

FACTS AND VALUES

A Critique of the Naturalistic Fallacy Thesis

Jan Tullberg
Birgitta S. Tullberg

Stockholm School of Economics, Sweden
University of Stockholm, Sweden

Abstract. If the prescriptive “ought” is separated from the factual “is,” an intellectual analysis of the real world is by definition without normative value. The naturalistic fallacy thesis—maintaining that normative and descriptive spheres must remain separated—is often presented in a weak sense that seems reasonable. However, only in a strong sense—by strictly separating facts and values—are fallacy accusations supported. We claim that this naturalistic fallacy thesis is unsound and that normative statements instead should be based on rational understanding as found in the Darwinian and social sciences. The Cartesian compromise should be abandoned, since only naturalism can provide a cogent framework for better understanding and support ethics with a solid foundation. Many people nurture values based on tradition, whim, subgroup identification etc., and they demand respect for those values. However, we can demand respect for values only when they have a rational foundation. The common belief in the thesis of naturalistic fallacy is an anti-intellectual device that shields values from rational inquiry.

Jan Tullberg is Assistant Professor at the Stockholm School of Economics, Box 6501, S-11350 Stockholm, Sweden (E-mail: jan.tullberg@hhs.se). His main interest is the relationship between ethics and behavior, specifically the effect of normative values on the ability to cooperate. Birgitta S. Tullberg is Professor at the Department of Zoology, University of Stockholm, S-10691 Stockholm, Sweden (E-mail: birgitta.tullberg@zoologi.su.se). Her research includes the evolution of defenses in insects, phylogenetic ecology, and human behavior. Together, they have published a book on naturalistic ethics based on an evolutionary perspective, *Natural Ethics, a Confrontation with Altruism* (printed in Swedish), that has caused a major debate in Sweden. In 1997 they published an article in *PLS* (September issue), suggesting principles for solving ethnic conflict.

This article is a critical evaluation of the widely accepted “thesis of the naturalistic fallacy” (NF-thesis), an idea claiming that the normative sphere is strictly separated from the descriptive, and that a serious mistake is made in deducing an “ought” from an “is.” Considering its popularity, to question the NF-thesis in a blunt manner may be construed as a provocative or unfruitful exercise, but we share Jonathan Barrett’s view of the issue at stake: “if we feel that we must take Darwin really seriously, then we must realise that we can do this only by showing how the NF-thesis should not be taken seriously at all” (Barrett, 1991:436-37). In this article we examine the conventional acceptance of this thesis and ask whether there exists any appropriate support for its validity. Further, we try to shed light on the popularity of the thesis and ask what lies behind its attraction. We conclude that the naturalistic fallacy is a popular but unfounded thesis that can be used to support nonrational ideas.

Origin

Are there any good reasons to question the conventional acceptance and popularity of the naturalistic fallacy thesis? From a wider than the current philosophical perspective, important thinkers, such as Aristotle and Adam Smith, formed their ethical ideas under strong influences from observations of reality. Did they blunder? Current support for the NF-thesis can be traced to two influential philosophers, namely David Hume and G. E. Moore. We start with a historical, albeit sketchy, account of the origin of the NF-thesis to reopen the question for serious evaluation. Simply because the current opinion favors the NF-thesis does not make it right, or by default provide it with immunity from deliberation.

G. E. Moore coined the label, but David Hume is widely recognized as its originator—even if Moore makes no reference to Hume. When Moore introduced the term, he was focused on another aspect, as indicated in this quote:

And it is a fact, that Ethics aims at discovering what are those other properties belonging to all things which are good. But far too many philosophers have thought that when they named those other properties they were actually defining good; that these properties, in fact, were simply not ‘other,’ but absolutely and entirely the same with goodness. This view I propose to call the “naturalistic fallacy” and of it I shall now endeavour to dispose. (Moore, [1903]1948: section 10:10). [As a semantic faux pas, it might be noted that the independence of good from facts is emphasized with “is a fact” as well as “in fact.”]

This position launched the thesis, but its content has changed profoundly from what Moore had in mind. As Bernard Williams notes: “the doctrine of the naturalistic fallacy is not or at least rapidly ceased to be, a ban merely on defining good. Rather it was taken as setting up two classes of expression. . . . The ban prohibits any attempt to deduce an evaluative conclusion from premises that are entirely non-evaluative” (Williams, 1985:122).

Hume’s central lines are often quoted and perhaps provide a better impression for what the thesis now conveys than the quote from Moore. Despite being repetitive, these lines are so central to the thesis that we dare not omit them at the risk of overlooking exceptional readers unfamiliar with this quote.

