psychological and cognitive perspectives on hypnotic responding.

**Theories of Hypnotic Involuntariness**

Since the dawn of thinking about hypnotic phenomena, the involuntary, compulsive aspect of hypnotic responding has been associated with special forces, such as animal magnetism or fluids in the universe, acting through a powerful, active operator upon a passive subject. Mesmer and Puységur claimed that hypnotic phenomena depend on the special prowess or supernatural skills of the hypnotist (Sheehan & Perry, 1976), under whose agency the “magnetized” person behaves as a virtual automaton. Spanos and Gottlieb (1979) noted that by the early 19th century, the unique identity of mesmerism was largely shaped by the dominance–submission aspects of the interaction and the view of the magnetized subject as an automaton. The correlated notions of automaticity and the passive subject survived the transition from magnetic doctrine to a more psychologically oriented view of hypnosis. Wells (1940) noted that the viewpoint that hypnotic behavior is involuntary dominated the golden age of hypnotism—the 1880s and 1890s—and united antagonists such as Bernheim and Charcot (Spanos, 1982b; Spanos & Gottlieb, 1979; Weitzenhoffer, 1978).

**Dissociation Theory**

Accounts of subjects' experience of involuntariness are close to the heart of contemporary theories of hypnosis. Contemporary dissociation theorists (e.g., Hilgard, 1977, 1979; Kihlstrom, 1984; Kihlstrom, Evans, Orne, & Orne, 1980; Miller & Bowers, 1986) contend that divisions exist in the personality and that reports of nonvolition during hypnosis accurately reflect subjects' diminished control over behavior that is normally subject to conscious control. Hilgard (1977) captured the essence of the dissociation position by noting that “one of the most striking features of hypnosis is the loss of control over actions normally voluntary” (p. 115). He viewed these alterations in control as dissociations that occur at the level of the executive function of the personality that is responsible for volitional activity. Relevant subsystems of control are temporarily dissociated from conscious
executive control and are instead directly activated by suggestion (Miller & Bowers, 1986).

According to dissociation theory, nonmotoric responses, such as analgesia and amnesia, are potentially mediated by dissociative processes. For example, in the case of analgesia, the activation of a subsystem of pain control during hypnosis is temporarily less guided by plans and intentions than would ordinarily be the case. According to Miller and Bowers (1986), hypnosis is particularly conducive to the emergence of dissociative processes. This occurs because hypnosis attenuates subjects' generalized reality orientation (Shor, 1962), thereby affecting information processing. Ideas processed in this fashion activate subsystems of cognitive control more or less directly so that they are unencumbered by the mediation of higher executive processes (Miller & Bowers, 1986). Furthermore, although an activating idea and its subsequent enactment may be represented in consciousness, the psychological connection between them is not. This results in a state of affairs experientially quite different from purposeful, goal-directed behavior.

Arnold's Theory of Ideomotor Action

Arnold (1946) offered a conceptualization of involuntariness that emphasizes imaginative processes as crucial determinants of the experience of nonvolition. According to the principle of ideomotor action, sustained, uncontradicted, and vivid imagining of a described action results in an automatic tendency to carry out the action. The more vivid the imaginative process, the more pronounced will be the overt movements. Arnold (1946) wrote, “The experience of ‘intention’, of ‘willing’, is ... absent from these imagined movements” (p. 111). Subjects' reports of nonvolition are viewed as accurate reflections of the supposed automatic nature of ideomotor action. Because the choice to imagine is under the subjects' control, however, they are capable of resisting suggested behavior by interrupting or less than fully immersing themselves in imaginings. Thus, subjects' reports of involuntariness do not imply an actual inability to resist the suggested behavior.

Social Psychological Theories

Contemporary social psychological theorists (e.g., Barber, Spanos, & Chaves, 1974; Sarbin & Coe, 1972; Spanos, 1986a, 1986b) maintain that hypnotic behavior is similar to other forms of behavior. Despite subjects' feelings of involuntariness, they in fact retain control of their hypnotic behavior. Social psychological models conceptualize hypnotic responding as scripted role enactment in which subjects modify their responses strategically in terms of shifting role demands (Sarbin & Coe, 1972; Spanos, 1986a, 1986b; Spanos, Salas, Bertrand, & Johnston, in press). Hypnotizable subjects are seen as active cognizers who are invested in meeting the requirements of hypnotic role behavior and are sensitively attuned to the broad demands of the testing context. Social psychological accounts (Sarbin & Coe, 1972; Spanos, 1982a, 1982b, 1986a, 1986b) underline the importance of understanding hypnosis in terms of how subjects present themselves to others through their actions; they also contend that subjects' hypnotic behavior is consistent with their role-related experiences and their self-perceptions (Spanos, 1986a, 1986b).

Fundamental to the social psychological viewpoint (e.g., Barber et al., 1974; Coe, 1987; Sarbin & Coe, 1972, 1979; Spanos, 1981, 1982a, 1982b, 1986a, 1986b; Spanos, Rivers, & Ross, 1977) is the premise that hypnotizable subjects retain control over suggested responses. Hypnotic responses are regarded as
goal-directed actions, and reports of involuntariness reflect context-generated interpretations of these goal-directed actions. A central demand of hypnosis is that subjects come to appraise their goal-directed responses to suggestions as involuntary happenings. Sarbin (1984) and Sarbin and Coe (1979) have observed that subjects' interpretations of their experiences reflect an implicit distinction between doings (seeing themselves as agents of goal-directed, purposeful actions) and happenings (viewing themselves as passive respondents). Spanos (1982a) noted that “Interpreting behavior as an action involves attributing causality to the self (e.g., I did it), while interpreting it as a happening requires that causality be attributed to sources other than the self (e.g., It happened to me)” (p. 200).

According to the social psychological perspective, subjects' interpretations or attributions of involuntariness are evoked by multiple factors, including preconceptions concerning hypnosis (e.g., Lynn, Nash, Rhue, Frauman, & Sweeney, 1984; Spanos, Cobb, & Gorassini, 1985), the structure and wording of test suggestions (e.g., Spanos & Gorassini, 1984), patterns of imaginative activity that accompany response to many test suggestions (e.g., Spanos & Barber, 1972), context-generated expectancies (e.g., Kirsch, 1985; Lynn, Nash, Rhue, Frauman, & Sweeney, 1984), and self-observation of hypnotic responses (e.g., Wedemeyer & Coe, 1981). Social psychological accounts do not ascribe a causal role to subjects' imaginings. However, imaginings legitimize and reinforce the interpretation that the actions occurred involuntarily. Thus, despite the subjectively compelling nature of subjects' reports of nonvolition, social psychological theorists have argued that it is incorrect to assume that such reports reflect an actual loss of control over responding by the subject.

A Social Cognitive Analysis of Hypnotic Involuntariness

With the exception of social psychological theorists (e.g., Sarbin & Coe, 1979, Spanos, 1986a, 1986b), people generally believe that hypnosis involves attenuation or loss of control of actions that are ordinarily subject to voluntary control. In the tradition of social psychological models of hypnosis, we maintain that hypnotic behavior is social behavior. Like many other social behaviors, such as conversational behaviors that are experienced as spontaneous in reaction to social stimuli, hypnotic enactments are often experienced as less than completely voluntary. That is, they are neither clearly premeditated nor undertaken in the service of goals clearly defined in advance. At the experiential level, then, the dichotomy between willed action and total passivity is not descriptive of much of complex human behavior. Not infrequently, hypnotic and nonhypnotic behavioral sequences are described by actors as involving a twining of passive and willed elements. Indeed, hypnotized subjects vary in terms of how conscious and aware they are of initiating and performing actions and how purposeful they feel their thoughts and actions are. Nevertheless, we argue that hypnotic responses have all of the properties of action that is typically thought of as voluntary.

