

FINAL DRAFT

for Baer, Baumeister and Kaufman, eds. *Psychology and Free Will*

Daniel C. Dennett

January 28, 2007

Some observations on the psychology of thinking about free will

Do we have free will, or don't we? The problem of free will is hard, and important. Indeed, I will argue that it is one of our hardest intellectual problems, and it is hard *because* it is also one of the most important intellectual problems we face. It is our tacit or subliminal recognition of the importance of the problem that makes it so difficult.

In my graduate student days, it fell to me to forge a signature on a legal document of some significance. If you must know, a friend asked me to intercept and deposit his fellowship stipend while he was away from Oxford during the long Christmas break. In order to prevent just such junkets, the fellowship authorities included with the stipend a receipt that had to be signed and returned immediately, so they could check the dates and postmarks—and signatures. Failure to be present and accounted for when the check arrived was grounds for termination of the fellowship. Before departing for the south of France, my friend gave me several samples of his signature, which I practiced diligently, writing it well over a hundred times, until I had it just about perfect. When the check arrived at his flat, I practiced the signature another fifty times or so, then put the fatal document in front of me and proceeded to scrawl the shakiest, least convincing version of it I had ever written. My hand was trembling, my pulse was racing, and I learned at that moment that a life of crime was not for me. Fortunately, the abominable signature survived the scrutiny of the fellowship overseers so no horrible consequences ensued. In the anxious aftermath a much better strategy occurred to me. I should have asked my wife to embed the official document somewhere in a largish sheaf of papers to be signed; I could have signed them all with *élan* not knowing which was the only one that mattered (an old device, related to the practice of putting blanks in the rifles of many of the members of a firing squad. That way nobody knows whether they are committing homicide.)

I was reminded of this embarrassing episode in my past when I recently confronted the question of why so many really intelligent people write such ill-considered stuff when the topic is free will. The answer, as I will try to explain, is that in some inchoate way they sense—correctly—that it really matters, and they just don't want to contemplate the implications straightforwardly, in case the truth is too horrible to live with. This makes wishful thinking and other distortions of reason almost irresistible. If the arguments they are tempted by were somehow embedded in less forbidding contexts, they would see through them in an instant. People don't do their best work when they think the stakes are astronomically high. Some of them may even be seduced by the following quite reasonable consideration: when we consider whether free will is an illusion or reality, we are looking into an abyss. What *seems* to confront us is a plunge into nihilism and despair. Our whole reason for living is jeopardized. What to do? If it is really as important as all that, perhaps what it would be rational to do is *blow more smoke*. Whatever you do, don't try to get clear about this! Don't let the cat out of the bag. And then

there are those who see the smoke screen for what it is but then mistakenly dismiss the problem, which really is important. I will be concentrating on this dismissal here.

In 1984 I published a small book about free will, *Elbow Room: The Varieties of Free Will Worth Wanting*. In it I tried to show that these fears are reasonable but mistaken: we *can* have all the varieties of free will *worth wanting*. Philosophers have managed to define some varieties of free will that are indeed incompatible with what we think we know about the physical world from science, but these varieties, it turns out, are negligible. Nobody need lose any sleep over the fact that they are beyond our reach. The considerations I advanced for this optimistic conclusion were, I think, well grounded, but whatever the merits of my case, there were two points of concern on which I could not yet deliver all the goods. First, I needed a more detailed naturalistic theory of consciousness, since many people share the intuition of philosopher P. F. Strawson that genuine freedom depends on an agent's behavior being "intelligible in terms of conscious purposes rather than in terms only of unconscious purposes" (1962, p9-91, quoted in *Elbow Room*, p 36-7). Second, I needed a more foundational account of evolution by natural selection, since I was relying on evolutionary theory to provide the *design work* that, I claimed, distinguished genuinely free agents from less sophisticated (and hence morally incompetent) agents.