In every system of morality, which I have hitherto met with, I have always remark’d, that the author proceeds for some time in the ordinary way of reasoning, and establishes the being of a God, or makes observations concerning human affairs; when of a sudden I am surpriz’d to find, that instead of the usual copulations of propositions, is, and is not, I meet with no proposition that is not connected with an ought, or an ought not. This change is imperceptible; but is, however, of the last consequence. For as this ought, or ought not, expresses some new relation or affirmation, ‘tis necessary that it shou’d be observ’d and explain’d; and at the same time that a reason should be given, for what seems altogether inconceivable, how this new relation can be a deduction from others, which are entirely different from it. (Hume, [1740]1973:469)

Is this really a strong argument and has anyone ever said that “is” and “ought” are synonymous? But are they “entirely different” and without connection? A dichotomy often creates an illusionary division, fundamentally non-existent. Light and dark are opposites, but they are held together by shades of grey; dark is fundamentally just very little light, nothing entirely different at all.

Some phenomena make a strict dichotomy between facts and values questionable. Terms like *rude*, *treason*, *promise*, and *brutality* have a descriptive content and are

loaded with value. If viewed from the opposite angle, they are value statements strongly affiliated to some factual conditions. John Mackie (1977), Philippa Foot, and Bernard Williams are philosophers pointing at such “thick” concepts as a demonstration that facts and values are not entirely separate (Thomson, 1990). In evaluating many problems, an acceptance of a common dichotomy in the premise of analysis sets the scientist on the wrong track. Rather than simplify the analysis and constructively focus the problem, dichotomies oversimplify and often distort the issue at stake (e.g., Rutherford, 1992).

Different Interpretations of the NF-Thesis

Like most ideas, the NF-thesis can be understood in a strong sense, in which the thesis has a message of substance, right or wrong. But it can also be considered in a weak sense, or have associated weak-sense arguments, that normally have little or nothing to say. Although being advantageous in being difficult or impossible to attack, weak-sense arguments often carry a limited message and are not worth the trouble. Therefore, we place emphasis on discussing the NF-thesis in a strong sense.

If values and facts are “entirely different,” then the person bringing facts into a value discussion commits a fallacy. If facts and values are like apples and pears, they should be split into two different discussions. In science, such a split has been made, and values have been extracted from scientific discourse. What Copernicus thought was desirable has no relevance to whether the heliocentric explanation is true or false. The significance of values is limited to what is often called the context of discovery. Certainly, affections and values had an influence in motivating Copernicus in his task, but in the context of justification, they have no proper place. Giving them an influence, consciously or unconsciously, could justly be labeled committing “the ideological fallacy”: turning an “I wish” to an “it is.” With the pears dismissed from the apple-discussion of science, it seems reasonable to suppose that there should also be a discussion of pears free from apples, that is, a value discussion based only on values. This view is the aim of the thesis in its strong sense.

No strict separation exists in the weak sense, since both values and facts can contribute to a value judgment. Using the apple-and-pear metaphor, a fruit salad is concocted with only one stipulation—that at least one pear be found among the apples. The difference between the naturalistic fallacy in its strong and weak senses is illustrated in Table 1.

If the NF-thesis is right in the strong sense, a person using facts to motivate a normative conclusion is making a logical mistake. Values and value judgments are generated by value premises, and there is no real opening for other influences. To strong-sense supporters, values are caused by core values, and factual statements are peripheral. In a similar way, controversial ideas can be discarded as being

Table 1. Strong and Weak Senses of the Naturalistic Fallacy

	Strong Sense	Weak Sense
Premises:	Value 1 Value 2 Value 3 Fact 1 (IRRELEVANT)	Fact 1 Fact 2 Fact 3 Value 1 (NECESSARY)
Conclusion:	Ought	Ought

a function of negative values. At the core of the ideas is usually something labeled (and personally defined) as “humanistic values,” which are seen as something some people have and others lack. The acquisition of these values might be a matter of personality or socialization, but hardly reasoning. Basically, values are generated by values. Values can be hierarchical, so more important ones might override those less important. Prevailing facts in a situation can determine a behavior in contradiction to a value, but this is a temporal adjustment, because fundamentally only a value can offset another value.

This interpretation raises doubts about facts really being so unimportant, and one may ask which quality distinguishes values. Before penetrating the question about values, we will look into less radical versions of the thesis. The weak sense of the NF-thesis is that an ought-conclusion can be drawn from is-premises, if at least one ought-premise exists as well (Sober, 1993:204). The “is” is relevant, but an “ought” is also needed. From being limited to 0 percent of the premises for a value judgment, facts can now expand to 10, 50, or 90 percent, the only restriction being that facts cannot constitute 100 percent, since at least one value is needed. If one eliminates the last value and tries to get to an ought-conclusion on facts alone, the fallacy is committed. Such a fallacy statement might be of importance when somebody makes the claim that there are no values, only facts, behind his recommendation.

With regard to the intensity with which the NF-thesis is defended, it could be assumed that it generally has a strong influence on the consistency of a line of reasoning—that people committing the naturalistic fallacy must change their opinion if convinced they committed the fallacy. If, on the other hand, a line of argument arrives at the same conclusion, regardless of opposition or acceptance of the NF-thesis, it might be considered a minor technicality of some theoretical, but of little practical, importance.

