
REFLECTIONS

The Fruits and Fallacies of Fred Skinner on Freedom

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Under the influence of Marx and Engels, socialist visionaries eager to transform society held that it could not be done by persuasion; it would require brute force. Destruction of the entrenched instruments of capitalist oppression and exploitation would necessitate violent revolution, which would need to be followed by ruthless measures to suppress reaction. Aware since the demise of the Soviet Union of the horrors—150 million dead and counting—that resulted from the best-known efforts to put this once orthodox belief in practice,¹ progressive leftists now prefer to seek their ends using more cunning and less harsh measures than simply commanding and compelling the behaviors desired.²

In tune with this revised attitude, Cass Sunstein—erstwhile University of Chicago colleague and “regulation czar” of President Barack Obama— and Richard Thaler (2008) have recently advocated using economic incentives and other means to “nudge” rather than push in the direction we must go if we are to realize their progressive purposes. Peter Ubel (2009) is similarly convinced that a market system of medical care can be bettered and its costs reduced by instituting government regulations contrived to foster, but not force, patients to learn healthier practices. The idea is to induce people to do what is good for them by making the alternatives less convenient or more expensive. Many politicians, including most prominently Mayor Michael Bloomberg of New York City, are eager to enact this pernicious but insidious idea.

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1. For part of the story of these horrors, see Conquest 2008, which treats mass murder in Russia, but not in China, Cambodia, North Korea, or other Communist hellholes.

2. For a fascinating history of this reversal in socialist doctrine, see Muravchik 2002.

Where did this idea come from? One of its most influential sources and articulate apologists was B. F. Skinner, one of the dominant psychologists of the middle half of the twentieth century. The central contention of Skinner's celebrated and copious writing was the need to control conduct without using coercion. On the grounds that reward is not only less objectionable but also more effective than punishment in inculcating desirable behavior, Skinner's 1971 manifesto *Beyond Freedom and Dignity* announced hopefully that "it should be possible to design a world in which behavior likely to be punished never occurs" ([1971] 1972, 66).³ Sunstein, Thaler, and Ubel evidently share this millenarian hope.

This essay is a libertarian critique of Skinner's hopeful manifesto, which has been called one of the one hundred most influential books ever written (Seymour-Smith 1998). Its author's once famous name has now largely faded from public view, so the reader might wonder whether the time for such a critique has passed.⁴ As just noted, however, Skinner's paternalistic ideals are still very much with us. Furthermore, there is no expiration date on the deep-seated fallacies in his reprise of the perennial proposal to give control of the entire social order to a Gnostic elite. So a fresh and detailed delineation of the errors in Skinner's thinking is in order.

Before Skinner's fallacies can be exposed, however, his reasoning must first be summarized.

A Technology of Behavior

Skinner begins his argument by announcing a need to create and deploy "a technology of behavior," a set of scientifically based procedures for controlling the choices people make (p. 5). To this end, he had already spent many years studying the behavior of rats and pigeons in the laboratories of the Universities of Minnesota and Harvard. Carefully designed and widely imitated, these studies suggested methods that are still being used beneficially in education, child rearing, psychotherapy, personnel management, merchandising, and other pursuits. It was a notable achievement, one worthy of the celebration it received and not to be sneered at now. The problem with Skinner lies elsewhere.

Inspired by his success in the laboratory but, like other followers of the progressive philosopher John Dewey, alarmed by the growing size of the world's population, by fear of nuclear Armageddon, by changes in the natural environment, and by a deteriorating educational system, Skinner increasingly turned himself from laboratory experimenter into aspiring social reformer (pp. 3, 138). Writing a best-selling book

3. Subsequent citations to Skinner [1971] 1972 give page numbers only. Many of the ideas developed in *Beyond Freedom and Dignity* were introduced in Skinner's 1953 textbook *Science and Human Behavior* and in his 1948 book *Walden II*, a narrative portrayal of the Owenite utopia he envisioned. All three books were reprinted numerous times and still have devoted followers.

4. For a timelier critique from a different point of view, see Chomsky 1971.

in a popular style peppered with a technical idiolect, he declared that “we need to make vast changes in human behavior” if civilization is to survive (pp. 4, 175). Recognizing that the control required would limit personal freedom, he became moral philosopher and declared that freedom is not all it is thought to be, nor is the dignity that goes with it.

