SCIENTISM, INTERPRETATION, AND CRITICISM

by Philip S. Gorski

Abstract. What is the relationship between natural science, social science, and religion? The dominant paradigm in contemporary social science is scientism, the attempt to apply the methods of natural science to the study of society. However, scientism is problematic: it rests on a conception of natural science that cannot be sustained. Natural scientific understanding emerges from an instrumental and objectifying relation to the world; it is oriented toward control and manipulation of the physical world. Social-scientific understanding, by contrast, must begin with a practical and meaningful relation to the world: it is oriented toward the mediation of values and objective possibilities in the social world. Social science is therefore a form of **practical reason based on objective claims.** But while social-scientific understanding starts with interpretation, its possibilities by no means end there. In particular, by developing abstract and objectified models of society as a system, social science opens existing social organization to critical reflection. Religion, by contrast, is a form of speculative reason about ultimate values, based on subjective claims of religious experience. Social science nevertheless shares with religion an orientation toward values and concern with the "good life."

Keywords: critical reason; hermeneutics; instrumental reason; meaning; model; practical reason; pragmatic criterion; praxis; scientism.

> The backward state of the Moral Sciences can only be remedied by applying to them the methods of Physical Science, duly extended and generalized.
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> —John Stuart Mill, *System of Logic*

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Ever since its birth social science has had a tense relationship with religion. As militant children of the Enlightenment, most early social scientists viewed religion with distrust if not hostility. Many saw in religion superstitions that hindered the pursuit of knowledge, or worse, an ideology that prevented social progress. Marx's critique of religion as a historical anachronism and the "opium of the people" was only the most trenchant expression of this tendency. In short, social scientists have tended to see religion as a false picture of reality rather than as a different mode of experiencing the world.

The corollary to—and in an important sense the cause of—social scientists' disdain for religion was their worship of science—above all, *natural* science. Indeed, one might even say that social science was born of the attempt by political philosophers to apply the methods developed by natural scientists to the social world in the hope of replicating the successes of Enlightenment science.

Most (if not all) contemporary social scientists no longer dream of a sociological Newton or Darwin who will sweep all clutter and confusion from the human sciences—but they still turn to the natural sciences in search of criteria or procedures that might guarantee objectivity in the study of society. The centrality of methodology and elaborate statistical techniques in the theory and practice of mainstream social science are but the most visible signs of this orientation.

Yet it is not clear that natural science is the only possible model for social science, or even that it is the appropriate model. Critical differences may exist between natural and social phenomena and in the relation to them that an observer may assume. For example, one key contrast is that natural phenomena lack meaning beyond what they acquire through scientific investigation.[1] Social phenomena, on the other hand, are composed of human actions that are inherently meaningful by virtue of the intentions behind them.[2] Consequently, the object of social-scientific analysis, unlike that of natural science, is *pre*structured with meaning. It is not enough, then, for the social scientist simply to observe social phenomena. Indeed, in order to make observations the social scientist must first comprehend a situation from the perspective of the social actors. That one can understand an unfamiliar social situation only from the inside out, as it were, is a fact for everyone who has spent any time in a foreign country. Does this imply that the social scientist's understanding is always inferior to that of the actors, as a tourist's is to that of natives? This is a complicated question that I will address later, but I believe the answer is no. To understand why let us consider the example of the tourist. As travelers become more seasoned and better informed,

their facility for penetrating new and unfamiliar cultures increases, and their experience allows them to grasp the distinguishing features of a culture quickly. In fact, their very foreignness may *enhance* (rather than limit) their understanding. Further, if they have acquaintances who travel a great deal, they have opportunities to compare notes. Thus a good social scientist might be compared to a well-traveled tourist and social science itself to a sort of travel club. (That this comparison is less flip than it may seem will, I hope, become clear below.)

Still, if the perspective of the tourist were the only one available to the social scientist, prospects for social-scientific knowledge would indeed be limited. The social scientist would be confined to illuminating various contexts and dynamics of human interaction, what we loosely call culture. But can society, or culture for that matter, be equated with the sum of human interactions? It has been one—perhaps *the*—central insight of social science that societies have a systemic and historical dimension that transcends the individuals who make them up. If there is one thing that social-scientific research has established, it is that all elements of social life, down to the most minute and individual phenomenon (including human personality or subjectivity) can be analyzed in relation to the macrosociety.

Such historical and systemic perspectives differ from interpretive and cultural perspectives in that the former *objectify* society. In this capacity, the social scientist no longer resembles the tourist but is rather like the geographer who compiles pictures of a society. In these images, individual humans have disappeared and been replaced by maps, charts, graphs, and other illustrations of a society's elements and dynamics.

Historical and systemic perspectives have long been attractive to social scientists, precisely because they admit more easily of the objectifying procedures that are characteristic of the natural sciences. It is much easier, for example, to subject rates of economic growth or shifts in voter behavior to statistical analysis than to reduce worker-management relations or campaign strategies to statistics. Consequently, many social scientists have attempted to treat society *only* as a system. A purely systemic perspective, however, is not only methodologically and philosophically problematic, it deprives social science of its critical edge. Only in tandem with interpretive and cultural perspectives do the historical and systemic perspectives allow two fundamental relationships to emerge with full clarity: the way in which social organization may shape or constrain the space within which individuals act (often in ways that the social actors themselves do not perceive), and the sense in which even the most monolithic

structures of a society, its macro-organization, are a product of human action (though frequently as unintended consequences). Only in this perspective can the basic issues of human freedom and social change emerge (or reemerge).

These concerns, which are the historical and philosophical taproot of social inquiry, can be recovered only if the sediment of scientistic pretensions is swept away. In other words, the attempt to model social science on natural science is not only inappropriate but counterproductive. A rigorously scientistic social science is not only methodologically problematic but smothers the deepest intentions and greatest potential in social-scientific understanding as a mode of critical self-reflection on society and a medium of general enlightenment. My thesis might be expressed by inverting Mill's statement: The backward Moral State of the Social Sciences can only be remedied by abandoning the methods of the Physical Sciences, rightly understood and delimited.

I propose, therefore, a critical self-reflection of the social sciences, beginning with a thorough critique of their scientism. In the first half of this essay I will attempt just that, to clear the ground for a fuller consideration of the proper object of social-scientific inquiry and the character of its knowledge.

But what does this have to do with religion? The enmity of social science to religion, I believe, is intimately a part of scientism. Descientizing social science is therefore an important first step in rethinking its relationship to religion. Once the practical and critical content of social science has been revised and restored, I believe it will resemble religion much more than is usually supposed and it may be possible to establish friendlier, more cooperative relations between them.