For the sake of illustration, let us take a biologist who argues that genetic diversity in a species is valuable because it increases the likelihood of survival for that species should the environment be drastically altered. A philosopher refers to the NF objection and says that there is a naturalistic assumption that can be questioned: is it really right to secure life?—without life there is no pain. The philosopher advises the biologist in Kantian terms to exchange such a categorical imperative with a hypothetical imperative (Kant, 1983): “If it is desired that the chance of

survival be enhanced, there is an advantage with genetic diversity.” The goal is less self-evident than the biologist first thought and more dependent on values. He could also explicitly tackle the question of whether life is desirable or not. Should our biologist conclude he must reject or reexamine the values behind his assumptions?

For most questions the difficult task is to establish the causal links between various factors. A second set of problems are the associated side effects and consequences that follow from a certain solution. The simplest problem is often the value part. There is a general agreement that health is better than sickness, happiness than sorrow, and life than death. These values can be questioned, but doubts have to be supported by strong reasons to motivate a change of mind.

A revision of the opinion that a judgment is not only a matter of fact, but also of values, does not imply a change of this judgment. For either a change of heart or mind, there is a need for arguments. If the biologist becomes convinced that his opinions include the value that life is intrinsically good, he might just say, “OK, so I must have supported that value.” A discovery of hidden or needed values is no argument at all for a person to change his opinion. The reaction is, of course, to stand by the “unconscious” value judgment until presented with strong arguments for a change. Charging him with the naturalistic fallacy does not ruin his line of reasoning; it just adds a subordinate clause to the same judgment.

Often the NF in the weak sense is seen as so reasonable a condition that it even becomes impossible to commit a fallacy. If there is always a value premise behind a value judgment, the only question is whether the value premise should be explicit or not. Often it is claimed that it is helpful for a reader if the writer declares his values rather than let them be cryptic. An implicit consequence of that advice is that potential readers might avoid a line of reasoning that is inconsistent with their values. To avoid such a preselection, voluntary declarations are often not very informative, but more of a marketing character, stressing common values. However, there will not only be positive marketing, but opponents will suggest that unpopular values are the prime force behind uncomfortable results and reasoning. No doubt there are situations in which explicit values are helpful for understanding a line of reasoning, but we do not think those situations arise often enough to motivate a general demand for explicit values. There are some good reasons for the present situation as characterized by Sjöberg and Montgomery: “Argumentation is normally not about values but about the state of the world. This is a common finding in studies of political controversies. . . . This may be because in debates values are typically either all positive to all parties or some of them are not suitable for public disclosure. . . . *De gustibus non est disputandum*” (Sjöberg and Montgomery, 1999:618).

In the weak sense, the place for values seems to be a

pragmatic decision, and talk of fallacy seems a bit overblown. In any discussion, arguments from one side can be refuted on the grounds that they seem wrong or irrelevant. But such objections can be raised against values as well as facts. In the weak sense of the thesis, there is no basis for claims that a fact is inappropriate per se—that it is an apple in a discussion strictly about pears. Our conclusion is that the value condition of the NF-thesis in the weak sense is reasonable to such a high degree that it is unavoidable, but that the contribution of implicit or explicit values is often of little importance. A common tactic is to establish the NF-thesis in the weak sense, but it is crucial to understand that there is no rational reason to accept this version as a leverage to the strong sense. To support more substantial versions of the thesis, it is necessary to justify a strict separation of facts and values, indicating an independence for values.

A less philosophical but very common interpretation of the NF-thesis is that it is not really an objection against the theoretical “is” of science but rather an anti-conservative objection against the practical “is.” This version is an objection to some kind of “Panglossian Paralysis.” If we live in the best of all possible worlds, there is no reason for change. To many non-philosophers, the rather trivial idea that we do *not* live in the best of all possible worlds is the message of the NF-thesis. In a longer historical perspective, the NF-thesis has been understood as a doctrine for secular reformists against religious conservatives that see the *de facto* situation as created and morally authorized by God. However, we do not think this is the line of conflict. Religious fundamentalists will generally support the NF-thesis in order to strengthen the independence of “ought”—an “ought” instead supported by the supernatural, the holy scriptures. Even before science became the strongest authority on facts in theory and in social practice, most religions granted a moral superiority of God’s visions over the actual conditions of the world. The discrepancy was at first caused, not by modern science, but by the revolt of Satan and Adam eating the apple of knowledge. Jesus, Mohammed, and Buddha were all moral reformers challenging the present order. Few, if any, religious fundamentalists are satisfied with the way things are, so we think the only proponent of Panglossian Paralysis is a straw man.

