

Facts and Values in the Human Sciences

It has often been claimed that unlike theories and explanations in natural science, the ones that social scientists advance have strong moral, normative, evaluative presuppositions, commitments, or consequences. The avoidability or unavoidability of values in the description and explanation of social facts is a question that has long vexed all the social sciences. Many empirical students of human affairs have insisted that their findings and theories are value free. Others have denied the very possibility of neutrality. In recent decades this dispute has been joined by those who have argued that much social science reflects values inimical to women and other minorities, and to their contributions to social knowledge as well.

FACTS AND VALUES IN THE HUMAN SCIENCES

According to some philosophers, the connection between ethics and social science is even closer than an affinity. Therefore, in social science we always take sides on moral questions. If that were so, it would be a crucial difference between natural and social science. In fact, some hold it to be the source of what has been described as the difference between natural science's relative progress and the alleged lack of progress in social science.

Much social science has been driven by the moral values and ethical imperatives of social scientists. Just choosing what explanatory or predictive problem to work on, what phenomena to understand, or whether to interest oneself in a particular social process is often the result of an initial evaluation that how things are done, or their outcome, is unacceptable, can be improved, is unjust, unfair, inequitable, needs to be changed. The same is, of

course, true in natural science research. But the special issue for social science is whether the results of inquiry in the social sciences, the findings, theories, data, explanations, et cetera, are themselves neutral as between differing values and commitments. It is widely held that objectivity in natural science requires neutrality. The question raised by philosophers of social science and others is whether neutrality is possible in social science, and if not, what the ramifications are for objectivity in social science.

NORMATIVE VERSUS POSITIVE; PRESCRIPTION VERSUS DESCRIPTION

To understand this issue, we need to understand the difference between facts and evaluations, or description and prescription. Our task is complicated by the fact that many who argue that social science always takes sides on moral questions do so by denying this distinction. Therefore, whatever one says to introduce it is bound to be unacceptable to some parties to the debate.

A factual claim describes the way things are, while remaining neutral on the question of how they ought to be or whether they are good or bad or could be improved or worsened. A claim about what is the case is *value free*. A normative or evaluative or *value-laden* statement expresses values or evaluations of facts based on those values. Or it may both describe and evaluate. That is, it can express approval or disapproval, praise or blame, for the fact it also describes; it can reflect the suggestion that the fact ought not—or ought—to be the case. A simple example is the contrast between saying that Lincoln was killed and saying that he was murdered. The former states the facts but is neutral on whether his killing was a wrongful death. The latter reports the same fact but takes a stand on whether it ought to have happened. “Lincoln was murdered” presupposes some moral theory about what ought to be and what ought not to be the case, about whether some killings are morally permissible. Such statements reflect the ethical norms, often unexpressed, of the speaker.

One traditional view about science is that it is value free, or morally neutral. The theories, laws, experimental descriptions, explanations, and predictions of physics or chemistry seem quite independent of any ethical teaching. Of course, natural scientists make value judgments, and some of these will be informed by the scientists’ specialized knowledge. But in so doing, they express views that follow, not from their scientific beliefs, but from those beliefs combined with their independent moral beliefs. For example, a physicist’s opposition to a new weapon system may derive from his belief

that it is unworkable or that it is too expensive. In each case, his opposition to the system will follow from these beliefs only if we add in evaluative premises. In this case the premise is that money should not be spent on physically unworkable systems or spent on systems that are not cost effective. Though such principles may be obvious, they rely on other, more basic moral claims: that it is morally wrong to waste scarce resources, for example.

Some philosophers have held that moral claims cannot be part of science because such claims do not constitute knowledge at all. Rather, moral judgments are expressions of emotion, taste, or subjective preference. One argument in favor of this view is the fact that people who seem to agree on a very wide range of factual questions may yet disagree about the most fundamental moral ones. Thus, two physicians may agree on all the facts about a particular prospective abortion, including all the physical, psychological, and social consequences for mother and fetus of having the abortion; yet they may still disagree about whether the abortion is morally permissible. A second consideration given in favor of this skeptical view of moral knowledge is the fact that moral teachings differ widely among cultures, subcultures, and ethnic groups. Since it seems ethnocentric to insist that some of these teachings are false, it has been concluded that none are true. But if there is no such thing as true and false when it comes to values, then ethical theories, no matter how firmly believed, cannot count as knowledge.

It follows from this skeptical view of ethics that if social science is to be knowledge, it ought to emulate the value freedom of natural science. Social scientists ought to be careful about how they express their findings and theories in order to ensure that value-laden descriptions don't contaminate them. They should be scrupulous about labeling any evaluative claims as such. Thus, like the physicist, a political scientist can oppose a weapons system as *undesirable* because it is politically destabilizing. Here the political scientist's specialized knowledge of the effects of such a system on international relations is crucial, but his opposition follows only from this knowledge plus a normative claim that destabilizing policies *ought* not be pursued.