Natural Science and Scientism: A Critique

The scientism of modern social sciences no longer involves the adoption of natural-scientific language and procedures of the nineteenth century. Instead, particularly during the last thirty to forty years, scientism has taken a more refined and subtle form, primarily in the attempt to develop techniques and procedures that fulfill the methodology formalized and codified by philosophers of science. In fact, two philosophers of science, Thomas Kuhn and Karl Popper, may have exerted the greatest impact on methodology in recent years, so that most research in the social sciences is guided by an implicit synthesis of their work, which I dub the Kuhn–Popper model. Though it underlies an enormous amount of social-scientific

thought and research, the model is rarely elaborated in a systematic way (see Skocpol 1987 and Kirk and Miller 1986 for examples).

Almost inevitably, in the race after the coattails of science, proponents of scientism have fallen desperately behind. Recent work by philosophers of science has even undermined many premises of the Kuhn-Popper Model. Even more ironic, the new postempiricist philosophy of science suggests—from the perspective of natural science!—that the entire scientistic project may be misguided, if not dangerous. So staid a scholar as Hilary Putnam has adamantly rejected the "presumption that the words 'truth' and 'knowledge' are the property of 'science'," to which he added the warning that "a view of knowledge that acknowledges that the sphere of knowledge is wider than the sphere of 'science' seems to me to be a cultural necessity if we are to arrive at a sane and human view of ourselves or of science" (Putnam 1978, 51).

Thus it seems of the utmost importance to determine where the limits of natural science lie, if one wishes to map out other domains of culture, including that specific to social science. My critique of scientism will therefore draw on a postempiricist philosophy of science to identify several contradictions within the Kuhn-Popper Model. Then I will build on this analysis to show the points at which natural and social science do and do not resemble one another. This will clear the ground for a fuller consideration of social-scientific knowledge.

Falsification, Paradigms, and the Fact/Theory Problem

Central to the model are Popper's doctrine of "falsificationism" and Kuhn's concept of "paradigm shifts." The former asserts that scientific theories cannot be proved but only disproved, which means that science progresses through the rejection of false theories rather than the invention of "correct" ones. The latter, as is well-known, implies that progress in scientific knowledge is not always incremental. Rather, it occurs through revolutionary breaks in which our entire framework for understanding the world is superseded by a new one. Thus Kuhn and Popper appear to cast the net widely enough to accommodate all social scientists.

But how strong are the nets—can they be ripped apart? To answer this question I begin by laying out (in highly schematic fashion) the model's assumptions about the relationship between evidence, theory, and scientific progress. Though nowhere set forth by its proponents, the model's presuppositions can, I believe, be summed up in the following sequence:

1. *Hypothetico-deductive Principle.* Theories are "underdetermined" by the evidence, they are therefore deductive and can have only a hypothetical or provisional status.

2. *Axiom of Independence.* Argument (theory) and evidence (data) are independent of one another. In other words, there exists a realm of "facts" that is really and essentially distinct from the theoretical language we use to order and explain them.

3. *Falsification.* It is possible to test theories and adjudicate competing theories.

4. *Paradigm.* Scientific knowledge is discontinuously cumulative (i.e., it grows as ever simpler and more powerful theoretical paradigms are developed).

It is my position that each thread of the argument, with the exception of the first (underdetermination), is actually quite weak and that the four strands cannot be woven into a strong model without unraveling. But before I state my objections, let's examine each proposition and show how the four propositions are purported to fit together.

The axiom of independence is rooted in a particular understanding of language. In this view, which might be called postnominalist, language does not simply "name" *a priori* entities in the world. Rather, language classifies objects and structures reality[3] in a way that is *neither arbitrary nor determined*—a way that makes sense to those who use a language but may vary from one language to another and even change through time. In other words, language does not *describe* the world, it creates a world. Science, too, rests upon language, though usually in the form of highly specialized linguistic constructs. The languages of the individual sciences also create new worlds of entities and facts that were never before perceived. (Consider the idea of an atom.)

From this analysis, proponents of the Kuhn–Popper Model reach the enticing (but logically fallacious) conclusion that since theory cannot be derived from the facts, it is constructed *a priori* in the mind of the social scientist. The purpose of theory is therefore to account for facts, and the test of a valid theory is how well it does so. The methodologically important conclusion from the axiom of independence is that we should be able to evaluate theories by checking them against the facts.

It is important to note an important implication of the axiom of underdetermination, namely, that "there are in principle always an indefinite number of theories that fit the observed facts more or less adequately" (Hesse 1980, vii). If more than one theory may account

for the same data, it is trivial to assert that a particular theory corresponds to the facts, for this does not make it truer than other theories.

The model could still be saved if it were possible to decide that a theory is less false than the alternatives. Taken together, the axiom of independence and the hypothetico-deductive principle point to a procedure for doing just this. Even if we cannot validate a theory by adducing evidence for it, perhaps we can invalidate it by counter-evidence. In this way we will not be able to prove our theory, but we can increase our confidence that it is not false.

Of course, even if we fail to falsify our theory, another theory may account for the facts we wish to explain. But this problem can also be handled by extending the falsification procedure. By looking for "consequences of our theory whose negation is implied by the alternatives," we can also "disprove" rival theories (Stinchcombe 1968, 25). By discounting alternatives, such a "crucial experiment" can enhance the credibility of our theory. Testing and adjudication, then, appear to promise a sort of negative progress by allowing us to refine theories and select the best amongst them. From this perspective, Kuhn's theory might seem merely to add a long-term historical dimension to this process, where "paradigm shifts" just represent progressive improvements in our overarching theoretical framework.

Apart from the fact that this is a blatant misreading of Kuhn, there is a grievous flaw in this reasoning. As intimated above, the weak link in the argument is proposition 2. Proponents of the Kuhn-Popper Model usually derive the axiom of independence from proposition 1. However, this does not necessarily follow. The principle of under-determination, if followed to its logical consequence, casts considerable doubt upon the axiom of independence, for if we believe that "reality" is first structured by our linguistic concepts, how are we to make "observations" of "facts" that are independent of our theories?

One way out of this dilemma (perhaps the only one besides a return to unadulterated positivism), and the way chosen by many analytic philosophers, is to draw a distinction between theory language and observation language. The latter is thereby assumed to be the neutral medium in which a stable body of facts or "observation statements" can coalesce. Theories are taken to represent linguistic-conceptual fields in which facts are ordered. Changes in theory, according to this account, should be mainly a response to the accumulation and expansion of observation statements—that is, to "new facts."

This analysis has a certain plausibility as an account of what Kuhn calls normal science, the day-to-day practice of science within a

"dominant paradigm" in which the criteria for what counts as a fact are well established. But we detect problems with the distinction between theories and observation languages when the analysis is extended to "scientific revolutions." Kuhn is quite clear that in such periods, when paradigms themselves are called into question, not only theories but the very basis of observation statements—the observation language—may be challenged. (Think, for example, of Galileo's insistence that only abstract and quantitative measurements were admissible as scientific evidence—and not, for example, astrology, Ptolemy, or Aristotle.)