A fourth version of the NF-thesis is the criticism against environmentalists and naturalists who dogmatically prefer the natural or evolved to the artificial. Certainly, there are a number of people to whom epithets such as *ecological* and *natural* are equivalent to good. Others may see this as some kind of simplistic fallacy—a *naturalistic* naturalistic fallacy. However, we find such a preference for the natural not that different from other core values, such as freedom and equality. Opponents will claim that the proponents overrate them at the expense of other values. Further, these core values have in common that the proponents see them as undermined by social forces rather than being

an automatic outcome of the “is” in society. The values are all preferences for a potential state rather than being “Panglossian.”

Both the “Panglossian Paralysis” interpretation and the “naturalistic naturalistic fallacy” interpretation are common. In the following, we will, however, concentrate on the strong and, to some degree, the weak versions of the thesis. If it is important to distinguish values from facts, it is central to penetrate what is the basis for values.

Naturalism, Ethics, and Objectivity

Edward O. Wilson pinpointed the biological foundation of ethical intuitions:

These centres [the hypothalamus and limbic system] flood our consciousness with all the emotions—hate, love, guilt, fear, and others—that are consulted by ethical philosophers who wish to intuit the standards of good and evil. What, we are then compelled to ask, made the hypothalamus and limbic system? They evolved by natural selection. That simple biological statement must be pursued to explain ethics and ethical philosophers. . . . (1975:1)

We can observe other species, and we can study cultural variation in anthropology and history. We can imagine or extrapolate alternatives generated by imagination or religious tradition, but the evaluator is nonetheless always human. What, then, justifies claiming a fixed point outside the biological system? The philosopher trying to eliminate all anthropocentric influence is still a member of *Homo sapiens*, and the analysis is always a thought experiment.

Our ability to care for others is much less the result of ethical analysis and teaching than a salient feature of being a species of mammal. The difference in sociality between a group of dolphins and a school of fish says something about our starting point. Hume expressed an understanding that what we feel is dependent on who we are: “there is some benevolence, however small, . . . some particle of the dove kneaded into our frame, along with the elements of the wolf and serpent” (Hume, [1777]1992). It is difficult not to see this statement as contradicting the NF-thesis. The sentiments and the values of the subject are linked to Hume’s highly regarded passions, and these passions are products of evolution. In the following quote, he takes one more step in sounding like a modern sociobiologist: “A man naturally loves his children better than his nephews, his nephews better than his cousins, his cousins better than strangers, where every thing else is equal. Hence arise our common measures of duty, in preferring one to the other. Our sense of duty always follows the common and natural course of our passions” (Hume [1740]1973:3.2.1). This reads like an abstract on the genetic rationality of kin selection.

In light of these examples we feel motivated to question Hume's position as a devoted critic of naturalistic ethics. To understand Hume's point of view regarding "is" and "ought," it seems reasonable to view it as a part of his general skepticism. The NF-thesis might be seen as a reasonable consequence of his questioning of causality as such. Hume claimed that we had no valid reason to consider one thing causing something else. The timing between events, for example, never proves that there is a causal connection; empiricism and rationalism cannot establish a connection between phenomena. The fire burning is one thing, the radiation of heat is another, and we cannot say that the blazing fire causes heat. Such a theory is hard for most people to take seriously, but philosopher Bertrand Russell (1961) comments on Hume's critique, suggesting that to date it has not been effectively refuted. At the same time, Russell notices Hume's problems by pointing out that Hume makes causal statements in the very sentences by which he questions causality. It is impossible to take any practical action without strong assumptions about causality. It is also difficult to say or write anything consistent and intelligible without implying causality. The objection against causality is a statement of principle, after which the philosopher continues to act and argue as if there is causality. But for a man who holds that there can be no connection between one "is" and another "is," the thesis that there can be no connection between an "is" and an "ought" is much more limited.

This reasoning is an attempt to find a link between the naturalistic fallacy and Hume's philosophy. It seems, however, a protracted and indirect argument, and Hume has written more directly on the subject of naturalistic justification; his general line favors a naturalistic position. It is strange that this is seldom acknowledged, and that the NF-thesis is even called "Hume's law." Kant's philosophy and the thesis are much more compatible. Here, rationality is not the slave to natural passions, but a tool for a higher purpose, to find out what is really right. Here, morality is not a part of the natural fabric, but is to be found by distancing the thought from lower determinators such as emotions and interest.

A confusion of Kant and Hume with regard to a central issue seems too elementary a fault for being generally accepted. However, we are not alone in making this judgment. For example, Larry Arnhart (1998), Richard Taylor (1979), and Alasdair MacIntyre (1981) also see the NF-thesis as a strange attempt to link Hume's name to a Kantian view and then use it against Hume's intellectual position. This stance is dubious, at best. With this statement, we do not claim to make a contribution to an historical investigation, but to point out that the NF-thesis not only has consistency problems, but also has some problems with the endorsement of the authority most often referred to.

