Epistemology and the Sociology of Knowledge

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Epistemology, I will argue, is of crucial importance to the sociology of knowledge—not just by way of definition of the phenomenon under study, but also because approaches to the sociology of knowledge rely on too-often implicit epistemological stances. I will make this argument through a series of categorizations: first, I will classify the field of epistemology into its three main forms; second, I will classify the sociology of knowledge into epistemological categories; third, I will classify the sociology of science into these same categories. All the while, I will be making an argument for an empirical epistemology and "agnostic" studies of knowledge. This article does not cover the field of epistemology exhaustively, but tries to offer an orderly overview of classic positions for the benefit of social scientists.

1. EPISTEMOLOGY: AN INTRODUCTION

What is knowledge? Or more specifically, for these purposes: How can we justify those things we say we know? For a discipline concerned with human understanding, epistemology has made a bit of a mess of the basic terms of debate, particularly "truth," "knowledge," and "belief." Every epistemologist claims to know how these terms are really used by real people (although no one, so far as I have found, has undertaken any sort of systematic empirical research on the subject). If even some of these philosophers are correct in their terminological usage, then these words are actually used in a variety of ways, often simultaneously.

Rather than assume an orderliness in common usage, I would like to define a set of terms as clearly as possible:

Truth refers to "that which is out there," reality, which exists independently of any people. *True* describes an aspect of that reality. To add the word "absolute(ly)" to either term would be redundant.

> *Belief* is a statement or attitude to which people commit themselves. *To believe* is to commit oneself to a belief.
>
> *Knowledge* is a special kind of belief that people believe is true. *To know* is to commit oneself to a belief and to commit oneself to the separate belief that the first belief describes an aspect of reality. Thus there are two aspects to knowledge; I will call them the commitment-factor and the truth-factor.

I hope these definitions are flexible enough to allow all the different viewpoints to talk with one another and specific enough to keep them from talking past each other.

That said, there seem to be three general attitudes toward knowledge: that the same knowledge is justified for everyone (monism); that each community is justified in having its own knowledge (pluralism); and that knowledge cannot be justified (agnosticism). *Monism* generally stresses the justifiability of knowledge's truth-factor: Certain theories simply accord better with the truth, so far as we can tell, and are thus good for everybody, at least until a better theory comes along. *Pluralism*, on the other hand, generally stresses the justifiability of the commitment-factor: As members of a given community, we must conform to the knowledge standards of that community. (A minor strand in monism also argues the commitment-factor: Knowledge is necessary to achieve certain goals.) *Agnosticism* argues that neither the truth-factor nor the commitment-factor is justifiable.[1]

The three schools—monism, pluralism, and agnosticism—have several things in common:

- Each school feels it is the minority viewpoint.[2]
- Each school presents the reasonable view that knowledge is fallible and subject to future correction and rejection.
- However, each school contrasts its own reasonableness with a highly unreasonable characterization of the other schools, which are said to view knowledge as absolute truth.[3]
- Each view prefers attacking alternative justifications to formulating its own: for monism, how would we know which items of knowledge have the best truth-factor; for pluralism, how do we decide which knowledge-norms of which community to accept; for agnosticism, what determines what people believe.
- Nonetheless, generally in a short chapter in a long book, the authors do get around to outlining their positive justifications.

Let me continue the tradition of alternative-bashing by starting with monist and pluralist justifications, before turning to a positive statement of agnosticism and a defense thereof.

2. MONISM: JUSTIFICATION BY SUFFICIENCY

The chief emphasis in monist epistemologies is the justifiability of knowledge's truth-content. This goal is achieved through two types of arguments, the specific and the general (a listing of monist approaches follows this section). The specific monist points to a particular item of knowledge that is unquestionable, thereby showing that knowledge exists. The general monist gives a set of guidelines to justify knowledge in general.

G. E. Moore is the most famous of the first sort of monist. In a celebrated oration, Moore (1959) lifted his hands, gestured to them, and thereby proved that his hands existed (pp. 145-6). However, since Moore's hands may no longer exist and since he cast doubt on their existence even during his lifetime (pp. 53-8), when he argued that the perception of part of the surface of his hands did not justify the analysis, "This is a human hand," I will consider another of Moore's examples. This is the proposition that "The earth has existed for many years past" (p. 36). Not only does Moore say he knows this "with certainty," but he also knows that many other people know this too (pp. 32-4).

The strength of this argument is that it is self-evidently true. Who is going to argue the opposite, that the earth has not existed for many years past? Certainly this is something that we can all agree on. But just because something is obvious to all does not mean that it is necessarily true: The classic counter-example is the flatness of the earth, once unthinkingly and universally accepted. How do we know that this is not another such case of widespread delusion? Any attempt to answer this objection takes the specific monist away from the convincing simplicity of the original argument: our memories are generally accurate, people are not often deluded en masse, it would be an odd sort of world that just recently came into being, and so forth. Each of these supporting arguments would require further arguments in support, and specific monism thereby dissolves into general monism, namely, the pursuit of sufficient conditions for knowledge.