If we look more carefully at "normal" science, we can see the same problem: absence of a sharp line between theory and observation languages. If a set of "new facts" emerges (e.g., through invention of an instrument), it is not uncommon that an old theory is revised so as to leave unexplained facts that had been accounted for in the old scheme. (Think, for instance, of the relation between relativity and Newtonian physics.) As Mary Hesse sums up, "At any given stage of science there are relatively entrenched observation statements, but any of these may later be rejected to maintain the economy and coherence of the total [theoretical] system" (Hesse 1980, 107). In other words, the relation between theories and facts is considerably more fluid than is suggested by a rigid separation of theory and observation languages.

This reasoning could be pressed further, but the important consequence is already evident: if the distinction between theory and observation languages cannot be sustained, then the axiom of independence must be abandoned. But if the axiom of independence falls apart, so does the entire model. Without this axiom, there can be no unambiguous procedures for falsification since we can no longer purport to weigh a theory against the facts. For facts, in Hesse's phrase, are "theory-laden." And it seems obvious that a theory will tend to generate facts that confirm it while excluding facts that contradict it. As Paul Feyerabend puts it, the success of a theory "is entirely man-made . . . [for] empirical 'evidence' may be created by a procedure which quotes as its justification the very same evidence it has produced" (Feyerabend 1975, 44). For the same reason, there can be no unambiguous adjudication procedures underlying rival theories within *competing domains of facticity*. (Indeed, most battles between scientific theories have turned as much on what counts as a fact as on how the facts are to be comprehended.)

What does this mean for the relationship between natural and social science?

A Reconstruction: The Pragmatic Criterion and the Consensus Theory of Truth

We must begin this section with a disclaimer: It would be absurd to question the "truth" or "validity" of scientific knowledge or deny that it has, on the whole, increased in scope and sophistication. This, however, has not been my intention; rather, I have criticized a conception of scientific knowledge that may be called the *correspondence theory of truth,* for it takes a correspondence between theory and facts to be the criterion of scientific truth. In this section, I would like to develop an alternative, the *consensus theory of truth,* which allows us to understand scientific progress without denying the possibility of nonscientific knowledge.

The correspondence theory of truth was so named by Habermas (1979, 14) because it takes a correspondence between theories and facts to be the criterion of scientific truth. Particularly—and here is the problem—it views truth as emerging from an almost *mechanical* relation between "propositions" and "facts." Where, one is tempted to counter, are the scientists in this vision of science?

In fact, reinserting the institutionalized community of researchers into our analysis helps to answer some problems. Most important, if we consider the practice of science, the problematic relation between theories and facts (examined in the previous section) suddenly appears in a new light. For however hard it may be to define them, particular research communities employ *working definitions* of "fact" and "theory" all the time. Indeed, if there were not a set of basic terms and procedures whose definition is *sufficiently* clear (which is not to say "perfectly" clear) so as to permit communication between scientists, no productive research could occur.

Seen in this way, the condition under which a statement is to be regarded as "true" is not any abstract relation between theory and fact but *agreement within the community of researchers* about this relationship. This means (contrary to the doctrine of falsification) that no test is sufficient *in and of itself,* to disestablish a principle; only *argument* is. An experiment may constitute important evidence, but in the effort to persuade, not only facts but also eloquence and power often play a role. "Truth conditions" within the scientific community, then, are ultimately no different from those that hold for any other community, namely, *argumentatively validated consensus.*

Still, the scientific community agrees on more issues than most communities do, and casuistry plays a small (if not inconsiderable) role in scientific argument. Why? Perhaps, as Mary Hesse argues, it has to do with what the scientific community (as opposed to other

communities) judges to be an adequate relation between theory and fact. What do scientists mean when they claim that a theory explains a set of facts? They mean that the theory tells us how to *do* something or what to *expect* under certain circumstances. In this sense, an experiment is not so much a test of a theory's validity as a demonstration of its power. The only real test of a scientific theory, then, is that it *allows us to control and manipulate the natural world in a predictable manner*—which Mary Hesse calls the "pragmatic criterion."

If we understand science as a community oriented toward the pragmatic criterion, how does this alter our understanding of facts, theories, and progress in natural science? Viewed in this way, a valid theory is not one that corresponds to the facts but the one that permits instrumental control over nature. And a "better theory" is not one that explains the facts better, but one that expands this control. Scientific progress does not represent a closer fit between theories and facts, but the devising of theories that cover ever larger domains of facts.

Of course, every human community has applied the pragmatic criterion to a certain extent, and the effort to control and manipulate the natural world did not begin with modern science in the sixteenth century. However, it was after this time that a community, oriented solely toward the pragmatic criterion, first crystallized, namely, the scientific community. But scientific reason required the exclusion of other criteria, religious ones in particular and questions of meaning and aesthetic value in general. This was more than a shift in perspective; modern science emerged after more than a century of intense struggle and a major reorganization of the university. In retrospect, we might say that the scientific revolution was part of a larger process in which the cultural sphere, once coterminous with the religious, underwent differentiation into relatively autonomous subsystems: the natural sciences, human sciences, art, and religion. In this way the systematic study of nature was "liberated" from the claims of society, politics, aesthetics, and belief.

It is now possible to offer a summary description of natural scientific knowledge and its conditions. Scientific theories may be regarded as true to the extent that an argumentatively validated consensus exists within the community of researchers; "better theories" are more useful, as judged by the pragmatic criterion; and progress implies an expansion and redefinition of the fact world, permitting ever greater instrumental control over nature. The conditions of modern inquiry have been given by the process of cultural differentiation through which has emerged an autonomous, institutionalized community guided (ideally, at least) solely by the pursuit

of instrumentally useful knowledge, according to the pragmatic criterion.

In light of this provisional definition (which I do not represent as a developed philosophy of science), how can we delineate natural science to distinguish it from social science and religion? First we note several key similarities. The truth condition of science, argumentative validation, can also be applied at a foundational level to social science and religion. However different social and religious phenomena or "facts" may be from natural facts, the discursive processes for reaching agreement hold equally for all three.

One of the most important consequences of the consensus theory of truth is that *there can be different types of knowledge.* To the extent that they are embedded within autonomous and institutionalized communities of discourse, art, religion, and social science are just as capable of truth as is natural science.

The question, then, is not whether religion and social science can be true, but what *sort of knowledge* they are oriented toward and the *types of criteria* (or *"validity claims"*) they apply. In negative terms, such knowledge must be noninstrumental and cannot be judged according to the pragmatic criterion. To the degree that the knowledge is instrumental and judged by pragmatic criteria, it must, by this scheme, be defined as science. To arrive at a more positive answer, it will be necessary to reflect on the character of social and religious phenomena, as opposed to natural ones.