We hold that hypnotized subjects, like nonhypnotized subjects, act in terms of their aims, according to their point of view, and in relation to their interpretation of appropriate behavior and feelings. Hypnotized subjects' responses are directed toward goals, are regulated in terms of their needs and intentions, and can be progressively changed to realize goals. Their mental activities are not passive happenings; rather, they are purposeful, attuned to personal strivings, and geared toward fulfilling implicit and explicit contextual demands. Unlike daydreamers, for example, hypnotized subjects' suggestion-related imaginings often have a clear sequence, direction, and
relation to a framework of action. Because hypnotized subjects actively create mental representations of hypnotic events through imaginings and sensations, a formidable degree of mental control seems to exist (Vallacher & Wegner, 1987). Moreover, hypnotized subjects retain the ability to initiate and terminate their behaviors and cognitive activities. When motivated to do so, they are able to resist engaging in (suggested) actions and can oppose the hypnotist (Lynn, Nash, Rhue, Frauman, & Sweeney, 1984; Spanos, Cobb, & Gorassini, 1985), just as they might resist or oppose a partner in other relationships. In short, hypnotized subjects can be said to exhibit control (see Uleman, 1987) over their actions and imaginings.

Hypnotized subjects' behavior may be said to be goal directed in that successful hypnotic behaviors often have clear-cut direction along the lines implied by the suggestion (see Hyland, 1988, for a similar definition of goal-directed behavior). Many hypnotized subjects' cognitive activities demonstrate their active attempts to fulfill the role requirements of hypnotic suggestions; these attempts sometimes include ingenious elaboration of suggestions (Hilgard, 1977; Kirsch, 1990; Sheehan & McConkey, 1982; Spanos, 1986a, 1986b; R. W. White, 1941). This sort of creative, individuated fulfillment of task demands has many parallels in everyday life. The enactment of hypnotic behaviors thus bears a family resemblance to the enactment of familiar behaviors in cooperative settings characterized by scripted, asymmetric relations among the participants (Schank & Abelson, 1977).

The hypnotist does not simply provide willing subjects with an action plan that they can execute automatically, nor are suggested actions necessarily familiar or well-automatized behaviors, already in the subjects’ repertoire. To the contrary: Responses to complex posthypnotic suggestions and suggestions for hypnotic blindness, age regression, amnesia, and pain control are not overlearned, familiar, automatized action sequences. Nevertheless, hypnotizable subjects who pass these suggestions frequently report that their successful response had an involuntary quality. Whereas the execution of motor movements in everyday life commonly occurs with little conscious attention (e.g., driving or turning the pages of a book), there is an important difference between these sorts of movements and subjects' responses to ideomotor suggestions: In hypnosis, the person's attention is directed toward the movements; in contrast, nonhypnotic, automatic movements commonly occur when the person's attention is directed elsewhere (see Kirsch, 1990). Regardless of where attention is directed, hypnotic performances clearly consume attentional resources in a manner comparable with nonhypnotic performances (Hoyt & Kihlstrom, 1986; Kihlstrom, 1987).

Subjects' perceptions of hypnotic involuntariness can be understood in terms of their overarching goals to experience hypnotic events and to fulfill personal and interpersonal objectives. Subjects' goals are interwoven with their self-perceptions; their goals, in turn, establish the framework for generating and maintaining cognitive activities that foster perceptions of involuntariness. Consider the following suggestion for hand levitation: "Your hand is getting lighter and lighter, more and more light ... very soon your hand is going to move ... it is going to rise ... you may wonder just where your hand is going ... and I do not know exactly where it will end ... but your hand is really moving toward your face ... up toward your face, as if your face were a magnet attracting your hand ... and perhaps it feels just like that ... a force pulling your hand up toward your face ...." Hypnotizable subjects who are positively motivated to respond to a suggestion to lift their hand do not necessarily intend to lift their hand voluntarily or involuntarily. Many do,
However, intend to experience lightness in the hand, wish to have the experience of the face attracting the hand, as if it were a magnet, and attempt to create a vivid imaginal representation of the hand lifting. Subjects who pass this suggestion are able to behave as suggested while simultaneously generating imagery that qualifies their responding as an involuntary happening. This occurs within the motivational framework of wishing to successfully experience hypnotic suggestions and within the context of demands inherent in the suggestion itself, which, by its passive wording, conveys the implication that the hand will lift by itself, with no volitional effort.

We maintain that the entire chain of events of imagining or experiencing, responding, and viewing the response as an involuntary occurrence is goal directed, even though subjects may not experience the links of the chain in a deliberate, effortful, or even conscious manner. Just as some people who solve a mathematical puzzle may be unaware of all the cognitive operations involved in solving the puzzle, some hypnotized subjects may be unaware of the strategies involved in responding to suggestions. However, their responses are no less goal directed than that of the puzzle solver. To the extent that interests and intentions lack articulation, self-consciousness, and the perception of inner directedness, the sense of deliberate control of action is compromised (Fingarette, 1969; Sarbin, 1984). Yet, labeling as automatic internally instigated processes, such as imagining or strategic cognitions, that subsequently operate outside of consciousness is not meaningful (see Bargh, 1984).

We suggest that hypnotic behavior cannot be reduced to a game, consciously played by the subject and hypnotist, or to the effects of mere compliance. Rather than involving a sort of collaborative self-deception, successful hypnotic responding is more aptly characterized as creative role engagement, where subjects generate the sensations, subjective experiences, and mental representations scripted by the hypnotic context and by the suggestions and define their actions in like terms (as involuntary). We argue that involuntariness reports are determined largely by subjects' ability to generate mental representations and maintain a definition of the self as actor that coincides with an identification of suggested actions as occurring involuntarily. In sum, our analysis highlights the human capacity for creating psychological situations that will engender desired experiences.

In our analysis, we provide a specific, detailed account of the factors (e.g., beliefs, expectancies, and scripted role enactment) presumed by previous social psychological theorists (Barber et al., 1974; Sarbin & Coe, 1972, 1979) to affect subjects' reports of involuntariness and extend Spanos's (Spanos, 1986a, 1986b; Spanos, Cobb, & Gorassini, 1985; Spanos et al., 1977) and our (Lynn, Rhue, & Weekes, 1989) analysis of subjects' involuntariness reports. To do so, we illustrate how elements of the hypnotic context promote perceptions of involuntariness by inhibiting self-reflection, inference about the sources of changes in internal states, and appraisal of the reasons for responding outside the framework of hypnosis.

Situational Representations

As we have noted elsewhere (Lynn et al., 1989), perceptions of hypnotic actions are structured in terms of situational and self representations. Any behavior, action sequence, or feeling state can be identified or understood in diverse ways (e.g., Ryle, 1949; Wittgenstein, 1953). Which of the manifold possibilities for understanding a given action is adopted depends largely on a priori beliefs and
expectancies about the action, the cues inherent in the situation, the way those cues are interpreted, and the familiarity or difficulty of the act.

Situational representations encompass scripts or schemata—that is, knowledge structures about the nature and appropriate sequence of events, persons, or tasks in situations. These representations play a guiding role in social interactions (Abelson, 1981; Schank & Abelson, 1977; Tomkins, 1979) and correspond roughly to roles and role perceptions as discussed by role theorists (e.g., Coe, 1987; Sarbin & Coe, 1972).

Defining the situation as hypnosis activates sociocultural schemata that include attributes of hypnotizable individuals and the behaviors and experiences characteristic of such individuals. Survey data (McConkey, 1986; McCord, 1961; Wilson, Greene, & Loftus, 1986) indicate that subjects' representations of hypnosis typically include the following beliefs: that hypnosis is an altered state of consciousness, that the hypnotist is a powerful figure, that hypnotizable subjects are passive and receptive, and that hypnotic suggestions are carried out automatically or effortlessly.