Bertrand Russell is perhaps the premier general monist of the 20th century, following in the tradition of David Hume and John Stuart Mill in the attempt to show that knowledge approximates truth. Russell's strategy is to specify conditions that suffice to make knowledge's truth-content probable—not certain, as the anti-monist caricature would have it, but probable. Thus Russell (1948) defines knowledge as follows:

> (1) it is true, (2) we believe it, (3) it leads to no conclusions which experience confutes, (4) it is logically necessary if any occurrence or set of occurrences is ever to afford evidence in favor of any other occurrence. (p. 496)

Russell qualifies each of these conditions: truth is only a matter of probabilities, not certainty (p. 427); beliefs need not be conscious, but may be habitual (p. 507); experience may confute one's conclusions sometimes, since knowledge requires usual and not invariable confirmation (p. 454); inference is necessarily imperfect (p. 507). Nevertheless, Russell concludes, "I maintain that these conditions are satisfied" (p. 496).

Russell's conditions span the two main types of general monism: foundationalism and non-foundationalism. Foundationalism argues that there are certain "self-presenting" or "self-grounding" items of knowledge that justify themselves and serve as the foundation on which all other knowledge may be based (Chisholm 1982, 25; Campbell 1868, 104). For example, sense-perceptions that are made in clear weather, at a decent range, and in sound mind are "epistemically in the clear" (Chisholm 1982, 24) and may be taken as prima facie knowledge in the absence of specific evidence to the contrary. Non-foundationalism, on the other hand, denies that "self-presenting knowledge" is the basis of all other knowledge, and seeks alternative justifications, either internal coherence or practical success.

I am not particularly concerned with foundationalism—its solution to the problem of the justification of knowledge is to assert that knowledge is sometimes justified, which seems to me to avoid the whole issue of *how* it is justified. Positing a class of propositions that are "epistemically in the clear" denies that questions may be raised about such propositions, willfully ignoring the long history of precisely such philosophical questions. Foundationalists respond that they are talking about ordinary, mundane, non-philosophical knowledge and that philosophical speculation is not pertinent. But since their method of inquiry into this category of "epistemically in the clear" knowledge is one of philosophical reflection, rather than empirical research, their response falls flat.

(As a sidenote, I would like to raise a similar objection to the entire debate over the definition of knowledge, namely, the traditional "justified true belief" and its successors, "undefeasible justified true belief" and the like.[4] All such theories pretend to know about the real-life uses of the word "knowledge" without ever undertaking any sort of research on the subject. Presumably philosophers are competent

speakers of their native language—so reflecting on their own usage has a certain minimal value—but to generalize from their own usage to widespread everyday usage relies on the assumption that all native speakers of a language use it in the same way, in particular that philosophers use it in the same way as everyone else. This assumption is precisely the one these philosophers reject in their attempt to create "real-world," and not merely philosophical, definitions of knowledge. Thus the debate over the definition of knowledge rejects the basis for its own method of inquiry.)

One strain of foundationalism, however, deserves special mention. That is the view, widespread but usually implicit, that the rules of mathematics and logic are self-justifying. Even a self-professed non-foundationalist like Rescher (1980, 158) adopts this sort of approach (pp. 219-30). Yet, as Lakatos (1976b) has shown for mathematics and Carroll (1936) has shown for logic, these fields are far from self-justifying. Neither mathematical proofs nor logical syllogisms are clear-cut and true-for-all-time. Instead, they are a matter of persuasion, just like any other sort of argument, and their truth is dependent on the context and the accepted standards of sufficiency (see Barnes and Bloor 1982, 40ff.).

Nonfoundationalist general monism is more interesting. It splits into two approaches. The first argues that knowledge is justified by its coherence: "The truth of a judgment is to be tested by its capacity for harmonising with all the other judgments we make about reality" (Campbell 1868, 97). A proposition that fits with all the other propositions we believe to be true must itself be true, because if it is not, it would contradict some large portion of our beliefs. More precisely, it would be inconceivable (Johnson 1978, 245) or nonsensical (Grayling 1985) for the proposition not to be true. It is not merely that the statement "The earth has *not* existed for many years past" would contradict much of our system of knowledge, but that our system of knowledge renders such a statement incomprehensible. In other words, the system guarantees the truth of individual statements.

There are two problems with such a justification of knowledge. It is not at all clear that our beliefs form a coherent system in the first place. Quantum mechanics and the theory of relativity, for instance, are incompatible, and yet we accept them both as true (Rescher 1980, 243-4). The same could be said for the notions of free will and causality. The coherence argument may rejoin that incompatibilities may occur in the superstructure of beliefs, but not in the base, that core of the "conceptual scheme" about, for example, perception and memory

and the individuation of objects which everybody shares (Grayling 1985, 54). Everybody *must* share this part of the conceptual scheme, or we would not recognize them as having human thought or language (p. 52). It remains an empirical question, then, whether all those whom we consider human on other counts (e.g., upright posture, relative hairlessness) do indeed share this part of the conceptual scheme.

