Naturalism and the Enlightenment Ideal:

Rethinking a Central Debate in the Philosophy of Social Science

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Abstract

The naturalism versus interpretivism debate the in philosophy of social science is traditionally framed as the question of whether social science should attempt to emulate the methods of natural science. I show that this manner of formulating the issue is problematic insofar as it presupposes an implausibly strong unity of method among the natural sciences. I propose instead that what is at stake in this debate is the feasibility and desirability of what I call the Enlightenment ideal of social science. I argue that this characterization of the issue is preferable, since it highlights the central disagreement between advocates of naturalism and interpretivism, makes connections with recent work on the topics of causal inference and social epistemology, while avoiding unfruitful comparisons between the social and natural sciences.

Introduction

The naturalism versus interpretivism debate in social science is traditionally framed as the question of whether social science should attempt to emulate the methods of natural science. According to this way of conceiving the matter, *naturalists* are those who answer *yes*, while *interpretivists* are those who answer *no*. Thus, interpretivists maintain that unique features of human beings—such as the capacity for self-conceptualization and the ability to assign meaning to otherwise arbitrary objects or events—entail that the procedures of natural science are inapplicable to the social realm. Instead, interpretivists propose that social science should seek understanding, in a sense more akin to the interpretation of a literary text than explanation by reference to natural laws or causal mechanisms. In contrast, naturalists maintain that the social sciences can and should follow natural science standards. Moreover, naturalists question whether literary-style interpretative techniques can provide the understanding that interpretivists promise.

The traditional formulation of the naturalism versus interpretivism dispute implicitly presupposes a strong thesis concerning the unity of scientific method, according to which there is a set of uniform and specific rules that comprise the methods of all natural sciences. In this essay, I argue that this presupposition is deeply problematic. Methodological rules general enough to apply to all natural sciences are typically too vague and minimal to engage with controversies concerning social science methods, while more precise and informative rules tailored to specific contexts differ from particle physics, to astronomy, to geology, molecular biology, to evolutionary biology. If this is right, then little is to be gained by enunciating a list of putative natural science standards and asking whether the social sciences live up to them. For the rules of

particular natural sciences are often inappropriate for social science, but by the same token the specific rules of one natural science will often be inappropriate for other natural sciences, too. On the other hand, basic standards of good evidence are often accepted by interpretivists as well as naturalists, and hence do not distinguish the positions typically defended under these banners and do little to resolve actual methodological disputes in social science.

In light of this, I propose that the naturalism versus interpretivism debate should be recast and reframed in a way that returns to what I regard as the historical origin of this issue. Leading Enlightenment figures such as Adam Smith, David Hume and Marquis de Condorcet regarded a science of society as the basis for rational social policy and the betterment of the human condition. Contemporary naturalists, though they often disagree with these figures on specific issues, nevertheless retain what I call the Enlightenment ideal of social science. Naturalists regard the discovery of causes of such social phenomena as economic growth, immigration, inequality, or crime as the primary goal of social science, and they think this knowledge is important precisely because of its relevance to urgent social problems. In contrast, one who rejects the Enlightenment ideal of social science could claim either that it is impossible to achieve or that it would not be desirable if even it were. For example, interpretive social scientists such as Clifford Geertz often stress that knowledge of human society is inextricably local, while the Enlightenment ideal requires generalizable knowledge capable grounding effective social policies. Thus, one central component of the naturalism debate in the philosophy of social science focuses on the topic of causal inference, a topic on which there is currently a vibrant literature in the philosophy of science. On the other hand, one might be

suspicious of the Enlightenment ideal's conception of the "betterment of the human condition." Whose conception of "betterment" is presumed here and how does that conception impact social science research? This challenge to the Enlightenment ideal raises some basic questions of social epistemology, which are also the focus of an active philosophy of science literature.

In what follows, I will elaborate and defend the claims made above and sketch some of their implications. I begin by arguing that acceptance of some basic standards of evidence is not what distinguishes naturalists from interpretivists, and consequently that this dispute must be understood in some other way. In the next section, I elaborate on the Enlightenment ideal and explain how it nicely highlights two central issues at play in discussions of naturalism in the philosophy of social science: causal inference and the role of social values in social science. The final two sections explain how these two topics are more adequately addressed given the formulation of the naturalism-interpretivism debate that I propose. In particular, formulating the issue in terms of the Enlightenment ideal of social science frees naturalism from the assumption that social science must discover laws of nature similar to those of physics as well as from a commitment to an outmoded distinction between the contexts of discovery and justification.

Natural Science Standards

An expression like "natural science standards" might be taken to indicate at least two distinct types of thing. On the one hand, the standards in question might be relatively domain specific, such as the double-blinded randomized controlled experiment as the

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gold standard in clinical research or the requirement that any acceptable theory of gravitation must postulate general laws that pass the three classical tests of General Relativity. On the other hand, the phrase might be taken to refer to such general rules as "do not multiply entities beyond necessity" or "severely test hypotheses." If one takes very specific methodological rules as one's touchstone, it is easy to argue that social science fails to live up to natural science standards. For example, hypotheses in social science usually cannot be tested by means of randomized controlled experiments, and unlike physics, social science does not appear to discover anything resembling universal laws of nature. Not surprisingly, defenders of naturalism tend to interpret "natural science standards" as referring to rules of the latter, more abstract sort, while interpretivists often do the opposite.