In everyday life, people make the distinction between action and being acted upon. A person may be the passive subject of changes or the initiator of action. Kruglanski (1975) maintained that people typically dichotomize their own and others' experiences into the attributional categories or schemata of actions and occurrences (Kruglanski, 1975): Actions are voluntary, whereas occurrences are not. According to Kruglanski (1975), an action is commonly assumed to be determined by the actor's will, whereas an occurrence is largely independent of the will and is caused by factors other than the self. As social psychological theorists (Coe, 1978; Sarbin & Coe, 1979; Spanos et al., in press) have pointed out, people do not accept direct responsibility for occurrences or happenings. The tactic of disclaiming of responsibility is expressed in statements about everyday actions: “It happened to me,” “I was overcome,” and “I was carried away.” Hypnotic conduct, then, is not far removed from other spheres of life, where linguistic artifice and the disclaiming of agency buttress perceptions of involuntariness by transforming actions into the category of occurrences. Like many cognitive operations and activities, the identification or categorization of actions and the disclaiming of responsibility for thoughts and actions may or may not be conscious and well articulated and probably require little attentional processing (Wachtel, 1984; P. A. White, 1988). Nonetheless, the hypnotic context primes the attributional category of occurrences and thereby increases subjects' readiness to attribute suggestion-related hypnotic actions to automatic happenings.

In keeping with the hypothesis that involuntariness reports are associated with occurrence schemata, research has shown that subjects' ratings of involuntariness are associated with the belief that their hypnotic behavior is a function of the hypnotist's ability and effort (Lynn, Snodgrass, Hardaway, & Lenz, 1984; Lynn, Snodgrass, Rhue, Nash, & Frauman, 1987). In one study (Lynn, Snodgrass, Rhue, Nash, & Frauman, 1987), subjects' posthypnotic attributions of response causality to the hypnotist's ability and effort were found to be associated with posthypnotic ratings of involuntariness. In a second study (Lynn, Snodgrass, Hardaway, & Lenz, 1984), subjects' prehypnotic ratings of the hypnotist's ability and effort correlated positively with involuntariness ratings after hypnosis, even with hypnotizability statistically partialed from the analysis. Furthermore, research by Spanos and his colleagues (Spanos et al., in press; Spanos, Brett, Menary, & Cross, 1987) indicates that subjects generally believe that individuals who are hypnotized respond to suggestions involuntarily. Taken together,
this research suggests that many subjects hold situation-specific beliefs about causal connections in the hypnotic context. Culturally based schemata about hypnosis promote the inference that goal-directed actions are, in fact, involuntary occurrences.

Self-Representations

Just as situational representations have a bearing on involuntary experiences, subjects' self-representations also affect hypnotic responses. For receptive persons, positively motivated to experience hypnosis, feelings of involuntariness are welcomed as a marker of having achieved a desired goal. Certain subjects are more motivated, cooperative, and sensitive to hypnotic role demands than are others. Hypnosis has positive connotations for subjects whose beliefs about the attributes of a good hypnotic subject are consistent with valued, prized, or sought-after attributes (e.g., cooperativeness, imaginativeness, flexibility, and creativity). These subjects are more likely to adopt an experiential set based on a readiness to undergo experiential events that are suggested, a set in which experiences have a “quality of effortlessness, as if they happened by themselves, and in that sense, of involuntariness” (Tellegen, 1981, p. 222). In Diamond's (1989) terms, “letting go” begins with a conscious choice and involves an attempt to “experience what (s)he is experiencing” (p. 392). Underlying this apparent passivity is an active decision to be open—to experience oneself as the experiencer or recipient of suggested effects—that contributes to the spontaneous, unconscious, and flowing quality of the responsive subjects' experience. These feelings enhance hypnotic involvement and legitimize perceptions of being hypnotized, which in turn enhance feelings of involuntariness.

In contrast, other subjects have considerable apprehension about experiencing hypnosis. McCord (1961) found that many of the subjects he interviewed had negative preconceptions about hypnosis and were concerned about being led. Such preconceptions could act as a deterrent to full hypnotic involvement and establish an instrumental cognitive set (Tellegen, 1981) that primes effortful, planned, and voluntary behavior directed toward self-monitoring and maintaining control in the hypnotic situation. Suggestion-related sensations and responses are matched and evaluated against a performance standard based on the exhibition of control and resistance. Research has shown that certain subjects who test as low hypnotizable oppose suggestion-related sensations and behaviors when control issues are made salient (Jones & Spanos, 1982; Lynn et al., 1986; Spanos & Bodorik, 1977). Many unhypnotizable subjects are not simply passive, uninvolved responders; rather, they are motivated to actively and purposefully assert their independence from the hypnotist's influence. When attempts are made to increase hypnotic involvement and rapport, subjects with low hypnotizability are not only more responsive to hypnotic suggestions but also experience greater suggestion-related involuntariness (Lynn, Weekes, Neufeld, Zivney, Brentar, & Weiss, 1987). In short, hypnotizable and resistant subjects have different goals and response predispositions that affect the involuntary quality of their hypnotic experience.

Hypnotic Induction

Many subjects are not readily dichotomized into the mutually exclusive categories of resistant and receptive. Not only do certain subjects lack a schema for the hypnotic experience, they also may express ambivalence about experiencing hypnotic effects. The hypnotic induction may therefore have an important influence on shaping subjects' expectations and perceptions of
involuntariness.

Perceptions and attributions are intimately associated with the words and linguistic forms that subjects adopt to understand and communicate their behaviors. The induction wording serves to direct attention inward, to reduce vigilance, and to diminish the importance of action on the environment. Whereas the induction absorbs subjects' attention and focuses awareness on concrete images, sensations, and behavior, it diminishes abstract, logical, and critical thought processes (Field, 1979). The induction implicitly informs subjects that various effects are happening to them (e.g., “Your hand is rising by itself”; Spanos, 1982a), and the induction contains words and phrases that are commonly associated with passive or receptive mental states (e.g., sleep and relaxation); the focus on sensations of relaxation and sleepiness discourages the subject from adopting an analytical attitude and searching for causes of behavior outside the framework of hypnosis.

We believe that subjects associate words in the induction with features of hypnosis by way of analogy. For example, a responsive subject who received repeated suggestions to sleep would be inclined to respond as if hypnosis were sleep. Of course, few subjects literally fall asleep during hypnosis, inasmuch as situational demands to remain attentive to the hypnotist contradict this behavior. Yet, subjects easily discern the implication that they are relatively passive (e.g., eyes closed and limited body movements) and do not consciously control their actions during sleep, which is, in itself, an altered state of consciousness. Receptive subjects readily adopt this way of framing their experiences. In short, hypnotic communications promote the identification of action as involuntary by exposing subjects to occurrence schema cues that, by a process of association or analogy, renders the schema accessible (Lynn et al., 1989).

As Field (1979) noted, the hypnotist's language encourages nonspecific action or behavior without a clear-cut and understandable objective: The subject of action and the object of action are blurred—hypnotic behavior happens by itself, spontaneously, and not with a deliberate decision. There is another sense in which the hypnotist–subject boundary is indistinct. The hypnotist administers the suggestions and is in this sense responsible for hypnotic actions. Subjects' attributions of their responsiveness to the hypnotist rather than to their own efforts carry a certain weight of legitimacy. In a sense, then, subjects do not misattribute anything. The familiar event sequence of the hypnotized subject's responding in close temporal contiguity to the hypnotist's suggestions, along with cultural stereotypes about hypnosis, promote the inference that dramatic hypnotic phenomena arise from the hypnotic proceedings. Indeed, if subjects uniquely or consistently associate hypnotic effects with the hypnotist or his or her suggestions, rather than with their efforts or to features of the hypnotic context, they are likely to identify their suggestion-related responses as involuntary. In summary, the hypnotist's language plays an important role in shaping subjects' understanding and interpretation of their hypnotic experience.

Hypnotic Experience

Subjects' expectancies, self-evaluations, and interpretation of hypnotic behavior interact during the hypnotic experience. This experience can be thought of as a flow of interacting images, feelings, personal associations, and self-evaluations. These may be represented verbally and visually and in tandem with suggestion-related sensations. In this experiential stream, concrete
and abstract thinking and reality-based and fantasy-based thinking coexist (Sheehan & McConkey, 1982) and can operate together to foster responding in alignment with subjects' needs, goals, and expectancies. Imaginings, goal-directed strivings, and expectancies are viewed as integral, and perhaps inseparable, facets of subjects' hypnotic experience (Lynn et al., 1989).