Social Science and Practical Reason

The first half of this essay attacked scientism in social science from the perspective of natural science, not to develop a complete philosophy of science but to expose its implicit philosophy. At the same time, I have sought to circumscribe natural science. Its boundary, I suggested, may be drawn where the pragmatic criterion can no longer be applied. Social science, I also suggested, seems to lie beyond this line.[4]

In this half of the essay, as we attempt a more positive definition of social-scientific knowledge, we will proceed cautiously and skeptically, building on the arguments already presented. On what does social-scientific knowledge rest, I ask, if not the pragmatic criterion? And what is social-scientific knowledge if not instrumental? Although the answers, I believe, will prove distressing to the scientistic project, they will further illuminate the relationship between social science and religion.

To bridge the two halves of this investigation, we turn to the

German philosopher Wilhelm Dilthey, one of the first thinkers to wrestle seriously with these questions, who may provide a preliminary answer. He built his analysis around the "distinction between our relation to society and to nature":

> States of affairs in society are comprehensible to us from within; we can reconstruct them inside ourselves up to a certain point on the basis of our perceptions of our own conditions, and we accompany this picture of the social world contemplatively with love and hate, with passionate joy, with the entire play of our affects. Nature is dumb towards us. Only the power of our imagination pours a shimmer of life and animation over it. For as much as we are a system of physical elements standing in interaction with nature, no inner awareness accompanies the play of this interaction (Dilthey 1988, 36).

The striking feature of this passage is the implication, contrary to the usual view, that our knowledge of the social world is *more* direct and complete than our knowledge of the natural or physical world. One might say that our experience of the social world is nonrestricted, compared with our experience of the natural world. No special training, procedures, or instruments are necessary to penetrate this world, which is so profoundly *our* world—only those basic human competencies that we develop and employ as a matter of course in our daily lives.[5] In addition, the knowledge we gain of the social world has an inherently practical content; it flows immediately and inevitably back into our lives, impinging upon our conduct.[6] This is not necessarily the case for knowledge about, say, quantum mechanics.[7] Thinking about society is closely connected to basic ethical reflection, for the desire to know how to live impels us to peer into the social world.

Even in this short treatment we glimpse four questions that are critical to any effort to reconstruct the social sciences: (1) What distinguishes social and natural realities from one another? (2) Upon what faculty or competence does our understanding of the social world rest? (3) What are the conditions and the meaning of objectivity in social-scientific observation? and (4) What sort of knowledge can we have of the social world?

Fortunately, there are considerable resources upon which to draw, for there is a second strand, albeit thinner than scientism, that runs through the social sciences, and it is this thread, closely intertwined with philosophical hermeneutics, that I will develop. Its core is not the experiment but the act of social interpretation—a process that social scientists commonly call *Verstehen*. Its virtue, from our standpoint, is that it does not begin with a vision of science but with a

reflection upon its proper object—the nature of *social action*. Although we will incorporate a variety of theorists, notably Peter Winch and Hans-Georg Gadamer, the central figure will be the contemporary German philosopher and social scientist Jürgen Habermas, in whose work we find the *Verstehens* problematic most fully worked out in its implications for social science.

Drawing on Habermas's work, we will develop a notion of *social science oriented to practical (rather than instrumental) knowledge*[8] *and resting on objective (as opposed to speculative) claims. As a specialized form of practical reason, social science is propelled by a fundamental concern about "right action" and the "good life," which it shares with religion and political philosophy. But, unlike these, social-scientific arguments are grounded in claims about social reality, rather than in an appeal to transcendent truths or ultimate values, and therefore resemble natural-scientific arguments in this respect.*

Social science therefore occupies an intermediate or seemingly ambiguous location within culture. This does not mean that social science can or should be merged with religion or philosophy; it suggests, however, that the fundamental concerns of these three fields of knowledge are more closely related than has been commonly thought by social scientists.

This segment of the essay will be organized into four sections, each roughly corresponding to one of the questions outlined above. In addressing the first two questions, I will be broadly concerned with demonstrating from two different angles the inapplicability of the pragmatic criterion to the study of society. In sections three and four I will attempt to demonstrate the inherently practical and critical character of social-scientific knowledge.

Causality, Data, and Measurement: The Problem of Meaning

In practice, applying the pragmatic criterion in natural science means describing a causal mechanism in the form of a rule: *When a, then b*. A causal mechanism merely describes a correlation between *a* and *b*, a temporal sequence of events. A causal model expands the realm in which the mechanism operates to a defined set of *a*'s and *b*'s. To be more exact, a model specifies how the sequence leading from *a* to *b* may be *replicated* under varying circumstances, the results manipulated, etc. Scientific theories generally connect a number of causal models within a simple and unified framework.

Scientific theories have a certain meaning or signification, and my argument asserts that this meaning does not derive from the *"things themselves,"* but rather from the internal semantic and logical

coherence of the theory. Thus the validity of a theory in natural science does not require that the causal mechanisms it describes be intuitively meaningful. On the contrary, scientific theories are often counterintuitive. In sum, applying the pragmatic criterion does not require that we consider questions of meaning. The only requirement for a scientific theory is that it permit accurate prediction and control of natural phenomena.

Social scientists also develop causal explanations; but is their only requirement for a valid causal explanation that it fulfill the pragmatic criteria? Or are questions of meaning necessarily involved? In developing causal arguments, many social scientists search for correlations between *a*'s and *b*'s—preferably of a statistical variety.

Anyone, however, who has perused social-scientific journals or listened at pertinent conferences knows to what absurdities this can lead if applied in a naive and rigid fashion. I think, for example, of a diagram I once saw (of unknown provenance) showing the association between hormones, church attendance, and sexual performance. Despite the strength of its statistical correlations, the causal model was meaningless.

Naturally, I do not assert that all work that employs this approach is as improbable as this example. Every good social scientist would be quick to add caveats about correlation and causation: a model must have intuitive plausibility or "validity," and it must be "theoretically driven" (i.e., connected to issues of greater and acknowledged import).

This amounts, however, to an admission that problems of meaning *are* relevant in causal statements in social science—unlike natural science. Actually, no social scientist (except a few die-hard logical positivists) would be likely to dispute this today; many, however, would assign to issues of meaning a rather peripheral role in social-scientific analysis. Issues of meaning, in this view, bear principally on the formulation of "research questions," that is, in determining whether one has defined a reasonable problem for investigation. But the collection, measurement, and evaluation of data, the argument continues, can be separated from questions of meaning.

There are several variations of this argument, but the same difficulty lies at the heart of all of them: the notion of data. Ultimately, *data* means observations of social phenomena, and social phenomena are composed of social actions. Saying that data can be separated from meaning therefore implies that we can make observations of human action apart from its meaning. Another way of putting this is to say that data reduce action to behavior, to mere sense data, analogous to natural phenomena. The tenability of this

conception therefore hinges on the plausibility of this notion of behavioral data.

One of the first to make a systematic case against the behaviorist premise was the British philosopher Peter Winch, and here I follow the critique in his remarkable essay *The Idea of a Social Science* (1958). In essence, Winch asserts that human *action* cannot be reduced to data analogous to animal behavior or natural processes by virtue of its *meaningful and normative character.* He makes this argument in a novel fashion, building on the linguistic philosophy of Ludwig Wittgenstein.