But there is a further problem for the coherence theory: If the system justifies individual propositions, what justifies the system? One response is that the system needs no justification, "it is *unavoidable*" (Gellner 1974, 13). According to this line of reasoning, it is simply human nature to explain experience through conceptual schemes (Gellner 1974, following Kant), or to generate hypotheses which will come to form conceptual schemes (Popper 1962, 46). However, the existence of a conceptual scheme does not ensure that it approximates the truth, as both Gellner and Popper admit. It is possible, for example, that the system is systematically incorrect. The system itself needs justification, if not for its existence then for its truth-content. The coherence theory cannot help us here, and we switch now to the second approach of non-foundationalist general monism, practical success.

Russell's fourth condition hints at the direction the practical-success theory will take: Knowledge "is logically necessary if any occurrence or set of occurrences is ever to afford evidence in favor of any other occurrence" (1948, 496). Such evidence is necessary for correct inferences, and correct inferences are necessary for human survival. Thus, "the forming of inferential habits which lead to true expectations is part of the adaptation to the environment upon which biological survival depends" (p. 507). Similarly, the universal human need for "efficient goal attainment" (Rescher 1980, 230) may be said to justify human knowledge. In both cases, the argument is that something—either the environment or efficiency—has and will continue to weed out knowledge that does not conform to reality. Examples of maladapted knowledge might be that of a people who considered hemlock a delicacy, or a people who armed themselves with pencils, thinking them stronger than swords. The first people would die off quickly, and the second would not win many wars. An example of well-adapted knowledge might be the belief that food, rather than stomach-rubbing, satisfies one's hunger. A people who knew this would survive and would achieve the goal of satisfying hunger.

This argument may indeed justify the truth-content of some of our knowledge, namely, knowledge relating to survival and to specific, long-term human goals (long-term because the penalties for ineffi-

ciency may take generations to have an effect). However, the argument does not justify all knowledge, since much of what we know does not help us in any way; for instance, the existence of that small flower that I see now, or the length of Pluto's year. These things do not help or hurt me or the human race in either our struggle for survival or our efficient attainment of goals. Moreover, this non-essential knowledge cannot be derived from the essential knowledge: The existence of a medicinal flower, which might help me survive, does not justify the existence of another sort of flower, which has no use for me. So the practical-success argument leaves much of what we claim to know unjustified.

Moreover, we could raise the objection that human evolution, on which the practical-success argument implicitly rests, has allowed us to *escape* environmental and other pressures for efficiency. We have more leeway than do other animals, both in action and in our thought. Even if we accept the distinction between well-adapted or efficient knowledge and maladapted or inefficient knowledge, humans may carry a relatively large load of maladapted characteristics. If this is the case, then the long-term existence of a piece of knowledge would not ensure its truthfulness, since untrue knowledge is not very rigorously weeded out.

And even if the environment or efficiency determined the truth of certain propositions (the truth-factor of knowledge), the practical-success argument makes a further problematic claim that we are thereby required to *believe* that such propositions are true (the commitment-factor). In other words, it presumes that to act on a belief one must believe it to be true. This is the argument from necessity, which is typical of pluralism and will therefore be considered in the following section.

Thus far I have mapped the monist theories of knowledge as follows:

Specific monism: a particular item of knowledge is undeniable
General monism: justifying knowledge in general
  Foundationalism: some knowledge is self-justifying
  Non-foundationalism: splits into
    Coherence: knowledge that fits with the system is true
    Practical success: lasting knowledge is true
      Survival: the environment weeds out untrue knowledge
      Goal attainment: need for efficiency weeds out untrue knowledge

Let us turn now to pluralism.

3. PLURALISM: JUSTIFICATION BY NECESSITY

Pluralists focus on the commitment-factor of knowledge: We must believe things to be true because such belief is necessary in order to achieve certain goals. Knowledge is thus justified by its necessity. The similarity with the monist argument of practical success is, I hope, obvious, but pluralists go farther. They attack monist justifications by sufficiency and hold that sufficiency is not amenable to such timeless, across-the-board analysis. Sufficiency is communally determined, and varies from one community and one era to the next: The justification one time and place considers sufficient for knowledge may be considered laughably insufficient elsewhere; there is no independent, noncommunal standpoint from which to arbitrate among the various standards.

If pluralists refuse to justify knowledge by its relation to truth, they do not refuse to justify knowledge entirely. Let us look at the argument of William James (1979), one of the greatest recent pluralists. His example is religion: Are we justified in believing religious belief to be true? The answer is yes. Some questions, he says, raise "forced options"; they are "based on a complete logical disjunction, with no possibility of not choosing" (p. 15). One either accepts or rejects them. Religious belief is just one such option (p. 30). Now, there are certain goods that many humans desire—for instance, "making the gods' acquaintance" (p. 31). Not everyone has in mind the same gods— Allah is not a "living option" for Christian Americans, and Jesus is not one for Muslim Arabs (pp. 14-6). The liveliness of an option is determined by "the circumpressure of our caste and set" and by "the intellectual climate" (p. 18). But if anyone wants to pursue this particular desire of making the gods' acquaintance, they "not only lawfully may but must" (p. 20) accept religious belief as true. Such belief on a "forced" question is necessary to achieve the desired goal.[5]

James gives other examples of desired goals which justify knowledge: "the social rewards" of the "company of gentlemen" (p. 31), bringing home a wife who is angelic (p. 30), and cooperating with other passengers against train robbers (p. 29). It is clear that James means to generalize from his examples to all knowledge, or at least to a large portion of what we call knowledge. Thus his argument runs into questions about what portion of all decisions are "forced," how much of our knowledge is necessary for the achievement of goals, whether unessential knowledge can be derived from necessary

knowledge, and so forth. Gellner (1974) raises one major objection that cultures are never entirely closed systems, "whose supposedly coherent internal norms of what is real and what is not may not be challenged" (p. 144). Given a world of cross-cutting cultures and internal contradictions, pluralism gives us no guidance as to which knowledge-claims to espouse (p. 49). But I want to focus on another broad objection to the justification by necessity, namely, Is knowledge ever really necessary?

