

## NATURALIST MORAL THEORY: A REPLY TO STADDON

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**ABSTRACT:** In an earlier essay in this journal, the estimable John Staddon charges B. F. Skinner and E. O. Wilson with committing several fallacies while promoting evolutionary ethics. The present essay replies that what Staddon regards as fallacies are signal contributions to a naturalistic understanding of ethical choice and language.

*Key words:* naturalistic fallacy, ethical naturalism, pragmatism, evolutionary ethics, genetic fallacy, value

### Introduction

In “Scientific Imperialism and Behaviorist Epistemology,” the estimable John Staddon accuses psychologist B. F. Skinner and biologist E. O. Wilson, two scientific titans, of having the messianic zeal of men more interested, like Karl Marx, in changing behavior than in understanding it, because they “know” what is good and desire only to implement it (Staddon, 2004). Claiming that both scientists endorsed “an evolutionary ethics that allows what *ought to be* to be derived from what *is*—ethics from science,” Staddon replies with a broadside. He says that this “derivation” commits the naturalistic fallacy and the genetic fallacy, that we have no way of knowing where evolution is going, and that we might not like it when it gets there, so shouldn’t use it as a moral guide. Claiming that Skinner accepted a pragmatist epistemology that equates truth with crudely measured success, and that Wilson endorsed an evolutionary optimism that makes survival the ultimate value, Staddon replies that success in practice might sometimes result from belief in falsehood and that the preponderant value of survival cannot be proved. Calling evolutionary ethics a faith, Staddon replies that if we must have a faith, there are others—religious and philosophical—as good or better. Science, he says, cannot tell us what to value, just how to get it.

Although we shall see that Staddon’s sparse citations do not justify his readings, I fear that his charge against Skinner and Wilson has some verisimilitude. Both men have sometimes incautiously left the impression that biological and behavioral scientists like themselves might one day take over the exalted roles of priest and moralist. Thus, Skinner in *Walden II* implies that relentless application of the techniques of operant conditioning is all that will be needed to produce utopia; and Wilson, who now preaches the holy cause of species preservation,

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suggests in *Sociobiology* and *On Human Nature* that issues of morality will be easy to resolve once human nature is well understood. These bids—if that is what they are—for a scientific priesthood are indeed unsupported. However, before we misconstrue what may have been pardonable overstatement and dismiss naturalistic moral theory and evolutionary theories of behavior *tout court*, we need to read Skinner and Wilson a little more carefully and charitably. Both men have made signal contributions to our understanding of moral language and behavior. The precise relevance of these contributions to the problems of moral choice can certainly be debated; but that they have relevance cannot be denied. Ignoring these contributions while shouting “Naturalistic fallacy!” and talking of Karl Marx is too facile, and if by “faith” is meant uncritical acceptance, we can do without it. In the final analysis, nobody can tell us what to value; our ultimate values are given to us with the genes.

### The Is/Ought Fallacy

Since everything depends on it, let us begin by asking: What is the naturalistic fallacy? Citing G. E. Moore, Staddon defines it, somewhat loosely, as the fallacy of deriving “ought” from “is.” Taking it as obvious that this is a fallacy, not just sometimes but always, he expresses astonishment that Wilson and I have denied it.

In drawing this conclusion, Staddon seems to me to make two mistakes, one trivial, one important. First, and trivially, it was not G. E. Moore but David Hume who complained about the habit of inferring “ought” from “is.” Second, and more importantly, Hume’s complaint was not that this inference is necessarily fallacious but that “as this ought, or ought not, expresses some new relation or affirmation, ‘tis necessary that it should be explained” (Hume, 1739/1978, p. 469). How explained? By citing facts that can “move the will.” In other words, to justify premising “ought” on “is,” you need to specify a motive. Once that is done, however, talk of fallacy has been deprived of basis.

For an example of what Hume had in mind, suppose I say “God has commanded doing X,” then go on to deduce “Therefore, you ought to do X.” To justify this deduction I will need to explain that God rewards those who obey Him and remind you that you wish to be rewarded. Similarly, if I advise you that you ought to get some exercise, I should explain that it would make you healthier and that you desire good health. Once I have done that, however, I have done all that can reasonably be expected to justify my two deductions. Hume required no more.

You might suppose—Staddon certainly seems to—that you could challenge these deductions by questioning the premises. Thus, you might ask why you should care whether you will be rewarded, or why desire for good health should motivate you. Staddon seems to ask, rhetorically at least, why we should care about survival of the species or society. But the answer to that sort of question is all too obvious. The simple fact of the matter is that we do care about such things; so, they are relevant to questions about what we ought to do. Pointing to something we care about is the only way to explain why we should do something. Therefore, it cannot be a fallacy.