During hypnosis, subjects' attention may range across the following poles of awareness: suggestion-related absorption versus the experience of being analytical observers of their own actions, task-relevant versus task-irrelevant thoughts, and attention to suggestion-related imaginings versus attention to objective aspects of the situation (McConkey, 1979). We hypothesize that critically observing one's actions, task-irrelevant thoughts, and attention to the objective reality of the situation short-circuit feelings of involuntariness.

Indeed, if anything has the potential to vitiate the experience of nonvolition, it is critical or analytical thought. The experience of making choices and exercising judgment increases consciousness and salience of events (Mandler, 1979) and minimizes involvement. Langer (1978) has shown that thinking about or assessing behaviors as they are being enacted often destroys the spontaneous continuity of the action sequence. Similarly, Atkinson and Allen (1979) found that subjects who performed a fine-grained analysis of behavior tended to view it as deliberate and lacking in spontaneity (Atkinson & Allen, 1979). Diamond (1989) made the related argument that individuals who engage in introspection regarding their cognitive processes are more likely to report hypnotic events as a series of doings.

We hypothesize that the criteria that subjects adopt for labeling their experiences as involuntary affect subjects' perceptions of involuntariness. For example, some subjects expect to immediately experience their response to suggestion as involuntary. If, instead, they fail to experience immediate alterations in their sense of voluntary control, they may denigrate themselves, their hypnotic performance, and feel cheated of an experience they hoped to have. This reaction may produce or be the product of task-irrelevant cognitions and minimal role involvement in suggestions. Under these conditions, feelings of nonvolition may be abolished. Other subjects do not expect hypnosis to produce profound alterations in consciousness and feelings of involuntariness. These subjects would be more easily convinced that they were hypnotized and successfully experiencing suggestion-related effects (see Kirsch, 1990, for a similar analysis), including involuntariness. Thus, subjects who engage in minimal critical thinking and introspection and whose hypnotic performance matches their expectancies of appropriate responding are likely to perceive their suggestion-related actions as involuntary.

Hypnotic experience may tax subjects' attempts to understand and interpret their sensations, behaviors, and determinants of their responses. First, hypnotic behavior is shaped not only by explicit role demands but also by subtle contextual cues (e.g., wording of suggestions) that subjects may fail to recognize as the determinants of their feelings and actions. Second, subjects' cognitive processes are, at times, unavailable to conscious scrutiny. Third, the vocabulary for bodily feelings and sensations is meager, and somatic feelings often are nebulous and defy adequate description (Sarbin & Coe, 1979). In short, subjects not only have imperfect access to their mental states (T. Wilson, 1985) but also have imperfect access to their bodily states.

We believe that hypnotic subjects resort to a verbal explanatory system to understand
ambiguous or poorly understood internal states. Subjects’ perceptions or experience of hypnotic suggestions—their so-called hypnotic state—is hypothesized to depend, in part, on suggestion-related sensations or sensory cues that are subjected to various interpretations and attributions. As Trope (1986) has noted, if sensations or bodily cues are ambiguous, the context in which the cues are embedded can affect the labeling and understanding of their meaning. For instance, relaxation in the hypnotic context is likely to be attributed to an altered state of consciousness, whereas before bedtime, relaxation is more likely to be ascribed to tiredness. A priori schemata (e.g., responses happen involuntarily) provide an explanatory framework for the interpretation of ambiguous feelings, increasing subjects’ readiness to adopt the language of the hypnotist and his or her suggestions, which reinforces perceptions of involuntariness (Lynn et al., 1989). This position is consonant with the views of investigators who have maintained that involuntariness reports reflect retrospective evaluations or ongoing interpretations of ambiguous suggestion-related behaviors and experiences (e.g., Coe, 1978; Sarbin & Coe, 1979; Spanos & deGroh, 1983; Wedemeyer & Coe, 1981).

According to action-identification theory (see Vallacher & Wegner, 1987), the identification of actions ranges on a hierarchy from low-level representations that specify how actions are performed (e.g., “My hand moved”) to high-level representations that specify plans, goals, or effects (e.g., being a cooperative subject or becoming hypnotized). When an act is difficult or unfamiliar, it tends to be identified in relatively low-level terms; when it is relatively familiar and easy, higher level identities tend to be prepotent. Vallacher and Wegner (1987) further argued that sensitivity to contextual (including verbal) cues to action definition are embraced more readily by subjects when they are thinking about action in lower level terms. The novelty of the hypnotic situation may promote a relatively low-level state, thus making the subject a prime candidate for suggestions about the action’s larger meaning. So long as the hypnotist suggests familiar acts that do not require lower level representations, the hypnotist is in a position to maintain the subject’s sense that everything that the subject is doing is really a manifestation of the hypnotic proceedings. Acts include the subject’s imaginings; these are experienced as fluid and relatively spontaneous when they are readily accessible or part of the subject’s repertoire of images well rehearsed in everyday life. For example, highly imaginative or fantasy-prone subjects (see Lynn & Rhue, 1988) would be expected to experience their suggestion-related imaginings as involuntary, despite the fact that they were self-generated. On the other hand, if subjects are unable to generate imaginings, or the experience of sensations consistent with the suggestion, then they are more likely to identify their actions as self-generated. Furthermore, their perception of effort will disrupt the feeling of involuntariness.

So long as the subject identifies the action at the level of suggestion-congruent sensation or imagery, rather than analyzing the suggestion wording and variables actually controlling or influencing the response, the sense of involuntariness ought to be maintained. If self-generated imaginings and sensations are aligned or consistent with suggested experiences, defined as involuntary happenings, subjects will interpret their responses in the framework of the suggestion and infer that they were hypnotized. Defining oneself as hypnotized ought to increase response expectancies for successful responding (see Kirsch, 1990) and thereby bolster responsiveness and perceptions of involuntariness vis-à-vis subsequent suggestions.
Several studies are consistent with these observations. For instance, Spanos and Gorassini (1984) found that a direct relationship existed between the degree of involuntariness and the congruence between the aim of suggestion and naturally occurring feedback. Responses to suggestions that expose subjects to contradictory sensory information, such as levitation of an outstretched arm, would be difficult to interpret as involuntary. The authors found that subjects who were asked to imagine a force acting on their outstretched arm to make it feel lighter (arm rising) rated their experience as more voluntary than did subjects asked to imagine a force acting on their arm to make it feel heavier (arm lowering). Relatively, Angelini and Stanford (1987) found that subjects who received suggestions for arm levitation rated their responses as more involuntary when the suggestions contained vivid suggestion-relevant imagery. They argued that the imagery served to divert subjects' attention from suggestion-incongruent proprioceptive information that interferes with a sense of perceived involuntariness. Other research suggests that reports of involuntariness are associated with reports of suggestion-related sensations (Lynn, Nash, Rhue, Frauman, & Sweeney, 1984; Spanos et al., 1977) and that a substantial link exists between reports of subjective involvement in suggestions and involuntariness reports (Lynn, Neufeld, & Matyi, 1987; Spanos, Radtke, Hodgins, Stam, & Bertrand, 1983).

In summary, hypnotic behavior is not static or immutable. Critical, analytical, or task-irrelevant thought and attention to the objective reality of the situation may disrupt feelings of involuntariness. In contrast, identification of bodily sensations in terms of an occurrence schema, and the production of abundant, readily accessible, or well-rehearsed imagery in conjunction with suggested experiences that are defined as involuntary are hypothesized to promote feelings of involuntariness.

**The Structure of Suggestions**

In addition to the wording of the hypnotic inductions, suggestion wording and structure are important determinants of involuntariness. Even cooperative subjects do not universally experience hypnotic responses as involuntary: Estimates of the percentage of subjects who respond to suggestions but identify their responses as voluntary range from 55% (Spanos, Radtke, Hodgins, Stam, & Bertrand, 1983) to 15% (Weitzenhoffer, 1974). Furthermore, approximately 20% of hypnotized subjects describe their responses as an “intertwining of nonvolitional and volitional experiences” (P. Bowers, Laurence, & Hart, 1988, p. 341). Whereas variability is evident across studies, agreement exists that mismatches between behavioral criteria for passing suggestions and measures of nonvolition are far from a rarity.