In fact, Skinner said, the popular idea of freedom is a muddle, and so is the related notion of personal responsibility (p. 16). The only freedom worth having is freedom from “aversive stimuli” (p. 27). Belief in any other so-called freedom rests on the prescientific idea that human actions are the uncaused doings of “autonomous man,” an invisible person within us who makes choices for us that are independent of our circumstances (p. 19). To construe behavior as the work of such unmoved movers is, however, not to explain it, but to proclaim it miraculous (p. 200). Hence, “[a] scientific analysis shifts the credit as well as the blame to the environment” (p. 21).

Having decided that our behavior is already controlled, Skinner went on to say that “the real issue”—his favorite phrase when he wanted to beg a question or change the subject—was not *whether* to control, but what *kinds* of controls to prefer (p. 21). Moreover, he thought he knew the answer. In his idiolect, we need an environment in which negative reinforcers are replaced by positive (p. 33). In plain English, what is wanted is a social order in which the carrot replaces the stick, censure gives way to praise, and punishment of bad behavior is displaced by reward of good. Who would design this society? Experts in the science of behavior—in other words, people like Skinner.

This completes my summary of Skinner’s argument. Now to identify the fallacies in it. We shall see that his basic error was misuse of the word *control*.

Control

Experimental scientists favor *controls*, efforts to hold constant all variables but one, the independent variable, in order to determine its effect on a second variable, the dependent variable. Hence, the seventeenth-century chemist Robert Boyle held the volume of a gas constant while increasing its temperature in order to measure the effect on pressure. Skinner’s experiments consisted in keeping a pigeon or rat in a box under constant conditions while altering the frequency and timing of rewards, usually a pellet of food, in order to determine the effect on the animal’s rate and persistence of responding, with a peck of a disc or a press of a lever, to a predetermined stimulus, usually a light or bell. By thus controlling the animal’s environment, Skinner could shape and control its behavior.

Boyle’s and Skinner’s experiments were *artificially contrived* events, as are all procedures properly described as scientific experiments. In the context of such deliberate contrivance, talk of *controls* has a precise meaning. Outside of experimental settings, however, it becomes less precise. Scientists do sometimes speak with deliberate paradox of *natural experiments*, using the term to mean situations in which,

without the intervention of an experimenter, all factors except one appear to remain constant with corresponding effects on a second factor. By definition, however, nobody in these naturally occurring situations is *in control*, and nothing is *under control*. So although it is correct in these contexts to speak of *causes*, it is wrong to call them *controls*. Where there is nobody in control, there literally are no controls.

Yet Skinner resolutely substituted the word *control* for the word *cause* at every opportunity. For him, all causes of behavior, natural or artificial, were controls on it. Behavior was now a function of or an effect of the controls on it. The aim of science was just to discover and exploit these controls. If you had a reason for doing something, it was a control on your behavior. An influence on you counted as a control. And so on. Did this way of talking equate the natural environment to a laboratory setting? Yes, but Skinner saw nothing odd about that. Because “[a] culture is very much like the controlled space used in the analysis of behavior,” he thought talking of controls was a more up-to-date and precise way to talk of causes (p. 153).⁵

Unhappily, it was not. In workaday speech, the only thing normally counted as control of behavior is *restraints or constraints put on it by other agents*; freedom is simply the absence of such artificially imposed restraints. Skinner’s uses of the words *control* and *freedom* were therefore indisputably metaphorical. Yet, in the haughty fashion of *Alice in Wonderland*’s Humpty Dumpty, he blithely (and astonishingly) dismissed as “a metaphor and not a very good one” the usual definition of freedom as “lack of resistance or restraint” (p. 60).

Charity requires that a writer be given considerable latitude, but his reader is entitled to object when the result becomes Orwellian, as it does when basic distinctions are ignored and disputed questions are begged using ordinary words in extraordinary ways.⁶ As Abe Lincoln liked to observe, you cannot give a dog an extra leg by defining a dog as a five-legged animal. Likewise, you cannot make every cause of behavior be a controlling agent by calling it one, nor can you prove the unreality or undesirability of freedom by redefining it as uncaused and so unintelligible behavior. All you do by such means is foster confusion.

To cut through the confusion, consider a recently captured and corralled horse. Although the horse’s behavior in the wild was unarguably an effect of the things in its environment, it was before its capture entirely free in the clear and customary sense that no person prevented it from roaming the plains and doing as it liked. Its untamed behavior certainly had *causes*, but these causes did not diminish its freedom. Only after the horse’s capture did it become a subject of controls, for although the frightened creature would not be *under control* until it had been duly trained, it would at least be subject to requirements to do not what *it* liked, but what its

5. Because Skinner’s obsessive use of the word *control* is ubiquitous throughout *Beyond Freedom and Dignity*, I have not cited specific instances. To find some, just turn to any page.

