Although there are a few dissenters (Kirsch & Lynn 1997; 1998a; 1998b; Woody & Bowers 1994; Woody & Sadler 1998), most theorists of hypnosis, whatever their other disagreements, agree that the experience of involuntariness in response to hypnotic suggestions is in some sense illusory. In Hilgard's (1977) neodissociation theory of divided consciousness, the experience of involuntariness results from the subject's lack of conscious awareness of the volitional activities required to execute the suggestion (see also Kihlstrom 1992b). From a social-psychological perspective, Sarbin and Coe (1972) identified the description of hypnotic phenomena as ""happenings" rather than "doings" as central to the hypnotic role. Similarly, Spanos (1986a; 1986b; Spanos et al. 1985) characterized reports of involuntariness as a strategy for convincing others that one was really hypnotized, and identified some of the conditions under which subjects could actually persuade themselves that such reports were true.

In fact, most of the other phenomena described at length by Wegner, such as the Chevreul pendulum, automatic writing, the Ouija board, and even facilitated communication, have this quality: behavior that is experienced by the individual as involuntary is actually voluntary in nature. Documenting this illusion would make for an interesting book, as indeed it has (Spitz 1997). But Wegner puts this evidence to a different rhetorical use – he tries to convince us, by citing examples of illusory *in*voluntary behavior, that our experience of *voluntary* behavior, in the ordinary course of everyday living, is illusory as well. Logically, of course, this does not follow. To be sure, there exist illusions of control as well (e.g., Alloy et al. 1989), but even these do not justify the strong conclusion that *all* experiences of voluntariness are illusory – which is what Wegner seems to be claiming.

Given that the evidence for an illusion of voluntariness is weak, the rationale for Wegner's claim must be found elsewhere – in theory, or perhaps in ideology. In this respect, Wegner's book can be viewed in the context of a trend in contemporary social psychology that I have come to call *the automaticity juggernaut:* the widespread embrace of the view that, even with respect to complex social cognition and behavior, we are conscious automatons whose experiences, thoughts, and actions are controlled by environmental stimuli – just as Skinner said they were (Bargh 1997; Bargh & Chartrand 1999; Bargh & Ferguson 2000; Wegner & Bargh 1998). The idea that the experience of conscious will is illusory follows naturally from this emphasis on automaticity, which has its roots in the situationism that has infected social psychology almost from its beginnings as an experimental science (Kihlstrom 2004). But based on the evidence mustered by Wegner, the "illusion of conscious will" seems now, as it did to James more than a century ago, to be an "unwarrantable impertinence."

Hypnosis and will

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Abstract: Although we are sympathetic to his central thesis about the illusion of will, having previously advanced a similar proposal, Wegner's account of hypnosis is flawed. Hypnotic behavior derives from specific suggestions that are given, rather than from the induction, of trance, and it can be observed in 90% of the population. Thus, it is very pertinent to the illusion of will. However, Wegner exaggerates the loss of subjective will in hypnosis.

Hypnosis and will. In a manuscript that we submitted to Wegner in 1995, in his capacity of associate editor of *Psychological Review,* we also reached the conclusion that "volition is not an introspected content of consciousness, but rather an interpretation." Our thesis was:

> Self-reports of intentionality . . . may be attributions or interpretations based on a priori, implicit theories of behavior and on perceptions of the stimulus situation. . . . Experiences of volition and involuntariness . . . are constructions or interpretations made possible by the high degree of automaticity that is characteristic of all complex behavior. (Kirsch & Lynn 1995)

Based on this thesis, we reached the conclusion that "behavior, including novel and intentional behavior, is initiated automatically" (Kirsch & Lynn 1999a, p. 504). Therefore, we are pleased to see such a thorough explication of this idea. Unfortunately, Wegner's discussion of hypnosis is inaccurate and misleading. The aim of this review is to correct these errors.

The phenomena of hypnosis. Hypnosis consists of two components: an induction procedure (e.g., "you are becoming hypnotized") and suggestions that are usually given after the induction (Wegner refers to these as "tests"). Up to 90% of the population respond to at least some hypnotic suggestions (Kirsch et al. 1995). Thus, hypnotic phenomena are very relevant to automaticity and the illusion of will, Wegner's "cautionary note" (Wegner 2002, p. 285) notwithstanding.

