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A Defense of Longino's Social Epistemology

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Though many agree that we need to account for the role that social factors play in inquiry, developing a viable social epistemology has proved to be difficult. According to Longino, it is the processes that make inquiry possible that are aptly described as "social," for they require a number of people to sustain them. These processes, she claims, not only facilitate inquiry, but also ensure that the results of inquiry are more than mere subjective opinions, and thus deserve to be called "knowledge." In this paper, I (a) explain Longino's epistemology, and (b) defend it against charges that have recently been raised by Kitcher, Schmitt, and Solomon. Longino rightly recognizes that not all social factors have the same (adverse) affect on inquiry. She also recommends that we distinguish knowledge from mere opinion by reference to a social standard.

1. Introduction. Though many critics of traditional analytic epistemology agree that we need to account for the role that social factors play in inquiry, developing a viable social epistemology has proved to be a difficult task. According to Helen Longino, it is the processes that make

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inquiry possible that are aptly described as “social,” for they require a number of people to sustain them. These processes, she claims, not only facilitate inquiry, but also ensure that the results of inquiry are more than mere subjective opinions, and thus deserve to be called “knowledge.” In this paper I want to both explain and defend Longino’s epistemology.

In Section 2, I explain how Longino defines her view against two influential accounts in traditional philosophy of science. In Sections 3–5, I explain and address a number of criticisms that have recently been raised against Longino’s epistemology.

2. Longino’s Account of Knowledge and Inquiry. In *Science as Social Knowledge* (1990), Longino defines her account of scientific knowledge relative to positivist and holist [wholist] accounts. Though most people now regard positivism as offering an untenable account of science, Longino believes that it still needs to be reckoned with because “no comparable sweeping and detailed philosophical view has replaced it” (1990, 21). And, the holists, she claims, are significant because they have been the greatest critics of positivism. After presenting these two accounts, and explaining the difficulties that Longino has with them, I will present Longino’s own account of scientific knowledge and inquiry.

Longino’s discussion of positivism and holism focuses on two issues: the relationship between evidence and hypotheses; and, the role of “contextual” values in inquiry. Longino contrasts contextual values with constitutive values. The latter, the “values generated from an understanding of the goals of scientific inquiry,” “are the source of the rules determining what constitutes acceptable scientific practice or scientific method” (1990, 4). That these sorts of values influence inquiry is not a problem. But the former, “personal, social, and cultural values,” are generally thought to threaten the integrity of scientific inquiry (1990, 4–5).

Longino identifies Hempel and Carnap as typical positivists (see, for example, Hempel 1966). According to the positivists, “the fundamental base of inquiry, the source of confirming or disconfirming instances, is a set of observations or observation statements that are established independently of any theory” (Longino 1990, 26). Observation statements, expressed in a theory-neutral language, provide a foundation for our theories. Theories are true insofar as they are confirmed by observations.

Further, the positivists construe the relation between evidence and hypotheses to be syntactic (Longino 1990, 23). Consequently, “what would count as evidence for a hypothesis is determined by the form of

the hypothesis sentences and evidence sentences not by their content” (Longino 1990, 48). Thus, the criteria for confirmation is similar to “the formal criteria for the validity of deductive arguments” (Longino 1990, 23). By construing hypotheses and evidence to be related syntactically, the positivists ensure that “inference to a hypothesis is not mediated by possibly value-laden assumptions” (Longino 1990, 48). Positivists regard such assumptions as a threat to the integrity of scientific inquiry.

Positivists, though, acknowledge that scientific inquiry is not completely value-free. They allow “for a subjective, nonempirical element in scientific inquiry by distinguishing between a context of discovery and a context of justification” (Longino 1990, 64). Though values may play a causal role in the context of discovery, “in the context of justification these generative factors are disregarded, and the hypothesis is considered only in relation to its observable consequences, which determine its acceptability” (Longino 1990, 64–65).