I set out to fill these gaps, in *Consciousness Explained* (1991) and *Darwin's Dangerous Idea* (1995), and my conviction that I was on the right track was bolstered by a curious pattern I observed in the critical reactions to my uncompromising materialism in both these books: my critics would begin with one technical challenge or another ("But what about this: . . . ?") and after I'd parried their point, they would come up with another, and perhaps a third or fourth, but eventually, after I had responded to their apparent satisfaction to their technical objections, they would say, in one way or another: "Very well. But *what about free will?*" This was the hidden agenda that was driving their skepticism all along: the concern that if, as I was arguing, consciousness could be explained as a material phenomenon, and evolution could explain how it, and all the competences associated with it, came to be, the resulting picture of mankind would somehow fall short of providing us with enough . . . *magic* to give us the free will we desperately want to believe we have. I use the term "magic" advisedly, inspired by a passage in Lee Siegel's excellent book on Indian street magic, *Net of Magic: Wonders and Deceptions in India*, (Chicago Univ. Press, 1991):

"I'm writing a book on magic," I explain, and I'm asked, "Real magic?" By *real magic* people mean miracles, thaumaturgical acts, and supernatural powers. "No," I answer: "Conjuring tricks, not real magic." *Real magic*, in other words, refers to the magic that is not real, while the magic that is real, that can actually be done, is *not real magic*. (p425)

It can't be *real* if its explicable as a phenomenon achieved by a bag of cheap tricks. That is just what many people claim about consciousness. Indeed, so powerful is that presupposition that there is a standard joke about my attempt to do just that: Dennett should have titled his book *Consciousness Explained Away*. It is also what many say about free will, and I'm sure this is no coincidence. So I decided I had to tackle the problem of free will again, armed with my theory of consciousness and my survey of the power of natural selection as a designing process. In my second book on free will, I tried to show that the varieties of free will worth wanting could

indeed be composed of a bag of natural tricks, products of genetic and cultural evolution. According to *Freedom Evolves* (2003), it is evolutionary biology, not (indeterministic?) physics, that accounts for free will. (A billion years ago, there was no free will on this planet, but now there is. The physics hasn't changed; the improvements in *can do* over the years had to evolve.) Once again, however, a chief source of resistance came from those who were reluctant to let go of a traditional, absolutistic variety of free will. Consider these passages from two reviews:

One wants to be what tradition has it that Eve was when she bit the apple. Perfectly free to do otherwise. So perfectly free, in fact, that even God couldn't tell which way she'd jump. (Jerry Fodor, *London Review of Books*, 5 March, 2003)

In other words, "one wants" a miracle,

"the kind of absolute free will and moral responsibility that most people want to believe in and do believe in."

as Galen Strawson (son of P.F. Strawson) said in his review in the *New York Times*, 2 March, 2003. As he went on to say, that miraculous kind of free will can't be established by a materialist. Both Fodor and Strawson insist that this is what people want, and I have to agree with them that many people do want this, but what makes them so sure people are *right* to want this? Might they be lulled or gulled by a tradition of dualism that doesn't so much *solve* the free will problem as *hide* the problem behind an impenetrable shield of mysterious stuff or *postpone* the problem indefinitely? (It's anybody's guess—and not the business of science—how mindstuff manages to generate genuinely free decisions and get them implemented by a material body. Don't ask; don't tell.)

Is free will truly incompatible with materialism—deterministic or even just mechanistic materialism? This question has been nagging ever since Darwin put forward his revolutionary theory of natural selection. Thomas Henry Huxley, known as "Darwin's bulldog" for his forthright championing of the theory of evolution by natural selection in its early days, wrote a popular piece "On the Hypothesis that Animals are Automata, and Its History," in which he confronted this dire question head-on and tried to mollify the gloomleaders (see *Elbow Room*, p7) :