Even if moral knowledge is possible, the persistent disagreements about it among those who share many other beliefs, suggest that acquiring such knowledge is difficult. Indeed, the tolerance that characterizes most Western societies reflects the belief that moral questions are difficult to answer with much unanimity. Moral certainty breeds paternalism, if not intolerance and, ultimately, totalitarianism. The avoidance of moral absolutism is one reason to favor *value neutrality* as a methodological principle for social science, even for those who do not demand that it emulate the features of natural science.

The conviction that social science should, like natural science, be value free is widespread among experimental psychologists, economists, and the

more quantitative of social scientists. Economists especially insist on advancing what they call a *positive*, as opposed to a *normative*, science. They hold that their discipline cannot make substantive policy recommendations because such conclusions are normative. Economists can only trace out the consequences of various policies, actual and possible, leaving it to the politician to decide which should be implemented. In fact, the economists' self-imposed restriction of economic theory to ordinal utility and revealed preference, and of their welfare criterion to Pareto optimality, is most often justified by this commitment to a purely positive science.

Many exponents of positive social science provide a moral or, at any rate, a prudential argument in its favor. They hold that it is important to avoid a normative bias in social science, for that can destroy the objectivity crucial for informing social policy. Evidence slanted by personal values, conclusions shaded to advance individual preferences or theories reflecting implicit commitments, even the highest moral conceptions, all may destroy both public confidence in social science's objectivity and factual reliability. Such a bias may frustrate the very aims social science is called upon to guide. Sometimes it may be difficult to attain the sort of moral neutrality required. But the social scientist has an obligation at least to be explicit about the values held, again because they may color judgments and impair objectivity. When that happens, the information a social scientist offers to inform policy will reflect biases and impede the attainment of social goals chosen by the society through democratic procedures. Just as few would wish to have someone else's values imposed on them, so the social scientist has no right to impose moral standards on society.

But remaining value free is, according to many, far more difficult for social science than for natural science. According to others, it is flatly impossible; still others hold it to be undesirable. The argument that moral neutrality is impossible for social science often goes together with the argument that such neutrality would be itself morally undesirable. Together, the arguments purport that what would have to be done to free social science from value commitments would result in something no one would recognize as a science of human action that explains events by uncovering their significance. At best the result would be a powerful tool for social control; at worst it would just be an empty exercise in "physics envy." Both of these outcomes are held to be morally repugnant. They threaten our view of people as morally responsible agents and as objects of ethical concern. They would distract us from what some hold to be the social scientist's duty to make the world a better place through the improvement of our moral consciousness of salient facts about the social setting. This is a position on value neutrality that characterizes the critical theorists, among others (see Chapter 8, "Critical Theory").

Some proponents of the unavoidability of moral commitments in social science argue that, to begin with, there is no such thing as objectivity either in natural or in social science. Citing writers like Thomas Kuhn, they hold that the very notion has been undermined fatally by advances in epistemology or the sociology of science, or the postmodern deconstruction of science. This strategy is heir to a long tradition, according to which the distinction between facts and values is an unfounded one. It connects the issue of values in science with the agenda of the theory of knowledge: What sorts of facts can we have knowledge of? Are there facts we can know independent of interpretations, descriptions, and evaluations? Are there moral facts? Do they differ from other kinds of facts? How can we tell them apart? Either side we take on the question of value freedom in social science commits us to positions on these fundamental epistemological issues.

If we cannot propound a good account of the difference between statements of fact and expressions of moral evaluation, then the debate over whether a discipline should be value free is moot. The most popular argument against the distinction is based on the alleged impossibility of providing pure descriptions, without the implicit importation of evaluations or prescriptions.

The vocabulary of ordinary language and of the social sciences is replete with value-laden terms. For example, to describe a tribal system as primitive, a political system as a regime, an economic system as capitalist, or behavior as intelligent seems to combine description and evaluation. Even when social scientists give explicitly stipulative definitions of such terms, free from their ordinary connotations, the terms retain their "halo" of moral approval or disapproval. Thus, modern economic theory's definition of rationality as utility maximizing can be claimed to be neutral on the moral desirability of utility maximizing. But since *rational* is an ordinary term of approval, this claim carries little weight.

It is because of the halo effect of ordinary meanings that social scientists who endorse the notion of value-free social science have often had recourse to neologisms. And for their trouble, they have been accused of producing jargon that merely rephrases common sense in indecipherable circumlocutions. Their aim, of course, has been to avoid ordinary connotations. But the results in scientific advance have never seemed to justify the effort. The reason, argue proponents of value-laden social science, is that the moral dimension is an indispensable part of the explanatory strategy for rendering human affairs intelligible.

The way a social scientist selects problems to work on, the factors cited to explain behavior, and the evidence sought to substantiate these explanations all reflect the significance and meaning the social scientist attaches to them.