Spanos (1981) grappled with the problem of explaining mismatches by showing that subjects' interpretations of suggestions have important consequences for defining responses as involuntary. Suggestions convey the implication that the experiences suggested are to occur involuntarily (Hilgard, 1963). Spanos (1981) illustrated this point with the following suggestion: “Now I want you to imagine a force attracting your hands toward each other, pulling them together. As you think of this force pulling your hands together, they will move together ... closer and closer together as though a force were acting on them ....” (pp. 21–22). The suggestion has two components: a tacit request to move the arms and a request to perceive the movement as a result of an imagined force, that is, as an involuntary movement outside the subject's agency.
Spanos (1981) outlined three ways in which subjects could respond to the suggestion. First, they may respond to neither of the requests and thereby fail the suggestion. This may occur either because they choose not to cooperate with the suggestion or because they miss the import of the tacit request. If subjects are unaware that they must initiate the movements that are to be self-defined as involuntary, and simply wait passively for their arms to move together themselves, they will fail the suggestion. Furthermore, if subjects believe that they should let things just happen, they are less likely to initiate the goal-directed cognitive activities necessary to respond to the suggestion (see Lynn, Snodgrass, Rhue, & Hardaway, 1987; Spanos & deGroh, 1983). These subjects may, however, experience their failure to respond as an involuntary occurrence. Studies have shown that a sizable minority of subjects—between 15% and 25%—experience their response to failed items as involuntary (K. S. Bowers, 1981; P. Bowers, 1982; P. Bowers et al., 1988).

Second, subjects may respond to the suggestion while defining their response as occurring voluntarily because they miss the import of the request for involuntariness. Alternately, subjects might be aware of the connotation of involuntariness but choose to ignore it, attributing their responses instead to their own efforts or to their willingness to let it happen. Finally, subjects might fake their hypnotic performance; that is, they may fail to experience suggestion-related effects but for some reason, they may wish to convey the impression that they are hypnotized (Spanos, 1981).

Third, subjects may act in keeping with the suggestion and come to believe that their response is an involuntary occurrence. Research has shown that subjects rate most passed suggestions as involuntary (K. S. Bowers, 1981; P. Bowers, 1982; Spanos et al., 1977; Weitzenhoffer, 1974), ranging as high as 67% of the items passed (K. S. Bowers, 1981).

If suggestions convey the tacit implication that control is relinquished to the hypnotist (Hilgard, 1965) and instructions (e.g., “Move your hands apart from one another”) convey no such implication, then subjects ought to rate their responses to suggestions as more involuntary than their responses to instructions. Research with motoric (Spanos & Barber, 1972; Spanos & deGroh, 1983; Spanos & Gorassini, 1984; Spanos & McPeake, 1977; Spanos, Spillane, & McPeake, 1976) and analgesia suggestions (Spanos & Katsanis, 1989) has shown this to be the case. Moreover, the finding that subjects generally report equivalent involuntariness in hypnotic and nonhypnotic conditions underlines the important role of suggestion structure.

It is not invariably true that subjects respond in a manner consistent with demands inherent in the structure of communications. In some instances, responses to instructions to intentionally engage in particular actions are rated as involuntary (Weitzenhoffer, 1974). In fact, between one fifth (Spanos & Gorassini, 1984) and one third (Weitzenhoffer, 1974) of subjects rate their responses to instructions as mostly involuntary.

What can account for these findings? Whereas the instructions themselves do not contain cues for responding involuntarily, subtle pressures to acquiesce to simple requests or instructions, engendered by the socialization process, create demands of their own. Furthermore, simple motoric actions are, through practice, automatized and require little conscious thought, deliberation, or effort for their execution. Indeed, instructed actions often have an involuntary quality apart from the context of the psychology experiment. This quality is illustrated in subjects' responses to the childhood game of Simon Says. To win this game, a person must resist
responding unless an instruction such as “Lift your hand” is prefaced by the phrase “Simon says.” The person playing the role of Simon typically delivers the instructions forcefully, authoritatively, and rapidly. Anyone who has played this game knows how difficult it is to inhibit response to the instruction when it is not preceded by “Simon says” (Lynn et al., 1989).

Our lexicon provides us with rich opportunities for construing hypnotic experience along a voluntary–involuntary dimension. However, terms such as voluntary and involuntary have multiple and varied connotations (Kimble & Perlmutter, 1970). Involuntary might be thought to mean spontaneous, effortless, or unconscious, not involving deliberation, choice, or purpose, for example. Because subjects do not share a uniform understanding or interpretation of what constitutes a voluntary or an involuntary response, and because rating scales used in hypnosis research have not provided clear definitions of an involuntary response, it is not surprising that some subjects rate their responses to instructions as involuntary.

Spanos and deGroh (1983) tested the idea that subjects who received a suggestion that implicitly informed them that the response should be construed along a voluntary–involuntary dimension would show a close correspondence between open-ended reports of involuntariness and scale ratings indicating involuntariness. However, because instructions do not imply involuntary responding, subjects who respond to them might not reflect on their suggestion-related experiences in terms of the involuntary–voluntary dimension until it is made salient by a rating scale assessing involuntariness. Thus, Spanos and deGroh (1983) hypothesized that some subjects who received instructions would retrospectively rate their responses as involuntary on the rating scale but not on open-ended questions that preceded the rating scale.

The authors' (Spanos & deGroh, 1983) predictions were confirmed. Almost all of the subjects who received suggestions and indicated that their responses felt involuntary on the rating scale had described them as involuntary in the open-ended question. In contrast, 13% of the subjects who responded to an instruction rated their response as mostly or completely involuntary, but only one of these subjects reported an involuntary experience in open-ended questioning before rating the response.

Vallacher and Wegner's (1987) action-identification theory suggests that one's sense of volition may depend on the implicit definition of the act one is considering. For instance, if the subject is asked about the specific movements engaged in, he or she might report little volitional control if the act is familiar and not performed in an effortful, deliberate, detail-focused manner. Under these circumstances, the action may be consciously represented only in higher level terms (i.e., “I moved because I was hypnotized”). The same subject might report a great deal of voluntariness, however, if the act is defined in more global terms that match the subject's conscious representation at the time of the enactment (e.g., “Did you move because you were willing to respond?”).

In summary, the wording of suggestions, whether in hypnotic or nonhypnotic contexts, conveys strong demands for interpreting suggestion-related behaviors as involuntary occurrences. Nonetheless, variability in subjects' interpretation of the meaning and implications of suggestions appears to account for much of the variability in their hypnotic performance and experience. In the remainder of the article, we examine properties of hypnotic communications and suggestion-related strategies that bolster perceptions of involuntariness.
Permissive Versus Authoritative Suggestions

Hypnotic suggestions that differ in wording style convey divergent implications that affect involuntariness reports. Traditional suggestions involve an unambiguous tacit request for a specific response that is couched in authoritative language but imparts the expectation that suggested effects will occur involuntarily. These suggestions are characterized by statements that are specific and commandlike. We may contrast suggestions delivered in a direct, authoritative style with the following communication: “Sooner or later you might begin to wonder about going into a deep trance, and you may do that suddenly or rapidly, responding in your own, unique way to all sorts of experiences I will suggest.” These suggestions are delivered in a permissive style, provide the subject with a range of appropriate responses, and convey the implication that the subject is central to hypnotic events. Three recent studies found that despite responding equivalently in terms of overt response, subjects who received permissive suggestions rated their responses as feeling more voluntary than did subjects who received authoritatively worded suggestions (Lynn, Neufeld, & Matyi, 1987; Lynn, Weekes, Matyi, & Neufeld, 1988).