6. As Orwell understood, there is a morality for language: you must not use it in ways likely to mislead or confuse.

owner liked, which would make all the difference. *Causation* of the horse's behavior by an impersonal environment had been consistent with its being free, but *control* by a human being is not.

To see how thoroughly Skinner befuddled this distinction, consider his reply to the critic and naturalist Joseph Wood Krutch. Admitting that behavior is sometimes *predictable*, Krutch had explained that predictability is not always proof of *compulsion* and offered some illustrations. To these examples, Skinner replied, "But he can scarcely mean that those who go to the seashore do not go for a good reason, or that circumstances in the life of a suicide do not have some bearing on the fact that he jumps off a bridge. The distinction is tenable only so long as a word like 'compel' suggests a particularly conspicuous and forcible mode of control" (p. 21).

The best that can be said for this dismissive remark is that it missed Krutch's point, which was that it is a misuse of the word to count as compulsion every influence on behavior. By disregarding this point while continuing to describe all causes as controls, including causes involving no controlling agent, Skinner begged the very question under dispute—whether there can be such a thing as freedom. With verbal devices like that, you can prove that dogs have five legs or six.

For another illustration of the point, consider Skinner's critique of the "literature of freedom." He quoted three authors—J. S. Mill, Gottfried Leibnitz, and Voltaire—as equating freedom with *doing what one pleases* (p. 37).⁷ Skinner's comment is that this equation reduced freedom to a feeling of pleasure, revealing its irrelevance to an understanding of behavior—as if the aim had been specifying causes rather than defining a word.⁸ Here was not only misdirection, but also Freudian projection. It was not Mill and the others, but Skinner, who in the course of *belittling* freedom declared that "[a] person escapes from or destroys the power of a controller in order to *feel* free" (p. 32, emphasis added).

This was a telling choice of words. Did Skinner believe that a slave escapes from his master not to *be* free, but merely to *feel* free? Then he missed the point again. When freedom is defined as "doing what you please," the phrase is elliptical for "being *allowed* to do what pleases *you* rather than *required* to do what pleases *somebody else*." The issue is not the pleasure, but who is to have it, and this is a question of fact, not feeling. Whatever it might mean to *feel* free, it is surely not the same thing as actually *being* free.

If you doubt it, recall our bucking bronco. Although we can assume that it dislikes its new condition, its loss of freedom consists not in its subjective displeasure, but in its objective circumstances. If well treated, the horse might become content with its new surroundings, but its change in attitude will not make it free again. Only

7. There is also a reference to Jean-Jacques Rousseau, whom Skinner mistakenly calls a proponent of liberty (p. 40). For a contrary estimation of Rousseau, see Hocutt 2003.

8. Changing the subject by dismissing somebody's definition as no explanation of behavior was one of Skinner's favorite and least endearing tropes.

escaping or being turned loose will do that. Likewise, what will make a man free is not his state of mind, but *the treatment of him by other human beings*. The Stoic slave and philosopher Epictetus *felt* free. In fact, he declared that he *was* free because he controlled his own thoughts, if not also his own conduct. But as even Skinner acknowledges, a contented and free-thinking slave is still a slave (p. 40). Must one do the bidding of another? Then one is not free, no matter how one feels about it.⁹

By contrast, a man permitted to do as he chooses is free even if he feels bound. The uxorious protagonist in Somerset Maugham's *Of Human Bondage* feels controlled by his obsession for his beloved. But although he is besotted by her, he is not her slave, merely her pathologically devoted lap dog. That is just as degrading, but it is a different thing. Those who take literally the babble about "psychological compulsions" obscure this difference, and Skinner obscures it when he says that the only thing objectionable about slavery is its connotation of aversive controls (p. 26). Most people would object to being made the slaves of even a kind and generous master who never used the whip or the sweatbox on them.

As a general rule, human beings are so constituted as to want to pursue ways of life not dictated by others but chosen to suit their own preferences. We all certainly dislike aversive stimuli, but perhaps most of us have an even greater dislike of being controlled; indeed, we find *it* aversive. This attitude can sometimes be imprudent, but it has clear social value and an evolutionary explanation. When we can look after ourselves, we are less of a burden to our keepers. That fact enabled our prehistoric ancestors to spend less time and energy caring for their maturing offspring and more looking for food or having new offspring.

When Skinner turned himself from laboratory experimenter into moral visionary, he forgot—or chose to ignore—the important distinction between natural causes and artificial controls.¹⁰ This was a mistake.