To focus on a particular problem is to evaluate it as more important than others, and importance is based on evaluation in the light of human values. Moreover, the terms in which events, institutions, and behavior are to be described must be meaningful to the participants in these events, institutions, and activities. But again, meaningfulness is a reflection of rules, including moral principles. A social fact cannot be identified and described in terms of the “mere” behavior of the human bodies that participate in it. It must be described from within their points of view, perhaps from the basis of the deeper meanings of these institutions.

A social science that sought to efface the moral dimension from its descriptions and explanations would simply serve the interests of some other moral conception. It would reflect values foreign to those that animate our conception of ourselves. A value-free social science, if successful in providing a predictively powerful theory of human behavior, would serve the interests of those powerful and willing enough to disregard human rights and individual autonomy. It would enable them to override meaningful action and manipulate behavior. But more likely, such a social discipline would simply be a pseudoscience (such as Nazi “racial science”) serving as an empty rationalization for the socially harmful goals of the powerful. At any rate, that is what the opponent of value-free social science would argue.

One line of reply to this argument grants that social science does have some or all of these ineliminable moral dimensions. However, it goes on to identify the same or similar features in natural science. The scientist’s interests also determine what phenomenon will be singled out for study, in what terms the facts will be described, how the evidence will be assessed, et cetera. This is part of what makes science a fallible enterprise: scientists are human, and what they do is as value charged as any other human activity. But that means either that value ladenness is no obstacle to scientific knowledge or that it is at least possible to reduce its obstructive effects enough to make scientific progress.

That may well be the beginning of a good argument against those who say that social science is impossible because we cannot be objective, that is, value free, in our account of our own activities. But it is no argument against the claim that social science is essentially a nonobjective enterprise, one in which progress is not measured by the standards in force among the natural sciences. Such an argument makes social inquiry of a piece with moral inquiry, so the admonition to minimize its value-laden character is a profound mistake. In this view, divesting social science of values would simply prevent us from pursuing our “science” of human action altogether.

It is clear that a full positive reply to this sort of normative argument involves little less than an entire philosophy of social science. It requires that

we successfully naturalize the concepts we employ to explain human action. Short of that, the defender of value-free social science may still extol the importance of social scientists' being upfront with their evaluative commitments. This way at least others can make appropriate adjustments in their own interpretations of social claims.

But if moral commitment is a central feature of social science, then perhaps it will provide us with an explanation of why the results of social science are so different from those of natural science—and a justification for this difference as well. For few philosophers, even the most empiricist among them, have ever expected any sort of scientific progress in moral philosophy. This is indeed a discipline in which progress is never a matter of steady improvements in predictive success. Rather, moral philosophy is a matter of deepening intelligibility and coherence. If social science is really a branch of moral philosophy, perhaps the opponents of naturalism are right after all.

AMARTYA SEN ON MORAL THEORY AND SOCIAL SCIENCE

Many of the issues we have just discussed and several other ones relevant to the relation between social science and moral philosophy are effectively raised by the work of Amartya Sen, a Nobel Prize-winning theoretical and applied economist. In many works over a long period Sen has devoted himself to understanding and accelerating development in the Third World. The motivation for this work is obviously normative, so obvious that Sen doesn't even feel the need to argue for it. Everyone favors enhancing the lives of people in the Third World. This is an uncontroversial moral goal or end. It has also seemed equally obvious that the way to make people better off in developing countries is to make them richer, to raise their standards of living, to increase their average per capita income. This has made development in the Third World largely a matter for economists. Sen's importance in contemporary debates about development is in large measure the result of the fact that, though he himself is an economist, he has provided powerful arguments from economics and associated social sciences to show that development in the Third World ought not be left to economists, nor be treated as solely an economic problem.

The questions that confront students of development are twofold: first, exactly what should we aim at in development, and second, how can we most efficiently attain it? The first is plainly a question of values, a moral or normative one. The second is a factual question about the best means to attain this end. Interestingly, Sen gives the same answer to both questions. To

the moral question of what we should aim at in development, Sen replies that we should aim at enhancing five distinct capacities: those fostered by political freedoms, including especially democratic party politics; economic facilities of the sort provided by free markets; guarantees of transparency in government, especially the rule of law and the absence of corruption; the protective security of a social safety net; and social opportunities free from caste, race, or gender discrimination. Capacities to live a flourishing life are enhanced by improvements along these five dimensions. Each is distinct and different, none can be derived from the others, and each individual must be free to exercise that mixture of these capabilities he or she chooses.

As to the factual question of how we can best attain this outcome, the answer Sen provides is that we can, as a matter of fact, most efficiently do so if we aim at each of the five as a means to all of the five as ends.