Goal-Directed Fantasies

Whether responding to permissive or authoritative suggestions, hypnotizable subjects shift their thinking and modify their behavior in accordance with the changing demands of suggestions. Spanos (1971) hypothesized that subjects tend to define their overt response to suggestion as involuntary when they become absorbed in a pattern of imaginings termed goal-directed fantasy (GDF). GDFs are defined as “imagined situations which, if they were to occur, would be expected to lead to the involuntary occurrence of the motor response called for by the suggestion” (Spanos et al., 1977, p. 211). For instance, subjects administered a hand-levitation suggestion would exhibit a GDF if they reported imagining a helium balloon lifting their hand. Subjects involved in GDFs attend fully to their imaginings while ignoring or reinterpreting information that contradicts the “reality” of the imagined events (Spanos et al., 1977).

Suggestions worded to stimulate GDFs provide subjects with a cognitive strategy for generating and intensifying feelings of involuntariness. Because the imaginative strategies are implicit in the wording of the suggestion, subjects are unlikely to attribute the feelings that ensue, from adopting the strategy, to their own agency. Studies have indicated that GDFs are related to subjects' tendency to define their overt response to suggestion as an involuntary occurrence (e.g., Lynn, Snodgrass, Rhue, & Hardaway, 1987; Spanos, 1971; Spanos & Barber, 1972; Spanos & Gorassini, 1984; Spanos & McPeake, 1977; Spanos et al., 1976; Spanos et al., 1977), although GDFs do not necessarily enhance overt responding to suggestion (Buckner & Coe, 1977; Coe, Allen, Krug, & Wurzman, 1974; Lynn, Snodgrass, Rhue, & Hardaway, 1987; Spanos, 1971; Spanos & Barber, 1972; Spanos & McPeake, 1977; Spanos et al., 1976). These findings support the social psychological position that imaginings legitimize and reinforce the interpretation that the actions occurred involuntarily (e.g., Spanos et al., 1977). However, they do not provide support for Arnold's (1946) view that vivid imagining is intimately associated with hypnotic behavior.

Amnesia Suggestions

Different suggestions require different suggestion-related cognitions or strategies to enhance
the perception of involuntariness. For example, amnesia suggestions initially instruct subjects to take an active role in the process of forgetting (e.g., “I want you to forget”). The wording of the suggestion is then subtly transformed to imply that the target material disappears effortlessly and involuntarily (e.g., “The words are disappearing ... You will be unable to remember the words ... they are disappearing from your mind”; Spanos & Radtke, 1982). Some subjects interpret the tacit message of the suggestion as signifying that they should become distracted by focusing their attention on physical (e.g., sensations such as relaxation) or imagined events other than the target material (Spanos & Radtke, 1982; Spanos & Radtke-Bodorik, 1980). Simply saying to oneself, “I am unable to remember” could prove sufficiently distracting to interfere with access to the target material until the subject receives the hypnotist's “permission” to recall (e.g., “Now you can remember everything”). These “effortless forgetters” (Spanos & Radtke, 1982, p. 216) are likely to identify their forgetting as occurring involuntarily (e.g., “The words disappeared by themselves”). In sum, subjects' interpretations of the requirements of hypnotic suggestions and their active attempts to fulfill these requirements mediate the identification of action as involuntary with respect to amnesia and motoric suggestions.

Posthypnotic Responding

Posthypnotic suggestions inform subjects to respond to a cue and perform certain acts after they are “awakened” from hypnosis. Traditionally, posthypnotic responding has been identified by two characteristics: The subject experiences a compulsion to perform an act but lacks awareness that the act was performed (Erickson & Erickson, 1941). Because the posthypnotic response is purportedly automatically triggered by a predetermined cue, some investigators have contended that it can persist outside the confines of the hypnosis experiment (e.g., Erickson & Erickson, 1941; Orne, Sheehan, & Evans, 1968; Weitzenhoffer, 1953). However, there is evidence (Fisher, 1954; Spanos, Menary, Brett, Cross, & Ahmed, 1987; St. Jean, 1978) that posthypnotic responding is in fact not automatic but is instead mediated by situational cues and expectancies and can be thought of as goal-directed action (Spanos, Menary, Brett, Cross, Ahmed, 1987).

Fisher (1954) gave subjects the suggestion to scratch their ear each time they heard the word “psychology.” After the posthypnotic response was elicited, the hypnotist created the impression that the experiment was over by conversing with a colleague. During this time, the cue word was used informally. The hypnotist then restructured the situation to intimate that the experiment was still in progress. Although all 13 subjects responded to the formal testing of the cue word, 9 failed to respond when the cue word was mentioned informally. Seven of the 9 subjects who had stopped responding responded again when they thought the experiment was again in progress. St. Jean (1978) found that when the experimenter left the room to attend to an emergency, almost all subjects stopped responding posthypnotically to a prerecorded auditory stimulus.

In a study conducted by Orne et al. (1968), 17 hypnotizable and 14 subjects simulating hypnosis were given a posthypnotic suggestion to touch their foreheads each time they heard the word “experiment” for the next 48 hr. The hypnotist tested the suggestion in the experimental setting, and a secretary tested the suggestion as subjects left the building and returned the next day. Whereas 5 of the 7 highly hypnotizable subjects responded consistently away from the experimenter, no simulators did so.
Although designed to challenge Fisher's (1954) finding that expectations play a role in determining the performance of posthypnotic behavior, the study did not constitute a strong challenge. The 5 subjects who responded outside of the experimental setting all stopped responding when the hypnotist used the cue word with the clear intent of removing the original suggestion. Postexperimental inquiry revealed that these subjects stopped responding because they anticipated the suggestion's removal.

Spanos, Menary, Brett, Cross, and Ahmed (1987) recently found that hypnotizable subjects' posthypnotic responding (e.g., “Cough out loud when you hear the word ‘psychology’”) was nil when tested in a context that subjects did not associate with their experimental situation. When the cue was embedded in a meaning context that was associated with the hypnotic role—tested formally by the hypnotist—subjects exhibited posthypnotic responding. However, when tested informally by confederates, in two independent tests, none of the hypnotizable subjects and only 1 of the simulating subjects responded to the cue word. Spanos, Menary, Brett, Cross, and Ahmed (1987) contended that these results indicated that posthypnotic responding is expectancy-mediated, goal-directed action.

Hoyt and Kihlstrom (1987) conducted two experiments that contrasted posthypnotic suggestion and waking instruction. In the first experiment, hypnotized subjects were given a posthypnotic suggestion to mail predated postcards to the experimenter for 3 weeks. Subjects were told to underline the date each time they mailed the postcard. Unhypnotizable subjects were given the same task as a waking instruction. The two groups were equally compliant in sending the postcards and in underlining the date.

In a second experiment, Hoyt and Kihlstrom (1987) found that subjects who were presented with a waking and a posthypnotic suggestion to respond to two digit cues presented on a computer screen did not automatically favor the posthypnotic cue. Subjects who favored the posthypnotic cue when it appeared alone on trials also favored that cue when it conflicted with the waking cue, and vice versa. Subjects responded significantly more accurately and faster to their favored cue than to their nonfavored cue. Subjects appeared to allocate resources to one task at the expense of the other task. The authors concluded that posthypnotic information processing is no different than nonhypnotic information processing.

Breaching Amnesia

Early attempts to pressure initially amnesic subjects to breach their hypnotic amnesia (e.g., K. S. Bowers, 1966; Kihlstrom et al., 1980) generally showed that whereas approximately half of the initially amnesic subjects reversed their reports and indicated that they could remember, the remaining subjects continued to report amnesia. These findings have been viewed as reflecting a genuine inability of some amnesic subjects to recall due to their loss of conscious control over memory. Coe and his associates (Coe & Yashinski, 1985; Howard & Coe, 1980; Schuyler & Coe, 1981) have found that subjects can be classified on the basis of whether they rate their forgetting as under their control (i.e., voluntary) or beyond their control (i.e., involuntary) in hypnosis pretesting (Session 1); they also found that subjects who had previously rated themselves as having voluntary control over memory were more likely to breach than were the subjects who rated their forgetting as being beyond their control.
Coe (1983) maintained that subjects use their response to suggestion as a primary criterion for judging their reports of control. While trying to remember during a second breaching session, subjects rated their degree of perceived control. Subjects who changed their reports from being in control of remembering at pretesting to not being in control of remembering during the second session did not exhibit recall at Session 2. Coe (1983) believed that the second experience of not recalling was sufficiently convincing to lead these subjects to decrease the amount of control they reported. Relatedly, subjects who changed their reports from having little control in Session 1 to having more control in Session 2 typically recalled more in the second session.