Let us now consider the holists’ account of scientific knowledge. Longino regards Hanson, Kuhn, and Feyerabend as holists, though Kuhn (1970) is Longino’s principal target. The holists reject the positivists’ “fundamental assumption of the independence of observation from theory” (Longino 1990, 26). According to the holists, “confirming or disconfirming observations . . . cannot be specified independently of a theory but are themselves given content, at least in part, by theory and described in language whose meaning [is] dependent on the whole of a theory” (Longino 1990, 27). And,

the consequence of theory-ladenness is incommensurability: two (or more) opposing theories accounting for the same phenomena cannot be compared with each other and against ‘the facts’ in any way that enables us to determine which is false and which, if any, true. (Longino 1990, 27)

Because competing theories are incommensurable “theory choice in science is no longer a uniquely pure expression of rationality and objectivity but is described as nonrational or irrational, and certainly not evidence determined” (Longino 1990, 27). Holists believe that a scientist’s values may be responsible for determining which of two competing theories she accepts.

Longino regards both of these accounts of scientific knowledge as unacceptable. Consider her criticism of the positivists’ account. First, Longino claims that the positivists are mistaken in believing that there is a theory-independent language of observation statements. She claims that “the absolute and unambiguous nature of evidential relations presented in the positivist view cannot accommodate the facts of scientific change”

(1990, 81). Sometimes advocates of competing theories appeal to the same body of data as support for their competing theories. Were evidence as unequivocal as the positivists suggest, this should not happen.

Second, Longino believes that the positivists are mistaken in regarding the relation between evidence and hypotheses as a syntactic relation.

Data . . . do not on their own . . . indicate that for which they can serve as evidence. Hypotheses, on the other hand, are or consist of statements whose content always exceeds that of the statements describing the observational data. There is, thus, a logical gap between data and hypotheses. (1990, 58)

And, this gap between evidence and hypotheses allows contextual values to influence decision-making (1990, 52).

Third, Longino objects to the positivists' account of the role of values in inquiry. If the positivists are correct, then good science should generally proceed according to the positivists' prescriptions. But, the "historical work of the wholists' decisively refutes the empiricists' claim that their prescriptions can also function as descriptions of scientific practice" (1990, 28). Scientists are more affected in their decision-making by values and value-laden assumptions than the positivists' suggest.¹

Longino is not satisfied with the holists' account of scientific knowledge either. First, Longino argues that the holists "create a bond between evidence and hypothesis impossible to break and even destroys, ultimately, the concept of evidence as something to which one can appeal in defending a hypothesis" (1990, 57). If the holist is right, evidence for one theory could not compel someone who accepts a competing theory to change her mind. The data would only appear to support the theory if one already accepts the theory it is intended to support.

Second, Longino believes that the holists have exaggerated the significance of incommensurability. They claim that it is because of radical incommensurabilities that theory choice is not evidence determined. Longino, though, claims that "the incommensurability of theories in the wholist view cannot do justice to the lively and productive debate that can occur among scientists committed to different theories" (1990,

1. Kathleen Okruhlik argues, similarly, that "even if we grant . . . that scientific method is itself free of contamination by non-cognitive factors and that the decision procedure operates perfectly . . . nothing in this procedure will insulate the content of science from sociological influences *once we grant that these influences do affect theory generation*" (1998, 201). According to Okruhlik, because social factors play a significant role in determining what theories are generated, such factors also determine "how our options came to be determined in the particular ways that they are" (1998, 203).

81). Further, she suggests that the holists' account of scientific knowledge gives rise to a paradox: "if we regard the meaning of a term occurring in one theory as changed when it occurs in some other theory, then we cannot say that any theories contradict one another" (1990, 28).

Third, Longino believes that because holists claim that hypothesis acceptance that is not based on evidence is irrational, they implicitly accept the positivists' conception of evidential relations as syntactic (1990, 57–58). As suggested earlier, such an account of evidential relations is unacceptable.