To show that the way to attain the normative outcome he advocates is to aim at enhancing each of the five capabilities, Sen marshals a great deal of social science—economics, political science, social psychology, anthropology. This evidence shows two distinct things: first, aiming at one of these five capacities will, under some circumstances, be part of the fastest way to attain one or more of the others, instead of aiming at the latter directly. For example, Chinese communist efforts to ensure literacy, nutrition, and health care probably enabled China much more rapidly to accelerate capitalist economic growth after the abandonment of central planning. By contrast, the much longer history of well-established economic free markets in Brazil has not eradicated widespread poverty, ill health, and other economic developmental problems. Second, there is good evidence that none of these five aims need be sacrificed to or incompatible with any other one. Thus, Sen advances evidence and argument against the widespread twentieth-century idea that economic growth requires the sacrifice of political pluralism and democratic processes. In fact, Sen has shown in a number of groundbreaking studies that democratic political institutions are the best assurance against catastrophic economic collapse that result in widespread famines. It turns out that famines are not the result of food shortages, but of the deprivation of economic entitlement guarantees that can best be ensured by democratic governments. Another of Sen's powerful empirical arguments is that enhancing women's social opportunities, through education especially, is a faster route to economic development than any policy that aims directly at facilitating and ensuring private enterprise and exchange.

Here objective, descriptive, factual social science is employed in order to identify the ways and means of development. Sen's arguments are powerful but they may be empirically disputed. However, they are not philosophically controversial.

But Sen employs important findings and theories from all the social sciences for a much more philosophically controversial purpose, one to which debate about the fact/value distinction is relevant. Sen argues for the normative goal that he advocates largely by advancing arguments against utilitarianism, Rawls's theory of justice, and other competing ethical theories. And the arguments all appeal to matters of empirical fact that it is hard to dispute. Yet, although the facts are hard to dispute, the argument that incorporates them may not be as forceful. Indeed, if there is a fact/value distinction, it will be question begging.

Sen argues that all the leading alternative moral theories—whose developmental objectives differ from his normative commitment to capability enhancement—are defective, owing to their inadequate *informational bases*. A moral theory's informational base is the set of facts and theories about human affairs that it deems relevant to choosing ends and values, rights and duties. Let's consider how this criticism works for utilitarianism and Rawls's theories.

The informational base of utilitarianism is, of course, people's welfare, their utilities, or rather the degree to which their preferences are satisfied. The only information utilitarianism requires or allows as relevant to make moral judgments is information about the welfare consequences of various attainable alternatives. It then requires those policies that maximize utility or most fully satisfy the preferences of all persons affected. Often, of course, reliable information about the welfare consequences for many people of all relevant alternatives is difficult to acquire. But Sen's objection is not based on this fact. Rather, he argues that utilitarianism ignores other morally relevant facts, including facts about preference satisfaction. In doing so, it reveals itself to be an informationally inadequate moral theory. Here is one set of findings from social psychology that utilitarianism ignores: the phenomenon of *adaptive expectations*. In brief, people's self-reported levels of welfare, happiness, and pleasure—utilitarianism's informational base—is usually a matter of adaptation to life situation. Thus, very poor Indian itinerant laborers self-report to be well satisfied under conditions most Westerners would find appalling. On the other hand, lottery winners report themselves to be no happier six months after their windfalls than they were before. When money income is substituted for self-reports as a measure of welfare or the degree to which preferences are satisfied, the results are equally disturbing: the same amount of money buys a very different quality of life depending on many different nonmonetary circumstances. Sen's bottom line for utilitarianism is that it is incapable of taking information available from social science into account in deciding on policies, even when every reasonable person will grant that the information is relevant. That is the sense in which utilitarianism's informational base is inadequate.

Sen makes the same criticism of Rawls's theory. He argues that applying the principles of justice identified by Rawls in the priority order that he requires presupposes a minimum level of well-being that in many circumstances has not yet been attained. This minimum level is identifiable in terms of measures social scientists can make of the degree to which communities have attained the capacities Sen identifies as the morally relevant ones. He offers a similar critique of other moral theories, as failing to make room in the inputs of their machinery for determining morally permissible or required outcomes of all morally relevant facts.

How can exponents of the moral theories Sen criticizes respond to his argument? One way is by invoking a strong fact/value distinction and arguing that Sen's critique begs the question against their theories. The counter-argument would run as follows: the judgment that some fact uncovered by social-scientific means should be in the informational base of any theory is not itself a factual claim. Notice the operative verb in the last sentence: "should be." This makes it a normative, moral, evaluative claim. Of course the statement or description of the fact uncovered by empirical research is not itself an expression of value or a normative claim. But the insistence that a particular moral or normative theory that does not treat the fact as morally relevant *should* do so, and is morally inadequate or defective if it does not, is obviously not a factual claim at all. When Sen argues that subjective feelings of well-being are not what developmental policy should aim at, since people who are badly off have high levels of subjective welfare, he is in effect simply rejecting utilitarianism, not advancing a factual argument against it.