The classic formulation of the naturalist position in social science is given by John Stuart Mill in his *System of Logic*. Mill writes that, "The backward state of the Moral [i.e. human] sciences can only be remedied by applying to them the methods of Physical Science, duly extended and generalized" (1856, xii). Contemporary philosophers of social science state naturalism in manner very similar to Mill (cf. Bhaskar 2000 [1979]; Kincaid 1996; Papineau 1978). For instance, Harold Kincaid, a leading contemporary proponent of naturalism, sums up the position as follows:

(1) The social sciences can be good science by the standards of the natural sciences;

(2) The social sciences can only be good science by meeting the standards of the natural sciences. (1996, p. 3)

Kincaid makes clear that he does not interpret natural science standards as specific methods in particular fields like oceanography or molecular genetics but rather as

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"certain basic scientific virtues" that lie behind such methods (ibid). Three virtues of

scientific testing are discussed by Kincaid: *independent tests*, *fair tests*, and *cross tests*

(1996, pp. 51-53). Independent tests are ones in which the hypothesis being examined is

not presupposed in the design of the test, and there is some independent reason to accept

the assumptions upon which the test depends. Fair tests satisfy the further condition that

the assumptions presumed in the test do not unfairly favor the hypothesis under

examination over its competitors. Finally, cross testing a hypothesis means testing it in a

variety of ways with several distinct types of data.

       Kincaid's virtues of scientific testing are very sensible. In fact, it seems likely

that many interpretivists would agree with them. After all, interpretivism is not

synonymous with epistemological relativism. Interpretivism need not be conjoined with

the view that assessing the merits of rival interpretations is a matter of ineffable and

idiosyncratic intuition to which standards of evidence are irrelevant. For example, in

response to the objection that conclusions drawn by interpretive anthropologists are often

arbitrary (Jones 1998), one anthropologist argues that such interpretations are constrained

by considerations very similar to the sort enumerated by Kincaid (Segal 1999).

Similarly, in response to the suggestion that interpretations of social meanings are

entirely subjective, Clifford Geertz writes, "For a field of study which, however timidly

(though I, myself, am not timid about the matter at all), asserts itself to be science, this

just will not do" (1973, p. 24). Indeed, the concern to articulate objective standards of

understanding is a central theme of Wilhelm Dilthey's essay, "The Development of

Hermeneutics," which is often regarded as the foundational document of interpretive

social science.[1] Whatever naturalism is, it should be something that interpretivists would reject. Thus, formulating naturalism in terms of some very general standards of good evidence is problematic, since many interpretivists would accept such standards, too.

In addition, Kincaid's criteria of independent, fair, and cross testing are not sufficiently specific to engage with discussions of other methodological problems in social science, such as causal inference from observational data. Consider an example of social science research that Kincaid regards as exemplifying the virtues of independent, fair, and cross tests: Jeffery Paige's (1975) classic *Agrarian Revolution*. According to Kincaid,

> Paige's theory of agrarian movements certainly seems to have the traits of good science. It exhibits the *evidential* virtues of summarized by independent, fair, and cross tests. (1996, p. 78; italics in original)

Paige proposes a theory about which types of agrarian social structures produce which types of conflict between cultivators and non-cultivators. Among the several hypotheses that comprise this theory, I consider the just one that can be represented in the graph in figure 1. The variable *ML* indicates the presence or absence of an agrarian system in which landlords' income is based predominantly on land ownership (rather than commercial or industrial capital) and in which landlords rely on migrant labor. The variable *RN* indicates the presence or absence of revolutionary movements among migrant laborers that appeal to nationalism as a basis of solidarity. Thus, the hypothesis is that the presence of such an agrarian system is a cause of nationalist revolutionary movements. Paige's presents two lines of statistical evidence for this hypothesis (cf.

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[1] See Dilthey (1976).

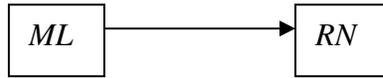1975, pp. 104-8). First, there is a positive, statistically significant correlation between *ML* and *RN*.

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┌──────┐                    ┌──────┐
│  ML  │ ─────────────────▶ │  RN  │
└──────┘                    └──────┘
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Figure 1: Migrant labor and revolutionary nationalism.

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┌──────┐      ┌──────┐      ┌──────┐
│  ML  │ ◀─── │  C   │ ───▶ │  RN  │
└──────┘      └──────┘      └──────┘
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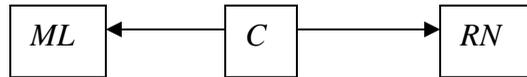
Figure 2: An alternative hypothesis.

Secondly, Paige argues that this correlation cannot be accounted for by the alternative hypothesis represented in figure 2. In this graph, *C* is a variable indicating the presence absence of a colonial regime. Paige's argument against this alternative is that a model in which *ML* and *C* influence *RN* interactively fits the data better than one in which they influence it additively (1975, p. 108). Moreover, in the interactive model, there is no statistically significant correlation between *C* alone and *RN*, although there is a significant correlation between *RN* and the interaction term for *C* and *ML* (ibid. p. 109). Thus, Paige concludes that since *C* and *ML* interact to cause *RN*, the alternative represented in figure 2 cannot be correct.