For Winch, the central point is that human action is "rule-governed." The idea of a rule is taken from Wittgenstein, whose most elementary and essential examples of "following a rule" involve language. As children, we learn such linguistic patterns as the conjugation of verbs, for example. When we speak, we follow these patterns or rules.

At first glance, language may appear similar to a conditioned response that an animal makes to a stimulus; and we may notice that the animal's behavior conforms to a definite pattern or rule. But, Winch insists, this does not mean that the animal is following a rule (as he defines the term). A rule referring to an animal's behavior tells us what to expect under given circumstances, but a rule in Wittgenstein's sense defines right and wrong ways of doing things. We cannot correct an animal's response to a stimulus in the same way we correct a child's speech (though we can surely *modify* it). The regularity we observe in an animal's behavior is therefore quite different from what we observe in a child's use of language. In the former, it is *merely empirical:* in the latter, we see a pattern only if we ourselves know the rules (or can reconstruct them through intense observation). (Imagine trying to hear significant patterns in a language you do not speak!)

Rules are generally tied to specific situations; conversely, situations are generally governed by a number of rules. Think, for instance, of the grammatical, linguistic, and cultural rules involved in "making a polite request." Wittgenstein uses the metaphor of games to capture this interdependency between rules and situations. The important point to note is that an identical action may have an entirely different significance within two apparently similar games. (Consider, for example, what it means to move a piece diagonally in chess and in checkers!) If we wish to know what rule someone is following, it is not enough to observe an isolated incident of behavior; we must first ascertain what "game" they are playing.

But games, too, are context dependent. Even where two groups are

playing the same game, there may be variations in the rules. Tag may be played differently in one neighborhood than in another. Conversely, we may think that two different games are the same because they share some rules. For example, we might confuse Capture the Flag with a game of tag. This connection between games and the larger, communal frame in which they are embedded Wittgenstein captures with the term *form of life*. In Wittgenstein's world, one never understands the parts without reference to the whole, and vice versa.

The apparent simplicity of Wittgenstein's examples and metaphors should not confuse us as to the profound implications of his theory for social science. The chief implication is this: *to correctly identify regularities in social phenomena at any level, we must begin with issues of meaning*. Only if we understand the relevant rules, games, and forms of life will we perceive patterns in individual action, group interaction, and culture. In the study of human action, it is never enough merely to note an *empirical* correlation. More abstractly, an adequate statement about causality in the social world entails not just that we demonstrate a correlation between *a* and *b*, as in natural science; we must also show that our account of the mechanism that connects *a* and *b* makes sense, that we have rightly identified the "game" and its "rules."

This might seem to suggest that the interpretation of meaning and the observation of empirical regularities are somehow separable, at least analytically and procedurally, but they are not. Regularities exist in human action only *when and because* such an action is oriented toward rules. (Of course, it is possible to study dimensions of human behavior that are involuntary or dependent upon biology, but this encloses only a broad envelope around that part of meaningful human action or culture that is the concern of social science.)

To sum up, the interpretation of meaning, of rules, is not an analytically or methodologically separable part of understanding why something happens in social life (i.e., making a causal argument). It permeates social analysis from beginning to end; and if this is the case, the pragmatic criterion can never be the proper yardstick of social-scientific work.

What is this interpretation or *Verstehen* that seems so crucial to social science? How can we comprehend a whole and its parts simultaneously? In what faculty does this ability rest?

VERSTEHEN, PRAXIS, AND HERMENEUTICS

It is commonplace to observe that scientific judgment requires a

neutral, distant, and dispassionate perspective. The intrusion of moral, personal, or emotional issues, it is held, only clouds the process of observation and theory-building. Through psychic discipline, the scientist allows nothing but the pragmatic criteria to play a role in his or her reasoning. Indeed, this scientific ethos represents an internalization of the pragmatic criteria by the scientist.

I am aware that scientific thought processes are often considerably more fuzzy and "creative" than this ethos would seem to imply, but regardless of how accurately it reflects practice, this ethos has had an immeasurable influence outside of science. It has come to be seen as the precondition of understanding in other fields of knowledge, including social science. Certainly, all the greatest sociologists—Marx, Durkheim, and Weber—tried to honor this ethos, albeit in different ways.

It was probably Max Weber who went furthest in this ethos (1946, 129ff.). Paradoxically, it was also Weber who, among the founding fathers of modern sociology, took questions of meaning most seriously (indeed, his analysis of religion was at the very center of his explanation of the rise of the West) (Weber 1958; 1964). Interpretation, in fact, was the cornerstone of his edifice. By *Verstehen,* Weber meant thinking oneself into the heads of others.

Curiously, however, especially for someone so compulsively rigorous and given to definitions, Weber never offered any explanation of how this could be possible, except for occasional references to the human capacity for empathy. But the spell of scientism has hung so thickly over the discipline since then that few sociologists have pressed this question.

Instead, it was cultural anthropologists, such as Clifford Geertz, who took up the problem of interpretation again in all earnest. For Geertz and others, the investigation of symbol systems and ritual became so central as practically to displace the concerns with "material culture" and social organization that were once so important in anthropology. This emphasis is not entirely unproblematic, as we will see shortly, but it had the advantage of focusing on interpretation.

The principal tool of the anthropologist is fieldwork, in which interpretation is not a feat of empathy but the physical act of immersing onself in a foreign culture, opening oneself to it, and holding body and soul together (each being a condition of the other). This represents a considerable shift from Weber's view, for the cultural anthropologist is not primarily interested in individual psychology, as is the Weberian sociologist, but rather in collective practices: ceremonies, habits, customs, myths, etc. In other words,

the point is not to penetrate what individuals think but to *learn how people do things*. This points to a critical reformulation: the object of social-scientific interpretation is not meaning *per se*—the connotation is far too mental and psychological—but *praxis,* or the meaningful activity in which individuals are embedded.

Thus cultural anthropology has gone a good distance further than sociology in explicating what makes interpretation possible. Just the same, it does not relinquish the scientific ethos entirely. Anthropologists recognize that interpretation demands personal and moral engagement, as exemplified in the technique of fieldwork. However, they still claim to describe the praxis of foreign cultures without evaluating it. How firm is the ground in which this flag of cultural relativism was planted? By elevating the scientific ethos to a higher plane, has anthropology in this way solved or merely sidestepped the problem?

Probably the most incisive critique of moral relativism in interpretation is the philosophical hermeneutics of Hans-Georg Gadamer. *Hermeneutics,* the science of interpretation, originated in the study of sacred texts. Translation therefore occupies a paradigmatic position in Gadamer's analysis. How is it possible, Gadamer asks, that we come to understand a text, especially in a foreign language and from a distant past, and what is the nature of this understanding?