Although Coe and his colleagues (Coe, 1983; Coe & Yashinski, 1985; Howard & Coe, 1980; Schuyler & Coe, 1981) did not succeed in completely breaching amnesia, other investigators have succeeded in doing so by defining breaching as compatible with successfully fulfilling hypnotic role demands. For example, in two experiments, Spanos, Radtke, and Bertrand (1985) used the so-called hidden observer to create expectancies that recalling forgotten material was appropriate. In their first study, subjects were informed that while hypnotized, they possessed a hidden part of their mind that retained an awareness of information the conscious hypnotized part no longer remembered. In a second experiment, amnesic subjects were informed that they possessed two hidden observers—one in each cerebral hemisphere—and that in addition, abstract words were stored in one hemisphere and concrete words were stored in the other. In both studies, subjects initially showed complete amnesia. In the first study, when the hypnotist contacted the hidden observer, all of the subjects recalled the target words; in the second study, subjects recalled abstract and concrete words when their respective hidden observers were contacted by the hypnotist. A recent study by Silva and Kirsch (1987) showed that subjects breached amnesia who received prehypnotic information indicating that hypnosis could enhance memory. Combined, these studies indicate that amnesic subjects' inability to recall must be called into question. Indeed, like motoric and posthypnotic responding, amnesia does not qualify as an automatic or involuntary response that operates independent of the determinants of hypnotic responding that we have outlined in this article.

The Ability to Resist Suggestions

Cultural conceptions of the hypnotist as a Svengali-like figure hinge on the subjects' purported inability to resist the hypnotist's commands. Perhaps the acid test of whether hypnotic behavior is involuntary is whether subjects are truly unable to resist suggestions. Several studies have been conducted on subjects' ability to resist suggestions when specifically instructed to do so. Young (1927, 1928) found that subjects who received autosuggestions in advance of hypnosis to resist one of the items chosen from a list of suggestions were able to resist. Wells (1940) was unable to replicate these findings; with minor exceptions, subjects were unable to resist. Hilgard (1963) criticized Wells's methodology, noting that he selected subjects who had been unsuccessful in resisting hypnosis in their early experiences with hypnosis.

Hilgard (1963) examined the ability of 12 moderately highly hypnotizable subjects to resist suggestions on an item that had been passed successfully on 2 previous days of testing. Although subjects were not told whether the expectation was that they would succeed or fail, they were asked to try to resist on two of the six trials. Hilgard (1963) found that 1 subject failed to resist either suggestion, 5 subjects resisted one of two, and 6 subjects resisted both suggestions. Subjects
generally retained control during hypnosis, but many experienced feelings of conflict about responding.

Using subjects unselected for hypnotizability, Levitt and Henderson (1980) tested 10 subjects with the Stanford Scale, Form A, on two occasions. After the first session, subjects were told that the experiment was concerned with the degree of initiative and control that a person retains during hypnosis. They were informed that they should become deeply hypnotized but try to resist all of the suggestions that would be administered by a second hypnotist. The results were quite comparable to those obtained by Hilgard (1963): Of possible points of resistance, subjects successfully resisted on 36%, compared with 30% in Hilgard's (1963) study.

In a series of studies, Levitt and Baker (Baker & Levitt, 1989; Levitt, 1986; Levitt & Baker, 1983) examined subjects' ability to resist a hypnotist's suggestions when bribed with various monetary denominations (ranging from $5 to $100) by a resistance instructor. Across four studies, the percentages of nonresistors varied from 33% to 53% of the subjects tested. A notable finding was that a substantial number (6 of 12) of highly hypnotizable subjects who scored 11 or 12 on the Harvard Group Scale did not resist the hypnotist's suggestions despite being offered a bribe of as much as $100 to do so.

Although Levitt (1986) concluded that hypnotic influence is truly coercive for a small number of subjects and that their hypnotic performance is in fact truly involuntary, across all studies, more than half of the subjects successfully resisted suggestions. Furthermore, failing to resist a hypnotic suggestion, despite being offered a large bribe to resist, would constitute powerful validation that one is an excellent hypnotic subject. Finally, whether the bribe was perceived by subjects as credible was apparently not evaluated.

In a series of studies conducted in our laboratory, hypnotic subjects were first hypnotized and then instructed to vividly imagine and experience motoric suggestions that were to follow but to resist engaging in movements. We found that highly hypnotizable subjects, when asked to resist suggested responses, often failed to do so, and afterward they stated that their movements occurred despite their best efforts to counter or prevent them. In this context, movements may be thought of as a behavioral index of nonvolition. Hypnotized as opposed to imagining (Lynn, Nash, Rhue, Frauman, & Stanley, 1983) and simulating subjects (Lynn et al., 1985) moved in response to countersuggestion and defined their suggestion-related responses as involuntary. Contrary to Arnold's ideomotor-action hypothesis, hypnotizable imagining subjects reported feeling as absorbed and involved in imaginings as did hypnotic subjects but resisted responding to suggestions.

Although the real–simulating differences obtained in our earlier research could be interpreted as supporting a neodissociation account of involuntariness, other findings (Lynn et al., 1985) suggested that the responses of both real and simulating subjects may be based on expectancy. Simulating subjects, relative to susceptible subjects, moved less and tended to report that other good subjects were less likely to move in response to countersuggestion. Real–simulator differences may reflect between-groups differences in expectancies arising from divergent demands associated with the task of simulation (Sheehan, 1971a, 1971b; Spanos, Bridgeman, Stam, Gwynn, & Saad, 1983).
In a second study (Lynn, Nash, Rhue, Frauman, & Sweeney, 1984), we tested the hypothesis that hypnotizable subjects are responsive to the broad expectational context in which the experiment is conducted. An experimental assistant informed subjects before they were hypnotized and before they were instructed to resist suggestions that other good hypnotic subjects could successfully resist suggestions and retain control over their movements or that other good subjects fail to resist suggestions and experience loss of voluntary control over their actions during hypnosis. We found that prehypnotic normative information had a strong effect on subjects' ability to resist the hypnotist and tended to affect subjects' reports of suggestion-related involuntariness in line with induced expectancies about appropriate responding. Furthermore, hypnotizable and simulating subjects' behavior and involuntariness reports were associated with their perceptions of appropriate response.

This study also demonstrated that rapport plays a role in subjects' experience of involuntariness. Susceptible subjects with highly positive rapport resolved hypnotic conflict by achieving a compromise between meeting normative expectations (e.g., to respond) and complying with the hypnotist's counterdemand (i.e., to resist). Susceptible subjects with less positive rapport responded primarily in accordance with the normative expectations. This research is consistent with the number of studies that have shown that involuntariness reports are associated with ratings of rapport with the hypnotist (Lynn, Nash, Rhue, Frauman, & Sweeney, 1984; Lynn, Snodgrass, Rhue, Nash, & Frauman, 1987) and with the view, propounded by Sheehan and his colleagues (e.g., Dolby & Sheehan, 1975; McConkey, 1979; Sheehan, 1971a, 1971b; Sheehan, 1980), that some hypnotizable subjects may be specially motivated to be highly responsive to the hypnotist.