Although Paige's study may be a case of independent, fair, and cross testing, there are active debates in social science and philosophy about whether the sorts of methods he employs can in fact justify causal conclusions. Paige considers just two alternatives, and

argues that the one in which *ML* is a cause of *RN* fits the data best. Yet this result does not eliminate other models that include further variables and in which *ML* is *not* a cause of *RN*. Suppose that Paige had pursued this possibility, and had drawn up a reasonably comprehensive list of potential common causes of *ML* and *RN*. Then he would have been confronted with the problem that increasing the number of variables rapidly generates a combinatorial explosion in the number of alternative models. It is a difficult question to what extent there are methods capable of reliably drawing informative causal conclusions in the face of such a vast array of alternatives.[2] The point here is definitely not to suggest that Paige's work is substandard: to the contrary, I agree with Kincaid that it is an example careful and conscientious social science. The issue concerns the adequacy of methods available to social scientists for learning causes and effects of social phenomena. And Kincaid's criteria of independent, fair, and cross tests simply do not engage with this issue.

The same point can be made with regard to methodological disputes concerning methods of causal inference used in econometrics. Such methods typically assume that one begins with some qualitative knowledge of the causal structure (say, on the basis of micro-economic theory). The inference problem then consists of providing quantitative estimates of causal impacts. A common objection to such methods is that they rely upon modeling assumptions whose accuracy is generally difficult to ascertain (cf. LaLonde 1986). Assumptions are made about such things as the functional form of the relationships between causes and effect, the probability distribution of the error terms,

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[2] See Glymour, Scheines, Spirtes, and Kelly (1987, pp. 6-7) for a forceful statement of this challenge and its relevance to the reliability of studies like Paige's. Causal inference algorithms found in Spirtes, Glymour, and Scheines (2000), Pearl (2000), and Neopolitan (2004) are intended to provide means for searching among very large sets of alternative causal hypotheses.

and whether the error terms are independent. Since the accuracy of such assumptions is often quite uncertain, it is often difficult to assess which model one should choose. A response to such objections is that specification tests can be performed to assess whether the assumptions in the model are accurate (cf. Heckman and Hotz 1989). An example of such a test monitors matched groups for some time prior to the implementation of the program to see if any significant differences in outcomes emerge. If not, the model passes the specification test. The utilization of specification tests presumably entail that the inference methods in question satisfy Kincaid's criteria of fair and independent testing. That is, the tests do not presuppose the accuracy of any particular hypothesis concerning quantitative causal effects, and the specification tests provide some independent basis for the assumptions upon which the test is premised. However, some object that such specification tests themselves depend upon questionable assumptions[3] and are not always effective in weeding out models that generate inaccurate estimates (Friedlander and Robins 1995). Moreover, some studies find that sophisticated statistical methods intended to produce balanced comparison groups are often ineffective at reducing bias, sometimes significantly increase it (Michalopoulos, Bloom, and Hill 2004), and did far less to reduce bias than simply selecting the comparison group from an adjacent locality (ibid; Friedlander and Robins 1995).

In sum, many interpretivists would accept Kincaid's criteria of independent, fair, and cross testing, and those standards do little to address other methodological disputes in social science. Hence, showing that social science research is sometimes in accord with these criteria is not a strong argument for naturalism. On the other hand, attempting to

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[3] For instance, the specification test mentioned above assumes that groups evenly matched at the earlier time will continue to be evenly matched the later time (cf. Heckman and Hotz 1989, p. 666).

refute naturalism on the grounds that it fails to live up to very specific standards of natural science faces the objection that these more specific rules do not hold for all natural sciences either. For example, critiques of naturalism often maintain that certain features of human beings make it impossible for there to be universal laws of society.[4] Yet a defender of naturalism can respond to this by pointing out that some natural sciences (e.g. molecular biology) do not discover, nor even seem to attempt to discover, universal laws of nature.[5] For example, several authors have argued that explanations in many biological sciences are based primarily on mechanisms rather than laws (cf. Machamer, Darden, and Craver 2000; Glennan 2005; Craver 2007). Similarly, controlled experiments are often not a feasible means of testing hypotheses in social science, but the same can be said for astronomy, geology, and evolutionary biology. The conclusion to be drawn from this is that little is gained from drawing up a list of supposed standards of natural science and asking whether social science can abide by them. Consequently, if there is an issue in play in the naturalism versus interpretivism dispute that is worth discussing, it must be formulated in other terms. In the next section, I develop a proposal about what those terms might be.

The Enlightenment Ideal of Social Science

Daniel Little also argues that the diversity of methods in natural and social science undermines a basic presupposition of the naturalism versus interpretivism debate (1991, chapter 11). However, the conclusion he draws from this is that naturalism and interpretivism are both somewhat wrong and somewhat right: sometimes social science

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[4] For example, see Searle (1984, chapter 5) and Taylor (1971).
[5] For instance, Kincaid (2000, p. S673) makes this argument.

utilizes methods with clear parallels to those found in natural science, other times it uses very distinctive methods; sometimes social science aims to discover causal relationships, other times it aims solely for interpretive understanding.[6] Although I am sympathetic to this ecumenical perspective, I also think that it fails to address a fundamental disagreement that underlies the naturalism versus interpretivism debate.