Longino develops an alternative account of scientific knowledge which she calls "contextual empiricism." The following two features constitute the core of Longino's account. First, Longino offers an alternative account of the relation between hypotheses and evidence. She believes that hypotheses and evidence are related by assumptions that scientists bring to their inquiries. According to Longino, "a state of affairs will only be taken to be evidence that something else is the case in light of some background belief or assumption asserting a connection between the two" (1990, 44). "In the absence of any such beliefs no state of affairs will be taken as evidence of any other" (1990, 44). Thus, contextual background beliefs bridge the gap between hypotheses and evidence. And,

relativizing evidential import to background assumptions thus involves abandoning the attempt to specify the relation between evidence and hypotheses by means of syntactic criteria and seeing this relation as involving substantive assumptions instead. (1990, 59)

Second, Longino suggests that we must change our understanding of the nature of scientific method. She claims that we must "return to the idea of science as practice" and "regard scientific method as something practiced not primarily by individuals but by social groups" (1990, 66–67). This "shift in perspective" is required, she claims, because "the application of scientific method, that is, of any subset of the collection of means of supporting scientific theory on the basis of evidential data, requires by its very nature the participation of two or more individuals" (1990, 67).

Longino thus situates her account of scientific knowledge between the positivists' and the holists', avoiding the weaknesses of both.

First, by invoking background assumptions Longino is able to explain how the same data can support competing theories or hypotheses. Advocates of different theories bring to their inquiries different background assumptions, and "in the context of their differing background beliefs and assumptions different aspects of the same state of affairs [become] evidentially significant" (1990, 47–48). The apparent insta-

bility of evidence that leads the holists to claim that competing theories are incommensurable is due to the fact that the states of affairs that function as evidence can be described in different ways, and different descriptions will draw our attention to different aspects. But, Longino insists that hypotheses, background beliefs, and the states of affairs that count as evidence are independently specifiable (1990, 57). The sentences that express each of the above are not necessarily laden with the *same* theoretical assumptions.

Second, the background assumptions that facilitate our inferences from evidence to hypotheses also make room for the influence of values in inquiry. Because the background assumptions that mediate our evidential reasoning are value-laden, an inquirer's values will shape scientific knowledge. Nonetheless, Longino insists that this need not threaten the integrity or objectivity of science, as the positivists suggest. Longino construes the demand for objectivity as the demand "to block the influence of subjective preferences at the level of background beliefs" (1990, 73). When the background assumptions that play the mediating role in evidential reasoning do not reflect merely subjective preferences, then a community's methods are as objective as is possible.

3. Kitcher's Criticism: The Charge of Relativism. I want now to examine a number of criticisms that have recently been raised against Longino's account of knowledge and inquiry. Each criticism is concerned with a different dimension of knowledge and inquiry: the role of truth; the nature of justification or rationality; and the nature of the knowing agent.² By addressing these criticisms, I will both clarify and defend Longino's view.

Philip Kitcher believes that Longino's view collapses into *relativism* (1994, fn. 26, 132). He argues that because she believes that "the only useable notion of truth is one that identifies truth with some type of acceptance" (1994, 122), her account of knowledge does not provide inquirers with a basis from which they can make *principled* judgments (1991, 676). As Kitcher explains, though "Longino [offers a conception] of knowledge that [is] far more sophisticated than village relativism . . . in the end, [she seems] to be forced to embrace all the consequences that make relativism so unappealing" (1991, 676). Kitcher does not believe that social factors play as prevalent a role in inquiry as Longino implies. Further, he believes that the traditional correspondence theory of truth is more plausible than Longino and other

2. This framework for understanding the various criticisms was suggested to me by Heidi Grasswick in her comments to an earlier version of the paper presented at the annual meeting of the Canadian Philosophical Association.

critics suggest. Kitcher recommends a rather conservative approach to socializing knowledge. He argues that “knowledge is socialized by recognizing the need to understand those social conditions which promote the well-groundedness of individual belief” (1991, 675).

Kitcher’s criticism implies that Longino’s view does not differ significantly from sociological accounts of science. This, though, is a mistake. Longino distinguishes her view from sociological accounts in two respects. First, contrary to what the Strong Programmers maintain, Longino does not believe that “science is socially constructed in the sense that the congruence of a hypothesis or theory with the social interests of the members of a scientific community determines its acceptance by that community (rather than a congruence of theory/hypothesis with the world)” (1994, 136). Indeed, Longino does grant that how we describe things is a matter of convention (1990, 42). But once we commit ourselves to a way of describing, the right description is not merely a matter of convention. Consequently, according to Longino, “the fact that the boundaries of classificatory categories are conventional and determined by a linguistic community does not show that the boundaries are adopted because of their semantic relation with social values” (1994, 136).