Of course, we may well agree with Sen about the inadequacy of the informational base of a moral theory such as utilitarianism. But this just means that we reject it, not that we have a factual or empirical argument against it. In much of his writing Sen offers a compelling case for the five capacities he identifies as being both the end or objective of development and the means to attain them. The proponents of a sharp fact/value distinction may even concur in his conclusion. But if they (and we) concur in Sen's conclusion, then they will hold not that Sen has rationally convinced us of a normative conclusion, but that he has shown us that we share his fundamental normative commitments.

How Sen approaches the fact/value distinction turns out to be crucial to how we are to understand and evaluate Sen's extremely important arguments about how development in the Third World should proceed. A powerful argument that the distinction is groundless would add greatly to the power of his objections to alternative moral theories.

FEMINIST PHILOSOPHY OF (SOCIAL) SCIENCE

Disinterested, objective science has not always been beneficial in its impact. Especially and particularly during the twentieth century, social science has persistently provided more efficient and effective ways of harming people, other organisms, and the environment. It has done so in part by providing unwarranted rationalizations for policies that effect such harms. This trend enjoins an obligation among social scientists, and others who may influence policy, to reduce as much as possible these untoward consequences. The best way to do this, some philosophers of science and of social science argue, is to make the sciences, especially the social and behavioral ones, more inclusive. This is not just a matter of increasing the numbers of women and of marginalized racial, ethnic, and sexual groups who undertake social science research. It requires, according to some, changes in the philosophy and particularly the epistemology of the social sciences—changes that reflect the value ladenness of science itself.

Since women are hardly a minority among humans, it will be especially important that their interests and values be represented in decisions about the investment of scarce resources of thought, experiment, and observation in the framing of scientific theories, especially those that are likely to affect women the most. And some feminist philosophers of science have gone on to claim that this representation requires, or at least can be enhanced by, the epistemological inclusion of women in science. These philosophers begin their examination of science from an epistemological claim, sometimes called *standpoint theory*. This theory begins with the uncontroversial thesis that certain facts are relevant to the assessment of scientific theories that are detectable only from certain points of view, or standpoints. Sometimes the point of view or standpoint in question involves using a certain apparatus; sometimes, these philosophers argue, it requires being a woman or a member of a social class or a racial minority or having a certain sexual orientation. Standpoints will be particularly important to detecting social facts, of course.

To be interesting, the thesis needs to be given strong and potentially controversial content. It needs to be understood as claiming not merely that if a male or a Caucasian or a corporate executive or a heterosexual were in the same epistemic position as women or a minority or a relevant social class, the male would detect the same fact. Rather, it must be seen as claiming that males cannot detect such a fact for the same reason they cannot be female. The fact must evidently be relatively complex, perhaps historical, certainly theoretical and not open merely to someone equipped with the five senses.

Feminist standpoint theorists have not been reluctant to identify such facts. Typically they are facts that are hard to quantify or even to fully describe in ordinary or scientific vocabularies; facts about the long-term effects of oppression, subordination, discrimination, stereotyping. These are hard facts and undeniable ones, despite all the difficulty there may be describing them, and they can be inaccessible merely from description or from a brief and/or simulated personal encounter. One has to live the standpoint to really detect the relevant facts.

Few standpoint theorists allege that physical or chemical facts are missed by failure to attend to the findings from a woman's or other marginalized standpoint, though cases have been made for the occurrence of such failures in biology. For example, it might be claimed that the initial focus of sociobiologists on evolutionarily optimal male mating strategies (maximize the number of females fertilized, minimize energy expenditure on offspring) in nonhuman species and the failure to notice female strategies (allow access to males with the best genes and a demonstrated willingness to commit resources to offspring) was owing to male biologists' incapability of locating themselves in the relevant standpoint. In all the social and behavioral sciences, especially the ones that forgo interpretation for a naturalistic approach to behavior, action, and institutions, important facts are missed through want of observation from the standpoint of women.

Opponents of standpoint theory will, of course, appeal to examples from natural science to argue against its epistemological claim. They will note that in biology all it took was for female biologists to draw the attention of their male colleagues to the facts of female mating strategies among birds for the entire discipline to revise the theory of optimal sexual strategies to accommodate the facts. This counterargument shows that what standpoint theorists need to do is very difficult: they need to identify the facts inaccessible from other standpoints in a way that forces those occupying the other standpoints to grant the existence of the facts, and to argue that these facts cannot be grasped or grasped in the same way or most accurately or most completely from these other standpoints. It remains to be seen whether this epistemological claim can be vindicated.

Standpoint theory does not exhaust the feminist philosophy of science, and in fact its sternest critics have included feminist philosophers of science who honor the aspirations of standpoint theory and seek to attain them from other premises, in particular from those congenial to naturalistic philosophies of social science. The aspirations of standpoint theory include the emancipation not just of women but of all who have suffered from the very failures of objectivity and disinterestedness that science officially may extol but that scientists actually fall short of. Feminist philosophers of social sci-

ence do not need so strong an epistemological thesis as standpoint theory to identify facts that male scientists, owing to their interests, have missed. Feminist empiricists will recognize that such facts do require substantial theory to be recognized, theory that the nonscientific interests, values, even tastes of scientists brought up in a sexist world have probably prevented them from hitting upon. In the views of these feminists, the theories and the broadening of research programs to accommodate a full range of human interests may require, not just philosophical changes, but that counterevidence to theories reflecting male bias be wielded in politically effective ways.