I claim that naturalism is ultimately motivated by what I call the *Enlightenment ideal* that a science of society would, by discovering causes and effects of social phenomena, serve as a basis for rational policies that address important social problems such as unemployment, poverty, and crime (cf. Kincaid 1996, p. xv).[7] As understood here, this ideal is not linked to particular social or political theories of specific Enlightenment figures such as Adam Smith or Marquis de Condorcet.[8] For example, the Enlightenment ideal of social science does not include a commitment to laissez-faire economic policies, which many contemporary naturalists would reject. The Enlightenment ideal as understood here is also not committed to a belief in some utopian future state, which according to some historians was a guiding light of many leading Enlightenment thinkers (cf. Becker 1932). Contemporary naturalists are more likely to view social science as making a positive contribution in a more piecemeal fashion of continuous tinkering in a social world inevitably beset by numerous challenges and problems.[9] What contemporary naturalists do share with Enlightenment social theorists

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[6] Roth (1987) defends a similarly pluralistic conception of social science.
[7] Bhaskar (2000 [1979]) also associates naturalism with the Enlightenment.
[8] See Rothschild (2001) and Schabas (2005) for excellent discussions of the economic and social theories of these and other Enlightenment figures.
[9] For example, Popper explicitly associates this "piecemeal tinkering" approach to social reform with the naturalist approach to social science (2002 [1957], chapter III).

is the conviction that social science can deliver generalizable knowledge that can serve as a basis for improving society.

It is easy to see how the Enlightenment ideal, if combined with the implicit presumption of a strong thesis concerning the unity of scientific method, would lead directly to the formulation of naturalism described in the previous section. Given a strong thesis concerning the unity of scientific method, a straightforward way to pursue the Enlightenment ideal of social science would be to identify the scientific discipline that has achieved the greatest success and attempt to emulate its methods. For instance, if physics is the most successful science, then the unity of scientific method thesis would entail that social science should pursue a method modeled on physics. Once the discussion is framed in this manner, a failure of social science to fit the model of scientific method exemplified by physics could be taken as evidence that social science cannot be genuine science. In response, those who wish to defend naturalism could insist that scientific method in fact consists only of some general standards of evidence, such as "severely test hypotheses." And that leaves you exactly where the previous section began. Yet one who is skeptical of strong theses concerning the unity of scientific method, would regard the question of whether social science can emulate some model of scientific method based on physics as misguided and beside the point. For in the absence of such assumptions, the question of whether the Enlightenment ideal of social science is attainable is independent of whether social science resembles one or another natural science.

Let us consider, then, what the substantive issues in the naturalism versus interpretivism debate would be if it is framed as I propose here. Plainly, the feasibility of

the Enlightenment ideal of social science depends on the existence of reliable methods for discovering causes and effects of social phenomena. Difficult issues of social policy almost invariably turn on hard to answer questions of cause and effect. For example, do federal budget deficits inhibit economic growth? Do gun control laws reduce violent crime? What effects would a particular welfare reform policy have upon poverty? What effect does trade liberalization have on global poverty? Social science can achieve the Enlightenment ideal only if it is capable of providing accurate answers such questions. But the Enlightenment ideal also contains a strong normative element: the knowledge it seeks is important because of its potential to provide a basis for policies that would lessen social ills. That raises questions about the conception of social improvement associated with naturalism and its connection to social science research. Defenses of naturalism typically devote less attention to the normative side of the Enlightenment ideal, perhaps because they implicitly regard such issues as separate from questions of scientific method and evidence. For example, according to one well-known argument, political and social values pertain only to the context of discovery and not to the context of justification.[10] However, a number of philosophers have cast doubt on the distinction between the contexts of discovery and justification as a means for sequestering epistemology from social and political values (cf. Okruhlik 1994; Longino 2002; Kitcher 2001). Thus, I think that a defense of naturalism in the philosophy of social science simply cannot side-step the question of the connection between values and method. Moreover, these two issues—causal inference and the connection between values and methods—correspond

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[10] See Ernest Nagel (1961, pp. 485-502) for a classic and Kincaid (1996, pp. 43-47) for a more recent defense of this position with respect to social science.

directly to two central lines of criticism of naturalist approaches to social science. In the

following two sections, I consider these issues in turn.

Interpretation and Causation

I argued above that acceptance of basic standards of good evidence is not a feature that

distinguishes interpretivists from naturalists. An advantage of formulating the dispute in

terms of the Enlightenment ideal, then, is that it highlights issues about which naturalists

and interpretivists actually do diverge. One such issue concerns the ability of social

science to discover generalizable causal relationships. Traditional defenses of naturalism

tend to frame this issue as the question of whether there are laws of social science that

resemble laws in natural sciences such as physics. In this section, I argue that this

traditional manner of defending naturalism rests on an implicit assumption of a strong

thesis of the unity of scientific method and tends to obscure the pertinent issues

concerning causal inference and generalization. I explain how construing naturalism in

terms of the Enlightenment ideal of social science results in a better formulation of this

issue.

A perennial topic in Anglo-American philosophy of social science in the latter

half of the twentieth century was whether explanations of human action are inherently

non-causal (Winch 1958; Taylor 1971; Davidson 1980; Henderson 1993). Clearly, the

Enlightenment ideal of social science would be for naught if this were so. However, one

might regard the Enlightenment ideal as unattainable even if human actions and

institutions have causes. For the Enlightenment ideal requires causal knowledge of social

phenomena that is capable of guiding social policy, and such knowledge must be

generalizable. For example, an assessment of the effects of a change in social welfare policies must generalize from some locations to others, from smaller to larger scales, and from past to future. One who rejects the Enlightenment ideal of social science, then, might agree that social phenomena have causes that can sometimes be discovered but claim that such causal knowledge is inevitably local and not generalizable in the way that the naturalist requires. In fact, the emphasis on the locality of social knowledge is one of the central themes in the writings of a leading interpretivist figure of the latter 20th century, namely, Clifford Geertz.