Second, Longino believes that sociological accounts of science mistakenly make no distinction between knowledge and opinion. As Longino expresses it: “the fate of knowledge as it is treated in social theories of science is to collapse into what is believed or what is accepted” (1994, 138). Such accounts “are too concerned with finding the criteria that do govern scientific selections . . . not the criteria that ought to govern them” (1994, 137–138).

Despite the fact that Longino accepts the traditional knowledge/opinion dichotomy, her conception of knowledge differs significantly from traditional conceptions. She argues that knowledge is the outcome of interaction between people that is mediated by the appropriate social processes (1994, 142). Such processes, she suggests, enable us “to transform the subjective into the objective” (1994, 144). Longino calls the sort of interaction that leads to knowledge “transformative criticism.” She suggests that the following four features of “the design and constitution of a community . . . facilitate transformative criticism and enable a consensus to qualify as knowledge”: public forums for criticism; uptake to criticism; publicly recognized standards; and, equality of intellectual authority³ (1994, 144–145). Longino believes that insofar

3. Longino’s fourth criterion is frequently misunderstood by her critics. Alvin Goldman, for example, claims that “in the case for equality of intellectual authority, I think there is a substantive mistake. Longino herself tacitly recognizes the inadequacy of the equality norm by adding the phrase ‘among qualified practitioners,’ thereby blunting the

as the interaction between people satisfy these procedural conditions, the outcome of our inquiries deserve to be called "knowledge." But, contrary to what Kitcher claims, Longino does not reduce truth to some form of acceptance. In fact, she does not even identify truth as *the end of inquiry*.

Underlying Kitcher's criticism of Longino's account are disagreements about (1) the relationship between truth and knowledge, and (2) the role that truth plays in inquiry. Kitcher insists that "what is known must be true" (1994, 119). Thus, like most philosophers, Kitcher believes that truth is a necessary condition for knowledge. And, I suspect that it is because Kitcher believes that knowledge entails truth that he regards truth as *the end of inquiry*.⁴ If one only has knowledge when one has a true belief, good inquirers will always aim for truth.

Longino, though, rejects both of Kitcher's assumptions. First, she believes that "knowledge" can (and should) be defined in a manner that requires no reference to truth. Longino believes that the key constraint on a viable *philosophical* account of knowledge and inquiry is that "knowledge" be a normative concept. That is, knowledge must be distinguishable from mere belief.⁵ But this, she suggests, does not warrant the traditional demand, that only true beliefs should count as instances of knowledge. In fact, Longino suggests that "knowledge" should be broadened to include any empirically adequate representation of a portion of the natural world that provides "us with a framework within which to carry out inquiry and successfully to pursue practical projects" (1994, 153).⁶

Second, Longino believes that truth is not the only epistemically relevant end of inquiry, but merely one of many aims of inquiry. She argues that scientists are moved by at least two different sorts of goals,

implication that all individuals deserve equal authoritative respect on scientific matters. But she does not elaborate on this qualification" (1995, 174).

Longino is quite explicit that her fourth criterion is meant to ensure that "what consensus exists must not be the result of the exercise of political or economic power or of the exclusion of dissenting perspectives; it must be the result of critical dialogue in which all relevant perspectives are represented" (1993, 113).

4. More precisely, Kitcher believes that "what we want is *significant* truth" (1993, 94).

5. This distinction is Plato's classic distinction between *doxa* and *episteme*. See, e.g., Plato's (1963) *Theaetetus*.

6. Like van Fraassen, Longino believes that a theory or model is "empirically adequate exactly if what it says about the observable things and events in this world, is true—exactly if it 'saves the phenomena'" (van Fraassen 1980, 12). As Longino notes, a theory can be empirically adequate, "we can use [it] to guide our interactions in the natural world, even be committed to so using [it], without being committed to belief in its literal truth" (1990, 93).

and that there is “tension within science itself between its knowledge-extending mission and its critical [truth-seeking] mission” (1990, 34). As far as Longino is concerned, “both knowledge-extension and truth can guide scientific inquiry and serve as fundamental, but not necessarily compatible, values determining its assessment” (1990, 36).