Responsibility

Having made that mistake, Skinner went on to build on it an argument against what he called *dignity*, meaning responsibility for one's conduct. To help us locate the fallacies in this argument, we may first represent it as a sorites.

- (a) All our choices are caused.
- (b) So no choice is freely made.

9. The same can be said for certain groups of women today. That many Muslim women generally appear to be content with their subordination does not mean that they are free to ignore or defy their men, merely that they are accustomed to their subjection, which does not constitute freedom.

10. Skinner did eventually acknowledge a "difference between contrived and natural conditions" but declared it "not a serious one" (p. 158). In other words, he did not think it *important*, so chose to disregard its *reality*.

- (c) A person is responsible only for her freely made choices.
- (d) So no person is responsible for her choices.
- (e) The environment makes all of our choices for us.
- (f) So responsibility for our choices belongs to the environment.¹¹

Postulate (a) is determinism, which was for Skinner the fundamental principle of scientific thought. In his view, denying this principle was tantamount to asserting the reality of miracles, events that fall outside the scope of science because they surpass human comprehension. But that we do not presently understand something does not prove that we never shall, and the history of science is a story of the discovery of the causes of things previously thought wholly inexplicable. For this reason, Skinner preferred a partially confirmed confidence in the prospects of science to an unconfirmed faith in things admitted to be unintelligible.

The problem, then, is not that postulate (a) is demonstrably false, but that it does not yield conclusion (b). As explained in the preceding section, an agent's behavior is free *unless controlled by other agents*. But not all behavior is so controlled. Therefore, (b) must count as false and the inference to it as invalid.

That brings us to postulate (c). Skinner nowhere makes this postulate explicit, but his argument for conclusion (d) depends on accepting it, for the latter argument amounts to saying that because an agent's behavior is controlled by her environment, she deserves no credit or blame for it. But this inference depends on false (b), and so it is also fallacious. To repeat, causation does not always constitute control. So Skinner's case against personal responsibility fails with his case against freedom.

With that much review, we come to final postulate (e), the proposition that the environment "selects" our choices for us by "punishing" good behavior and "rewarding" bad (p. 16), which, Skinner believed, yields conclusion (f): "It is the environment which is 'responsible' for the objectional [*sic*] behavior, and it is the environment, not some attribute of the individual, which must be changed" (p. 74). He meant every word literally.

The problem with this way of talking is simply that the environment is not a person. Mama, who *is* a person, can control Junior's diet by selecting the foods he eats and punish him by taking away his dessert, but the environment is not Mama and cannot literally *do* anything, much less *select* our choices for us. Nor, because it is not an agent, can it literally *punish* or *reward* us and so literally be *responsible* for what we do.

Furthermore, because X is a part of Y's environment but not of her own, "the environment" varies with each of us. If truth be told, "the environment" is a metaphysical fiction. There is your environment and my environment; there is the past

11. Skinner's commitment to all but the last two statements has already been documented. The last two are documented later in this essay.

environment and the present environment; there is the physical environment and the social environment; but there is no such determinate entity as “the environment.” So attributing everything to it is vacuous. What explains everything explains nothing.¹²

Autonomous man, Skinner’s own candidate for a vacuous fiction, was ironically also the product of an equally preposterous attempt to assign responsibility for conduct to something besides its agent.¹³ Plato (1961) made this attempt when he declared that within us is an invisible psyche that makes our choices for us. These choices are free when the psyche is under the gentle counsel of reason, but we become “slaves to passion” when the psyche accedes to the imperious dictates of irrational desires. Plato, who was also a poet, thought he was explaining self-control, but as Thomas Hobbes ([1651] 1958) would point out, Plato’s theory merely personified desires, making them coercive agents, which was good poetry but bad philosophy.

Plato’s unscientific thinking would eventually spawn the idea that when reason fails us, it is because a demon has taken control. Belief in demon possession has waned with the progress of science, but a relic of this ancient superstition sometimes persists in poorly conceived talk of mental disease and defect. When the latter are defined in terms of behavioral symptoms alone, without reference to their neurophysiologic underpinnings, invoking them amounts merely to declaring that some people behave crazily or ineptly because they are crazy or inept, which is indisputably true but does not identify the causes of their craziness or ineptitude.¹⁴

Skinner condemned such circular explanations as useless, and he was right to do so. But he merely added to the confusion when he tried to shift responsibility from the agent to her environment. As John Staddon (1999) argues, the relevant issue when assessing responsibility is the agent’s ability to learn better behavior. But some people can, and some cannot. With all due respect to Skinner, then, responsibility depends on *individual differences*, not on an undifferentiated environment. Autonomous man has nothing to do with it.