I venture to offer a few remarks for the calm consideration of thoughtful persons, untrammelled by foregone conclusions, unpledged to shore-up tottering dogmas, and anxious only to know the true bearings of the case." and goes on to insist that "We are conscious automata, endowed with free will in the only intelligible sense of that much-abused term—inasmuch as in many respects we are able to do as we like. . . . (Huxley, *Fortnightly Review*, 16, pp555-80, excerpted in David Chalmers, ed., *Philosophy of Mind: Classical and Contemporary Readings*, OUP, 2002, p30)

We are able to do as we like, Huxley avers, in the sense that if we are not imprisoned or paralyzed we can act as we *choose*. But are we able to *choose* as we like—and for that matter, are we able to *like* as we like? Without these supplements, Huxley's assurances ring a bit hollow. Here is where evolution comes to our rescue with a second wave of design: cultural evolution.

The combination of genetic and cultural evolution does provide *Homo sapiens*—and only *Homo sapiens*, so far, on this planet—with precisely those features. Thanks to our enculturation, we have been endowed with perspectives that enable us (and only us) to reflect indefinitely on whether our choices are well-grounded, whether we *ought* to like what we find ourselves liking, and so forth. Even when we discover, as we sometimes do, that it is difficult or impossible for us to revise some of our likes and dislikes, at least we can inform ourselves of this, and think about ways of working around them.

It is this open-ended ability we have to deal informedly and constructively with our own grounds for, and habits of, choice that gives us a variety of free will that underwrites moral responsibility and that is inaccessible to the cleverest and most spontaneous animals.

One might think that this would be enough, that since this naturalistic variety of free will preserves and explains what really matters—our belief in our own moral responsibility, and thus the denial of nihilism—it deserves to be called *real* free will. But the tradition of “real magic” is still so strong in these discussions that many thinkers, *on both sides of the issue*, continue to muddy the waters, however inadvertently. On this occasion I am going to set aside the many tantrums thrown by those who insist on the existence of traditional (mysterious) free will since I and others have dealt with them at great length elsewhere. Instead, I will concentrate on the over-reactions to all this desperate posturing by some of my favorite thinkers.

In 2002, my friend the psychologist Daniel Wegner published his provocatively entitled book, *The Illusion of Conscious Will*. I had read the book in draft, and loved it—but objected to the title, which played into the hands of the “real magic” crowd. As I said in *Freedom Evolves*,

Recall the myth of Cupid, who flutters about on his cherubic wings making people fall in love by shooting them with his little bow and arrow. This is such a lame cartoonists’ convention that it’s hard to believe that anybody ever took any version of it seriously. But we can pretend: suppose that once upon a time there were people who believed that an invisible arrow from a flying god was a sort of inoculation that caused people to fall in love. And suppose some killjoy scientist then came along and showed them that this was simply not true: no such flying gods exist. “He’s shown that nobody ever falls in love, not *really*. The idea of falling in love is just a nice—maybe even a necessary—fiction. It never happens.” That is what some might say. Others, one hopes, would want to deny it: “No. Love is quite real, and so is falling in love. It just isn’t what people used to think it is. It’s just as good—maybe even better. True love doesn’t involve any flying gods.” The issue of free will is like this. If you are one of those who think that free will is only *really* free will if it springs from an immaterial soul that hovers happily in your brain, shooting arrows of decision into your motor cortex, then, given what *you* mean by free will, my view is that there is no free will at all. If, on the other hand, you think free will might be morally important without being supernatural, then my view is that free will is indeed real, but just not quite what you probably thought it was. (p222)

I saw Wegner as the killjoy scientist who shows that Cupid doesn’t shoot arrows and then entitles his book *The Illusion of Romantic Love*. Wegner does go on to soften the blow by

arguing that “conscious will may be an illusion, but responsible, moral action is quite real.” (p224) Our disagreement was really a matter of expository tactics, not theory. Should one insist that free, conscious will is *real* without being magic, without being what people traditionally thought it was (my line)? Or should one concede that traditional free will is an illusion—but not to worry: life still has meaning and people can and should be responsible (Wegner’s line)? The answer to this question is still not obvious, but Wegner was surprised and dismayed by some of the hostile reactions he provoked. One commentator was inspired to call him a “cryptobehaviorist” who provided “terrifying interpretations of his experiments” (Bernard Baars’ comments made at the Association for the Scientific Study of Consciousness, 7th annual meeting, Memphis, 2004). Wegner has recounted to me a variety of other panic-ridden reactions to his work.