In examining these hypnotic phenomena, Wegner overestimates the role of inducing hypnosis and underestimates the importance of suggestions. Hypnotic suggestibility scales are not "indications of the success of the induction" (p. 282). These scales assess participants' responses to hypnotic suggestions. Usually, this is done after inducing hypnosis, leading Wegner to conclude that the responses are indications of "unique abilities possessed by those who are hypnotized" (p. 293). However, these responses can also be elicited without a hypnotic induction. In response to suggestions, people experience automatic movements, inhibited movement, hallucinations, pain reduction, and suggested amnesia, all without the induction of hypnosis. The effect of a hypnotic induction is to increase responsiveness to these suggestions, but only to a surprisingly small degree ("far less than the classical hypnotists would have supposed had the question ever occurred to them," wrote Clark Hull [1933, p. 298]) and only for a minority of subjects (Barber & Glass 1962; Braffman & Kirsch 1999; Hilgard & Tart 1966; Hull 1933; Spanos et al. 1985; Stam & Spanos 1980; Weitzenhoffer & Sjoberg 1961). Suggestion without hypnosis has even been found to reduce warts (DuBreuil & Spanos 1993) and control pain during surgery without anesthesia (Jones 1999).

Wegner also overestimates the degree of subjective automaticity in hypnosis, thereby reinforcing the mythology of hypnosis perpetuated in novels, movies, and stage presentations. He asserts that hypnosis involves a "giving over control to the hypnotist" (p. 271), in which "the subject may perceive a draining away of conscious will" (p. 288), so that hypnotic behavior occurs "without prior conscious thought" (p. 312) and is then not monitored. Most egregiously, he links hypnosis to the phenomenon of voodoo death. These claims are contradicted by data (Comey & Kirsch 1999; Lynn et al. 1990; Spanos 1986b) and by the way in which hypnotic suggestions are given. For example, hypnotic suggestions typically involve instructing subjects to imagine intentionally the desired response as a way of generating it (Bowers 1998), and hypnotized subjects can easily stop responding whenever they want to.

Theories of hypnosis. Wegner is incorrect in classifying our approach to hypnosis as a "faking theory." We do not view hypnotic behavior as due to faking, and neither do most of the other theorists that Wegner identified as belonging to this camp. Indeed, we have conducted research and argued vociferously against the identification of hypnosis with faking (Kirsch 1998; Kirsch & Lynn 1995; Kirsch et al. 1989; Perugini et al. 1998). The more accurate (and conventional) name for these theories is *nonstate* theory.[1]

Nonstate theorists do not deny that suggestions, in and out of hypnosis, produce changes in experience. Nor do they deny that the experience of being in a trance is produced in many subjects. Rather,

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> in response to suggestion, hypnotized subjects can display a variety of altered states of consciousness, including insensitivity to pain, selective amnesia, and hallucinations. Because these states are so striking, it was assumed for centuries that they must be due to a special or unusual condition. However, all of these altered states can be produced without the induction of hypnosis or any other special state. Instead of revealing the presence of a hypnotic trance, they disclose a normal human capacity to profoundly alter subjective experience. (Kirsch 2001, p. 795)

For this reason, there is no inconsistency between nonstate theories and data indicating brain changes accompanying the experience of hypnotic suggestions:

> Finding physiological concomitants of this sort would be consistent with all theories, including socio cognitive theory. All subjective experiences are assumed to have physiological substrates (Hyland 1985). Thus, there is no reason why this should not be true of the subjective reactions to suggestions. (Kirsch & Lynn 1995, p. 885)

Ironic processes in hypnosis. We are sympathetic to Wegner's analysis of ironic processes and have extolled its clinical implications (Kirsch & Lynn 1999a). Nevertheless, a test of his application of ironic process theory to hypnosis has produced negative results (Kirsch et al. 1999). Based on the assumption that hypnotized subjects try to prevent responses from occurring as simple voluntary acts, Ansfield and Wegner (1996) proposed that while the intentional operating process is attempting to suppress the response, the ironic monitoring processes is searching for indications of it, thereby increasing the accessibility of suggested thoughts and movements. In this way, "the hypnotic state bypasses the ironies of mental control" (Wegner 2002, p. 311). If this were the case, cognitive load should enhance responsiveness to hypnotic suggestions. In fact, it does the opposite (Kirsch et al. 1999). Instead of enhancing responsiveness, cognitive load inhibits the ability to respond to suggestion, just as it does with nonhypnotic volitional behavior. Although inconsistent with the ironic process account of hypnotic behavior, this finding is consistent with the central thesis of Wegner's book, the idea that the distinction between volitional and automatic behavior lies in the subjective judgment of the individual, rather than in fact.