By now it is surely clear that Skinner’s conflation of causation with control caused him not only to misunderstand freedom, but also to overlook the normative requirements for responsibility. As seen in the next section, Skinner added still another error to his toxic brew when he went on to argue that although there is no such thing as either freedom or responsibility, there ought to be even less of them than there is.

12. Skinner’s definition of “the environment” is also deeply incoherent. In his lexicon, “the environment” denotes “any event in the universe capable of affecting the organism,” including events “within the organism’s own skin” (1953, 257). He ignores the fact that the word correctly denotes only an entity’s *surroundings*.

13. It is revealing that Skinner never uses the word *agent*, preferring *organism* instead. Who could blame a mere “organism” for maladaptive responses or conceive of crediting one for achievements?

14. The precise error in these “soporific virtue” explanations is that mental disease and defect, which are merely traits, are thought of as *causes*. We’ll come back to this.

Dictatorship?

The longest chapter in *Beyond Freedom and Dignity* is “The Design of a Culture.” It is preceded by the chapter “The Evolution of a Culture,” in which Skinner explains that practices that come into being and change in the usual adventitious way often end up causing the entire society to fail (p. 98). To improve prospects for survival, Skinner thought we should replace spontaneous orders with cultures deliberately designed by experts.¹⁵

What title would these experts have? *Dictator* is a harsh word, and Skinner nowhere uses it. But control implies a *controller* and design a *designer*, labels that Skinner prefers to milder alternatives such as *adviser* and *counselor* (pp. 168, 151). And although he never says precisely what powers his controllers are to have, he does aver that the need will be “more intentional control, not less” (p. 177). After all, if the world *were* a laboratory, it would be poorly controlled if only partially controlled. Therefore, Skinner never mentions limits. His controllers were to manage all matters large and small.

Skinner did pause to admit that “[a] science of behavior is not ready to solve all our problems” (p. 160) and that “[p]erhaps we cannot now design a successful culture as a whole, but we can design better practices in piecemeal fashion” (p. 156). These concessions suggest a modest program for identifying and addressing problems for which Skinner’s experts will “know how to look for a solution” (p. 161). No sensible person could object to such a limited program. The trouble is, having mentioned it, Skinner immediately dismissed it and went back to waving the flag for the dubious project of redesigning the entire culture using a plan that would have to be created and implemented by a central authority.

It is, however, one thing to improve this or that practice as need arises and as methods make possible; it is another to undertake reform of an entire culture according to a preconceived plan. In fact, the two projects are incompatible. The first would be carried out from the bottom up by the people themselves voluntarily using whatever expertise might be on offer to solve whatever problems they wanted to solve. The second would involve top-down governance by people who had a free hand to impose their ideas and wishes on docile subjects. In short, the first would be a free society, the second a controlled one.

But never fear. If Skinner’s controllers do create despotism, it will be the sort that Alexis de Tocqueville ([1835/1840] 2000) called “mild despotism”. Skinner takes great pains to assure us that his controllers will eschew aversive measures (p. 62).¹⁶

15. “Spontaneous order” was Friedrich Hayek’s (1988) term for social orders that grow without central planning out of the intercourse of human beings trying to influence each other to behave in ways they all can accept.

16. One of Skinner’s core beliefs was that punishment should be avoided because it suppresses undesired behavior only temporarily while reinforcing such unwanted behaviors as avoidance and aggression. For analysis and criticism of this tenet, see Staddon 1999.

As his disciples, they will use nothing but benign means to secure nothing but welcome ends, thereby creating the best of all possible worlds. In a nutshell, that was the optimistic Skinner's expectation and his entire plan.

This Panglossian plan left three enormous problems unsolved. First, granting that Skinner's controllers would themselves prefer to be benignly treated, it would be unwise to ignore the fact that many a political order has been run very effectively on torture, terror, and murder.

Second, as Skinner acknowledges, even positive reinforcers can be abused. In illustration, Skinner quotes a charge by the Goncourt brothers that the rulers of France promoted pornography to distract a restive population from its political discontents and "tame it with masturbation" (p. 34). He could also have mentioned the Roman use of bread and circuses to the same end or, to use a fictional example, the fact that the rulers in Aldous Huxley's *Brave New World* made sure to supply their subjects with plenty of soma.

Finally, as we know from common observation confirmed by Skinner's own experiments, many reinforcers depend for their effectiveness on prior deprivation. Thus, food is more reinforcing to a hungry animal than to one recently fed. This fact opens up horrific prospects for controlling a population by starving a portion of it, as in the triply misnamed People's Democratic Republic of Korea. That the benevolent Skinner would have disapproved of such cruel measures is no guarantee that his philosophy would rule them out.