In Gadamer's estimation, understanding does not come through an "open" or neutral stance toward the text. On the contrary, he argues that our very linguistic and cultural specificity, our "hermeneutic situatedness" (*hermeneutische Ausgangslage*), provides our only lever for releasing a text's meaning. Real understanding, in his view, is not an effortless familiarity and comprehension; it begins where we encounter resistance and are puzzled by the text's foreignness. Thus understanding starts when we no longer understand. Only then can we begin to recover the foreign in its true singularity.

Is Gadamer merely reiterating the cliché that we always perceive other cultures through "conceptual lenses" of our own? Most emphatically not. Our peculiar "prejudices" (*Vorurteile*) are not a "neutral medium" but a reagent, if you will, and when we bring them into contact with a foreign substance, they undergo an irreversible alteration. As we come to see the otherness of the world in the text, we come to grasp the peculiarity of our own—and vice versa.

This process, which Gadamer calls the "hermeneutic circle," is like an endless upward spiral in our knowledge. What we take from a text is not a reproduction of "the other," a sort of snapshot of a foreign world; nor do we come to see this foreign world through the

eyes of the other ("going native," as it were). It is more as if we gazed deep into the eyes of the other, only to see an unexpected reflection of ourselves. However, our picture of the other is by no means subjective; rather, because we enter into a sort of *dialogue* with the other, an *intersubjective* reality emerges that transcends the *individual* realities. Not only do we learn from the other—both about the other and about ourselves—but the other, as preserved in the text, gains a new life or significance through us. (It is thus that Plato or Paul, in a very real sense, are participants in the contemporary discussion.) Interpretation, then, is a sort of movement in which knowledge of the other and self-knowledge "play off of" and deepen one another.

This analysis could be extended, but for our purposes the main point is already clear enough: *moral or (better) practical dispositions, far from hindering interpretive understanding, are its precondition.* If the social scientist *could* disconnect from time and place, thereby becoming a "neutral medium," the result would be loss of that diffractive power that *is* insight into the social world. But the interpretive productivity of our prejudices (to paraphrase Gadamer) should not lead us to the opposite error of dogmatism. Clinging to one's narrow beliefs and illusions erects an equally great obstacle to understanding. The *ethos proper to interpretation* is neither radical relativism nor simple dogmatism, but *radical antidogmatism, an openness to experience grounded in a conscious particularity.*

I have argued that social science cannot avoid questions of meaning or, better, embeddedness in a field of activity (praxis); nor can it "get around" procedures of interpretation (*Verstehen*). Is it reasonable, however, to assume that all social phenomena can be comprehended through procedures of interpretation? *Can we equate society with culture?* Or are human relations not often distorted or even constrained by social forces? I will address these issues at the end of the next section, where I will argue that although social science must begin with questions of meaning and procedures of interpretation, it cannot *end* there.

Having discussed why the pragmatic criterion cannot serve as the basis for social-scientific knowledge, we turn to a closer consideration of the character of that knowledge.

Objectivity, Practical Reason, and Enlightenment

To establish a framework for discussion, we begin by reiterating and reformulating some of the key arguments about the character of natural-scientific knowledge developed in the first half of this essay.

Our main critique focused on a conventional picture of natural science that ignores its historical preconditions and social grounds. This picture derives from a myth about the origins of science that began in Francis Bacon's *Novum Organum* and is now retold in numerous introductory science textbooks. Science, according to this story, is but an extension of common sense. The scientific revolution, in turn, represented a sort of awakening in which some especially prescient individuals, such as Bacon, suddenly opened their eyes to reality. Modern science, in this account, is the triumph of clear thinking.

This view of science disregards several transformations within our culture and, more specifically, within Western religion that necessarily preceded the emergence of natural science. The linchpin was what Max Weber called "the disenchantment of the world" (*die Entzauberung der Welt;* literally, "the banishing of magic from the world") (Weber 1946, 267ff.). This disenchantment prepared the way for scientific objectivity by *objectifying* the natural world—that is, by turning nature into elements and forces devoid of inherent or ultimate meaning.

The second condition for the evolution of modern science was what I call *the transcendentalization of value.* The otherworldliness of the Protestant God and (its reverse side) the profaneness of earthly life drained all value from the natural world and placed it in a transcendent realm. This cleared the way for an instrumental reason, detached from all ethical imperatives and devoted to manipulating and reshaping the physical world. Science merely lent formal expression to this urge.

The third major step toward modern science involved what Habermas called the *differentiation of expert cultures.* One of the most tangible symptoms of this process was the disappearance of the Renaissance Man, the universal intellectual (such as Leibniz) who mastered all the knowledge of their age and made notable contributions in every cultural endeavor—science, philosophy, and theology. By drastically limiting the scope of problems, expert cultures have made possible rapid advances in understanding. Scientific specialization, for example, accelerated the production of technical knowledge enormously. At the same time, it concentrated control over the accumulation and transmission of this knowledge within a small community of experts.

Although this perspective raises disturbing philosophical, ethical, and social questions about natural science, I cannot pursue them here. Instead, I am concerned with the character and possibilities of social-scientific knowledge. If we take the underlying agenda of the

scientific project since the Enlightenment to be the extension of this line of development to the social sciences, how plausible or desirable does all this seem? If my arguments are more or less correct, the answer is, Not very.

Social science can never aspire to the same sort of objectivity that distinguishes natural science. An objectifying perspective begins by draining phenomena of their meaning, but, as we have seen, social phenomena, unlike natural ones, cannot be grasped apart from their meaning—and from values, rituals, and symbols. Consequently, the objectifying procedures of natural science are not a promising starting point for social science because the mysterious power of human understanding, solidarity, and communication resists the most determined demystification.

By the same token, social science can never be "value free" in the sense that natural science is. Social scientists can of course abjure responsibility for any application of their work, as natural scientists often do, but the former cannot conduct their work in a value-free manner. On the contrary, as we have seen, the work of interpretation, which is at the base of all social inquiry, *requires* moral engagement. Social interpretation, however, should not be confounded with moral speculation, for social-scientific arguments, however transcendent their moral agendas or implications, are always justified by recourse to objective claims about the social and historical world.

Like natural science, social science has developed into a sort of expert culture (as have religion and art), but the character of social-scientific understanding sets limits to this process that do not pertain to natural science. The principal limit derives from what might be termed the *democratic character of interpretation*. The faculties upon which interpretation rests—linguistic and social competence—are common to everyone. Thus, in principle, the perspective of the social scientist is in no way inherently superior to that of the layperson. (Of course, a trained social scientist may have more factual knowledge than a layperson or be better in the art of interpretation, but this is just a matter of degree. The social scientist resembles a *virtuoso* more than an expert.) Laypersons therefore can—and do!—challenge the arguments of social scientists, which is simply impossible in a natural science.

In the contrast between natural- and social-scientific knowledge, we glimpse some of the subtle affinities that the latter has with religious knowledge: focus on meaning, connection with values, accessibility. (We will examine these parallels in our Conclusion.) I introduce religious knowledge at this point only to make clearer the

hybrid or paradoxical character of social-scientific knowledge that has been emerging in this analysis.