Reflecting on the interpretive turn in social science that he helped launch, Geertz refers to "the growing recognition that the established approach to treating [cultural] phenomena, laws-and-causes social physics, was not producing the triumphs of prediction, control, and testability that had for so long been promised in its name" (1983, p. 3). Clearly, this is a statement of skepticism of naturalism understood as social science modeled after physical science. But unlike some interpretivists, such as Peter Winch, Geertz does not claim that it is a conceptual confusion to speak causes and effects of social phenomena. For example, Geertz writes:

> Social events do have causes and social institutions effects; but it just may be that the road to discovering what we assert in asserting this lies less through postulating forces and measuring them than through noting expressions and inspecting them. (1983, p. 34)

Moreover, I think that a careful reading of Geertz's actual work shows a genuine concern with questions of cause and effect. For example, consider his well-known essay, "Deep Play: Notes on the Balinese Cockfight" (1973, chapter 15).

As Michael Martin (1993, 273-4) notes, commentators on Geertz's essay have produced rather different accounts of his interpretation of the Balinese cockfight. Some read Geertz as asserting that the Balinese cockfight performs the therapeutic function of allowing for ritual expressions of latent conflicts (Rabinow and Sullivan 1987). Meanwhile, others interpret Geertz as saying that the Balinese cockfight represents the struggle between good and the "Powers of Darkness" (Little 1991). Finally, another commentator interprets Geertz as asserting that the Balinese cockfight symbolizes class divisions within Balinese villages (Roseberry 1982). Others interpret Geertz in a way that combines the latter two readings (cf. Jones 1998). Although most of these readings identify genuine themes in Geertz's essay, I think that all miss his central thesis, which concerns the notion of "deep play" mentioned so prominently in the title of his article. What Geertz proposes is a pair of causal hypothesis. The first concerns factors that make a cockfight deep rather than shallow and uninteresting, while the second is a claim about the effects of deep fights upon Balinese observers and participants.

The "deepness" of a match has to do with the level of excitement it generates, which is normally expressed by the quantity of money wagered on it. According to Geertz, a typical fight would involve two sorts of bet: the center bet and side bets (1973, 425-6). The center bet is contracted between the two men whose roosters are to engage in mortal combat, and this bet is always made at even money odds. Side bets are made among the spectators and are contracted at odds ranging from ten-to-nine to two-to-one. Geertz then makes the following generalization: "the higher [the stakes of] the center bet, the more likely the match will in actual fact be an equal one" (ibid. 429). Geertz, who recorded the stakes of center bets and outcomes for fifty-seven fights, provides statistical

data to support this claim (ibid. 430). Geertz also reports that the higher the stakes of the

center bet, the greater volume of side betting and the more even the odds of the side bets

(ibid.).

High stakes matches involving evenly paired cocks and generating considerable

side betting are what Geertz means by "deep play." According to Geertz, deep matches

are what Balinese cockfighting connoisseurs regard as the truly interesting and important

kind of fight. Thus, Geertz wishes to understand what makes some matches deep and

others not so. Geertz suggests that the greater stakes involved are only an ancillary part

of the explanation.

> The center bet is a means, a device for creating "interesting," "deep" matches, *not*
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> the reason, or at least not the main reason, *why* they are interesting, the source of
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> their fascination, the substance of their depth. The question of why such matches
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> are interesting—indeed, for the Balinese, exquisitely absorbing—takes us out of
>
> the realm of formal concerns into more broadly sociological and social-
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> psychological ones, and to a less purely economic idea of what "depth" in gaming
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> amounts to. (Ibid. 432; italics in original)

According to Geertz, Balinese villages are typically divided into several "large,

patrilineal, partly endogamous descent groups which are constantly vying with one

another and form the major factions of the village" (ibid. p. 437). Moreover, the center

stakes in deep matches are normally too great to be raised by a single person, and

consequently the wager on each side is pooled among a group of people. Those placing

money on one side would be primarily composed of members of one faction, while those

supporting the other side would be drawn from an opposing faction (ibid. p. 437).

Geertz's hypothesis, then, is that the enmity and social status of the two factions are the primary variables explaining the deepness of the match. Geertz states this hypothesis quite clearly by way of the following schema:

THE MORE A MATCH IS…

1. Between near status equals (and/or personal enemies)

2. Between high status individuals

THE DEEPER THE MATCH. (Ibid. p. 441)

The deepness of the match is then associated with the factors described above: evenly matched cocks, higher stakes, greater interest, et cetera. According to Geertz, conditions 1 and 2 are what make a fight deep and hence interesting to the Balinese; when these conditions are lacking, the fight will stimulate less interest, will have lower stakes, and so on than otherwise. The above conclusion is preceded by a list of seventeen facts given as supporting evidence (ibid. p. 437-40). Geertz's second hypothesis concerns the psychological effects upon Balinese of attending and participating in cockfights (ibid. 449). For example, Balinese might learn to identify with their social faction and to react with intensely joyful emotions when their faction bests one of its a rivals. I will not have much to say about this second hypothesis, since the first is sufficient for the points I wish to make in this section.

The above example shows that interpretivists sometimes propose causal hypotheses and feel compelled to provide evidence for them. Indeed, Geertz's evidence for his hypothesis might be reasonably argued to satisfy Kincaid's criteria of good testing. Thus, what distinguishes naturalists from an interpretivist like Geertz is neither an interest in causes of social phenomena nor the acceptance of some basic standards of

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evidence. The difference, I think, has to do with the question of the extent to which

causes can be generalized from one social context to another. For example, Geertz writes

that the aim social theory as he conceives it "is not to codify abstract regularities but to

make thick description possible, not to generalize across cases but within them" (1973, p.