It is, of course, almost always wrong to argue “It is the case that p; therefore, it ought to be the case that p,” and Staddon appears to think that Skinner and Wilson have committed this simple-minded error in thinking that, since survival is most valued, it is most valuable. As we shall see, however, Staddon’s support for this charge is flimsy, and a less tendentious reading is possible.

### The Naturalistic Fallacy

Moore invented the term “naturalistic fallacy” for a different but related idea—viz., belief that the good, as he called it, can be defined (Moore, 1903, p. 10).<sup>1</sup> In Moore’s opinion, the good was a simple quality, like the color blue, so not capable of the “analysis” into parts that Moore confusedly thought necessary to define it. In other words, believing that there are no simpler adjectives than “good” and “blue,” Moore held that you can no more tell somebody what the good is than you can tell him what blue is; instead, you must show him. Blueness and goodness being self-evident, they must be discerned intuitively, by direct inspection; they cannot be discovered by inference from other facts.

It was W. D. Ross who confused terminology by condemning as naturalistic fallacy inferences of ought from is, no matter how well explained. Ross included in this blanket condemnation Moore’s own belief that you ought to do all and only that which has the good as a result (Ross, 1930). Reminding Moore that the word “ought” also has a distinctively moral use, which may be even more fundamental, Ross said that this moral use of the word is to denote not what you ought to do because it promotes desirable ends but what you ought to do because it is your duty. Ross then went on to declare that what he called the right, meaning the dutiful, was also a simple indefinable quality known only “by intuition.”

I have elsewhere replied to Moore’s line of thought by saying that, strictly speaking, what we define are words, not things or their supposed qualities (Hocutt, 2001, pp. 120 ff.). Thus, we define not squares but the word “square” by saying that it denotes equal sided rectangles. Furthermore, I said, the word “good” denotes not a quality but a power—specifically, as I shall show below, the power to reinforce desire. That something has this power is not self evident; it has to be learned from experience. Thus, we cannot know whether something tastes good before trying it.

Similar remarks apply to Ross’s belief that right and wrong are simple qualities. Not so. What we call the morally right is conduct that is required by the rules to which we are subject as members of our society. These rules are also not self-evident. They only seem so because, having been inculcated in us since childhood, they manifest themselves in largely unthinking sentiments that we

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<sup>1</sup> To be precise, Moore limited his claim to the *intrinsically* good. He allowed that the *instrumentally* good is definable. It is that which has the intrinsically good as its consequence. In other words, it is good as a means to good ends. Unfortunately, Moore also confused saying that something is *intrinsically* good with saying that it is *inherently* good, meaning that it is good in itself, independently of any desire for it, a nonsensical idea.

mistake for revelations of transcendent truth. Thus, “Don’t lie!” becomes a command from heaven, or Pure Practical Reason, instead of a manmade rule to promote social harmony.

If this acid assessment is correct, the so-called naturalistic fallacy is just an empty slogan designed to beg questions about the authority of those who claim to have intuitive, so undisputable, knowledge of social conventions that they mistakenly take to be self-evident truths. As I shall now show, however, the good and the right can not only be defined; they and the word “ought” can be defined in the very sorts of empirically determinate terms that Moore and Ross, but not Hume, tried to disallow.

### ***Ought Defined Naturalistically***

Let us start with the word “ought.” As I have explained more fully elsewhere, it has no single unitary meaning (Hocutt, 2001, pp. 23-46).

Instead, it has two normative uses.<sup>2</sup> In its prudential use, saying that you ought to do something means that your doing it would have a reasonable prospect of serving your interests or achieving your ends; in other words, getting you what you want. In its moral or legal use, that you ought to do something means that you are obligated to do it by the rules to which you are subject as a member of some social group; in other words, your doing it is what others in your group want, or demand. Since ends and rules are empirically discernible facts of the matter, it follows that both normative uses of the word “ought” are premised on prior uses of the word “is,” as claimed.<sup>3</sup>

For a more formal statement, suppose that you have end E. Then you ought, other things being equal, to do what will help you achieve E.<sup>4</sup> This is sometimes called the “ought” of prudence, or reason. Or suppose that under the rules in force in your group you have obligation O. Then you ought, other things being equal, to

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<sup>2</sup> The word also has a predictive use, as in “John ought to be here by noon.” But this use is of no relevance here. More relevant is an evaluative use of the word “ought” to indicate not what the agent but the observer desires or approves. An example is, “Bill Gates ought to share his fortune with us.” This usage, about which I shall say no more here, is best regarded as parasitic on the other two.