Kitcher’s assumptions get their credibility in virtue of the fact that they have long been presumed by philosophers. And, the assumptions seem to stand or fall together. If truth is not the only end of inquiry, we have less reason to think that truth is a necessary condition of knowledge. Similarly, if truth is not a necessary condition of knowledge, then truth is not the only end of inquiry.

Longino, I believe, does provide us with compelling reasons for rejecting these assumptions. She suggests that an adequate account of scientific knowledge must account for the fact that knowledge is expressible in models as well as propositions (1994, 153). Longino suggests that all of the following count as models: “sets of equations, specifications of structure, visual representations, mental maps, diagrams, three dimensional objects like the wire and plastic models of the DNA molecule, [and] four-dimensional models that incorporate change and motion” (1994, 147). But, because models are not reducible to sets of propositions, they are not aptly described as either “true” or “false” (1994, 147).⁷ Rather, it is because a model has (1) withstood criticism from a variety of perspectives, and (2) enables us to successfully pursue practical projects that it counts as knowledge. Hence, truth is not a necessary condition for knowledge.⁸ And, given that scientists aim not only for knowledge expressible in propositions, but also for knowledge expressible in theories and models, truth cannot be the only end of inquiry.

4. Schmitt’s Criticism: The Charge of Incoherence. Frederick Schmitt argues that Longino’s view is *incoherent*. He attributes a “multiperspectival or consensus theory of rational choice” to Longino. Given such an account, “the rational theory choice is the choice that is accepted from each of various perspectives representing opposing interests” (Schmitt 1994, 26). Advocates of such an account of rationality, Schmitt suggests, claim that, though interests “inevitably cause theory

7. Again, Heidi Grasswick’s comments on an earlier draft helped me to clarify this point.

8. I think Ronald Giere provides a clearer explanation for why models are not aptly described as either true or false. As he puts it, “the relationship between model and real world system ... cannot be one of truth or falsity since neither is a linguistic entity” (1988, 78).

choice," our aim is to reduce their effects (1994, 26). Schmitt suggests that such accounts are incoherent because, on the one hand, they regard the influence of interests on theory choice as ineliminable, and yet, on the other hand, they seek to alleviate their effects (1994, 26).

As Schmitt claims, Longino does in fact believe that it is not possible to eliminate the effects that social factors have on decision making. But, contrary to what he says, she does not claim that we *should* seek to eliminate the effects of social factors on decision-making. Given the role that some social factors, like background assumptions, play in scientific reasoning, we cannot reasonably expect to eliminate the effects of all social factors. Longino's claim is that we should mobilize the right sorts of social factors—those that permit transformative criticism—in order to ensure that our inquiries result in knowledge, rather than mere opinion. It is only the effects of subjective preferences that ought to be eliminated. Because Longino distinguishes between (1) social factors that permit transformative criticism and (2) merely subjective preferences, she is not guilty of the incoherence that Schmitt identifies.

Schmitt also seems to misunderstand what role consensus plays in Longino's account. Kitcher makes a similar mistake when he claims that Longino "identifies truth with consensus belief in societies that follow certain types of procedures" (1994, 132, fn. 26). Contrary to what Schmitt and Kitcher suggest, Longino does not believe that either truth, knowledge, or rational choice is determined by consensus. Rather, it is Longino's view that there must be a consensus about background assumptions in order for inquiry to be possible.⁹ For example, she claims that "observational data consist in observation reports that are ordered and organized. This ordering rests on a consensus as to the centrality of certain categories, the boundaries of concepts and classes, the ontological and organizational commitments of a model or theory, and so on" (1994, 140). Consensus plays a crucial role in ordering and organizing our observation reports so that they can function as data.

A similar consensus is required in order for us to reason effectively. Reasoning involves "bringing the appropriate considerations to bear on a judgment" (1994, 141). But, as Longino explains, "what counts as an appropriate consideration, as a reason, is determined and stabilized through discursive interaction" (1994, 141–142). And, essential to the process of reasoning are the assumptions common to those who are part of one's social context, one's community. As Longino explains, "every assumption upon which it is permissible to rely is a function of

9. I argue a similar point in Wray (forthcoming).

consensus among the scientific community” (1994, 142). It is because there is a consensus about the assumptions that one draws on in one’s reasoning that one’s actions count as reasoning at all.