One critique against naturalistic ethics is that it cannot provide the objective status desired by moral philosophy.

When evolutionary theory abandoned teleology, it questioned the basis for universal moral rules. Evolution itself makes no anthropocentric preference for man over bacteria or wolves, and may therefore be regarded as opening the door to relativism or indifference. Evolution *per se* gives no moral guidance.

The pure idea has always attracted attention, and mathematics is the language of science. The laws of mathematics are certainly not culturally relative and are not restricted to humans, but are a reality for all rational beings. Even without the existence of any agent, it might still be argued that $1 + 1$ makes two. This high universality is attractive as such, but to desire that ethics resemble mathematical objectivity is overambitious and misguided.

An analogy with nutrition may provide a more accurate picture. What constitutes good food for man is not necessarily good for all rational beings. Substantial variations in nutritional habits are found among human cultures, but underlying the surface are common elements and behaviors: the fork and the chopstick may not be fundamental. Many feeding habits are linked to environmental resources, but much variation is purely cultural. But this does not make nutrition a subjective field, where any statement or habit is as good as another. This analogy is not a surrender to emotivism. Some foods are poisonous and others are beneficial in limited amounts. The way our bodies react to different food components—and our understanding of these reactions—are of fundamental importance for what we ought to eat. The ambition to make ethics as objective as mathematics has influenced thinkers to search in wrong directions under the assumption that this type of objectivity is possible, desirable, or even necessary. Our position is that only in the nutritional sense, and not in the mathematical sense, can ethics be viewed as objective.

This criticism of a mathematical ambition undercuts the common assumption in the discourse that moral judgments are logically necessary conclusions following the premises. A set of premises is a priority rather than an exhaustive list of relevant axioms. Moreover, the conclusion—with or without a value premise—is hopefully reasonable, not a logical necessity.

From this medium universalistic view, it is not unjustified to take an anthropocentric view, asking classical questions like "what is a good life for man?" and "how do we construct a fair society?" Contributions from Darwinism and the social sciences seem to be at least as suitable for such quests as religious and philosophical contemplation.

Taste and aesthetics are two other phenomena linked to evolution and objectivity in much the same manner. Symmetry is admired and may reflect health, and many other signs of beauty are indicative of well-being and reproductive capacity. Beauty may lie in the eyes of the beholder, but the fact that the eyes are in the head of a human tells us about its perception and judgment. In many animals, there is a habitat preference that tells what is to be desired.

There are two other perspectives. According to the emotive view, all statements are personal judgments expressing nothing but subjective preferences. According to the perspective of Objectivity, value statements should be more or less accurate estimates of the Right, the Beautiful, and the Sublime.

One reasoning about the objectivity of ethics is Michael Ruse's (1986) thesis that ethics is subjective in reality, although there exists a genetic predisposition to see it as objective. This theory may underestimate ordinary people. Not only clever intellectuals, starting with Herodotus and Xenophanes, but people in general are aware that many of their norms are shaped by socialization. They are aware of the relativism of norms, and many complaints about lack of ethics mostly point at loose social norms. It is essential to make a distinction between subjectivism and cultural relativism, and the second kind can be seen as valuable without being objective. The common view is probably that some norms are better than others, but that some norms of behavior might be no better or worse in themselves, their value being derived from dominant norms of a certain culture. Driving on the right-hand side of the road (or the left-hand side in other societies) is no virtue in itself, but society's insistence that we do so and the punishment of those who disobey is justified.

The proponents of the NF-thesis seldom deny cultural diversity, but see differences and similarities as of minor importance. The aim of ethics is to construct a model according to which descriptive ethics is to be judged, and therefore there is little to be learned from descriptive ethics. We think this is a misjudgment.

On occasion, the NF-thesis is used as a wedge between normative and descriptive ethics. Antony Flew states that the heart of the doctrine is "the logical Grand Canyon" between being valuable and being considered valuable. He writes: "Again, after our earlier stress on the enormous difference between saying that something is desired and saying that it is desirable, we are bound to notice the tendency to equate the valuable with what is in fact valued" (Flew, 1967:39, 42). When the "is" expands from distant facts to descriptive ethics, the step to normative conclusion becomes even less distinguishable. A philosopher pursuing the issue might conclude with these two statements: "Action A ought to be done" and "My normative judgment is that action A ought to be done." Without a microscope with high resolution, no canyon or any other enormous difference can be seen.