<sup>3</sup> The great and abiding problem of moral philosophy is to explain how these two uses of the word “ought” are related. Under the traditional assumption that the rules were made by an omniscient deity who infallibly made them for everybody’s benefit, that is no problem. In that case, there is no distinction between rational conduct and moral or legal duty. However, under any empirically plausible hypothesis, one can sometimes do good for oneself or others without obeying the rules, and vice versa. So, the “oughts” of prudence and legal or moral rectitude can diverge. In fact, they often conflict, especially in ill ordered societies.

<sup>4</sup> The qualification is needed because what you “ought” *other things being equal* to do is not always what you “ought” *all things considered* to do. But to simplify the argument, I shall here generally use the word “ought” without either qualification. So, without indication to the contrary, the reader should think in terms of an “ought” qualified by “other things being equal.”

do what will fulfill O. This is the “ought” of morality, law, or etiquette. These, as my *American Heritage Dictionary* (1978) notes, are the two main uses of the word “ought.” By explaining them, I have showed you how to “derive” two different “oughts” from two different “ises.” To speak more precisely, I have defined two uses of the word “ought” by using the word “is.”

Notice, for the sake of future reference, that defining “ought” in this way did not involve using the word, only mentioning it.<sup>5</sup> I explained normative judgments, but I did not make any. True, I did say that you ought to serve your interests and obey the rules; but to say that is only to identify the two considerations that can motivate you. So, my advice was purely hypothetical and entirely opaque. Until I know more about you, it will remain so. Until that time arrives, no categorical “ought” will be deduced from any “is”; and none should be.

Not that there would be any fallacy in such a deduction if I had the requisite factual information. Remember: Hume’s warning was against categorical “ought”’s made in the absence of the relevant facts. He would not have objected to deriving “ought” from “is” in the manner just illustrated; for he did it himself. His entire moral philosophy consisted in showing how what he called sentiments—meaning natural and socially inculcated feelings, some related to utility, others to fellow approval—are the bases of all judgments about what we ought to do.

### “Good” and “Right” Defined Naturalistically

We have just seen how to derive “ought” from “is”—or, to be more precise, how to define the word “ought” in empirically determinate terms.

In *Beyond Freedom and Dignity*, Skinner showed us how to define the words “good” and “right” using the concept of reinforcement (Skinner, 1971). We shall now look at these definitions. It should be remembered, however, that Skinner’s definitions are lexical definitions, not stipulations. Skinner is telling us what is called good or right; not what he thinks is good or right. In short, he is explaining evaluation, not evaluating.

As Skinner notes, “good” is simply the word we use to describe what reinforces our desire for it.<sup>6</sup> Thus, good tasting ice cream is ice cream that we want to taste again; good golf swings are swings that we want to repeat; good friends are friends that we want to keep; good food is food of a kind that we want to eat; good laws are laws of the kind we want more of; and so on. This definition works for both intrinsic and instrumental goods. The former are naturally reinforcing, the latter are reinforcing by virtue of association with the former.

Similarly, to use Skinner’s jargon again, “right” is the word we use to describe conduct that may not itself be reinforcing but that will be reinforced by

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<sup>5</sup> As we shall see, this is a distinction Staddon routinely blurs.

<sup>6</sup> For discussion see Hocutt (1977). Skinner’s equation of the good with what reinforces desire (i.e., preference) is an improvement over the more customary equation of the good with what is desired, because one can mistakenly desire what turns out not to be good; but what reinforces desire thereby confirms its goodness.

others. Thus, the right thing to do—that which you are obligated to do whether it serves your ends or not—is to tell the truth, stop at red lights, show consideration for others, keep your promises, respect life and property, obey your parents, be faithful to your wife, support your children, and so on. What makes these actions right is the fact that the rules require them; that the rules require them means that they are regularly reinforced.

That is the main idea. To spell it out, we would need to distinguish between things that we value for their own sake (e.g., the taste of chocolate) and things that we value for the benefits they confer (e.g., dieting to lose weight). Things of the first sort are our ends; things of the second sort are our means. We call the first intrinsic goods, the second instrumental goods. Intrinsic goods are reinforcing on their own account; instrumental goods are reinforcing when they have intrinsically good consequences.

Some people also count Ross's "the right" as a form of the good, calling it the morally good; but a "morally good" act might not be good at all, just required because mistakenly thought to be good or because it has become traditional. Sacrificing children to the gods has been a moral obligation in some societies; but one is hard put to see any good in the practice, though the people who did it no doubt thought it a good thing to do.