Recognition that even a scientific technology of behavior could be misused never diminished Skinner's enthusiasm for that technology. Nor did it prevent him from disparaging those who feared misuse (p. 161). In his opinion, the disasters that these "Cassandras" and "bitter" libertarians dreaded could be prevented simply by teaching prospective controllers to prefer behaving in ways that were farsighted and altruistic (p. 150). For him, the problem was solvable by using the right techniques (p. 177).

That this sanguine but sketchy plan was the best Skinner could offer means that his case for a utopia designed and run by a Gnostic elite ultimately rested on a single flimsy reed—the fact that undesigned and unmanaged societies often fail. In the end, it was solely on this thin basis that he urged us to submit to systematic institutional regulation of the social order. But that things would be made better by these dubious means is not proved, merely assumed.

Here is one reason to think Skinner's assumption untrue: as Friedrich Hayek (1945) has shown, no group of experts, however learned, can know how to meet all our needs.¹⁷ Consider the simple need for food. Skinner's behavior analysts would certainly know of this need. However, not being nutritionists or census takers, they

17. The point emphasized by Hayek (1945) and James Otteson (2010) is that although scientists might know the relevant principles, they cannot know the necessary particulars. Because the particulars are local and temporal, they can be known only by particular persons on the site at particular times.

would not know which of us needs which food most; not being agronomists, they would not know where best to produce it; not being farmers, they would not know when to plant it or how to cultivate it; not being experts at storage, they would not know how to preserve it from rot; and not being shippers, they would not know how to distribute it economically and efficiently. These problems are solved admirably, however, by a market free except for regulations prohibiting force and fraud.

Supplying a populace with food is just one problem. Multiply that one by the many other problems Skinner's managers would need to solve, and you will get some idea of the magnitude of the enormous task they would face. They simply cannot know all they would need to know to direct everybody's fine-grained behavior toward the most desirable ends. Nobody can. Could a framework be set up in which specialized experts brought their knowledge to bear on the solution of particular problems? No. As Hayek (1945) had learned from Ludwig von Mises, efficient production and distribution of goods requires a pricing system responsive to supply and demand in a free market, not prices and quotas imposed from above on the basis of a priori assumptions.

There is a second reason to be skeptical of Skinner's utopianism. Even if we could assume that his controllers can know all the fine details they would need to know, we have no assurance that they would prefer to use their knowledge for our benefit rather than theirs. On the contrary, given the parlous history of political orders, we have reason to doubt it. Rulers inevitably have preferences that are in conflict with the preferences of those they rule (Staddon 2012). Even in a democracy, those in charge sometimes seek ends that the citizenry, or a considerable part of it, do not desire and do not like. Granting any group unlimited powers would therefore be not merely inadvisable, but predictably disastrous.

Why did Skinner not see this? Ad hominem analysis would be as otiose here as elsewhere, but perhaps two hypotheses may be permitted. First, Skinner knew that his own intentions were good. By all accounts, he genuinely wanted to promote not just his personal welfare, but the well-being of mankind generally. He also hated misery and cruelty, so he resolved to minimize them. The ambition was admirable, but similar benevolence cannot be expected from everyone who might pretend it. We do well to remember that few politicians are saints.

Second, Skinner was a man with a hammer—positive reinforcement—to whom every problem looked like a nail. So he naively thought improved technique was all that would be required. Blinkered by his desire for control and his faith in the potential for a technology of behavior, he greatly underestimated the knowledge that would be needed to manage anything as complex as a large industrialized society such as our own, and he greatly overestimated behavioral scientists' capacity to acquire that knowledge. But just as few politicians are saints, few are sages.

As individuals trying to solve problems created for us by the behavior of other individuals with whom we interact, we have many uses for the advice and counsel

of experts in the techniques of behavior modification and control that Skinner and his followers have developed so carefully, but we don't need no steenkin' dictators.

Explanation

Skinner rejected the concepts of freedom and dignity because he thought they presupposed belief in "autonomous man." In the final chapter of *Beyond Freedom and Dignity*, "What Is Man?" he rejected the psychology of individual differences and the concept of human nature for the same reason. Clearly, he saw autonomous man lurking in every shadow.