The gist of James's argument is that achievement of the desired goal justifies the commitment-factor of knowledge. But, as James realizes, this is only true if there are no noncommittal ways to achieve the desired end. He states explicitly that there are none in his example of religious belief: "Since belief is measured by action, he who forbids us to believe religion to be true, necessarily also forbids us to act as we should if we did believe it to be true" (p. 32n). If belief *were* measured by action, James would be quite right. I would like to argue, though, that action is not merely an indication of belief; it may also indicate an attitude of "acquiescence" (Naess 1968, 39-47) or "assent" (Sextus Empiricus 1976, 9-11).

Assent is the attitude of acting on a belief without believing the belief to be true. It is, in other words, the denial of the commitment-factor of knowledge. For example, I generally act as though the law of gravity were true, but I needn't believe that it is true—the counter-examples of steam, smoke, magnetic fields, black holes, and the like cast some doubt on the phenomenon. To return to James's example of religious belief, assent would involve praying, participating in religious rituals, and the like without committing oneself to the truth of the religious teachings. Does such an approach have any chance of success? Can one make the gods' acquaintance by participating without belief? A number of theological experts answer in the affirmative: for Catholicism, see Gutting (1982, 173); for Shi'i Islam, see Ayatollah Qasim Shari'atmadari in Fischer (1980, 64). Certainly other theologians disagree, but the point is not settled (and indeed, not settleable), so the attitude of assent cannot be ruled out as ineffective.

More important than the experts' pronouncements on effectiveness is the popular pursuit of this option of assent. Nine out of 10 Americans say they "believe in God" and 4 of 10 attend church regularly, according to Robert Bellah et al.'s *Habits of the Heart* (1985). "But relatively few middle-class urbanites described themselves to us as 'children of God,' created in his image and likeness, bound by his

commandments, and inspired by his love" (p. 63). This would suggest a less than full commitment to religious teachings and seems to describe a widespread practice of assent.

On other matters assent is common practice. We may not believe the meteorologist's forecast of rain, but we carry our umbrellas just in case. We don't think rabbit's feet and astrological horoscopes really help us, but we consult them all the same.

> People both act on "commonsense notions", and are at the same time aware that these "commonsense notions" are cognitively inadequate and second rate. This is reflected in a number of well-known characteristics of modern life: the invocation of the expert when important decisions are taken, the expectation that the expert's language shall be specialised and unintelligible. (Gellner 1968, 428)

This does not prove that assent is a universal practice; it certainly is not, as the multitude of human beliefs and knowledge-claims attests. It does not prove, either, that assent is a *better* attitude than commitment (though Sextus Empiricus and Naess argue that it is better). It does, however, show that assent is a real option. And that is all that it needs to be to disprove the justification by necessity.

Lest James be written off as ancient history, let me show briefly that the same objection can be made to the work of more recent pluralists. The same "forced option" is involved in Kaufman's norms:

> Recognition of the relativity of our knowledge and our criteria, therefore, neither destroys our norms and leads us into nihilism nor presupposes that we have in our grasp absolute norms. It simply involves the acknowledgment that the norms under which we stand are normative for us and inescapable for us. (1960, 86)

Yet no norm is entirely inescapable: Social taboos against murder, incest, and homosexuality have not abolished any of these practices, and in the case of the last one there is now an alternative norm that (properly, in my view) disputes the taboo. Moreover, assent continues to be a viable option: One may assent to a norm—act as if it were true and binding—without committing to it.

And similarly for all sorts of social determinisms that require the commitment-factor of knowledge: Quine's "background theories" (1969, 50), Wittgenstein's "language-games" (1974, section 403), Winch's "rules" (1958, 24ff.), Adorno's "language and signs" (1983, 59-60), Durkheim's "social structure" (1933, 33), Marx and Engels's "classes" (1978, 172-3), and so on. Such theories posit a "forced op-

tion" like James's—one must commit oneself to the knowledge of the group or one is not a member of the group—and ignore the third option, assent.

If assent exists, then pluralism's justification by necessity loses its force (and so does that part of the practical-success, non-foundationalist, general monist position which makes the same argument). In sum, if the arguments I have put forward thus far are correct, knowledge is justified neither by sufficiency nor by necessity.

4. AGNOSTICISM: THE LACK OF JUSTIFICATION

The third epistemological position is agnosticism (also called skepticism, relativism, or agnoiology, although each of these sometimes refers also to pluralism). It starts from the premise that knowledge is simply unjustified and there faces its first objection: If knowledge-claims can never be justified, then the claim that "knowledge-claims can never be justified" cannot itself be justified (see, e.g., Johnson 1978, 232; Lehrer 1978, 347; Naess 1968, 151). Implicit in this objection is the argument that an epistemological position that cannot even justify itself is untrue, or at least unworthy of our acceptance.