Values and Facts as Separate Worlds

One effect of the NF-thesis is that it indirectly promotes two emotionally attractive bases for ought-statements. One is to succumb to the familiarity of traditional attitudes; the other is to adjust to uncompromising new ideas that emphasize far-reaching potential rather than realism. These old

and new visions, religious or secular, should not, according to the NF-thesis, be valued according to facts and reason, since these variables are too heavily influenced by the conditions in an amoral world. These factors may have a function when the "oughts" are to be implemented, but not when deciding these ultimate goals. At the normative level, goals should be evaluated for their intrinsic value. The following quote is representative of this opinion:

Proposed naturalistic justification of morality have appeared to suffer from a number of problems that seem to make them intrinsically unfit for playing a justificatory role. First, appeals to causal factors seem to be incompatible with the freedom and intentional activity that is essential to moral action. And, second, the facts of causal connection appear to be inappropriate for establishing normative justifications or prescriptions. (Rottschaefer, 1991:342)

In more practical terms, Beckstrom argues for limiting the facts to a secondary phase of implementation: "As I said, evolutionary science cannot be used 'normatively'—it cannot be used to determine what social goals ought to be pursued. But once social planners, public or private, have used their values and tastes to select social goals, modern evolutionary science may then step in to provide factual guides toward achieving those goals—facilitative guides" (Beckstrom, 1993:2).

Any impression of logical reasoning in the citations above will be dismissed when the same idea is expressed using another example. George Stein discusses the foundation for criticism of National Socialism:

But then, if we are to argue that they made a naturalistic fallacy in developing a racist "ought" from their putative "is," by what epistemological standard do we derive our "ought" of the unity of humankind from our putative "is" of the unity of humankind? If science cannot support racist nationalism, neither can it support liberal humanitarianism or any other normative, ethical construct. We are forced to reassert that science is totally irrelevant in the choice of public policies. (Stein, 1987:267)

However, not all political scientists accept such a declaration of impotence, that "science is totally irrelevant" when considering politics and ethics. Roger Masters makes a point that we think hits the bull's-eye:

I am, of course, aware of the so-called naturalistic fallacy which has so often been condemned by logicians and methodologists. But when the doctor prescribes a treatment, we don't normally object that this practice bridges the logical distinction between the facts of diagnosis and the value of health. Biology, like medicine, has much to teach us about our species and

the risks we confront by ignoring the natural basis and consequences of our habits of life. (1989:xv)

Later he adds one more sentence to this line of argument:

When a naturalistic approach is used in political science, it does not follow that we can say nothing about the relative desirability of different regimes. Such a conclusion would make as little sense as the assertion that the science of medicine makes it impossible to define health and prefer it to illness. (Masters, 1989:227; see also Masters, 1993 for a more extensive critique of the fact-value dichotomy)

One explanation for the popularity of the NF-thesis is that it connects to an important philosophical question—that of the free will. Most people do not agree with Spinozan dismissals, like this statement by Ken Binmore: “We are not unpredictable because we have a free will. We say we have a free will because we are not always predictable” (Binmore, 1998:513). Economists and philosophers are not always in agreement, but most will disregard random events and trembling hands as manifestations of free will. Economists will ask for “consistent preferences” and philosophers for “an authentic person” before paying homage to an individual’s choices.

The case for determinism is pushed by many different paradigms. Biology is often viewed as arguing for fixed programming by instincts. Behaviorism proposes a more flexible programming, while psychodynamic theory argues for the influence of early childhood. Economic man is more openly programmed insofar as he chooses the means for rationally obtaining his preferences, but economists say little about these preferences. Neo-Darwinism also suggests a more open programming, but ultimately there are natural passions, not an “unmoved mover.” Values may be regarded as a means of escape from the Scylla of determinism and the Charybdis of happenstance. Some ethical intuition, subjective belief, or Kantian rationality can be regarded as both sufficiently consistent and genuinely independent to be an expression of the free will. The naturalistic fallacy thesis might be seen as a guardian of free will.

Religion has long attempted to motivate values. Through time it has become successively more difficult for the proponents of religion to use reason and knowledge as positive support. The following reflection by Martin Luther illustrates the conflict between faith and knowledge: “Reason is the greatest enemy faith has: it never comes to the aid of spiritual things, but—more frequently than not—struggles against the divine Word, treating with contempt all that emanates from God” (Luther, 1569:353).

When trying to pass the court of reason, the best option religion may have is the ignorance defense. God’s existence is seldom proven anymore, but the line of defense has regrouped around the questions “Can we really know for sure that God does not exist? Is it not wiser to say we

do not know?” Pascal argued that the uncertainty should result in an acceptance of the religious proposition even if it seems very improbable (because the potential rewards are very high for a believer). If religion can get through the court of reason with a hung jury, it will do just fine. If we do not know for certain, we will believe, and in the judgment of hearts, faith has a lot of attractions.

If science cannot prove the existence of God, this failure can be understood in two ways. That God does not exist is one of the alternatives, but the devout will claim that the lack of proof illustrates the shortcomings of science. In much the same manner, the mission of moral philosophy is to prove the virtue of altruism. The crucial measure of whether naturalistic realities provide a sound basis for ethics is whether a naturalistic perspective can support an altruistic philosophy. If it does not provide such support, it is dismissed as unsuitable for ethics.