More recently, the World Question Center on edge.org mounted its 2006 question: What is your dangerous idea? and my friend Richard Dawkins dashed off—and later regretted sending and tried unsuccessfully to retract—a piece inspired by his friend John Cleese’s hilarious scene in *Fawlty Towers* where he beats his automobile, “punishing” it for its poor performance. The image is unforgettable, but the conclusion Dawkins was tempted to draw was a *non sequitur* indeed:

Why do we vent such visceral hatred on child murderers, or on thuggish vandals, when we should simply regard them as faulty units that need fixing or replacing? Presumably because mental constructs like blame and responsibility, indeed evil and good, are built into our brains by millennia of Darwinian evolution. Assigning blame and responsibility is an aspect of the useful fiction of intentional agents that we construct in our brains as a means of short-cutting a truer analysis of what is going on in the world in which we have to live. My dangerous idea is that we shall eventually grow out of all this and even learn to laugh at it, just as we laugh at Basil Fawlty when he beats his car. But I fear it is unlikely that I shall ever reach that level of enlightenment. (This appeared on edge.org, but was subsequently withdrawn and does not appear, with the rest of the answers elicited, in John Brockman, ed., *What is your Dangerous Idea?* 2006)

What Dawkins was overlooking was the prospect that there might be some stable—indeed homeostatically maintained—middle ground in between the saints (who never need punishing) and the “faulty units” who really are so disabled that it would be as pointless a travesty to punish them as to punish Fawlty’s car. By his own admission, Dawkins can’t quite accept his own conclusion, not, I am sure, because he is insufficiently “enlightened” but because he has quite properly failed to convince himself that “blame and responsibility, indeed evil and good” are *just* “useful fictions”. Why would Dawkins, of all people, think that useful fictions were always something to outgrow? The selfish gene is a useful fiction—that is to say: it encapsulates in a well-nigh-irreplaceable *idealization* a real pattern that is otherwise indescribable. Much the same can be said of the simplifications that we rely on when we hold people responsible or call an act good or evil.

Another dear friend, Susan Blackmore, winds up her book *The Meme Machine*, (OUP) 1999, with a ringing disagreement with me about free will:

Dennett (1984) has described many versions of the idea of free will and argues that some of them are worth wanting. Unlike Dennett I neither think the ‘user illusion’ is benign, nor do I want any version of free will that ascribes it to a self that does not exist. (p237)

Her reasoning is clear, and worth quoting at length. I agree with most of it:

Benjamin chose cornflakes this morning for breakfast. Why? . . . Memes and genes together produced this behaviour in this environment. If asked, Benjamin will say that he chose the cornflakes because he likes them, or that he made a conscious decision to eat them today. But this explanation adds nothing. It is just a story Benjamin tells after the fact.

So does Benjamin have free will or not? The critical question to ask is who do you mean by Benjamin? If by “Benjamin” you mean a body and brain, then certainly Benjamin had a choice. Human beings make decisions all the time. . . . Is this sufficient for what we call free will?

I think not, because at the heart of the concept of free will lies the idea that it must be Benjamin’s conscious self who made the decision. When we think of free will we imagine that ‘I’ have it, not that this whole conglomeration of body and brain has it. Free will is when ‘I’ consciously, freely, and deliberately decide to do something, and do it. In other words ‘I’ must be the agent for it to count as free will.

