> 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

studies would no longer be experimental. Subjects cannot take control of this variable because they cannot separate their wish to test the causal power of *W* from their having or not having an intention ("Let me see if my finger lifts without me willing it").

Searle's (1983) notion of "prior intentions," as opposed to "intentions in action," gives conscious will a chance. Plans and commitments often precede overt actions with a regularity surpassing that of independent variables in laboratory experiments (cf. Wegner 2002, p. 19). Searle, who "raised his hand . . . four times in a fifteen-minute period to show he indeed had conscious will" (Wegner 2002, p. 319) might even have predicted in writing how often and when he would act. Of course, the Laplacian view of strict determinism espoused by Wegner entails that Searle's actions were fully explained by the state of the Universe (including Searle's brain) at any previous time. Singling out his conscious intentions as causes is practical and parsimonious, however, as it does not require a theory of everything.

Research such as Wegner's is valuable because it illuminates changes in the strength of association between conscious will and action. Although researchers cannot solve the mystery of human choice empirically, they must proceed as if they could, much like ordinary people must act as if they had such choice. In the words of the Talmudic sage Tarfon, "You are not obligated to complete the work, but neither are you free to abandon it."

Free will for everyone – with flaws

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Abstract: Wegner's refutation of the notion of a conscious free will is addressed to a general reader. Despite a wide ranging and instructive survey and a conclusion acceptable to current psychological thinking, it is flawed by terminological confusions and lack of attention to relevant evidence and previous psychological approaches. It is suggested that psychology best drop the term *will* altogether.

Wegner (2002) has written an important book that primarily addresses a general rather than specialist audience. Wegner dwells relatively briefly on important psychological research, for example, his brief allusion to priming studies without discussion of the pertinent implicit/explicit distinction. He touches most of the relevant (and sometimes forgotten) bases and rehearses an argument that has dominated scientific psychology for about a century. The process of addressing the general reader results in a breezy, readable approach. Since I have little quarrel with Wegner's general view of conscious will, I shall briefly summarize his major contributions, and then concentrate on a few of the topics that he has left unsaid.

First a word about terminological confusions in using terms like *mind* and *consciousness*. Thus, the "conscious mind" (Wegner 2002, p. 11) is used at one point, but elsewhere *mind* is the usual combination of human thought, perception, and conception, that is, a summary term for the mental processes. Similarly, *consciousness* is abused in such uses as "consciousness experiences" (p. 36) or "consciousness doesn't know" (p. 67), and on subsequent pages (e.g., p. 318). The empirical will is usefully defined in terms of "relationships between . . . thoughts, beliefs, intentions, plans, or other conscious psychological states and . . . subsequent actions" (p. 15). But why just *conscious* states? On page 27, the conscious qualification is left out, and in various other places proper attention is paid to the function of the multitude of unconscious mechanisms and representations that occupy cognitive psychologists.

Chapter 3 is central to the book; it starts with the "theory" that conscious will is experienced when people interpret their thoughts as the cause of action. This is surely a concise statement of the phenomenon but hardly a theory. The statement was supported in ingenious experiments (Wegner & Wheatley 1999), but Wegner threatens to throw the baby out with the bathwater when he implies that mental events can never be causal agents for thought and action. This is in conflict with a body of research that has shown since 1989 that visual and auditory imagery may in fact have such causal efficacy (see, e.g., Michelon & Zacks 2003; Pilottiet al. 2000). The following chapters delve deeply into the literature on automatism, the uses of the illusion of will, and related problems of agency, hypnosis, and many others.

There is a paucity of references to previous psychological discussions of free will. In one I must declare an interest (Mandler & Kessen 1974), but the most important omission is Westcott's 1977 paper (which also includes a number of references to other psychological discussions of volition). It is especially unfortunate that Wegner has not had occasion to include this essay because he has skipped many of Westcott's topics. Westcott surveys relevant (rather than discursive) philosophical arguments and points of view, and in his section on the psychology of free will, Westcott addresses such factors as cognitive dissonance, attitude change, and locus of control as well as various variants of decisions such as "rational decision," "snap decision," "random choice," and "coerced choice." All of these are accompanied by "experienced will." Westcott offers a flow chart of the precursors of such experienced will that combines historical and current determinants, alternatives, and cognitive activity (including attention, valuation, and criterion setting). The final result is remarkably similar to Wegner's conclusions about empirical will.

I mention the paper that Kessen and I presented in 1974 primarily in order to make an additional argument. We noted that whereas free will is a human construction rather than a fact of existence, a belief in free will is still probably a desirable state of affairs. The belief that one is free to choose from among different alternatives generates a delay in thought and action that brings more alternatives to the fore, and strengths among them may change in the light of evidence. Such a delay "is likely, though not certain, to bring some increment to the quality of the final choice" (Mandler & Kessen 1974, p. 316). We also suggested that as young children discover that their actions influence their environment, they develop a theory of personal efficacy that contributes to the belief in voluntary control. Our suggestions add in small part to Wegner's notion in Chapter 9 that the experience of free will acts to organize our experience of our own agency.

Wegner's final chapter starts with a well-argued discussion of the relationship between conscious willing and determinism, and makes interesting contributions to the advantage of conscious will in providing a sense of authorship and of achievement. Finally, while Wegner's distinction between conscious and empirical will is useful, what is missing is a disciplined discussion of the empirical will. Wegner (as well as other writers such as Westcott) leaves us with a complex menu of possible contributors to intentional, directed action – but no roadmap, no recipes. Maybe it would be best to forget about the problem of will altogether. Now that we understand what the subjective feeling of willing is about, we can return to our major problem: to understand, explain, and predict human thought and action. Will, in general, is too easily confused with conscious, illusory will. It also has unfortunate links with theories of the will associated with national socialist Germany (Mandler 2002). I would prefer to define conscious will in terms of Wegner's explanation, and get on with the work of psychology without extraneous baggage, such as attempts to define a determinist will.