If social-scientific knowledge is not objective in the sense of objectifying, neither is it subjective in the manner of divine revelation, which begins with an individual's experience. Social-scientific reasoning is a manner of arguing about *ethical* issues in *empirical* terms.

Social-scientific knowledge is not instrumental (i.e., a means of control), nor is it speculative—a search for ultimate values. It attempts to *mediate values and social reality*.

Although social-scientific knowledge does not represent precise or technical know-how, it is more than common sense. It is an *empirical science of the socially possible.*

Social science cannot decide what is right in a social situation; it is not an arbiter of ultimate values; it cannot delineate human potential. These decisions can only be made by individuals who are equal within a free community. However, social science *can* serve as a vehicle of *clarification, enlightenment,* and *empowerment.*

These potentialities, which once were localized within religious institutions, today are immanent not only in social science but within all spheres of culture. Art and aesthetic experience, for example, act as instruments of clarification, enlightenment, and empowerment for many individuals. Let us therefore clarify what distinguishes social-scientific knowledge from other aspects of culture.

Abstraction, Critical Reason, and Social Transformation

I have alluded to the possibility that, although social inquiry necessarily begins with interpretation, this form of understanding may run up against certain limits. In other words, the social scientist may uncover phenomena that cannot be comprehended only in terms of meaning. This will be more true of modern societies with complex and highly differentiated structures than of premodern ones with a simpler and more unified organization.

Consider, for example, a simple process of economic exchange. In a primitive society, it will likely take the form of face-to-face barter. In a modern society, by contrast, the primary producer and end consumer are unlikely to meet, and the exchange will take place through the transfer of money or credit. When we think about the workings of a modern economy, we therefore employ such abstract models as free markets. Of course, we could define all the actors in a complex monetary transaction (imagine what this would entail for

the sale of a share of stock), but this would add little to our understanding.

Let me try to illustrate this point from the opposite direction by borrowing an example from Habermas—psychoanalysis (1968, 214ff.). The main tool of the psychoanalyst, as is true of the social scientist, is interpretation. However, the psychoanalyst wishes to explain personality development, not social change. By systematically probing into the past, the analyst tries to identify key experiences or episodes that shaped a patient's self-conception or behavior. At this stage, the analyst is only helping to draw out a chronology or make explicit a story that the patient already knows. However, the analyst may encounter resistance by the patient, who may be unable to explain why he or she acts or feels in a particular way (i.e., exhibits "neurotic" behavior), or the patient may be unwilling to remember or relate a certain experience (i.e., "repressing"). The neurotic in Freud's theory is one whose development was arrested by a traumatic experience that was not integrated into the personality. Having identified the nature and source of the neurosis, the analyst tries to "replay" the traumatic episode to set the patient back on track according to an idea of what constitutes normal personality development.

Having reached the limit of what could be understood interpretively, both the economist and the psychoanalyst employed a model in apparently different ways. The market model, which simplifies a complicated reality to facilitate *empirical* analysis, rests on an *objectification* of social reality, on viewing the world as if it were an impersonal, mechanical system that functions according to a set of meaningless but logical rules. The model of personality development, on the other hand, constitutes a norm against which reality is measured, and the model is based on an *idealization* in which reality is treated as if it were a harmonious human community, always governed in a rational and comprehensible way.

Both kinds of models, the empirical and the normative, represent a form of abstraction. The social scientist takes a social phenomenon, of many layers of meaning, and makes a judgment about its essence—or, to be more precise, what is essential, given his or her interest or perspective. (For example, the economist examines the relation of buyer and seller as a formal act of economic exchange, without regard to the informal elements of human interaction—greetings, courtesies, etc.—that are also present.) In this way, the social scientist renders a complex pattern of meaningful human interactions into a system composed of a limited number of elements and governed by a set of rules. (The market model, for instance,

reduces economic phenomena to encounters between buyers and sellers that are mediated by supply and demand.) The systemic perspective reveals similarities between phenomena that, in terms of meaning, may appear radically different. (Were it not for the market model, what would make us imagine that prices in international securities and corner grocery stores are set in the same way?) By defining a universe of related phenomena, models allow the social scientist to undertake comparisons and to make generalizations and predictions.

Clearly then, adding the systemic to the interpretive perspective can considerably enhance social-scientific understanding—but in what way? Does the abstraction of model building lead to an objectivity like that in the natural sciences? Many social scientists believe that it does. However, their arguments usually consider only what I have called empirical models (Skocpol 1987). The problem is that the distinction between empirical and normative models exists only in principle. In practice, even the most empirically oriented models rest on an *interpretive judgment* of what is essential in a given social phenomenon. But interpretations, as we have seen, can never be purged of moral dispositions and intentions. And because they are rooted in the *practical reason of interpretation,* even the most abstract and objectivizing model will never be entirely without *practical content.*[9]

This practical content, however, undergoes a transformation when it is translated from the interpretive to the systemic level through the mental leap of abstraction. By reducing the almost infinite complexity of social life into its fundamental structures and organizational principals, the empirical moment of a model presents a picture of society as a product of action and intention. In other words, it represents society as a *human creation.* The normative moment of the model, on the other hand, by eliciting from the actual course of history an immanent, developmental logic, confronts us with a vision of a better society within the existing one. In this way it represents society in terms of *human potential.* This mode of reflecting on the world, which *illuminates the empirical potentials of society with normative intent,* I call *critical reason.*

Like the instrumental reason of natural science, critical reason within social science is oriented toward changing the world. But in contrast to instrumental reason, critical reason does not separate means and ends but, by its very logic, always sets them in relation to one another. It does not provide a program for reform from above (assuming human actors to be above nature) but a vision for social transformation from below—by the human actors themselves.

CONCLUSION: RELIGION AND THE RE-ENCHANTMENT OF THE WORLD

I have been principally (perhaps overly) concerned with the relationship between natural and social science, but it may be difficult for those "outside" to appreciate how deeply embedded scientism has become in social-scientific habits of mind. Moreover, it is only by purging itself of scientism that social science can clear the ground for a reassessment of its relation to religion, to which we now turn.

Since the Enlightenment, reason has been assumed to emanate from natural science. So that it might at least be touched by the holy aura of natural science, social science has performed wild gymnastic contortions. Whenever its position became precarious, social science could take solace in mocking religion, which natural science had banished to the never-never land of superstition.

I have argued that there is no reason for social science's shame nor for its scorn vis-à-vis religion. Truth is not the monopoly of natural science, nor is natural science the sole arbiter of what constitutes reason. If we understand reason as the *achievement of consensus through argument based on claims about the world,* there should be several analytically separable *modes of reason,* each corresponding to a different relation and stance toward the world. I have distinguished three such modes of reason—instrumental, practical, and critical—which may be described, respectively, as objective/value free, subjective/ value oriented, and objective/value oriented (the fourth, subjective/ value free, corresponds to "taste" or aesthetic judgment).