But if the memetic view I have been proposing here is right, then this is nonsense, because the self that is supposed to have free will is just a story that forms part of a vast memplex, and a false story at that. . . . There is no truth in the idea of an inner self inside my body that controls the body and is conscious. Since this is false, so is the idea of my conscious self having free will. (pp236-7)

With what do I disagree? I disagree with her acquiescence (along with Wegner and Dawkins) in the traditional concept of free will, with its “inner self.” The basically Cartesian idea of the self or ego or *res cogitans* as the inner (conscious) agent is indeed a huge mistake, and therefore, as she says, any view of free will that depends on it is bankrupt. But why accept that this is “the heart” of the concept of free will? That is the concession that gives the game to the traditionalists, by letting their antiquated and now utterly unmotivated vision of the “seat” of free will capture the term. Well, what else might be the heart? Here’s a suggestion: *free will is whatever it is that gives us moral responsibility* (if we ever have it). And *that* turns out to be the very body and brain (plus friends and acquaintances, tools and crutches, . . .) that she says actually make the decisions. The key to understanding *real* free will is recognizing that it does not reside in some concentrated internal lump of specialness, but in the myriad relations and dispositions of an enculturated, socialized, interacting, acknowledging, human agent. Tradition makes the Cartesian mistake of packing all the power into the inner puppeteer who pulls the body’s strings. When we banish this inner agent, distributing its tasks throughout not just the entire brain, but the body and the “surrounding” cultural storehouse—the memes, plus a little help from our (human) friends—we don’t have to banish free will! We can see it as a phenomenon distributed in space and time as well. That was the point of my ironic formula, in *Elbow Room*

(p143), “If you make yourself really small, you can externalize virtually everything.” Don’t make yourself—your *self*—small; that’s the Cartesian error; recognize that there is a non-mysterious, and valuable, concept of a self that can be large enough to take responsibility and act morally. (In this regard, see also my discussions of Wegner’s residual Cartesianism in Dennett 2003a, 2003b, 2004.)

Dawkins, over-reacting to the foolishness of the Cartesian vision of free will and its absolutist concepts of good and evil, and moral responsibility, imagines throwing out the notions of good and evil altogether. Wegner reassures his readers that “moral action is quite real” but doesn’t try to say how this can be (if conscious will is an illusion). Like Wegner, Blackmore shrinks from abandoning the notion of moral responsibility altogether, and she ends her book with a brief and optimistic look at how the world might seem to a living human body that had abandoned the perspective of the “selfplex” altogether:

This lack of self-concern means that you (the physical person) are free to notice other people more. Compassion and empathy come naturally. . . . Perhaps the greater part of true morality is simply stopping all the harm that we normally do, rather than taking on any great and noble deeds; that is, the harm that comes from having a false sense of self. (p246)

Perhaps. And perhaps not. Is she going to jettison our systems of law and punishment? Is she going to abandon the social leverage by which we encourage people to *take* responsibility for their actions? Is she prepared to dismiss the distinction between honesty and cheating as just another myth fostered by the traditional concept of free will? Vohs and Schooler (2006) have recently published some pioneering research on the actual effect of the expression of doctrines about free will on behavior. In their first experiment, one group of students was given a passage to read from Francis Crick’s *The Astonishing Hypothesis* that “claimed that rational, thinking people (such as scientists) have long denounced the idea of free will, noting that it is instead a byproduct of the human mind.” (Vohs & Schooler, in preparation) Notice how seamlessly this statement welds the idea of free will to the idea of a magical, dualistic kind of inner chooser. No mention is made of morality or responsibility; the only idea that “rational, thinking people” have denounced is the “idea of free will.” Which idea of free will? The control group was given a passage from the same book on another topic. Participants in both groups were then given a task in which there was an opportunity to cheat—to get more money for their participation in the experiment than they would earn by abiding by the rules—and those who had read the passage denying the existence of free will cheated significantly more often than those in the control group. This is not a result that supports Blackmore’s optimism. Vohs and Schooler have yet to do the balancing experiment in which one group reads an authoritative statement that assures them that science has shown that free will is real—just not what they might have thought it was. The passage I have suggested to Schooler would be:

Scientists have established that every single action and thought that you have is caused by the current state of your brain and body, which in turn is caused by the interaction between your current environment as you experience it, your whole life history, and, of course, your initial genetic endowment.