B. Mayo is one of many philosophers arguing for naturalistic support of conventional ethics: “Naturalistic theories offer to rescue ethics from perpetual uncertainty, or even meaninglessness, by offering substitute statements which we know how to verify, and claiming that they are equivalent to the original moral judgments” (Mayo, 1986:39).

Robert Richards is a philosopher who argues that naturalism can support altruism. His thesis runs as follows: “the evidence shows that evolution has, as a matter of fact, constructed human beings to act for the community good; but to act for the community good is what we mean by being moral. Since, therefore, human beings are moral beings . . . each ought to act for the community good” (Richards, 1987:623-24). Whether the author commits the NF or not is a minor question; the argumentation has more severe shortcomings (Neo-Darwinism has repeatedly shown that evolution is not driven by what is good for the species or even the community, but can generally be explained by what is good for the gene). This ecumenical agenda seems to hold that the antagonism between Darwinism and traditional values in religion and philosophy will evaporate if Darwinism can be interpreted as another path to the same destination. Richards seems to support the project suggested by Mayo. We think such a project is against the spirit of science. In pre-Copernican times, the mission of science was to confirm religious truths, but since then the result of research can be a firm critique.

The ethical discussion needs some bases. In our time, when religion has lost much weight, we are left with a void that has partly been filled with a semi-secular altruistic philosophy that hangs in the air while the pillars of religion disintegrate. The problem is how successful we can be in finding normative goals without using facts. Similarly, moral philosophy has a problematic relationship with reason and science. Long ago, Francis Bacon made the statement, which still rings true, that moral philosophy is but a handmaiden to religion.

It is hardly controversial to consider the evaluation of nature by Huxley as the prevailing opinion among humanists of our time: "Let us understand, once for all, that the ethical progress of society depends, not on imitating the cosmic process, still less in running away from it, but in combating it" (Huxley, 1894:83). With such condemnation of nature as the enemy, the gateway between ethics and nature should be replaced with a Berlin Wall. This is the context in which to see the popularity of the NF-thesis.

The Cartesian Compromise

Over a century ago, Josiah Royce made an observation that was partly a forecast. He wrote: "Once man himself was accepted as a natural product of the evolutionary process, the rest of the Cartesian compromise could hardly be maintained" (Royce, 1892:viii). That forecast seems reasonable considering the potential of evolutionary theory, but the outcome has been wide off the mark. Rather, the Cartesian compromise stands stronger today.

This development can be understood in light of the reasoning behind the naturalistic fallacy. Few would disagree if we claim that Max Weber is a very influential social scientist. When writing about the objectivity of the social sciences ([1904]1968), he makes a distinction between "social science" and "social politics." The former is about means, and it can be studied objectively by scientists. The latter is about goals for which science has little or nothing to say. Unfortunately, it is unclear what is to be said in favor of social politics. Weber makes the distinction between "instrumental rationality" and "value rationality," but one is left with similar indecisiveness since instrumental rationality can be treated scientifically but value rationality cannot. The message is again to proclaim the futility of passing the boundary and saying something substantial about goals and values. Questions arise demanding deliberation. What wisdom will science damage by intruding, and can something be said about the manner in which these goals and values are decided in the absence of science? But Weber provides no appropriate answers. Some combination of will/meaning/belief influences goal-setting, but no theory is provided for how a comparison between candidates is made to improve quality. It is further difficult to understand why interference from science should damage this process.

The conclusion is a familiar one—keep the two apart. Science should stick to analysis of facts, means, and effects—but what constitutes good and what should be done are left to others. The ground for these other decision-makers is unclear, and the mystery of values prevails. The demarcation line has been set and is seen as practical by many—even though the intellectual founding eroded with the theory of evolution. The Cartesian split between the soul and the body is still untouched, even if few see the body as pure mechanics and the soul as pure spirit connect-

ed by the pineal gland. The long life of this dichotomous relationship is remarkable and puzzling.

However, the impression that values are of major importance has some possible explanations. Values are often shorthand for a complex of facts and values. Such a complex is labeled with terms like freedom, equality, and socialist values. Even Christian values are not simply values, but a myriad of ideas about how the world works, human reactions, causes and effects. A value judgment is often motivated by referring to general values which themselves are based on some combination of facts and values. After a more penetrating discussion, the differences in "pure" values are often best explained by the differences in perceived self-interest; justice has a tendency to sympathize with general rules in line with our specific needs. In other cases, value is the label used for assumptions about facts, expectations about reality, or vague generalizations and prejudices.

One advantage of the term *value* is that it asks for some respect. It is not just a statement about something in the world but about your relation to it. Such a personal relationship is not so much a topic for critique or general discussion but rather a position to be acknowledged. In any discussion a disadvantage due to lack of knowledge or to some contradiction may be repaired by referring to a value or some special weight associated with a value. Referring to value becomes a saving device for ending the discussion with an air of parity rather than defeat.