Agnosticism may escape this contradiction in one of two ways. The first, which I have never seen spelled out but which strikes me as possible, is to make a special exception for agnosticism: no knowledge is justified except for the agnostic position. In other words, one could be openly dogmatic about agnosticism.

The more common agnostic defense is to refuse to make a knowledge-claim about the unjustifiability of knowledge. For example, "the contention is that no one knows anything, not even that no one knows anything" (Lehrer 1978, 347). The undogmatic assertion is merely a statement of the agnostic's belief or of persuasion, "I believe" or "I am perfectly convinced," not a statement of justified knowledge (Naess 1968, 126). "In his enunciation of these formulae he states what appears to himself and announces his own impression in an undogmatic way, without making any positive assertion regarding the external realities" (Sextus Empiricus 1976, 11; see also pp. 123, 139, ff.)

This defense has incurred another objection: If we didn't know anything, not even that we didn't know anything, then all would be confusion and indecision. "We would abstain from making choices and decisions, as well as from acting on them. Consequently, we

would soon die—ignorant to boot" (Bunge 1983, 85). This is the argument from necessity in a new, aggressive guise, and it fails here for the second time. There is an intermediate position between committing to knowledge and not acting at all, namely, assent. We can make decisions without believing them to be the right ones; we can act without claiming to know that our acts will be effective.

A third objection then attaches itself to the concept of assent. To assent to all things—to all mental appearances as well as physical appearances—would be to say, "It is thought within me that p [where p is a proposition], but I do not believe it." This would be to treat one's own mind as separate from oneself, which would be unacceptably self-alienating (Burnyeat 1983, 140). Now, it is not contested that one may distinguish oneself from *some* of one's thoughts—any time we change our minds and any time we express uncertainty, we do this. The problem arises only because the agnostic—specifically Sextus Empiricus—wants to do this "across the board" (ibid). I don't want to argue with Burnyeat's reading of Sextus, but it is not a necessary feature of agnosticism that one must suspend belief on all matters. People believe things, agnostics believe things, and there is nothing wrong with this as long as they don't claim that these beliefs are justified. As I have mentioned before, the argument for the existence of the option of assent is not necessarily an argument for assenting to all things on all occasions.

Agnostics have spent so much time defending themselves against these attacks that they have not really turned yet to what should be their main concern, namely, if knowledge cannot be justified, how do people come to say they know things? In other words, if there are no legitimate rational causes of knowledge, then what *are* the causes? Naess notes that standards of proof fluctuate over time and space: "However, it is not our aim here to find out why or even how fluctuations operate" (1968, 134). This is a shame. As it now stands, agnosticism is a walled city with no buildings inside—well-defended but not particularly well-developed. I am in no position to attempt such a development here, but I would like to give an outline of the shape I think it might take.

As I see it, there are four factors in the acceptance of any particular item of knowledge: its relation to "the real world," its novelty, its social and theoretical context, and its phrasing. These are probably interrelated in complex ways, but they all seem to me to be important.

The first, relation to the real world, refers to the evidence that can be accumulated in favor of a particular hypothesis. Every knowledge-

claim can find *some* evidence in its favor, so this is not always the crucial factor; besides, many theories that have later come to be accepted fared quite poorly at first in empirical tests. Nonetheless, it would appear that theories with more evidence in their favor have an advantage over theories with less. The second factor, novelty, refers to the persuasive power that something new often has; to outline a new approach, or to make a startling discovery, is often a highly effective strategy, particularly in science (but also in other fields, for example politics and fashion). Even if evidence for the new approach is not immediately forthcoming, its novelty and its potential may carry the day. The social and theoretical contexts, which are closely intertwined, refer to the background against which the knowledge-claim is presented. Does it conform to the general thinking of the day, or does it dismiss some of this? Is it propounded by the powerful or by the weak? What advantage or disadvantage could acceptance result in? While it seems obvious to me that context is important, I cannot even attempt to spell out which particular contexts are more conducive than others to the acceptance of knowledge-claims. The fourth factor, phrasing, allows some free will on the part of the knowledge-claiming subject, by raising the following questions: Is an effective rhetoric more likely to attract adherents than an ineffective rhetoric? What constitutes effective rhetoric?

Each of these factors has been championed by a major philosopher of science: empirical testing by Popper (1962), novelty by Lakatos (1978), the social-theoretical context by Kuhn (1970), and rhetoric by Feyerabend (1978, see "rhetoric" in the index, p. 337). An empirical epistemology should try to take these points of view and figure out their relative power and their interrelations. For instance, the tension between factors two and four—saying something new, but saying it in a way that is acceptable—might profitably be studied. Similarly, the relations between factors three and four might be interesting—which rhetorical strategies are effective in which social situations? The analysis of factors one and three—which social groups tend to use which sorts of evidence—is already fairly commonplace in the sociology of knowledge.