These distinctions matter because things and conduct that are good in one of the ways just defined might lack value or be bad in the others, a fact often overlooked by people who mistakenly demand to know whether the thing is good or bad period, no ifs, ands, or buts. But as everybody knows when not discussing moral theory, the medicine that is good for you might taste bad or have unpleasant side effects. Recreational drugs that you enjoy or that ease your pain might be addictive and brain damaging or lead to immoral behavior. The fun of giving way to impulse might cause you to behave in ways that you will regret or others will punish. Self-control for the sake of deferred pleasures has its cost in present satisfactions.

So, contrary to Moore, the goodness of a thing is not a simple quality, like its color; and goodness does not inhere, like shape, in a thing independently of how it affects us. Thus, when you discover that absinthe tastes good or is inebriating, you discover something about yourself and absinthe—viz., that it has the power to please your palate and make you drunk. As George Santayana once wittily observed, absinthe does not taste good all by itself, or make you drunk, just standing there in the bottle.

Furthermore, as the good is not a simple quality inhering in things, so the right (i.e., rectitude) is not a simple quality inhering in actions. Despite Ross's belief to the contrary, actions are not morally or legally right in themselves apart from some society's laws or mores. Rather, an action is morally right in a society if required by its mores, legally right if required by its laws. In short, legal or moral rectitude is a matter of conforming to the relevant rules. These rules need not themselves be good, just enforced.

### Relativism vs. Subjectivism

An implication of these claims is that the good and the right are relative, the first to persons, the second to societies.

The good is relative in the sense that what reinforces X might not reinforce Y. Thus, absinthe tastes good to you, bad to me; penicillin is good for those it will cure, not for those it will kill; hammers are of use to those who know how to use them, not for those who don't; skill at cheating is beneficial to those who cheat, not to their victims. Similarly, the right is relative because what is rewarded in S1 might be punished in S2. Thus, some societies permit polygamy while others prohibit it; some encourage infanticide while others condemn it; some pray to the moon while others pray to the sun and kill moon worshipers; some build statues to their gods while others forbid idolatry.

Regrettably, Staddon has misunderstood this thesis. He charges me, and by implication Skinner, with believing that goodness and rectitude are matters of personal opinion: If you think it good or right, then it is good or right for you.<sup>7</sup> But although that is a popular idea, I emphatically reject it, and nothing could have been further from Skinner's mind. It is disappointing that Staddon has neglected to take seriously my plain and repeated disavowals of this sort of subjectivism.

In the subjectivist view that Staddon and I both reject, if you thought something good or right, that would be the end of the matter; it would be good or right in your opinion—the only way that anything could be good or right if goodness and rectitude varied with opinions. In short, mistakes would be impossible. But, as we all know, mistakes are easy. Just expect to be pleasant or beneficial what turns out to be painful or harmful; or expect to be rewarded for doing what will be met with a slap or a curse. Then you will see how you might believe to be good or right what is in fact neither. Contrary to common opinion, the possibility of erroneous evaluation does not presuppose the reality of absolute value.

I have explained this at length in the work Staddon cites, but he has evidently not been impressed by the explanation. Please excuse me, then, if I here restate my view very briefly. To start, I hold with Thomas Hobbes that everybody uses the word "good" "in relation to himself," to denote what she thinks, rightly or wrongly, will please or benefit her. In other words, the adjective "good" is an indexical term, like the adjective "near." Normally, if I say, "The restaurant is near," I mean "The restaurant is near me," and if you say "Absinthe tastes good," you mean that absinthe tastes good to you. But what is near me might be far from you; and what tastes good to you might not taste good to me—not because we think so but because it might be true no matter what we think. Don't confuse objectivity with absoluteness, or preferences with opinions as to what is preferable.

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<sup>7</sup> Staddon also reduces my and Skinner's talk of reinforcement to a recommendation to do whatever feels good, a misunderstanding so complete I do not know where to begin correcting it.

My position is the same with respect to moral or legal right: I hold that it is a matter of objectively existing rules, not subjectively held opinions. I am not advancing the view that what a group believes to be absolutely permissible is absolutely permissible for it. I think that this view is seriously confused.<sup>8</sup> I do not think there is any such thing as absolute permissibility. I hold that, since there are no laws or moral principles laid up in heaven, there is no standard for what is permissible that is independent of some society's laws and mores. In short, I hold that what is permitted here might be forbidden there, not as a matter of opinion but as a matter of fact. Don't confuse objectivity with universality, or rules with opinions.