If the NF-thesis is such a powerless weapon, why bother with whether it is considered false or true? The reason why we believe it is important is that it has some serious consequences for the general debate. The thesis tilts the debate towards declarations of goals and values of very limited intellectual importance. The serious discussion lies in how the world works and what can be done to change it in a beneficial way (i.e., intellectual reformism). Comparatively, the NF-thesis, by ignoring important aspects of reality, supports fundamentalistic or unstructured attitudes.

The NF-thesis plays a role, to say the least, in the sociobiological discussion. In one way or another, sociobiologists will be accused of committing the fallacy, and assurances to honor it can rightly be seen as inconsistencies. Richard Alexander charged E. O. Wilson with supporting the NF-thesis and at the same time breaking it (Alexander, 1987:167-68). A few pages after his support for the thesis, Alexander himself breaks it (p. 220, last paragraph). Recently Frans de Waal (1996) expressed support for the thesis while formulating normative prescriptions from his knowledge of nonhuman primates.

Too many writers take the fallacy's claims at face value and try to pass the unclear line of how the thesis is to interpreted. Even if not committing the fallacy in the weak sense, accusations will be levied. Inevitably there will be some feeling of too much reliance being placed on observations and knowledge but not sufficiently on values. In

more substantial interpretations of the thesis, all sociobiologists are committing the fallacy. We think it is unwise and unnecessary to give opponents a blank check for this accusation.

We have referred to several skeptics of the thesis, and no doubt the reader will think of further examples. Some skeptics, like Williams and MacIntyre, are well-respected and influential philosophers, but so far their criticism has not threatened a belief in the thesis, which continues to be presented to new students as a firm piece of theory, tried and true. It is not problematic that some people hold this belief; we can all think of much more bizarre ideas that have some following. What is problematic, however, is that the naturalistic fallacy is considered an uncontested thesis, and something that is agreed upon. It can even be seen as a trivial truth, which is why most proponents limit themselves in proclaiming the essence rather than indulging themselves in argumentation. Few philosophical ideas are marketed so widely, massively, and shallowly.

The reason for both marketing and acceptance is that many academics politically believe in some kind of Cartesian compromise. As scientists, we attempt to stay away from far-reaching normative conclusions. If I want less interference in my area, it might be smart to follow Weber's line. Others set the goal, and I investigate the means and effects. If the basis for setting the goal is arbitrary and weak, the normative guidelines might become some diffuse platitudes posing no major obstacle.

The next question is seldom addressed. From what substance do these value-judgments emerge? There is a need for seriously evaluating goals and establishing priorities. An elected person has not become a breed apart, and resolutions by party congresses or the United Nations do not generate judgments of a special intellectual dignity. Goals and decisions need to be founded on facts and rational reasoning.

Most politicians understand the importance of facts and attempt to be rational, but they are also practical enough to see the utility of an escape clause if they run into trouble. Poor proposals can be supported by the dubious defense of being in line with important values or in conveying important value messages. Politicians are given mandates from the people to make decisions. Good advice in making these decisions, however, is not always welcome, and some politicians will reject unsolicited recommendations. Scientists, on the other hand, have not only a privilege, but an obligation to draw conclusions from their knowledge and press their point rather than making a halt at some demarcation line. Of course, the present position of science may be proven wrong, or at least shown not to contain the whole truth, but it seems reasonable that it provides a better foundation for good decisions than ignorance. Efforts by scientists to draw normative conclusions will not hinder politicians in making similar efforts. On the contrary, it might support a more enlightened discussion. Academia is

doing everyone a disservice by voluntarily disconnecting their "is" from the "ought" of the discussion.

Conclusions

A preoccupation with the naturalistic fallacy makes us vulnerable to the real fallacy—the ideological fallacy: to think that something exists because it is wished. When the "ought" is disconnected from the profane "is," the road is opened for illusions of positive thinking.

The Delphi had an exhortation: *Gnothi seauton*—understand yourself. Darwinists, psychologists, economists, political scientists are all making progress toward an understanding of *Homo sapiens*. The fractional split between disciplines makes it important to remind ourselves that we are analyzing the same species and that different answers need to be compatible. Of course, religion may still claim to have good reasons for its recommendations, but to many people these reasons seem insufficient. However, this weakness does not make philosophy the heir by default, and philosophers who think they can make ethics their separate domain will probably be mistaken. The Cartesian separation of the soul from the body will be hard to maintain. Skeptics of the NF-thesis hold that the "is" of science is highly relevant for the "ought" of ethics.

A common approach is to establish the NF-thesis in a weak sense and then later, discreetly, expand its consequences into claims based on the thesis in a strong sense. This intellectually confused and ethically dubious transformation is how the thesis gets its bite. There are many convenient reasons for the popularity of the NF-thesis, but we find its justification most incoherent and ultimately unproductive.

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