26). Geertz goes on to develop his notion of generalization "within cases" by means of

an analogy with medical diagnosis. I will not explore difficulties confronting Geertz's

positive proposal here.[11] Instead, I wish to consider the link between naturalism and the

question of generalizing causal claims from one social context to another.

One way to answer the objection that causal generalizations in social science are

inextricably tied to specific social contexts would be to point to examples of general and

informative causal claims in social science for which there is considerable evidence. For

example, Kincaid makes precisely this sort of argument with regard to the law of supply

and demand in economics (1996, pp. 232-247). However, such defenses of naturalism

also typically presume that the general causal claims must qualify as laws. Since it is

doubtful whether there any laws of social science that are true everywhere and always

without exception, it is often suggested that social science laws are "ceteris paribus" laws

(cf. Hausman 1992; Kincaid 1996, chapter 3). The phrase "ceteris paribus" is Latin for

"other things being equal," and a ceteris paribus law (hereafter, cp law) is a

generalization with a potentially open ended qualifying phrase attached to it that would

indicate circumstance in which the law might not hold. Defenses of cp laws in social

science, then, constitute an attempt to show that the social sciences have laws that are

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[11] For example, Geertz's analogy with medical diagnosis seems rather problematic, since such diagnoses
are based on knowledge about the causes and effects of various diseases that does generalize across cases.

analogous to physical laws. Thus, defenders of cp laws often argue that fundamental laws of physics are cp laws, too (cf. Kincaid 1996, p. 32).

I think that there are a number of shortcomings with appealing to cp laws to argue that causal knowledge can be generalized across social contexts. One problem is that it raises a variety of questions that simply are not germane to the issue, such as the question of whether laws are ceteris paribus "all the way down" to physics. That is a very contentious issue (cf. Earman and Roberts 1999) about which philosophers of social science are not likely to have much useful to say. But most importantly, it is irrelevant to the challenge to the Enlightenment ideal posed by interpretive social scientists such as Geertz. What matters is the extent to which causal knowledge can be generalized in social science, not whether generalizations in social science have the same form as those in physics. A fixation with cp laws is, I think, a holdover of implicitly assuming a strong thesis of the unity of scientific method while regarding physics as the paradigm science.

A second problem with the cp law approach is that it tends to obscure the diversity of generalizations found in social science, as well as in other sciences such as biology. The effort to assimilate these various types of generalization into a model inspired by examples from physics results in unnecessary confusions. For example, Gerhard Schurz (2002) shows that there are at least four significantly distinct types of claims are often referred to by the expression "cp law." Perhaps the most commonly encountered interpretation of cp laws in the philosophical literature is what Schurz characterizes as *indefinite exclusive* (cf. Fodor 1991; Hausman 1992; Pietroski and Rey

1995).[12] Indefinite exclusive cp laws assert that a generalization holds without exception

under an open-ended set of circumstances that cannot be fully specified. Of the four

types of cp laws described by Schurz, the indefinite exclusives are by far the most

problematic. For example, Schurz shows that indefinite exclusive cp laws are "almost

empty" in the sense of being equivalent to claims about determinism. For example,

"Ceteris paribus, all Fs are Gs," if interpreted as an indefinite exclusive cp law, is

equivalent to saying that for everything that is F, there are deterministic causes of

whether it is G. Consequently, it is difficult to see how indefinite exclusive cp laws could

be tested by empirical means. Defenders of indefinite exclusive cp laws sometimes

respond to such objections by claiming that they can be tested by randomized controlled

experiments (Hausman 1992, p. 137; Kincaid 1996, pp. 67-68). However, I think this

claim is a mistake that results from confusing indefinite exclusive with what Schurz

terms *comparative* cp laws. In contrast to the exclusives, a comparative cp clause does

not require that interfering factors are absent but instead that factors relevant to the

outcome are distributed uniformly between groups that differ with respect to the cause.

Comparative cp laws correspond to what Judea Pearl (2000, p. 70) calls a causal effect,

which specifies the probability distribution of one variable Y conditional on another X

whose values are set by an ideal intervention. Causal effects can be estimated in

randomized experiments as well as from observational data in some circumstances (cf.

Scheines 2005). But given that indefinite exclusive cp laws are equivalent to claims

about determinism, it is clear that they cannot be tested by randomized controlled

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[12] The three other types of cp laws distinguished by Schurz are normic, definite exclusive, and comparative. For versions of the normic interpretation, see Schurz (2002) and Lange (2002), while for a version of the definite exclusive interpretation see Cartwright (1983, p. 45).

experiments. For whatever merits randomized experiments might have, they certainly cannot answer metaphysical questions about determinism.

Finally, the emphasis on cp laws obscures the fact that laws on the model of physical science may not be the only possible basis for generalizing causal claims across contexts. For example, a popular idea in the current philosophy of biology literature is that explanations in biology are much more frequently based on mechanisms than laws (cf. Machamer, Darden, and Craver 2000). Moreover, knowledge of mechanisms, of factors that may interfere with them, and of how they are likely to differ or be similar in various contexts can be useful for extrapolating claims about causal effects, for instance, from animal models to humans (Steel 2008). Since mechanisms have also attracted some interest within social science (cf. Hedström and Swedberg 1998), this naturally raises the question of whether a mechanisms-based approach to extrapolation might work in social science, too (cf. Guala 2005; Steel 2008, chapter 8). Showing that this is indeed possible would be one way to answer the charge that knowledge of causes of social phenomena cannot be generalized from one context to another. And it is irrelevant to that project whether mechanisms and causal effects can be lumped into some category of "cp law" along with fundamental laws of physics.