Some are tempted to conclude from these facts that we don't really have free will, but this is a mistake. Free will in the sense that matters, in the sense that makes you responsible for your actions and that gives meaning to both your strivings and your regrets, is determined by *how* your brain deals with the reasons it finds for acting.. Philosophers have established that you can still have free will and moral responsibility when the decisions your brain arrives at are *your* decisions, based on your very own reasoning and experience, not on any brainwashing or manipulation by others. If your brain is normal, it enables you to consider and reconsider your options and values indefinitely, and to reflect on what kind of a person you want to be, and since these reflections can lead to decisions and the decisions can lead to actions, you can be the author of your deeds, and hence have free will in a very important sense.

Some people have diminished free will and responsibility through no fault of their own: their brains malfunction or they have been kept ignorant of the facts and values that a normal person knows full well, but those who are fortunate enough to have had a normal upbringing arrive at adulthood with all the free will necessary to be held accountable for their actions.

Would this, or a more effective version of it, produce a diminution of cheating compared to the control group? It will be very interesting to discover. What Vohs and Schooler, and a few other psychologists, are now embarking on is a new, empirical investigation of how *what you believe* about free will influences your behavior, a theme that I have been hammering on for decades (e.g., Dennett, 1984, 2003a). It follows directly from this that scientific investigations of free will have an environmental impact—in particular an impact on the *belief environment* (Dennett, forthcoming) that has to be taken into account. In particular, if the popularization of the results of this research leads to widespread misunderstanding of its import—which would be my interpretation of the effect Vohs and Schooler have uncovered—it could have a seriously detrimental social effect. This does not at all vindicate the traditionalists who have distorted thinking on free will for decades, but it does uncover a powerful, and not ignoble, motivation for their sometimes deliberate misrepresentation (Dennett, 2003a, forthcoming).

What are people afraid of? Perhaps they are afraid of the burgeoning of complicating conditions. This is not unreasonable. Once absolutism is abandoned, all manner of paths open up down which we might not want people walking! Consider a few of the (apparent) possibilities:

YES, we have free will, but only if we take Prozac (or some other drug) once a day for the rest of our lives.

YES, we have free will, but only if we can master the stunt of squinting whenever we feel tempted to look too closely at the machinery involved.

It's like golf: consider the golf pro's advice to keep your head down until you have completed your swing:

But how can this be good advice? The ball leaves the club head in midswing, and after it has begun its trajectory, nothing that happens on the tee can alter what trajectory. Isn't the attention to details of the swing that occur after the ball leaves the club just so much body English? Not necessarily. For it maybe that the only way to get the right thing to happen up to the moment of impact is to look ahead and fix a more distant goal, counting on one's efforts to satisfy that goal to produce bodily motions that traverse just the right space at just the right speed. One would be foolish indeed to disregard the pro's advice on the basis of the argument given above that it couldn't make any difference. It could make all the difference. Sometimes the only way to get what you really want is to try to do something else. (Dennett, 1984, p16).

What if the parallel, in free will, to keeping your head down (in golf), is believing in an afterlife? Or believing in the Old Testament God? Is *that* too steep a price to pay for free will? What if you're simply unable to muster the conviction? Have we lost our virginity for free will?

Robert Frank (1988, pp111-12) draws our attention to the

practice whereby many affluent couples in New York City recruit governesses for their children Apparently experience has persuaded many New Yorkers that the local labor market is not a good place to recruit people who perform reliably without supervision.

The solution many of these couples have adopted is to advertise for governesses in Salt Lake City newspapers. they have discovered that persons raised in the Mormon tradition are trustworthy to a degree that the average New Yorker is not.