Research by Spanos, Cobb, and Gorassini (1985) provided support for the hypothesis that subjects' propensity to successfully resist suggestions depended on their construal of such behavior as congruent with presenting themselves as deeply hypnotized. To test this notion, the researchers placed highly susceptible subjects in four instructional conditions. Control subjects received no preparatory instructions. Subjects in the ability-to-resist condition were told that deeply hypnotized individuals were capable of becoming very involved in test suggestions and simultaneously resisting them. Subjects in the inability-to-resist condition were told that deeply hypnotized individuals were incapable of resisting suggestions. Finally, subjects in an ambivalent information group were told that deeply hypnotized individuals' capacity to resist suggestions was unknown. All subjects were then hypnotized and administered four motoric suggestions. Subjects in the ability-to-resist condition successfully resisted 95% of the suggestions and rated themselves as maintaining voluntary control over their behavior. Subjects in the remaining conditions passed (i.e., failed to resist) most suggestions, rated themselves as losing control of their behavior, and reported an inability to resist the suggestions. Subjects in all four groups were generally equivalent in their ratings of imaginal involvement and degree of experiencing suggested effects. This study is particularly important because it indicated that subjects are able to resist nearly all of the suggestions when resistance is scripted by situational demands.

Tellegen (personal communication, January 12, 1989) has argued that if researchers concede that subjects in this experiment nevertheless really try to resist, then it is necessary to argue that subjects who fail to resist do so in spite of a sincere wish to resist. According to Tellegen, social cognitive viewpoints must explicitly incorporate a hierarchical conception and postulate that
subjects in these experimental situations are in the process of carrying out an overall or higher order plan (i.e., to respond involuntarily). Tellegen maintained that the execution of this overarching plan or strategy ought to be considered voluntary only in the sense of being the subject's highest order plan. If this framework is adopted, Tellegen argued, then a subordinate plan, or a tactic, can call for the subject's wishing to do A (resist), whereas the overarching plan at the same time calls for not doing A (responding to suggestion). According to this reasoning, the overall behavior sequence is voluntary, and the contrary but subordinate wish is nevertheless sincere.

In many respects, Tellegen's (personal communication, January 12, 1989) argument is consistent with our analysis, which underscores subjects' creative abilities to generate experiences that are consonant with overarching schemata and expectancies and with role-scripted behaviors. When situational demands or hypnotic communications call for hypnotizable subjects to interpret their experiences as involuntary, various tactics are used to produce desired effects. If we assume that when subjects are instructed to resist a suggestion, they experience a degree of conflict about responding to a suggestion versus resisting, conflicting role demands can be resolved by giving relative priority to the hypnotist's suggestion rather than to the wish to resist, particularly when the experimenter defines involuntary responding as the hallmark of a good hypnotic subject. The subject can successfully meet both experimental demands—that is, to sincerely wish to resist—and yet fail to do so by engaging in strategic behavior such as focusing attention on suggestion-related sensations and defining these sensations as indicative of the compelling power of the suggestion. By so doing, the suggestion's power overcomes the wish to resist. Indeed, the subjects' conviction that he or she sincerely wishes to resist the pull of the suggestion, while failing to resist responding, constitutes powerful affirmation that he or she is indeed a good hypnotic subject. When subjects are told that hypnotic subjects are able to successfully resist suggestions, we hypothesize that subjects use suggestion-related sensations as a cue to exert sufficient effort to resist the suggestion to overcome its pull, while defining successful resistance as consistent with hypnotic role demands.

Whether one adopts a hierarchical model to account for responding to countersuggestion or simply acknowledges that hypnotizable subjects successfully integrate and resolve hypnotic conflict along lines scripted by expectancies and contextual factors, the countersuggestion studies provide strong support for the argument that hypnotic behavior is goal directed, purposeful, and strategic. Moreover, the studies support the position that involuntariness reports are readily shaped by prehypnotic expectancies and are mediated by relationship factors. Indeed, when compared with Levitt and Baker's (Baker & Levitt, 1989; Levitt, 1986; Levitt & Baker, 1983) findings, the studies conducted in our laboratory (Lynn, Nash, Rhue, Frauman, & Sweeney, 1984) and in Spanos's (Spanos, Cobb, & Gorassini, 1985) laboratory indicate that simply providing subjects with information about what constitutes responding like a good hypnotic subject is more effective than a bribe as a means of influencing the ability to resist suggestions.

Several of the studies cited (Lynn, Nash, Rhue, Frauman, & Sweeney, 1984; Spanos, Cobb, & Gorassini, 1985) failed to generate support for Arnold's (1946) position: Hypnotizable subjects were involved in imaginings, yet resisted suggestions when resistance was perceived as appropriate in the experimental situation. Several other studies have shown that the ideomotor hypothesis does not
provide a viable account of hypnotic behavior (Kirsch, Council, & Mobayed, 1987; Zamansky, 1977; Zamansky & Clark, 1986).

Spanos, Weekes, and deGroh (1984) recently demonstrated that subjects could respond overtly opposite to suggestions while defining their responses as involuntary. The researchers informed subjects that deeply hypnotized individuals could imagine an arm movement in one direction while their unconscious caused their arms to move in the opposite direction. Even though subjects so informed moved their arms in the opposite direction, they imagined suggested effects and described their countersuggestion behavior as involuntary.

Concluding Comments

Our analysis supplements other social psychological and expectancy-based models (e.g., Barber et al., 1974; Kirsch, 1985; Sarbin & Coe, 1972; Spanos, 1986a, 1986b) in specifying social and cognitive processes that mediate hypnotic subjects' perception of the situation, their suggestion-related responses, and ultimately, their reports of involuntariness. Our analysis focuses not so much on the issue of whether involuntary experiences are real or illusory as it does on identifying multiple and interactive determinants of subjects' reports of involuntary experiences. In so doing, we highlight the interplay of situational and personal factors. How amenable rapport, expectancies, and imaginal abilities are to modification is still an open question.

Hypnotizable subjects' perceptions of involuntariness are generally consistent with their perceptions of how hypnotized subjects respond to hypnotic suggestions. Subjects' identification of their actions as involuntary is motivated largely by their desire to have the experiences called for by hypnotic communications, to please the hypnotist, and to experience modifications in consciousness and behavior. Culture-bound images and expectancies about hypnosis set the stage for the perception of goal-directed actions as involuntary. Hypnotic communications script role-relevant behaviors, reinforce preconceptions about hypnotic behaviors as happenings, and shape response expectancies and perceptions that facilitate the identification of action as involuntary. When receptive subjects interpret their suggestion-related imaginings, sensations, and responses in keeping with an occurrence schema, they are likely to experience suggestion-related involuntariness and respond successfully to suggestions. Because perceptions of involuntariness are integral to many subjects' self-appraisal as good hypnotic subjects, feelings of involuntariness bolster response expectancies and beliefs that they are hypnotized, facilitate a positive response set, and increase the likelihood of successful involuntary responding to suggestions.

Imaginative abilities may be important to the extent that imagery is easily accessible and well rehearsed in fantasy-prone subjects, for example, and therefore experienced as relatively spontaneous. However, only a minimal degree of fantasy ability is necessary for many subjects to adopt the definition of the situation called for by most suggestions (Lynn & Rhue, 1988). Nevertheless, feelings of involuntariness can be short circuited or disrupted by certain actions. For example, subjects might attend to the objective reality of the situation, have task-irrelevant thoughts, and analyze the causes of their actions. Such cognitive activity is particularly likely to be disruptive when it results in subjects' interpreting suggested events and experiences as the by-products of personal effort or naturally occurring phenomena.
The importance of subjects' adopting an overarching schema to account for hypnotic responses can be seen in research that provides subjects with a clear-cut interpretive framework for responding as a good subject while responding in the opposite direction of suggestions (Spanos et al., 1984). Yet, certain features of the hypnotic context discourage awareness and analysis of the personal and situational factors that influence hypnotic behavior. Even though subjects do not recognize that their feelings of involuntariness are a product of their own goals and understandings, even though they might not be aware of contingencies that affect their feelings, even though their sense of volitional direction and control may consist only of a peripheral awareness of directed activity, their behavior is, in fact, goal directed, purposeful, and ultimately explicable in the same terms that account for nonhypnotic behavior.

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Accession Number: 00006832-199004000-00002

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Version: rel10.5.8, SourceID 1.13281.2.32.1.0.2.197.1.4.1.5