NOTE

1. The mistaken idea that social cognitive theories of hypnosis are based on faking may be related to Sarbin's (1950) use of social psychological role theory to explain hypnotic behavior. It is important to note, however, that Sarbin referred to "role-taking" rather than "role-playing" to describe the determinants of hypnotic behavior and experience. People engage in multiple social roles (e.g., researcher, writer, teacher, parent, and spouse), and their behavior is altered as a function of which role they are in. These role-induced alterations in behavior occur automatically (i.e., without volitional planning) and are accompanied by corresponding alterations in experience. Thus, the effect of taking on a social role is not an indication that the person is faking. Wegner has taken on the role of a writer and we are in the role of reviewers, but we are not faking and we presume that Wegner is not faking either.

Experimental psychology cannot solve the problem of conscious will (yet we must try)

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Abstract: According to the view that humans are conscious automata, the experience of conscious will is illusory. Epistemic theories of causation, however, make room for causal will, planned behavior, and moral action.

Humans often experience a state of conscious will prior to their own actions. Yet (and by definition), they remain unaware of the nonconscious mental processes that precede both. The conjunction of precedence, consistency, and exclusivity gives rise to the strong and stubborn conviction that will can cause action. Wegner (2002) considers this conviction illusory, arguing that only the antecedent nonconscious processes are causal, whereas the belief in conscious will is epiphenomenal. The view that humans are conscious automata has a long history, as Wegner amply documents. He then reviews experimental findings that show how nonconscious events can predict actions, and how the belief in the causal power of conscious will can be strengthened or weakened. Is this evidence sufficient to validate the claim that conscious will is epiphenomenal?

Some theorists view causation in *ontic* terms, meaning that causal processes are properties of the world independent of the state of human knowledge (Salmon 1984). Other theorists view causation in *epistemic* terms, meaning that causation is a matter of inductive inferences drawn from available data (Russell 1948). Wegner's characterization of actions as having true (nonconscious) psychological causes suggests an ontic view, whereas his characterization of introspective perception of will suggest an epistemic view. As tools for making inductive inferences, psychological experiments operate within an epistemic framework, leaving ontic claims to those philosophers who wish to make them. Inferences about causation are just that: evidence-based speculations regarding how observed episodes (e.g., behavior) may be best explained. When experimenters generate such explanations, they do what humans always do: they use the cues of precedence, consistency, and exclusivity to strengthen or weaken certain ideas regarding what leads to what (Hume 1777/1900). In the epistemic view, nonconscious events are no more real than conscious events. Nonconscious events may take temporal precedence over conscious ones, and, by definition, only the experimenters know about them. This privileged access to earlier information tempts experimenters to dismiss subjective explanations on the grounds of the "We-know-more-than-you-do theory" (Krueger & Funder 2004). However, the experience of conscious will has the advantage of being closer to the time of action, and often the last event preceding an effect is seen as the most potent cause (Spellman 1997). The experience of conscious will represents the aggregated activities of antecedent nonconscious activity. Just like conscious will, nonconscious mental activity at any given level of aggregration can be discounted as being the "true cause" of action because there is always another and more molecular level of activity preceding it.

Wegner claims that chains of nonconscious causes culminate in both the perception of conscious will and overt action. The implication that conscious will is a spurious cause of action can be viewed in light of two kinds of theory. Given *regularity theories*, nonconscious events (*N*) entail both the experience of conscious will (*W*) and overt action (*A*). *W* is judged epiphenomenal because it does not cause *A*. Yet the same view implies that *W* is necessary for *A* to occur, for if *W* were denied, so would *N* (*modus tollens*), and without *N*, no *A* (unless something else causes *A*). In this view, *W* is a necessary though non-causal antecedent of *A*. *W* might still be viewed as being epiphenomenal if it had no other effects. Wegner allows such effects, however, namely a sense of morality and responsibility. With the suggestion that without *W*, "memory for the emotional consequences of our actions would not guide us in making moral choices in the future" (Wegner 2002, p. 341), the epiphenomenality hypothesis collapses. *W* re-enters the causal chain, leading people to do the right thing some of the time.

Given *probabilistic theories*, *N* makes *A* more probable regardless of *W*. The path from *N* to *A* "screens off" any effect of *W* on *A* (Reichenbach 1956). Inductive experimental research thus needs to show that the path from *W* to *A* is spurious, but the idea of proving a null hypothesis remains controversial (Krueger 2001). Nevertheless, the research Wegner cites is dedicated to controlling various *N* and showing their effects on *A*. This work is convincing inasmuch as there cannot be parallel work in which *W* is an independent variable. To allow conscious will, experimenters would have to yield control of the independent variable, and their

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