There are other unsettling prospects to explore:

YES, we have free will, but not everybody does. In fact, roughly ten percent of the adult "healthy" population achieves the intuitively reasonable level of moral competence free will demands. Most people are too ill-controlled to be held responsible, and ought to be kept in a state of permanent childhood, indulged as best we can manage so that they don't become too unruly.

YES, we have free will—most of us—but each of us is a sort of checkerboard of moral competence and incompetence. Trust alcoholic Adam with the lives of your children—unless he's fallen off the wagon, which might happen at any time. Trust *idée fixe* Irene unless the topic is abortion; she just stops thinking when that issue is raised. Trust adults in general about cooperation and integrity so long as they haven't taken too many economics courses!

In fact, of course, we already know that there are grounds for such subversive abridgements of our brittle, absolutistic doctrines of free will. We already know, as Tori McGeer has put it (personal correspondence), that free will is not something that comes for free. We know it because if we have any self-knowledge to speak of, we discover such weaknesses in ourselves. And we discover them in our loved ones, and—hardest of all to accept—we discover them in our enemies, whom we are loath to let off the hook. We ought to admit, up front, that

one of our strongest unspoken motivations for upholding something close to the traditional concept of free will is our desire to see the world's villains "get what they deserve." And surely they *do* deserve our condemnation, our criticism, and—when we have a sound system of laws in place—punishment. A world without punishment is not a world any of us would want to live in.

We need to coordinate our investigations of the role of censure and punishment (and praise and reward) in society with our investigations of the complexities of human motivation, and the role of beliefs—and beliefs in beliefs (Dennett, 2006)—in shaping the perspectives of ourselves and our fellow citizens. This is going to be a ticklish task, in which missteps might be painfully amplified. No wonder our hands shake when we get to work on it.

References

Blackmore, Susan, 1999, *The Meme Machine*, Oxford: Oxford Univ. Press.

Dawkins, Richard, 2006, response to "What is your Dangerous Idea?" on edge.org, and also in John Brockman, ed., *What is your Dangerous Idea?* 2006.

Dennett, Daniel C. 1984, *Elbow Room: the Varieties of Free Will Worth Wanting*, Cambridge, MA: MIT Press.

-----2003a, *Freedom Evolves*, New York: Viking Penguin.

-----2003b, "The Self as a Responding—and Responsible—Artifact," *Annals New York Academy of Sciences* 1001: 39-50.

-----2003c., "Making Ourselves at Home in Our Machines: The Illusion of Conscious Will," (review of Wegner, 2002) in *Journal of Mathematical Psychology* **47**. 101-104.

-----2004, "Calling in the Cartesian loans" *Behavioral and Brain Sciences*

-----2006, *Breaking the Spell: Religion as a Natural Phenomenon*, New York: Viking Penguin.

-----forthcoming, "How to Protect Human Dignity from Science," in a volume on human dignity, ed. A. Schulman, commissioned by the Presidents Council on Bioethics.

Fodor, Jerry, 2003, review of *Freedom Evolves*.

Frank, Robert, 1988, *Passions Within Reason: the Strategic Role of the Emotions*, New York: Norton.

Strawson, Galen, 2003, review of *Freedom Evolves*.

Strawson, P. F. 1962, "Freedom and Resentment," *Proc. of the British Academy*, (reprinted in Strawson, ed., 1968

Strawson, P. F., 1968, *Studies in the Philosophy of Thought and Action*, Oxford: Oxford University Press.

Vohs, K.D., and J. Schooler, 2006, ??? ref'd to in V&S in preparation

Vohs, K.D. & Schooler, J.W. (in preparation). Effects of free will and determinism beliefs on moral behaviour. Unpublished manuscript, University of Minnesota, Minneapolis, MN.

Wegner, Daniel , 2002. *The Illusion of Conscious Will*, Cambridge, MA: MIT Press.