Because feminist philosophers of science have been more attentive to developments in social science, they have emphasized the social character of research, the division of scientific labor, and the shaping of its research agenda. By contrast, the traditional philosophy of science has embraced science as the enterprise of individuals—Kepler, Galileo, Newton, Lavoisier, Darwin, Einstein. In this emphasis on individuals, it has perhaps been overly influenced by the Cartesian tradition in epistemology, which begins with Descartes's solipsistic skepticism and his consequent attempt to construct all knowledge from his own private experience. Modern science is, of course, an enterprise of teams and groups, communities and societies; indeed, of institutions and governments. Feminists have noted both the strengths and the weaknesses of this fact. On the one hand, the scientific community often serves to distribute research tasks in efficient and coherent ways, to support and to scrutinize findings and theories that individuals advance, and to provide a reward (and punishment) structure that gives scientists incentives to advance the research frontier. On the other hand, the community can be a source of prejudice, blinding individuals to empirical facts, offering perverse incentives to complicity in such ignorance, and blinding scientists to important human needs and values that should have a role in driving the direction of both pure and applied research. We need to take account of the social character of natural and social scientific inquiry and of its gendered deformation. Feminist philosophers argue that doing so should have an impact on the future of such inquiry and our philosophical assessment of it.

As we noted, empiricists usually distinguish facts from values and observe that science has long been characterized by a commitment to *value freedom*. They are ostensibly committed to not allowing the tastes, preferences, wishes, hopes, likes, dislikes, fears, prejudices, animosities, and hatreds—the values of scientists—to govern what is accepted as objective knowledge. Doing so completely and effectively, some opponents of the distinction argue, requires noncircularity in drawing the fact/value distinction. And as we have also noted, some philosophers, both feminists and nonfeminists, believe this is impossible.

But isn't the fixation of factual claims by value judgments just the sort of thing that objective, disinterested science should avoid or expunge, difficult though that may be? Of course, it does not always succeed in acting on this commitment, but science is supposed to be self-corrective: the methods of science, and in particular the control of theory by observation, are held, rightly in the eyes of feminist empiricist philosophers, to mitigate and minimize these failures. However, this is at most a negative virtue of the scientific method. At best it ensures that, in the long run, science will not go wrong epistemically. First of all, however, in the long run we are all dead. Feminist and other philosophers of science are committed along with scientists to seeing that science not go wrong in the short and the medium term, along with the long run. Second, merely avoiding error is, in their view, not enough. Avoiding error is not a motive that will explain the actual direction in which science has proceeded or how it should proceed. To explain the actual direction, at least in part, we need to identify the values of scientists, the groups and individuals, who drive it. And if we seek to change its direction, we may need to widen the range of interests represented in the scientific community.

Like all intentional human activities, scientific activity is determined not just by what we believe but also by what we want. The belief that it is raining won't send you out with an umbrella, unless you *want* to stay dry. Now, scientists don't just search for the *truth*, or even for *truths*. There is an infinite supply of the latter, and we will never make so much as a dent in the quantity of unknown truths. Science searches for *significant* truths. But what makes a statement significant and therefore worthy of scientific investigation or, for that matter, insignificant and not worthy? Feminist philosophers of science argue that the history of science is full of inquiries about statements deemed to be significant because of the values, interests, and objectives of the men who have dominated science. Likewise, many lines of inquiry are absent from its history because according to these same values, the questions they explored were insignificant. It is easy to give concrete examples of a persistent one-sidedness in according significance and insignificance to research questions. Recall the history of investigating mating strategies in evolutionary biology. Though biologists ignored female reproductive strategies in nonhumans, when it came to contraception the focus of pharmaceutical intervention was on women. On the other hand, in the treatment of depression (a disorder more frequent among women), pharmaceuticals were tested on men only, owing to the assumption that differences between male and female physiology were insignificant. Somewhere in the cognitive background of these decisions about how to proceed in science there were value judgments that neglected the interests of women.

Feminist philosophers of science have come to insist that there are in science, both natural and social, vast blind spots and blank spaces resulting from 2,500 years of male domination in identifying which questions are significant. What science needs to do now, or rather what women have always needed science to do, is to treat research questions significant to women. And the same goes for any other group, class, or race disposed in the identification of significant and insignificant research questions.

The crucial point for social science in this argument is not that judgments of significance should be forgone. Social scientists cannot do so. There are too many research questions to choose from in science's search for truths. Given scarce resources, human needs, and the importance that wonder attaches to questions, we have no alternative but to order questions by their significance *to us*. The feminist philosopher of science merely insists that we order inquiry on the basis of significance to *all of us*.