But what status would an agnostic theory of knowledge have? Could it claim to be knowledge itself? Could it hope to be "correct"? If it isn't true, why bother thinking about it? In keeping with the foregoing agnostic arguments, this theory of knowledge could not claim to be justified. But this does not mean that it would not be worth considering, since in this view none of the rival theories can claim to

be justified either. The agnostic theory of knowledge would ask only that it be considered like any other epistemological hypothesis—according to the usual standards of academic discourse, independent of its authors' social position and personality, on the basis of its logic and evidence. Of course, agnostics would not be naive about this. They would realize that their theory will be judged according to the four criteria of knowledge-acceptance. Its evidence will be assessed, its novelty will count in its favor, it will be found to run counter to entrenched interests wishing to maintain the cachet of justified knowledge, particularly of expert knowledge; but it may gain the support of people who are attracted to underdogs. Lastly, it may or may not be persuasively presented.

5. EPISTEMOLOGY AND THE SOCIOLOGY OF KNOWLEDGE

The sociology of knowledge is not a well-mapped field. Mannheim's three categories—the positivist, relativist, and relationist approaches (Mannheim 1936)—have been whittled down to two—rationalism and relativism (e.g., Barnes and Bloor 1982)—creating all sorts of strange bedfellows and failing completely to distinguish between the two sorts of relativism, namely, pluralism and agnosticism. Similarly, the categories of internal and external explanations (knowledge has no relation to its social bases; knowledge is determined by its social bases) (Merton 1973, chap. 1) lump all sorts of incompatible theories together, even when a middle continuum is allowed. Other categorizations based on theoretical traditions like those of the Frankfurt School or the Durkheimians (Barnes 1977, preface; Mills 1963, chap. 5) keep similar theoretical approaches apart. Rather than critique these classifications in detail, however, I would like to attempt an alternative one, using the epistemological categories I have just described.

Before I begin, I should probably stop to defend the application of philosophy to sociology. Social scientists of various stripes have explicitly tried to separate theories of knowledge from the empirical study of knowledge: For instance, Berger and Luckmann (1967) write, "We therefore exclude from the sociology of knowledge the epistemological and methodological problems that bothered both of its major originators [Mannheim and Scheler]" (p. 14). And where a connection is allowed, it generally treats the sociology of knowledge as mere

evidence with which to construct theories of knowledge (for example, Mannheim 1936, 294; Mills 1963, chap. 4). Both of these approaches are monist: they presume that evidence is directly apprehensible and definitive, and that theories are to be constructed on the basis of such pure primordial stuff. I have already outlined several critiques of monist theories of knowledge, and in keeping with these critiques I will turn the relation around in my discussion of the sociology of knowledge—empirical analysis is based on theoretical attitudes, and, indeed, the two operations are not cleanly separable. Or, in other words, the sociology of knowledge relies on epistemological attitudes and indeed constitutes a form of empirical epistemological inquiry itself.

With all this in mind, we may turn to the sociology of knowledge. The monist, pluralist, and agnostic positions are well-represented. Monists are distinguishable by their easy assumption that knowledge is justified. They do not bother with the justifications themselves, as their philosophical counterparts do, but take the justifications for granted, and ask, instead, what social conditions are conducive to the discovery of knowledge?

Pluralists are distinguishable by their critique of monism: Different people claim to know the world differently, and no one way of knowing the world is more justified than any other way. Pluralists then go on to attribute different systems of knowledge to particular social groups, with the justification from necessity articulated—not always explicitly—in terms of social compulsion. For instance, in Douglas (1966), one simply *cannot* violate one's social system's ideas of purity and pollution: There is "a power inhering in the structure of ideas, a power by which the structure is expected to protect itself" (p. 113). Pluralists disagree as to the social group to which such systems of knowledge are attributed.

Agnostics are distinguishable by their critique of both monism and pluralism. Their anti-monism is shared with the pluralists: Different people claim to know the world differently, and no one way of knowing the world is more justified than any other way. But agnostics do not accept the pluralist solution that knowledge is justified by its compulsory acceptance within each social group. They note the multiplicity of systems of knowledge within each social group (Foucault 1972, 158-9; Barnes 1977, 57-8) or the internal contradictions of each system of knowledge (Bloor 1976, 117; Hesse 1980, 44) or the possibility of not committing to certain aspects of knowledge (Berger and

Luckmann 1967) as showing that knowledge cannot be justified by necessity. The central issue for agnostics, then, is how knowledge comes to be accepted as such.

In addition to these three approaches, however, there is a fourth one, which Mannheim pursued most diligently and which he labeled "relationism." This is an offshoot of pluralism because it espouses the pluralist determination of knowledge. It is not pure pluralism, though, because it allows one exception to the social compulsion that legitimizes pluralist knowledge. Those people who are able to recognize this social compulsion and reflect on it critically are able to transcend it reflexively. They can then obtain knowledge that corresponds with reality, as distinct from the pluralist knowledge to which others are doomed. For Mannheim, intellectuals were in this position by virtue of their membership in multiple social groups and their distance from the system of production. When oneself and one's own group are exempted from social compulsion, as in Mannheim's theory, relationism may be defined as "monism for us, pluralism for everyone else."

The sociology of knowledge is thus mapped like so:

Monism: Given that knowledge exists and is justified, what social conditions are conducive to its production and diffusion?