Skinner's indictment of this mythical creature consisted mainly in heaping scorn on the commonplace practice of explaining behavior by referring to personal traits, dispositions, beliefs, perceptions, abilities, emotions, or moods. In this vein, Skinner advised us to avoid saying that people eat because they are hungry, strike out because they are angry, learn readily because they are intelligent, desire status because they are ambitious, or anything else of the same sort.¹⁸ Instead, we are to say that people eat because they have been deprived of food, strike out because their efforts have been frustrated, learn easily because they are well taught, and so on.

These dichotomies are false. By positing them, Skinner was trying to force a choice between explanations that are not contrary but complementary. His reason was that some explanations go in circles. For example, "X is eating because he is hungry," when understood behaviorally, just means "X is eating because he is disposed to eat."¹⁹ To say something more informative, you have to break out of this circle to find an environmental cause: food deprivation. His point was correct as far as it went, but he overlooked something important. "X is eating because he is hungry" implies that X is not eating out of boredom, politeness, or a desire to win a contest; thus, it is not always quite as empty a statement as Skinner thought.

Logicians call Skinner's error a *category mistake*, meaning an assignment to one grammatical category statements that belong to another. Skinner, who had majored in English, was aware of this error but thought it had been made by those he was criticizing. So in *Science and Human Behavior*, he explained that although it might be harmless to describe someone as intelligent, we should avoid referring to her intelligence, for by changing from the adjective to the corresponding noun, we risk reifying a mysterious stuff called intelligence and treating it as a cause (1953, 202).

Again, the premise is correct, but the lesson is not. Granted, intelligence is not a thing, merely a trait. Grant, too, that it should not be construed as a *cause*. The fact remains: an intelligent person learns more quickly than an unintelligent one; and

18. Not all of these examples are Skinner's, but examples of this same logical sort are frequent in his text; they are, in fact, his most characteristic form of argument. See pages 14, 30, 70, 72, 74, 82, 108, 110, 113, 116, 119 (several instances), 125, 188, and 193 (several more) in *Beyond Freedom and Dignity*.

19. This reasoning is spelled out in Skinner 1953.

although saying so won't identify the *cause* of her learning, it will in a different sense of the word *explain* why she learns faster. Hence, IQ tests are useful—as, for similar reasons, are personality inventories, which enable identification of people likely to behave in certain ways. If you are hiring a salesman, it helps to know that Jones is an introvert, though one should never be so foolish as to think that Jones's introversion *causes* his shyness.

For a less contentious example from another science, consider magnetism. Grant that it would be a mistake to think of magnetism as an entity and cause rather than a trait or attribute. Despite that, we would conjoin a falsehood with a truth to say in Skinner fashion that magnetic bars attract iron *not* because they are magnetic, *but* because they have had electricity shot through them. The truth is, rather, that they attract iron *because* they are magnetic, *and* they are magnetic because they have had electricity shot through them. We needn't choose between these statements, which are so far from being contraries as to be complementary.

This truth has been obscured by confusion about the word *cause*. In modern parlance, to call a bar's magnetism the *cause* of its power to attract iron would be gibberish. Traits might *have* causes, but they *aren't* causes. So a more exact statement would be that the bar's magnetism *is* its power, and the *cause* of that power is whatever *made* the bar magnetic. Skinner's objection to treating traits as causes was presumably based on recognizing this truth. As already noted, however, the point of mentioning a thing's traits is to distinguish it from things that lack those traits, which can be useful information.

Aristotle was the first person to sort this out, but his analysis has been obscured by the bad translations of scholars trained in literature rather than in science.²⁰ In *Posterior Analytics*, Aristotle's treatise on scientific explanation, he distinguished various ways of answering the ambiguous question "Why?" Suppose we are asked why Socrates died. We might answer as follows.

1. Because he was poisoned.
2. Because he was mortal.
3. Because he was made of perishable flesh.
4. In order to satisfy the Athenians who condemned him to death.

Which answer would be right? All four: each explanation of Socrates's death is different, but each is true and in its own way informative. So we needn't choose one to the exclusion of the others.

Unfortunately, Aristotle's translators long made a muddle of his analysis by presenting it as distinguishing four kinds of "causes." In the usual textbook rendering, answer 1 gives the "efficient cause" of Socrates's death, answer 2 the "formal cause," answer 3 the "material cause," and answer 4 the "final cause." Although

20. For a more detailed account, see Hocutt 1974.

countless students have been taught this misconstrual of Aristotle's words, it turns his perfectly sensible theory into gibberish by counting Socrates's mortality, his body, and the purpose of executing him among the causes of his death.