In sum, framing the naturalism debate in terms of the Enlightenment ideal highlights one of the central issues that divides interpretivists from naturalists, namely, the extent to which general causal knowledge is attainable in social science. Although defenses of naturalism formulated in the traditional manner do address this issue, they do so in a way that focuses attention on tangential questions that reflect an implicit assumption of a strong thesis of the unity of scientific method and a regard for physics as

the paradigm science. In particular, these discussions assume that general causal claims in social science must resemble those in physics, an assumption that leads directly to the emphasis on cp laws. But if no such strong thesis of the unity of scientific method is presupposed, then a focus on cp laws is neither necessary nor even helpful. It is not necessary, since there is no reason to suppose that the methods best suited for social science must be substantially the same as those in physics. And it is unhelpful in that the emphasis on cp laws tends to conceal the diverse array of methods and causal claims available to social scientists. In short, it matters crucially to the Enlightenment ideal that it is possible for social science to acquire general causal knowledge, but not whether social science does this in a way that fits some supposed ideal model of physical science.

The Betterment of Society

There is a long running dispute in philosophy of science as to whether scientific research can be insulated from social, moral, and political values and indeed whether it is even a good idea to try to do so (cf. Harding 1986, 1998; Kitcher 2001; Longino 1990, 2002; Nagel 1961). The classic defense of naturalism argues that non-epistemic values can, at least in principle, be excluded social science research and that every effort should be made to keep them apart in practice (Kincaid 1996, pp. 45-46; Nagel 1961, chapter 13; Papineau 1978). Arguments for this position typically appeal to some form of the distinction between the contexts of discovery and justification. According to this line of reasoning, while non-epistemic values may come into play in the process of choosing research topics and constructing hypotheses or theories (the context of discovery), they are not relevant to questions about whether or not those hypotheses or theories are

supported by the evidence (the context of justification). However, the context-of-discovery-versus-justification distinction has come under a considerable degree of criticism in the philosophy of science literature within the past twenty to thirty years. In this section, I suggest that one significant advantage of construing naturalism in terms of the Enlightenment ideal is that it frees naturalism from the context-of-discovery-versus-justification dichotomy. I also sketch some ways the issue of non-epistemic values in social science research can be more fruitfully addressed from a naturalist perspective.

While the traditional defense of naturalism seeks to isolate social science from all social values, my formulation of the issue explicitly emphasizes the link between social science and a commitment to social improvement. At the heart of the Enlightenment ideal is the thesis that social science should discover knowledge that will contribute to the betterment of society. Given this perspective, it would be strange indeed to insist that social science must be strictly isolated from social values, since without some connection of that kind social science would be an enterprise with no purpose. Thus, if naturalism is understood in terms of the Enlightenment ideal, there should be no temptation to sweep social values under the rug with a dubious context-of-discovery-versus-justification broom. Instead, the connection between social science and social values would have to be confronted squarely.

One difficulty with the context-of-discovery-versus-justification distinction is that there are now several works explicitly aimed at providing an account of the logic of scientific discovery (cf. Langley et al. 1987; Kelly 1996, chapter 9), as well as case studies examining the logic of the discovery process in specific scientific domains (cf. Darden and Craver 2002). Thus, it is doubtful that discovery, in contrast to justification,

is some ineffably intuitive process. To the contrary, the two seem symmetrical: both are

amenable to logical analysis and in practice both can be influenced by social and political

values. But perhaps the most significant problem with the context-of-discovery-versus-

justification distinction for the present purposes is that it would not be sufficient to

sequester scientific results from social values even if it were granted. As Kathleen

Okruhlik (1994) points out, substantial biases in scientific results could remain even if the

influence of social and political values could be restricted to the creation of hypotheses.

In particular, Okruhlik is concerned with the situation in which all hypotheses considered

in a particular field share a common presupposition that reflects a pervasive gender bias,

for instance, that women are naturally passive and nurturing. If only hypotheses that

presuppose this are considered, then that gender bias will be reflected in the end result

even if choices among these hypotheses are made in a way that is entirely unaffected by

any social values.

　　　　The issue of political or moral values in social science research receives more

attention in critiques of positivism than in the literature on interpretivism (cf. Steinmetz

2005). Although "positivism" is rarely clearly defined in this literature, it is usually taken

to include some commitment to the exclusion of non-epistemic values in the assessment

of social theories. For example, this is the central issue in Sandra Harding's defense of

standpoint epistemology in social science (Harding 2003, 2005). Standpoint

epistemology rests on the premise that members of oppressed minority groups may have

distinctive insights into the workings of social systems. In Harding's words, "Standpoint

projects use the distinctive ways a group is oppressed, exploited, or dominated to reveal

the 'mechanisms' by which elite groups maintain their dominance" (Harding 2005, p.

355). There a number of objections to standpoint epistemology that I will not rehearse here (cf. Polhaus 2002; Rolin 2006). For the present purposes, the primary difficulty with standpoint epistemology is that it provides very little guidance on the question of what the role of political values in social science research should be. Granted, a person who occupies one social position may be apt to have insights that would be unlikely to occur to a person from a different background. But we surely would not want to conclude from this that, for instance, whenever a white male economist disagrees with a Chinese-American female economist, the Chinese-American female economist must be correct. Of course, I do not mean to suggest that this is the sort of thing that Harding is proposing. Instead, the point is that Harding's standpoint epistemology needs to be augmented with some account of how insights stemming differing political perspectives can be usefully integrated in social science.