- Social position: One social group has a privileged position from which it may obtain true knowledge, while other social groups may embrace untrue knowledge (Marx and Engels 1978).
- Social forces: Some social groups are subject to social forces that allow them to obtain true knowledge, while other social groups are subject to inhibiting social forces (Merton 1973).
- Evolution: Knowledge increases through time, either by accumulation (Elias 1971) or by progressive adaptation (Durkheim 1933).

Pluralism: Given that knowledge is defined differently around the world and that all such systems of knowledge are justified, which social groups create, enforce belief in, and hand down such systems of knowledge?

- Classes: Each socioeconomic class has a system of knowledge that is binding for the members of that class (Bourdieu 1971; Bourdieu and Saint Martin 1975).
- Epochs: Each era creates an episteme, an attitude toward knowledge that underlies all the particular disciplines of knowledge (Foucault$_2$).[6]

- Genders: Men and women have different knowledge, either because of their participation in sex-segregated activities (Daniels 1975) or because of their differing psychological responses to being "mothered" by women (Chodorow 1978; Gilligan 1982).
- Societies: Each culture (Geertz 1973), social system (Douglas 1966), or linguistic vocabulary (Mills 1963) defines its own knowledge.

Relationism: Which social groups are able, by reflecting on the pluralistic determination of knowledge, to transcend this determination and obtain true knowledge?

- Intellectuals: By virtue of their membership in multiple social groups and their distance from the system of economic production, intellectuals may piece together the partial knowledges of the other social groups (Mannheim 1936).
- Jews: By abandoning their religious faith and yet maintaining an outsider's perspective in the Christian world, Jewish intellectuals may fruitfully question all dogmas and obtain true knowledge (Veblen 1934).

Agnosticism: Given that knowledge is never justified, how do some items or systems of knowledge, and not others, come to be accepted as such by particular people, and to what effect?

- Argumentation: Social interaction and argumentation lead to the acceptance of knowledge-claims (Willard 1983).
- Interests: Knowledge is created out of available cultural resources in the interest of control and rationalization (Barnes 1977).
- Negotiation: Conflicts over knowledge, like conflicts over ethics and norms, are negotiated by the relevant parties (Bloor 1976).
- Power: Relations of power both constitute and are constituted by discourse, which in turn defines knowledge (Foucault$_1$).
- Socialization: Children are taught and persuaded to accept society's definition of knowledge (Berger and Luckmann 1967).

6. EPISTEMOLOGY AND THE SOCIOLOGY OF SCIENCE

The sociology of knowledge thus described draws the lines for its main sub-field and empirical application, the sociology of science. Some practitioners in this area would deny that the sociology of science ought to be concerned with knowledge (e.g., Ben-David 1971), but even this attitude reflects a position on knowledge, namely, a taken-for-granted monist position. Here, then, is the sociology of science.

Monism: Given that scientific knowledge exists and is justified, what social conditions are conducive to its production and diffusion?

- Social position: One social group has a privileged position from which it may obtain true scientific knowledge, while other social groups may embrace untrue science (Hessen 1931).
- Social forces: Some scientists are subject to social forces that allow them to obtain true knowledge (Merton$_1$ 1973; Ben-David$_1$ 1971).[7]
- Autonomy: Some scientists are free from inhibiting social forces (Merton$_2$ 1973; Ben-David$_2$ 1971; Bourdieu$_2$ 1975).[8]
- Evolution: Knowledge increases through time, either by accumulation (Elias 1971) or by progressive adaptation (Kuhn$_2$ 1970; Lakatos 1976a).[9]

Pluralism: Given that scientific knowledge is defined differently around the world and that all such sciences are justified, which social groups create, enforce belief in, and hand down such sciences?

- Genders: Men and women approach science differently, either because of their different interests (Daniels 1975) or because of their differing responses to science's self-image as a male observer of a female reality (Keller 1985).
- Social groups: Each thought collective (Fleck$_1$ 1935) or scientific paradigm (Kuhn$_1$ 1970) defines its own knowledge.

Relationism: Which scientists are able, by reflecting on the pluralistic determination of scientific knowledge, to transcend this determination and obtain true knowledge?

- All scientists, since intellectuals are automatically able to transcend social determinations (Mannheim 1936).
- Those who study pluralism by class, since reflection on the dominant class' influence on science will allow some escape from that influence (Bourdieu$_1$ 1975, 1984; Gouldner 1973).
- Those who study pluralism by "interests," since reflection on the human interest in control or communication brings into operation another, better human interest, namely emancipation (Habermas 1971).

Agnosticism: Given that scientific knowledge is never justified, how do some items or systems of scientific knowledge, and not others, come to be accepted as such by particular people, and to what effect?

- Rhetorical strategies (Feyerabend 1978; Lamont 1987; and other authors in the field of rhetoric of science).

- Recognized experts exert their authority (Fleck$_2$ 1935).
- New, creative approaches (Barnes 1974, 84ff.).
- Power struggles between experts (Mulkay 1979 and other authors in the field of sociology of scientific knowledge—see Collins 1983).