Identifying a role for value judgments in social science is not the end of the feminist agenda in the philosophy of science. In fact, it is probably closer to the beginning of it. Many feminist philosophers of social science have been interpretationalist in their views about the human disciplines. They have argued further that the real besetting sin of naturalism in social science is that of mistaking masculine styles of scientific inquiry for all scientific inquiry. Thus, they have argued, for example, that the demands for unification in scientific theorizing and explanation are often premature, counterproductive of scientific progress, or even unreasonable in a mature discipline. Feminist philosophy of science encourages pluralism. Women, and social science as they would pursue it, are more prepared than traditional male-dominated science to tolerate multiple, competing, complementary, and partial explanations without the expectation of a near-term weighting of importance, placement in a (patriarchal) hierarchy of causes, or unification under a single, complete theory. This ability to tolerate and a willingness to encourage a variety of approaches to the same problem in sociology or economics, for example, reflects women's greater sensitivity to the role of plural values—multiple judgments of significance—in driving scientific research.

Since it seems obvious that multiple assessments of significance should be encouraged by the experimental attitude of naturalistic social science, the feminist commitment to pluralism should be equally embraced by all, at the evident expense of the reductionistic proclivities of naturalism. Similarly, sensitivity to feminist discoveries about the role of values, both nefarious and benevolent, in significance decisions has implications for how the objectivity of science should be understood. Objectivity, these philosophers argue, cannot after all be a matter of complete disinterestedness, of value

neutrality or detachment of the scientist from the object of inquiry. For if this were so, there would be no motivation, in judgments of significance, for the inquiry to begin with.

Some feminist philosophers of social science will make common cause with interpretationalists, rejecting the centrality of prediction and especially of control to the scientific enterprise. Their suggestion that the sciences of society and behavior should proceed in this way reflects what they hold to be masculine biases also reflected in the subordination of women and other marginalized groups. The methodology of prediction and control fails to gain the knowledge that might derive from a more cooperative relationship with the objects of scientific study, be they human or infrahuman. Among the oldest account of scientific method is Francis Bacon's seventeenth-century notion that the scientist subjects *Mother Nature* to a sort of torture in order to secure *her* secrets. Even if this is a metaphor, it may not be innocent. And there are other metaphors at work in scientific explanation that reflect a male bias harmful both to the real objectives of science and to women, independent of their purported payoff in scientific understanding.

It is not surprising that, by and large, the feminist philosophers whose work has had the most influence in the philosophy of natural science are the empiricists and naturalists. They have argued that their conclusions about how science proceeds and how it should proceed are perfectly compatible with the empiricism and naturalism that characterizes much contemporary nonfeminist philosophy of science. As noted, most feminist philosophers of social science find themselves much more in sympathy with interpretation as the goal of social science; they therefore take up an adversarial stance against naturalism and its aim of producing value-free, objective knowledge of the sort we expect from natural science. By contrast, feminist empiricist philosophers of social science do not challenge science's aim to provide objective knowledge. They seek to broaden our understanding of the role of interests and values in choosing the domains of significant inquiry. At a minimum, objectivity in social science consists in recognizing this role for values.

DANGEROUS QUESTIONS, MORAL OBLIGATIONS, AND PREDICTIVE KNOWLEDGE

Controversial subjects are the social scientist's stock in trade. A particular premium is put on social science that provides revisionist, debunking, or otherwise startling conclusions at variance with either common beliefs about the past or hopeful expectations about the future. But some social sci-

entists and many who are not social scientists hold that some controversial questions of potential interest to social scientists ought not be pursued. For even correct answers to those questions are morally dangerous and can serve no good purpose in the guidance of social policy. Accordingly, social science should exercise a sort of self-denial, steering away from these topics.

Examples of such morally dangerous topics come readily to mind. Perhaps the most famous are a succession of studies that employed IQ tests to measure intelligence and compare average IQs between the sexes and among socioeconomic, ethnic, and racial groups. Some researchers in this area have concluded that differences in average IQ among such groups can best be explained by genetic, rather than environmental, factors. It is pretty obvious why such a conclusion might be dangerous. Regardless of what the social scientists who conduct such studies think their policy ramifications should be, others have more power over the adoption and implementation of policy. Politicians might use such findings to discourage steps to equalize the educational opportunity of all people. Even if the findings were right, such a policy would not follow from them. But they are easy to misunderstand and even easier to abuse in order to clothe racist or sexist practices in a mantle of scientific respectability. Similarly, nefarious consequences are said to follow from sociobiological speculations about the origins and character of social institutions. If sex role differences, fear of strangers, or caste and class systems are somehow written into our genetic programs, then it is widely supposed there is little we can do by altering the environment to eliminate these morally undesirable features of society. These studies thus seem a recipe for the status quo, if not for retrograde social policies.