Underlying Schmitt’s criticism of Longino’s account is the belief that there is no principled way to evaluate the various types of social factors that influence inquiry. Schmitt is not alone in making this assumption. Many sociologists of science seem to believe this. In particular, when the advocates of the Strong Programme in the Sociology of Scientific Knowledge insist on the symmetry postulate, when they insist that we should seek explanations for both true and false beliefs in terms of social causes, they suggest that all social factors are normatively indistinguishable.¹⁰ As far as these sociologists are concerned, what makes the social factors that cause “true” belief superior to the social factors that cause “false” belief is the fact that the former type of social factors serve the prevailing social interests. But this, they note, is just a consequence of historical contingencies (Barnes and Bloor 1982; Barnes, Bloor, and Henry 1996).

Longino, on the other hand, believes that there is a way in which we can and should distinguish between the types of social interests that influence inquiry. She believes that we should distinguish between the types of social factors that enable communities of inquirers to satisfy her four criteria of transformative criticism, and the types of social factors that merely serve the subjective preferences of some part of the community. The former, she argues, are *epistemically* superior.¹¹

I believe that the onus of proof rests with Schmitt and the Strong Programmers. They need to supply us with a compelling argument to the effect that all the social factors that influence inquiry are equally detrimental (or constructive). More traditional research in the sociology of science, in particular the work of many sociologists working in the Mertonian tradition, provides us with compelling evidence for believing that different social factors can have better or worse influences on inquiry—better or worse *epistemically*. For example, the research

10. Sociologists of science are not the only ones who endorse a symmetry postulate. Sandra Harding also does in Harding 1991.

11. Louise Antony has also suggested that Longino fails to distinguish between epistemically better and worse social factors. She argues that there are reasons “to doubt Longino’s claim that social interaction can be expected to favorably alter the individual’s epistemic situation” (1995, 82). As Antony explains, “social interaction per se does not guarantee an increase in objectivity. Social interaction can, in fact, strengthen or even engender distorting biases and self-serving preferences” (1995, 83). Here, Antony, like Schmitt, fails to appreciate the normative distinction Longino draws, the distinction between merely subjective preferences and those social factors that permit transformative criticism.

of Joseph Ben-David provides evidence that suggests that decentralized academic systems are epistemically superior to centralized academic systems (Ben-David and Zloczower 1991). In systems of the former type, institutions are more responsive to changes, and thus scientists working in such systems are more apt to respond to criticism and innovations. Such systems are also more suited to ensure that there is equality in intellectual authority. Consequently, background assumptions are less likely to dominate in virtue of the political power of their adherents.

5. Solomon's Criticism: The Charge of Individualism. Miriam Solomon argues that Longino is mistaken about the role that the community plays in scientific inquiry. Solomon claims that though Longino rightly "regards some social processes as *constitutive* of scientific objectivity," she "envisages these social processes as practices of criticism that help individual scientists to reason better" (1994, 219). Consequently, Solomon argues, Longino's account is too individualistic. Solomon "argues for a more social epistemology," one in which the community is regarded as the locus of scientific rationality (1994, 219). As Solomon explains, "*social groups can work to attain and even recognize epistemic goals without individual rationality or individual cognizance of the overall epistemic situation*" (1994, 219).¹²

Longino argues that in our efforts to account for the influence of social factors on inquiry, "individuals are not to be replaced by a transcendent social entity" (1994, 143). She believes that if we construe the community to be a knowing agent we are at risk of overlooking the significance of the role that individuals play in inquiry. "Without individuals there could be no knowledge: it is through their sensory system that the natural world enters cognition; it is their proposals that are subject to critical scrutiny by other individuals, their imaginations which generate novelty" (1994, 143).