But enough about me. The point of importance is that Skinner had the matter right. To put it very simply, the good can be defined as what reinforces, the right as what is reinforced. Furthermore, David Hume would have approved of these Skinnerian definitions; for he offered similar ones. G. E. Moore and W. D. Ross would not have liked them; but so what?

### Useless Tautologies

To this rhetorical question, Moore and Ross had an answer: What naturalistic definitions tell us is only what is *called* good or right; not what *is* good or right. More interested in using these adjectives than in explaining them, Moore and Ross declared themselves to be not lexicographers but philosophers, and professed to tell us what it is that makes things good and actions right. Unfortunately, what they tried to tell us was meaningless.

According to Moore, what makes things good is possession of a quality that other things lack—viz., the quality of being good. It is also possession of this quality that, Moore believed, makes us call something good. Since Moore thought that this quality is indefinable, he declared that no further explanation is possible or needed. The only thing to be said is: That which is good is so by virtue of having the quality goodness. In other words, the good is good because it is good.

The trouble with this line of thought is simply that we have no good reason to believe that goodness is a simple and obvious quality. There is certainly no obvious way in which such good things as sexual intercourse, Mozart's music, and the taste of chocolate all resemble each other. What they have in common is only that they all give us pleasure, so reinforce preference for them. Do them once, and you will want to do them again. But the power to reinforce preference is not a quality; it is a power. And it is not discovered by intuition but learned by trial and error.

Ross's view of the right (i.e., rectitude; or justice) has the same problem. Ross thought that certain forms of conduct are right or just and called so because they, and only they, possess the indefinable but self-evident quality of being right or just. But, again, there is no such quality. As already explained, that X is right and

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<sup>8</sup> For one thing, the sentence "y is good (or right) for x" is ambiguous between "y will benefit x" and "x thinks that y is good (or right)," neither of which entails the other.



Y wrong in a society means only that X is praised and Y is punished there. Justice, as Hume observed, is a matter of convention, which is not learned by intuition but by discovering how people react to your conduct.

Even if there were such qualities as the good and the right, invoking them would not explain anything. That the good is good because it is good, and the right is right because it is right, may be true; but the two statements are also uninformative, like other would be tautologies.<sup>9</sup> To say such things is merely to declare with the learned doctor in Moliere's *Hypochondriac* that opium puts people to sleep because it has a soporific virtue. True no doubt, but not illuminating.

### Evolutionary Ethics

I contend that E. O. Wilson and his colleagues in evolutionary psychology have a better explanation of why some things and not others are valued: These things have contributed to reproductive fitness.

Wilson's theory, which Skinner adopted, is that we value the things we do because evolution by natural selection has disposed us to value them. How did that happen? Ancestors who preferred things that contributed to their reproductive fitness passed these preferences along to us with their genes. Two notable examples are our preference for sweets, which contain the concentrations of energy needed for sudden bursts of activity, and our preference for meats, which contain materials for building useful muscle mass. Other traits transmitted with ancestral genes are our fears of snakes and abrupt precipices; also a disposition to avoid the obnoxious smells of putrid matter and disgust at copulation with siblings or parents. Without these traits, our human ancestors might not have survived long enough to reproduce.

As Wilson has pointed out, natural selection also had a hand in creating society (Wilson, 1978, 1980). Our innate desire for the pleasures of sex not only promotes behavior that leads to reproduction; it also strengthens the bonds between mates that are essential to the nurture of children, who have the longest period of helpless dependency in nature. Nor did natural selection stop with the nuclear family. As Wilson observes, citing Hamilton and Trivers, innate love of our own offspring also extends proportionally to all who share our genes, providing a basis for the unity of clans and tribes, primitive human societies.

David Hume and Adam Smith, who had figured some of this out for themselves, summed it up in the phrase "natural sympathy," meaning an innate disposition to sympathize with those who share your features or your life (Smith, 1759; Hume, 1739). Working under the limitations of 18<sup>th</sup> century science, however, Hume and Smith could not confirm their hypothesis or specify a

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<sup>9</sup> Actually, there is a problem even here. If, as I have assumed, Moore's "the good" is synonymous with "goodness," then "The good is good" is not a tautology; goodness, the quality of being good, does not necessarily have that quality. "The good is good" comes out as tautologous only if it means "Good things are good." These logical niceties are discussed further in Hocutt (2001).

biological basis for it. No matter. The genetic basis for limited altruism and social cooperation is now well understood. We favor those like us and cooperate with those near us because in evolutionary time they were the ones with whom we shared the most genes.