Studies with apparently distasteful findings often provoke two sorts of reactions. The first is an examination of the scientific methods, theories, and findings that seeks to show, solely on scientific grounds, that the theories are in themselves inadequate, defective, or fundamentally confused. Philosophers have taken an especially prominent role in this enterprise and have applied the tools of the logician and the philosopher of science to the assessment of particular theories. They have scrutinized the IQ theory of general intelligence, sociobiology, and for that matter Marxian social and economic theories, which are said to have inimical effects on prospects for human freedom and economic progress.

The moral repugnance of some potential answers to questions in social science also provokes the suggestion that the questions should not be studied at all. Some inquiries, it is held, can have no morally useful function and can have only bad consequences. Constitutional guarantees of freedom of inquiry rule out no subject as illegal. Nevertheless, it is held, social scientists should deny themselves certain topics because what they uncover may be

dangerous, even if it is true. Here we have an obvious parallel to the moral injunctions some have sought to impose on natural scientists. People have sought to discourage nuclear physicists from working on topics relevant to weapons production and, more recently, molecular biologists from work that may result in manipulation of human and animal genomes. Those who favor banning certain lines of research insist that scientists have a responsibility to terminate related studies if they have reason to believe that the results will be misused in the interests of injustice. There is, on this view, no blanket prohibition against certain lines of research, only a conditional one. But the conditions that would morally require such self-censorship do operate in most societies today, in their view.

This moral injunction is evidently based on a consequentialist moral theory, one that enjoins certain acts if their costs for the whole society outweigh their benefits for it. One way social scientists have opposed such injunctions against certain research is by pleading a deontologically based *right* to free inquiry. There is, of course, a tension between embracing such principles and the naturalistic methods these social scientists employ. Without debating the free-inquiry claim, let us consider how much social scientific knowledge we would need in order to justify a ban on certain kinds of research.

To know whether a certain research program is morally permissible, we need to be able to predict with some reliability the long-term consequences of its research results and their dissemination. To do that we need a substantial amount of theory about human activities and institutions. In particular we need reliable knowledge about how people respond to scientific innovations and discoveries. We also must be able to establish the initial conditions about the social contexts to which these theories are applied. And finally if we are utilitarians or consequentialists, we have to be able to calculate the net costs or benefits for society of the research program if it succeeds and if it fails.

In the absence of such knowledge, it may be argued, scientists should exercise caution. For it is better to err on the side of too much self-censorship rather than too little. If there is just a chance of some scientific finding's having a very bad net effect, then that should outweigh an equal or even a greater chance of a very good effect. But even this cautious policy still requires a vast amount of social scientific knowledge. Moreover, since we can at this point predict with accuracy almost none of the effects of scientific discoveries and their dissemination, such a cautious principle would foreclose almost every line of research—pure, applied, natural, or social. After all, almost any discovery could, for all we know, have costs that vastly outweigh its benefits.

In fact, studies aimed at acquiring the kind of social theory we would need to determine the impact of new ideas on society are themselves socially

dangerous. For although they would enable us to decide whether to pursue certain issues, they would also enable those in power to manipulate social changes in directions that they might prefer in spite of their great costs to society as a whole. So perhaps the very theory we require in order to decide whether some questions should not be examined is itself such a prohibited area of inquiry.

The obverse of prohibited topics for social science is its required ones. Critical theory, for example, tells us that the aim of social science should be the emancipation of humans from bonds that restrict their freedom. The social scientist is responsible for uncovering the real meanings of social processes, institutions, events, and ideologies. Of course, that may mean violating the rights of individuals to privacy and confidentiality in their pursuit of nonemancipatory goals. Thus, whereas ordinary moral scruples will prohibit bugging a jury room, critical theory may sanction or even require it. For it might provide understanding that demythologizes this coercive social institution and thus emancipates us from the system of justice characteristic of late capitalism.

Like the prohibition against certain lines of inquiry, the prescription of some topics because of their emancipatory potential requires a great deal of social scientific knowledge. To identify topics of inquiry as potentially emancipatory requires the same knowledge of the impact of new discoveries and their dissemination on society. Otherwise, how can we tell whether uncovering hidden meanings will emancipate or whether they will be greeted with indifference? In fact, providing such a predictively successful theory about the influence of new discoveries on society as a whole is probably the first priority for an approach to social science that makes human emancipation the central goal of social science. Because of the allegedly reflexive character of social science, however, such a theory may itself be impossible. Once it comes into general circulation, its influence on human actions may lead to its own falsification. What is more serious is the notion that a philosophy like critical theory, which rejects positivism as a method in social science, may require a theory that meets positivist standards of predictive success. For only such a theory will underwrite the moral obligations that critical theory places upon social scientists.

Introduction to the Literature

N. Block and J. Dworkin, eds., *The I.Q. Controversy*, treats the interaction of methodological and normative factors that bear on whether a potentially explosive line of research should be pursued at all.