Though Longino rejects the notion of a "transcendent social entity,"

12. I have criticized Solomon's account of rationality elsewhere, in Wray 1997. I argue that though social groups can realize epistemic goals without individual rationality, when they do, they are not aptly described as acting rationally. Antony suggests that Longino's and Solomon's strategies to socializing epistemology are far more similar than Solomon implies. She claims that both "Helen Longino and Miriam Solomon ... have argued that, at least with respect to scientific knowledge, it is the *community*, rather than the individuals within the community, that must be the object of epistemic evaluation" and that "the conditions on *scientific* knowledge are such that no individual could possibly satisfy them" (1995, 75). This is a misrepresentation of Longino's view for reasons which will become apparent shortly. Solomon is correct to insist that there are significant differences between her own approach to socializing epistemology and the approach developed by Longino.

there is a sense in which her account of inquiry is not aptly described as “*individualistic*”. Epistemologists have traditionally construed knowledge to be a specific type of relationship between the knowing agent and the object of knowledge. Such epistemologies are aptly described as “*individualistic*” because they focus on the individual agent and her relationship to the world. Longino, though, recommends that epistemologists shift their attention from the relationship between knower and known to the processes that mediate our interactions with others. Knowledge, as she construes it, is the outcome of the appropriate sorts of social interactions.¹³

In fact, according to Longino, to think of the community as the knowing agent “is still to see the knowledge-productive feature of a knower as internal to the knower, or as a matter of the relation between knower and known, rather than a matter of relatedness of the knower to other knowers” (1994, 146). It is the processes that mediate our interactions with each other that are aptly described as “social,” not the knowing agent.

Underlying Solomon’s criticism of Longino’s account is a commitment to an externalist standard of rationality or epistemic evaluation. Solomon believes that a community of scientists is rational to the extent that they select theories that are empirically more successful than the available alternatives. And Solomon emphasizes that “scientific decision-making can be scientifically effective without any individuals having to reason effectively on her or his own, or even recognizing that the community reasons effectively” (1994, 230).

Longino construes rationality in a significantly different way. Like Solomon, she believes that traditional accounts of rationality are too individualistic. But she construes the demand to amend this difficulty quite differently. She suggests that what makes the methods of a particular community of inquirers rational is the fact that they ensure that the community employs as many of the available epistemic resources as is possible. And this involves, among other things, permitting criti-

13. Antony rightly claims that “social knowledge, in Longino’s sense, presupposes individual epistemic agency” (1995, 77). But she is mistaken in thinking that Longino’s view amounts to no more than the claim that “other people afford me epistemic access to regions of reality that I cannot secure on my own” (1995, 81). As Antony suggests, this latter claim is individualistic in the traditional sense. It is concerned with the relationship between the knower and the known. Longino’s point, though, is that the norms and practices that make inquiry possible can be sustained only by groups of people. Thus, rather than construing other people as merely “instruments for enhancing [one’s] own individual epistemic situations” (Antony 1995, 81), Longino suggests that other people provide the framework within which inquiry and knowledge are made possible.

cism from a wide (as wide as is possible) variety of perspectives in the community.

Longino's understanding of "rationality" captures an important aspect of our intuitions about the nature of rationality. The fact that an inquirer believes that an action is rational provides her with a reason for doing it.¹⁴ An inquirer can ask herself questions like, "have I been responsive to criticism from others?", and then act accordingly. In this way, an agent's beliefs about what is rational shape how she behaves.

Solomon construes rationality as an emergent property of a community's behaviour. As such, it is not a property that an individual *can* effectively aim to realize. Only after the fact, after one realizes that the community has chosen the theory with more empirical successes, can one legitimately claim to have acted rationally. Given Solomon's account, it would be difficult for one to argue that the reason one acted as one did was *because* it was the rational thing to do. One cannot know what is rational until after the fact.

6. Concluding Remarks. In summary, I have tried to draw attention to the virtues of Longino's epistemology. Longino offers a viable alternative to both positivism and holism, one that recognizes just how thoroughly values influence inquiry. Further, I have argued that her critics have misunderstood her view and have thus failed to raise insurmountable challenges for her. Though Longino rightly acknowledges the significant influence that social factors have on inquiry, she also recognizes that not all social factors have the same (adverse) affect. A key component of her account of inquiry is the way she reconceptualizes "knowledge." Though Longino insists on the traditional knowledge/opinion distinction, she proposes that knowledge be distinguished from opinion by reference to a social standard.

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14. In fact, Robert Audi argues that rational actions must "be performed for appropriate reasons, not merely rationalizable in terms of such reasons" (1993, 425). Thus, an action is only rational if it is performed for an appropriate reason.

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