The discovery of this important fact has put in doubt the central dogma of virtually all previous theoretical discourse about matters moral, political, and economic—viz., the proposition that human beings are purely selfish creatures interested in nothing but their own perquisites, pleasures, and powers, so incapable of sacrifice for the benefit of others.<sup>10</sup> We always knew that to be false in practice; we now know it to be false in theory too. By drawing attention to the importance of heredity to human behavior, the same discovery has also called into question the foundational dogma of all leftist social thought—viz., that, since all human behavior is learned from others, it can be changed and all behavioral maladies cured simply by reforming social institutions.<sup>11</sup> We also knew that to be false in practice, but we now know it to be false in theory too.

### Maladaptive Traits

Given only the few facts just summarized, it is easy to see why some people are awestruck by the process of natural selection and think of it as an unqualified force for good. Biological evolution is indeed awesome.<sup>12</sup> It is, however, not always a force for good.

This becomes obvious when you reflect on the fact that what was good for our ancestors is not necessarily good for us. For 99% of human existence, human beings lived with severe scarcity, feasting when food could be found, starving when it could not. Also, those who ate had to work for it, which kept them lean

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<sup>10</sup> The unremitting selfishness of individual human beings is the central postulate of Thomas Hobbes's *Leviathan* (1651) and other works on political philosophy. Though it is seldom made explicit any more, this postulate still influences considerable thought in economics, where the central idea is still that of individual self-interest, which is usually understood to mean individual selfish interest. Even John Rawls's *A Theory of Justice* (1971), which advances an argument for a redistributionist state, bases its argument on the postulate that all human beings are self-interested, so uninterested in the welfare of others.

<sup>11</sup> This idea, which was enthusiastically endorsed by Marx, was introduced to the world by the 17<sup>th</sup> century Frenchman Jean Jacques Rousseau, who first expressed it in his *Discourse on the Origin of Inequality* (1755), perhaps the most misguided and ill-informed treatise on human behavior ever written. As Rousseau noted in his better known *Social Contract*, which offers a plan for a reorganized society, the implication is that human nature, being a product of society, can be transformed by changing society, which Rousseau thought it within the competence of government to do. As Rousseau put it, "Anyone who would change society must assume himself able to change human nature."

<sup>12</sup> Though Staddon also criticizes it, I shall not here defend Richard Dawkins's suggestive extension of the notion of natural selection to what he calls "memes," meaning ideas and beliefs. But societies do evolve, and ideas that seemed good when first invented get abandoned after awhile, because they no longer serve. So, the analogy is not without some basis.

and lithe. Since the invention and development of agriculture, food has become so plentiful, at least in our part of the world, that few of us now need work very hard to get it. Yet we still have a powerful disposition to eat whenever food is available, especially if it is sweet and fatty. Couple that fact with our innate preference for leisure over labor and you have a recipe for obesity, diabetes, and related health problems.

In other parts of the world the problem is different, but it is also attributable to natural selection of a trait that was once adaptive but is no longer so. Desire for sexual pleasure has in large parts of Asia and Africa caused human reproduction to outrun the food supply in Malthusian fashion, resulting in frequent and widespread famine. The same desire has also reportedly exposed ever larger segments of several populations in third world countries to such destructive and uncontrollable microbes as those responsible for AIDS and other socially transmitted diseases.

There is also a dark side to our genetically-based altruism: It is pretty much limited to members of our own tribe or group—in other words, to those who resemble us in appearance and behavior, because they share more genes with us than dissimilar outsiders. While this kin-based altruism fosters cooperation within groups, it is also responsible for the sometimes murderous competition between groups, and it promotes racial and ethnic tensions within multiethnic and multiracial societies like our own. We are tribal animals in the best and the worst senses of the term.

As these examples show, preferences that served our ancestors may no longer confer the same advantages on us. In fact, changed circumstances have turned some of these advantages into disadvantages. It would be a mistake, then, to think that because a disposition was produced by evolution, it still should count as a good thing. Any evolutionist so simple minded as to draw that conclusion is indeed fallaciously inferring an “ought” from an “is.” No obvious explanation will justify such a naive inference.

### **The Genetic Fallacy**

Have Wilson and his cohorts been guilty of that degree of naïveté? Have these highly sophisticated scientists forgotten what they did most to make known? It is hard to think so. Yet Staddon seems to think so and offers in support of his thought Skinner’s declaration that “The ultimate sources [of values] are to be found in the evolution of the species and the evolution of the culture.”

Misreading “sources of values” as “sources of value,” Staddon takes this statement to mean that “‘survival’—of the culture or the species—is offered as a super ordinate value from which all others can be deduced,” which seems to him to be both a prime instance of the fallacy of “converting” “is” to “ought” and an instance of the genetic fallacy of thinking that because something was good, it must still be so.