Scholars fortunately now agree that Aristotle's word *aition* is better translated as "explanation" (Hocutt 1974). This seemingly trivial change in wording obviates the use-mention confusion that has led some people to think that giving explanations is the same as identifying causes, which is true only in some cases. Of course, Skinner was interested *only* in causes, especially those he could see how to control; other forms of scientific explanation had no claim on him. But other scientists' focus is not always so narrow. Few physicists any longer have a use for teleological explanations, but biologists who talk of the functions of bodily parts or processes still do, as do psychologists interested, as was Skinner, in purposive behavior.

Admittedly, other scientists also want to know causes, but, unlike Skinner, they also find value in classifying things and knowing their compositions and uses. Thus, physicists have discovered the interesting fact that magnets can be used to make compasses and that things become magnetic when their constituent molecules are arranged in dipole. In a similar way, some distinguished behavior analysts, including a few taught by Skinner, are now beginning to study the influences of physiology on behavior and how to change it using drugs (Thompson 2007).

So the substantive point holds: "Whys" motivated by different interests elicit different replies, but although these replies are different, they are not on that account mutually exclusive. Therefore, although it is a mistake to confuse one sort of scientific explanation with another, it is also a mistake to think that just one kind of explanation—the kind that specifies causes—is legitimate.²¹

Conclusion

According to an ancient proverb, it takes a fast runner to go far astray. B. F. Skinner was a very fast runner. A brilliant experimenter, he taught us ways to modify for the better the behavior of individuals (children, parents, spouses, friends, relatives, business partners, neighbors, trades people, officeholders, bosses, employees, equals, subordinates, etc.) whose miscreant or uncooperative conduct causes problems for us, for them, or for others whom we love or with whom we must interact.

However, as a would-be philosopher and aspiring social reformer, Skinner went far astray, concluding that everybody's behavior needs complete institutional control by an elite body of self-anointed experts serving ends they have chosen using methods they will devise. In other words, from the evident need for dispersed and limited powers of influence to be exercised informally by a great many unallied individuals and groups, he deduced a need for complete top-down management of the behavior

21. Two behaviorists who have not followed Skinner into this cul-de-sac are Howard Rachlin (1994) and Peter Killeen (2001).

of every single person by a collective authority with seemingly totalitarian powers. But the need for the first thing is no argument for the second.

Skinner started down a path that led him to conclude otherwise when he minimized the difference between a laboratory setting, which has a single controller, and the larger world, which has uncountably many. Having done that, he denied the difference between *causes*, which can be natural, and *controls*, which cannot. For him, all causes are controls. He resolved the paradox that no identifiable person is exercising these “controls” by declaring that “the environment” exercises them. Did saying so personify the environment? Skinner would not notice or care. He would notice that talking of *natural controls* strikes some people as solecistic, but he thought it was they who were using inapt metaphors.

Locked into this self-reinforcing circle of belief and resolutely intent on using his own jargon, Skinner went on to deny the reality and degrade the importance of individual freedom and personal responsibility while concluding that anyone who believes in either must have fallen prey to the fictitious idea of autonomous man. Replying that no sense could be made of this misbegotten idea, he countered that “the environment” controls our behavior and concluded that it had to be given credit and changed if our behavior were to be improved. He overlooked the fact that any change in the environment would have to be aimed at the relevant person if it were to have the desired effect.

He mentioned but never considered seriously doubts as to whether we should or would want to be controlled by a group of self-chosen experts. Given that our uncontrolled behavior often turns out badly, he simply assumed that control by experts would be better. Where would we find these experts? What would ensure that their expertise was used for our benefit? How would they know what to do in particular situations? Somebody would select them judiciously and train them carefully. Once in charge they would experiment until they figured out what to do. What could go wrong with that?

Instead of trying to answer the latter question, Skinner resumed his attack on the straw man that he saw lurking in references to individual traits and human nature. But although traits and human nature are admittedly not efficient causes and so held no interest for Skinner, reference to them can help us to understand behavior in ways other than the way he pursued so single mindedly.

The long and short of the story is that Skinner’s undisputed expertise as an experimenter did not carry over to his forays into moral philosophy and utopian fantasy, where his reasoning not only was disputable but also vitiated by mistakes that are still being made by people eager to increase state control over us.

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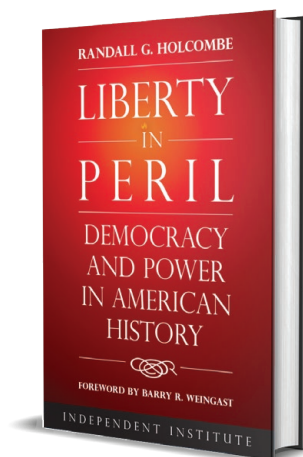
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