Let us examine Kuhn and Fleck in a little more detail. Kuhn (1970) argues that the scientific paradigm limits and justifies the knowledge created by individual scientists working within the paradigm. This is a straightforward pluralism. However, Kuhn also adopts—throughout the book but particularly explicitly in his conclusion—a monist position. Science progresses, he says, in an absolute sense, since each paradigm builds on the positive residue of previous paradigms and adapts to present conditions. Thus knowledge grows in an evolutionary manner (he explicitly makes the analogy with Darwinian evolution, p. 170). This contradicts his earlier pluralist argument, in which knowledge exists, not absolutely, but only relative to a paradigm (this is Gellner's critique, 1974, 178), and it shows how hidden epistemologies can foul up empirical studies of knowledge.

Ludwig Fleck, whose *Genesis and Development of a Scientific Fact* (1935) was one of the inspirations for Thomas Kuhn's *Structure of Scientific Revolutions*, argues that scientific facts are discovered (p. 76), formulated (p. 9), and accepted (e.g., p. 92) by "thought collectives," not by individual scientists. A thought collective, similar to Kuhn's notion of paradigms, is a community of same-thinking people that has an existence independent of its members and "exerts an absolutely compulsive force upon [its members'] thinking and with which it is not possible to be at variance" (p. 41). Scientific heretics, Fleck adds, suffer the equivalent of burning at the stake (p. 99), branding, and exile (p. 108). Again, straightforward pluralism.

Elsewhere in the book, however, Fleck draws on agnosticism. Not only may an individual belong to several thought collectives at once (pp. 45, 107), but each thought collective incorporates remnants of older thought styles (p. 100). Moreover, a thought collective consists of a series of "intersecting circles" (p. 105), for example, popular science, textbook science, vade mecum (handbook) science, and journal science (pp. 111-2), each of which has its own style of thought. Indeed, individuals may have their own "personal thought styles" (p. 120). These considerations reflect the agnostic objections to pluralism, namely that communal norms may not form a coherent whole, and may allow a certain amount of dissent. (The argument about the attitude of assent does not appear here.)

These two views of Fleck are incompatible: A thought collective cannot be both "absolutely compulsive" on the one hand, and on the other hand inconsistent and coexistent with other thought collectives in the same individual. Had Fleck examined the epistemological basis of his analysis, he might have cleared up this contradiction by choosing either pluralism or agnosticism and using it throughout.

Do the category-crossing theories of Kuhn, Fleck, and others show that epistemology is not, in fact, the proper basis for classifying sociologies of knowledge, including sociologies of science? This is a serious problem: A successful categorization ought to be able to treat major works in the field as coherent wholes, and the one I have offered cannot. Moreover, if epistemology is the basis for approaches to knowledge and science, how can it account for these particular approaches to the subject? This second issue is easier to counter: To assert the epistemological basis of the study of knowledge does not imply that these studies will be based on a single, or even a coherent, epistemology. But the first point remains: Since Fleck's and Kuhn's books are great and influential works in the study of science, how can a successful categorization fail to treat them as coherent wholes?

I have two available responses. On the defensive side, I can call upon the tired, but still effective, excuse that no classification and no theory can ever deal with all the evidence facing it; it need only deal with the evidence more successfully than alternative classifications. Taking the offense, I can argue that the exceptions actually prove the rule: Fleck and Kuhn fall into contradictions precisely because they ignore the epistemological issues I have raised in this article. Their failure to consider epistemology when studying scientific knowledge has led to their confusion and self-contradiction. Let us try to avoid a similar fate.

NOTES

1. I apologize for using the term "monism" differently from Barnes and Bloor (1982, 25) and for applying the word "agnosticism" where others have used "skepticism," "relativism," and so forth.

2. For examples, see Gellner (1974, 1) on monism; Geertz (1984, 263) on pluralism; and Barnes and Bloor (1982, 21) on agnosticism.

3. See Adorno (1983, 6-7) and James (1979, 20-4) attacking monism; Gellner (1974, 49) attacking pluralism; Ayer (1958, 253) and Rescher (1980, e.g., 46) attacking agnosticism.

4. See, for example, Ayer (1958, 34); Gettier (1984); J. S. Mill quoted in Laird (1930, 129).

5. A terminological note: James uses the word "belief" just as I am using the word "knowledge," namely, a belief that one believes to be true (p. 32). I will continue to use "knowledge," even when discussing James's essay.

6. Note on subscripts: Foucault denies that he is constructing a "totalitarian periodization" (1972, 148) of knowledge; however, his concept of "episteme" (1972, 191) and the even broader concept of "apparatus" (1980, 196-7) certainly seem to lean in this direction, so I have classified this secondary aspect of Foucault's work under pluralism.

7. Note on subscripts: Merton (1973) and Ben-David (1971) supplement their primary argument, that science received vital social support from the ideals of the Reformation, with a subsidiary argument: Now that science is well-established, it requires no further social support, and needs only to be left alone.

8. Note on subscripts: Bourdieu's relationism, "the reflexive mastery that is required in order to construct a taxonomy that is simultaneously coherent and adequate to social reality" (1984, 472), is combined in his 1975 article with an acknowledgment of the benefits of autonomy for science.

9. Note on subscripts: See below for a discussion of Kuhn and Fleck.

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