I think it is Staddon who has here made a mistake—the mistake of confusing an explanation with an endorsement. Normally, when we talk of somebody’s values, we mean to indicate what he values; not to say what we think has value;

our focus is on the act, not the object. Thus, “A warrior society values courage above all else” is not to be interpreted as a declaration that courage is to be valued above all else. Maybe Skinner believed that we should all value the survival of the species or the culture above everything else; but Staddon should let him say so, not put the words in his mouth.

In support of his view that not only Skinner but also Wilson has illegitimately “converted” the “is” of natural selection to the “ought” of transcendent morality, Staddon also quotes Wilson’s remark that “If the empiricist world view is correct, ought is just shorthand for one kind of factual statement.” Wilson certainly said this, but that it means what Staddon takes it to mean is not at all certain. What Staddon takes it to mean is that Wilson wants to persuade us that his science can “solve all problems,” perhaps by eliminating the need to make hard choices. But nothing in Wilson’s words warrants that interpretation.

Furthermore, absent stronger evidence to the contrary, a more charitable and plausible interpretation is possible. There is no doubt that Wilson thought his science would be *needed* to solve our problems. It is not to be concluded from this that he thought science alone might ever be *sufficient* to solve our problems, though this is the accusation Staddon lodges against him. There is also no doubt that Wilson thought the knowledge of scientists would be more useful in understanding and influencing behavior than the faith of priests; but it is not to be concluded that, therefore, he believed scientists can or should assume the role of priests. Wilson could just be saying that advice based on sound science would be better than advice based on priestly mumbo jumbo. I confess that this strikes me as correct. If there is a fallacy in it, I cannot see it.

### Truth and Success

As Staddon observes, behaviorism grew out of pragmatism, which was influenced from the beginning by Darwin’s theory of biological evolution by natural selection. Also, the striking success of Darwinian theory in explaining behavioral as well as morphological adaptation has inspired some philosophers to offer similar explanations of scientific progress. Staddon is of the opinion that both lines of thought have led Skinner and Wilson to equate truth with success crudely measured. I confess that it is hard for me to follow the reasoning that leads him to this disparaging conclusion.

One problem with this reasoning is Staddon’s jaundiced conception of pragmatism, which he equates with the demonstrably false idea that what appears to work must be true. Staddon attributes this idea to Charles Peirce, the father of pragmatism. But Peirce held no such opinion. Peirce’s theory was the converse proposition—that what is true works. One of history’s great logicians, Peirce would never have confused the two propositions. It was left to William James and John Dewey to do that, provoking a disgusted Peirce to rebaptize his doctrine *pragmatism*, “a name ugly enough to be safe from kidnappers” (Feibleman, 1946, p. 205).

The importance of the distinction—between “What is true works” and “What works is true”—is illustrated by the story of the man who put a prayer on the door of his penthouse apartment in Manhattan. It said, “May this house be safe from tigers.” Lo and behold, it worked; no tiger ever molested him—proving, if we are to believe James, that the posted prayer was efficacious. However, as students of elementary logic have known since the Stoics pointed it out, this kind of reasoning commits the fallacy of affirming the consequent.

This reflection has persuaded some philosophers of science (e.g., Karl Popper [1965] and Peirce) that hypotheses are never confirmed by positive instances, just refuted by negative instances. Had a tiger come to the man’s penthouse door, his faith in his prayer would have been disconfirmed; but failure of a tiger to appear proves nothing, there being too many other explanations of this good luck. Popper saw in this fact, as had Peirce, an analogy to evolution by natural selection, which weeds out the unfit. What scientists do, they both said, is try to approach the truth by eliminating falsehood. Formulate a hypothesis H; deduce consequences C. Perform experiment E. If C does not occur as predicted, H is disconfirmed. Next hypothesis!

This idea of scientific inquiry has now become fairly standard. A logical consequence of this idea and Willard Quine’s observation that hypotheses are never tested in isolation but always in conjunction with auxiliary assumptions is that we can never be certain our current theories correspond perfectly to reality. The most we can justify claiming is that they are our best current guess or approximation. We cannot confidently regard current scientific belief as the final truth.

That reflection did not cause Peirce to abandon the idea of truth. Instead, he identified truth with the belief that will be approached by indefinitely prolonged inquiry—meaning inquiry that weeds out falsehood and error as it proceeds. In short, Peirce acknowledged that exact and unqualified truth is elusive and concluded that we have to settle for imperfect belief. But, committed to truth above all, Peirce hastened to add that belief should not remain uncritical; it should always be open to testing by confrontation with the facts; that is why we do experiments (Feibleman, 1946, p. 211).