Within the various spheres of culture (i.e., formalized bodies of knowledge) one mode of reason will tend to predominate. It should be clear from my analysis that instrumental reason is central to natural science and practical reason to social science. I would like to make the perhaps startling assertion that the *locus classicus* of critical reason is religion—a point to which I will return shortly. Aesthetic reason, of course, is proper to art.

At the same time, however, in each realm of knowledge other modes of reason may also be present: "weak poles" that create a sort of force field. I also have argued that the productive tension within social science is created by the interaction of practical and critical reason, and I suggested that religion is governed by the same tension but with reverse polarity, so to speak: the critical is predominant and the practical is weak.

I mean by this that the radical transcendence of God within the historical religions—Christianity, Judaism, and Islam—gives rise to absolute or ultimate values. Because their validity is seen as

independent of the imperatives of the world, these values can serve not only as a buttress to worldly powers but also as a lever with which to topple them. The history of Western Christianity is replete with outbursts of religious fervor that sought to change the world in the name of God, and modern-day radicals and intellectuals are in a sense heirs of those Christian soldiers and militant preachers. It was through religion that ideas first gained leverage on the world, that reason first became *critical.*

When their millenary hopes were disappointed, religious leaders and their followers were confronted with a different problem: how to translate their values into stable, organizational form. But establishing and maintaining a religious community requires certain compromises with the world and its realities, and the histories of Western Catholicism and Protestantism may be read as attempts to come to grips with this problem and learn from mistakes. Consequently, a strand of practical reason was always necessary if institutionalized religion was to hold together.

Why, then, was religion's position marginalized during the Enlightenment? Thus far, I have used analytical terms to describe the cultural differentiation that began during the Enlightenment. The empirical process, however, was not nearly so smooth as the analytic treatment suggests; it involved considerable conflict in which different parties fought over their "share" of culture. Religion "lost out" in the settlement, partly because it staked its claims on the wrong territory, defending its cosmology rather than its moral universe. As a result, natural and social science were able to colonize its former domains, and religion was often reduced to private belief. An aestheticizing natural science arrogated to itself the ability to unlock ultimate truth through empirical inquiry, and social science promised to transform the world into paradise through human reason. But as we celebrate the two hundredth anniversary of the French Revolution, the event that spawned these projects, their bankruptcy is unmistakable.

Looking back over history—Auschwitz, Stalin, and the approaching ecological calamity—we find it hard to escape the conclusion that something is fundamentally amiss in the Enlightenment project. Are genocide, terror, and the destruction of nature the inevitable by-products of cultural differentiation? Is the only solution regression to the simpler, more holistic viewpoint of premodern times? Alluring though this conclusion may be, I believe it is wrong. We should not forget the amazing gains in knowledge and civilization that the Enlightenment ushered in. The problem, in my estimation, lies not in cultural differentiation *per se* but in drawing the boundaries

between the spheres of culture improperly, often to the detriment of religion. Natural science must give up its monopoly on truth and social science must not try to define ultimate values (however clandestinely).

At the same time, it should be recognized that cultural differentiation brings new challenges—namely, the danger of cultural fragmentation. Cultural integration, once guaranteed by the unity of culture and religion, must now be maintained by conscious effort and reflection. Where the spheres of knowledge are separated, their different modes of reason cannot check one another, which creates the potential for excesses and tragedies. Unbridled instrumental reason transforms the world and its inhabitants into mere means; unrestrained critical reason imposes its values upon the world without compassion; and, left to its own devices, practical reason brings stagnation and sterile conservatism. In counteracting the forces of cultural differentiation, religion has a key role to play, for the fundament of culture is values and religion is their wellspring (though no longer the only one).

What contribution can a closer relationship between social science and religion make to the task of cultural integration in modern America? In his widely read and much-acclaimed book, *Habits of the Heart,* Robert Bellah (1985) criticizes the growing "privatization" of American religion. Once its connection with public life was broken, it retreated into the churches and from there into the recesses of the human heart. Today, its once-formidable world-changing energies seem exhausted, where they have not devolved into a fatalistic quietism.

Social science, in my view, is afflicted by a similar malaise. Once it renounced its concern with questions of meaning and the "good life," it withdrew into the academy and then into the subjective, individual mind. At present, its once-daunting utopian visions appear hollow—where they have not deteriorated into the worst kind of cynicism.

If the diseases are related, so perhaps are the cures.

NOTES

1. I agree that one may discover a meaning in natural objects or phenomena, if, for example, one sees the hand of God in them. However, it is not necessary to the natural-scientific enterprise that one do so. By contrast, I will argue that all work in the social sciences depends crucially on the meaningful character of social phenomena and, indeed, could not take place without it.

2. Later we will see that this formulation, based on intentions, is inadequate, but for the moment it is a sufficient approximation.

3. This is perhaps most immediately and strikingly evident in comparisons

between cultures. In fact, cultural anthropologists such as Franz Boas were among the first to advance a postnominalist conception of language. How else can we comprehend the fact, for instance, that Eskimo have scores of words for snow or that the palate of colors perceived by African tribesmen is entirely different from ours?

4. How, short of being a god or a concentration camp commander, can one conduct a social "experiment" with genuine "controls"? Indeed, based on his experiences in Auschwitz, the Italian novelist Primo Levi has compassionately and compellingly argued that human action cannot be reduced to mechanical behavior even under the conditions of the concentration camp, where human will, imagination, and freedom have been limited in every possible way. The very quest for objective, instrumental knowledge of human behavior is a despicable sort of hubris, rooted in the social pathologies of modernity. See Levi 1958.

5. This can be illustrated by a simple example: While a well-informed natural scientist can easily enter a conversation about, say, the roots of racism in America, even a fairly conversant social scientist is unlikely to be able to entertain a conversation on quantum mechanics.

6. For example, the very *precondition* of a deeper understanding of racism is to become aware of how it operates through us or in our daily lives.

7. Of course, there are now a number of "crossover" disciplines within science, such as ecology, that are explicitly concerned with moral and social issues.

8. Instrumental reason is the adaptation of meaning to a given set of ends. Practical reason, as I define the term, is the mediation of means and ends.

9. To make this clear, let us consider the market gain, for it, perhaps more than any other social-science model, has achieved the status of scientific objectivity and been developed in a rigorously empirical direction. Yet is it without its normative side? Not at all, for, like all models, the theory of the market begins with certain judgments about what is essential. It posits efficiency as the goal of economic activity; it assumes, for example, that economic factors can be divided into buyers and sellers who can reasonably be assumed to be on equal footing with each other. Mainstream economists would admit that other values may arise in economic activity or that power differentials may exist between economic actors, but they claim that these are not "essential." As a consequence, the model has profoundly normative implications—as any student of politics in the Reagan-Thatcher era knows.

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