A central component of a naturalistic approach to this issue should be the insistence that non-epistemic values should not be allowed to influence social science research in a way that undermines basic standards of evidence such as those advocated by Kincaid. Such a commitment would not typically be shared, I think, by post-modernist critics of positivism. Traditionally, naturalists took upholding standards of scientific evidence to mean that non-epistemic values should, at least in principle, be excluded entirely. However, I think that a survey of the contemporary literature on social epistemology should make clear that this is not the only possible option (cf. Goldman 1999; Longino 1990, 2002; Kitcher 2001; Solomon 2001). For example, several authors have suggested that scientific communities are more likely to produce reliable knowledge if they are organized in a way that promotes the free exchange of ideas among socially

diverse members who are treated as intellectual equals. Although its roots trace back to John Stuart Mill and were revived in the twentieth century by Karl Popper, Helen Longino is perhaps the best-known contemporary exponent of the idea that more open and equal social organization promotes better science. Central to Longino's proposal is an outline of the type of social organization that is capable of generating "transformative criticism," which she regards as essential for scientific objectivity.

> Scientific communities will be objective to the degree that they satisfy four criteria necessary for achieving the transformative dimension of critical discourse: (1) there must be recognized avenues for the criticism of evidence, of methods, and of assumptions and reasoning; (2) there must exist shared standards that critics can invoke; (3) the community as a whole must be responsive to such criticism; (4) intellectual authority must be shared equally among qualified practitioners. (1990, p. 76)

Longino's thought is that epistemic communities that satisfies the above four requirements are likely to generate reliable knowledge, provided that a diverse array of viewpoints are present to sustain a vigorous discourse. I think that a naturalist should regard Longino's proposal as an appealing point of departure for addressing concerns about epistemological standpoints. However, since an explicit rejection of the context-of-discovery-versus-justification distinction is a fundamental aspect of Longino's account, adopting her approach would require abandoning the traditional naturalist position on the role of non-epistemic values in social science.

One advantage of this approach is that it would fruitfully engage naturalism with current literature on social epistemology. The four criteria Longino articulates are quite

appealing, and thus conflicts among those criteria or between them and other seemingly

reasonable criteria for the effective organization of epistemic communities highlight

important issues for social epistemology. For example, the emphasis on the value of a

diverse range of viewpoints is very likely to conflict with Longino's criteria (2), which

requires shared standards of criticism. Standards for evaluating arguments and reasoning

are one of the things that people from socially and intellectually diverse backgrounds are

likely to disagree about. Yet Longino surely is correct that some common ground is

necessary for a useful discussion *and* that diversity of opinion is an essential ingredient in

the advancement of knowledge. That leaves a crucial open question for social

epistemology: how should these two conflicting criteria—the need for diversity and

common ground—be balanced (cf. Solomon 2006)? There are also conflicts between

Longino's four criteria and other reasonable ideas about the sorts of social organization

that promote knowledge. One appealing idea is that the scientific community ought to

reward scientists whose work advances existing knowledge. Appointments to positions

at prestigious universities and professional associations, such as the National Academy of

Sciences, should be preferentially granted to scientists who develop new ideas,

experiments, or techniques that solve previously unresolved problems within their fields

(Strevens 2003). Yet any such system of rewarding innovative work will inevitably lead

to inequalities of intellectual authority, since the opinions of those who have achieved

greater prestige will tend to carry more weight. Again, this conflict between appealing

criteria for effective organization of an epistemic community raises another open

challenge for social epistemology. Longino's account also does not address the question

of how funding for scientific research should be distributed so as to best promote

valuable social aims. That issue is important both for social epistemology and for the

Enlightenment ideal of social science. Philip Kitcher (2001) addresses the issue of

distribution of research funding as part of what he terms "well-ordered science," a

proposal which I also regard as a good point of departure for further developments of the

connection between social values and social science research.

Traditional defenses of naturalism typically invoke a distinction between the

contexts of discovery and justification to argue that social science research can remain

unsullied by social and political values. In contrast, naturalism construed in terms of the

Enlightenment ideal of social science would directly engage with difficult issues arising

from the interaction of social science and social values. This approach is preferable

because it does not rely on a dubious context-of-discovery-versus-justification dichotomy

and because it engages with productive discussions currently underway in the literature

on social epistemology.

Conclusion

The dispute concerning naturalism in the philosophy of social science has traditionally

been posed in terms of the question of whether social science can and must follow the

standards of the natural sciences. I have argued that this formulation of the issue is

problematic in that it presumes an overly strong thesis about the unity of scientific

method. Social science often fails to satisfy specific rules and standards of particular

natural sciences, but the same is also true among distinct natural sciences themselves.

And basic standards of good evidence that apply to all natural sciences are likely to be

accepted by critics of naturalism. In light of this, I propose that naturalism be understood

in reference to the Enlightenment ideal of a science of society that would discover causes and effects of social phenomena capable of supporting rational social policies. This formulation of the issue is preferable for several reasons. It highlights the issues about which naturalists and their critics actually disagree, and it frames those issues in a manner that avoids digressions on such topics as whether social science has laws that resemble those of physics. Moreover, it links disputes about naturalism to lively controversies elsewhere in the philosophy of science literature, such as social epistemology. Finally, I think that framing naturalism in terms of the Enlightenment ideal redirects the debate back to the important issues that motivated it in the first place.

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