Unfortunately, this critical common sensism, as Peirce called it, has apparently been misunderstood by some followers of James and Dewey. As Staddon notes, they have seen in Peirce’s acknowledgement of the fallibility of scientific inquiry grounds for renunciation of the very idea of truth, even as an ideal to be approached. According to pragmatists of this ilk, truth is just our name for present belief, and if it works for us that is all we can expect of it.

### **Epistemology**

It is these pragmatists whom Staddon mistakenly declares to be representative of all pragmatists, including Peirce; and it is their brand of pragmatism that Staddon attributes to both Wilson and Skinner, while adding that their belief in evolution as the guiding star is an unfounded faith. The trouble is that it is not clear

on what basis Staddon makes this very questionable attribution or draws this inference.

The argument offered is best described as an attempt to prove guilt by association: Behaviorism grew out of pragmatism; pragmatists eschew truth in favor of pleasing beliefs. So, Skinner, a behaviorist, does not believe in truth, just in what seems to work. Not only is the reasoning bad but there are no citations to support its conclusion. That some behaviorists might have reasoned in this way does not prove that Skinner did, much less Wilson, who is no behaviorist.

Just as loose is the reasoning by which Staddon reaches the conclusion that Wilson's "evolutionary ethics" is merely a faith. As noted above, it is not clear that Wilson—who is still very much alive at eighty—subscribes to what Staddon calls evolutionary ethics, meaning belief that evolution by natural selection should provide a guide to the future. No doubt Wilson does subscribe to the now commonplace idea that science progresses by elimination of unfit hypotheses. But Staddon provides no reason to think that belief in evolutionary epistemology entails belief in evolutionary ethics. So, how he gets from the one to the other remains unclear.

Also unclear is how Staddon justifies his own leap from skepticism to faith. Grant that scientific knowledge of the bare facts will not suffice to guide us down the primrose path to heaven. Grant that we shall also need values (i.e., preferences) before we will know how to proceed. How will that fact justify faith? There are lots of faiths on offer. Are they all equal? If not, which will we choose, and on what basis? That is an unanswerable question. So, if by "faith" is meant uncritical belief, we have no need for it and are better off without it. What is needed to carry on our lives is only an attitude of "You pays your money and you takes your chances." The right answer to uncertainty is not uncritical belief but a willingness to carry on as best we know how.

### **Conclusion**

Although B. F. Skinner and E. O. Wilson have sometimes incautiously spoken in ways that suggested they wanted to make priests out of behavioral and biological scientists, what Staddon has quoted them as saying justifies no such interpretation.

Pointing out, as I have, that people ought to do what promises to serve their biologically-based interests and are obligated to do what conforms to the rules of their society is not committing any kind of fallacy; it is just defining the word "ought" in empirically determinate, terms.

Explaining, as Skinner did, that we use the word "good" to describe what reinforces, and the word "right" to describe what is reinforced, is also not committing any kind of fallacy, just engaging in a bit of scientific lexicography. Explaining words is not using them; saying what is meant by the word "good" is not declaring anything to be good.

Telling you, as Wilson has, that human beings value certain things because their ancestors valued them and passed a disposition to value them along to us is

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not telling us that these dispositions will continue to serve us well, just that valuing them contributed to the reproductive fitness of our ancestors and continues to influence our behavior, sometimes for good, sometimes for ill. Whether our conduct should still be guided by these dispositions is always open to question. That our conduct is still influenced by them is not.

Declaring, as Peirce did, that science provides no iron clad guarantees of the truth of even our best and most up-to-date theories, but only makes progress towards the truth by eliminating unfit hypotheses, is not declaring that there is no such thing as truth, just so many equally unjustified faiths. Nor is it declaring that apparent success is proof of truth rather than luck. Rather, it is declaring that we are more likely to be successful if we base our conduct on the best available scientific assessments of truth.

Finally, saying that intelligent behavior will be guided by our best science is not saying that scientists can ever assume the role of priests, or solve all our problems, or tell us what the future will bring, or how we should face it, or anything else so grand. It is merely saying that if we want to know how to achieve our ends, we are better off listening to scientists than to priests.

What about the ends themselves? Ultimately, these are given; not chosen. They come with the genes. What is left to us is to find the means to achieve them. The scientists can tell us how to do that. In other words, they can tell us how to get what we value. In the final reckoning, nobody can tell us what to value.

Could that be the point Professor Staddon is trying to make?

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