stimulation was followed by varying explanations sounding like confabulations. From this meager observation Wegner concludes that the experience of will "may not be very firmly connected to the processes that produce action." That is about the extent of his discussion of brain except for three pages (182–84) on the split-brain, to which I will return; the remaining 95% of the book concerns psychological observations and arguments.

Wegner does take note of Libet's classic experiments with the readiness potential (Libet et al. 1983; cf. Libet 2003). It is quite clear that an action plan develops for some 300 milliseconds before the subject (S) is aware of the development, leaving 150 msec for the S to either abort the process or let it run to completion. At issue is not whether S's choice is determined (either materialistically or theologically); what concerns us here is whether S's choice affects the outcome. Wegner argues that 150 msec is not enough time for a choice to have an effect and that the experience of will "might just be a loose end" (p. 55). Wegner seems to consider consciousness, including will, to be epiphenomenal; for example, "the real causal mechanisms underlying behavior are never present in consciousness" (p. 97). Epiphenomenality is quite explicit in Figure 3.1 (p. 68 in the book), which shows that the train of causation of an action develops in parallel to the train of causation for awareness of the action; there is no contact between the two paths. This figure allows for no awareness of the developing action plan, contra Libet, and therefore no possibility of awareness affecting the outcome. Note that this figure is intended to describe the normal process, not the result of a lesion-induced disconnection as occurs with the alien hand (see below).

As disturbing as Wegner's dismissal of will in the Libet experiment and his equal weighting of Penfield's large data corpus with Delgado's single case, are his muddling references to the split brain. He describes Sperry's (1961) review as showing that the split-brain animal has "a capacity to do something with one side of the body but not the other" (p. 182). *Any* normal animal can do that! This is a remarkable bowdlerizing of Sperry's view of the duality of intention in the split-brain. Regarding humans, Sperry (1974) wrote: "The minor hemisphere [is] thinking, remembering, reasoning, *willing,* and emoting, all at a characteristically human level" (emphasis added).

Regarding the split-brain human, Wegner looks for support in Gazzaniga's description of an "interpreter" in the left hemisphere that rationalizes right hemisphere actions based on information unavailable to the left hemisphere. Wegner asserts that, "This theory locates the invention of intention on the left side of the brain." Wegner's partisanship leads him to misinterpret Gazzaniga, who long ago (Gazzaniga 1967) noted the disconnected right hemisphere's capacity for independent action. Although Gazzaniga has described the disconnected human right hemisphere as having less cognitive ability than a chimpanzee or even a monkey (Nass & Gazzaniga 1987), he nonetheless has consistently described its capacity for independent action (Baynes et al. 1997; Gazzaniga 1995). A capacity for intention in each hemisphere has long been recognized by split-brain animal experimenters of many nationalities and ideologies (Bogen 1977), as well as current human researchers (Zaidel & Iacoboni 2003).

Wegner's misunderstanding of the split brain is reflected in his discussion of the alien hand (AH). This term was introduced (Bogen 1979) specifically to describe the phenomenon of disclaimed but well-coordinated, apparently purposeful behavior of the left hand in right-handed split-brain patients. Thus, the AH has been ascribed to hemispheric independence due to callosal injury. The AH has also been attributed to an intrahemispheric frontal lesion disconnecting speech generation from the cortex producing the action. (A well-informed, brief word on the AH is an editorial by Goldberg [2000].)

That there is a *reality,* significantly ordered although often random, and that we can come progressively, bit by bit, to comprehend that order are basic assumptions not only of science. Much of life is our attempt to determine what is *true* or *real.* A crucial aspect of this search for truth is a better understanding of our own behavior. Wegner has amassed a wealth of examples to show how easily our cognizing can be misled. But it does not follow that our direct experiences of will are typically illusory. Indeed, Wegner ultimately reverts in his final chapter to considering will as an emotion and he allows as how "our experiences of will . . . often do correspond correctly with . . . the actual causal connection between our thought and action" (p. 327).

Calling in the Cartesian loans

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Abstract: Wegner's tactic of describing the conscious mind as if it inhabited a Cartesian Theater in the brain is a stopgap solution that needs to be redeemed by paying off these loans of comprehension. Just how does Wegner propose to recast his points?

Three quotations from Wegner's (2002) book, each not just defensible but, I think, importantly insightful, take out Cartesian loans that are now overdue.

"We can't possibly know (let alone keep track of) the tremendous number of mechanical influences on our behavior because we inhabit an extraordinarily complicated machine" (p. 27). These machines "we inhabit" simplify things for our benefit. Who or what is this "we" that inhabits the brain? A Cartesian ghost in the machine? Surely not, in spite of first appearances.

"Conscious will is particularly useful, then, as a guide to ourselves" (p. 328). Again, who or what uses this handy guide? Does one part of the brain use another part? Is it as simple as that?

"Illusory or not, conscious will is the person's guide to his or her own moral responsibility for action" (p. 341). My body is causally responsible for whatever effects emanate from it, whether it is falling down a flight of stairs, or pulling the trigger of a gun, but I, the person "inhabiting" this body, am morally responsible only for my actions. Again, who is this person and what is he doing in my body?

I have defended Wegner's tactic of temporarily indulging in these ways of speaking, and sketched a way for him to recast his points without relying on the ominous image of a Cartesian Theater in which the Self sits as Witness and Decision-Maker (Dennett 2003a; 2003b; 2003c). But I would like to see how he himself proposes to pay off these comprehension-loans, since he may have some other tricks up his sleeve.

We believe in freedom of the will so that we can learn

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Abstract: The central theoretical issue of Wegner's book is: *Why do we have the illusion of conscious will?* I suggest that learning requires belief in the autonomy of action.

> *You should believe in freedom of the will because if you have it you're right, and if you don't have it you couldn't have done otherwise anyway.*
> —Sam Buss (Lecture at University of California, San Diego, 2000)

Wegner's (2002) fascinating book argues that conscious will is like the existence of God: most everyone believes it most of the time, but it isn't so. (The simile is mine, not Wegner's.) Hence, what I take to be the central theoretical issue of the book: *Why do we*

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