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Values, standpoints, and scientific/intellectual movements

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ABSTRACT

Feminist standpoint empiricism contributes to the criticism of the value-free ideal by offering a unique analysis of how non-epistemic values can play not only a legitimate but also an epistemically productive role in science. While the inductive risk argument focuses on the role of non-epistemic values in the acceptance of hypotheses, standpoint empiricism focuses on the role of non-epistemic values in the production of evidence. And while many other analyses of values in science focus on the role of non-epistemic values either in an individual scientist's decision making or in the distribution of research efforts in scientific communities, standpoint empiricism focuses on the role of non-epistemic values in the building of scientific/intellectual movements.

1. Introduction

By the ideal of value-free science is meant the view that non-epistemic values are not allowed to play a role in the practices where scientific theories and hypotheses are justified and evaluated epistemically. A number of philosophers have argued that this ideal is not feasible—or even if it is feasible under some specific circumstances, there is no reason to adopt it as a criterion of good science (e.g., Douglas, 2009; Kitcher, 2001, 2011; Kourany, 2010; Lacey, 1999, 2005; Longino, 1990, 1995; Solomon, 2001). Several alternative views have emerged in place of the value-free ideal. Some philosophers suggest that non-epistemic values can play a legitimate role in the assessment of inductive risk as long as they do not replace evidence (Biddle, 2013; Douglas, 2009; Elliott, 2011, 2013). Some others propose that non-epistemic values can legitimately influence the way epistemic values are interpreted and weighed as long as they do not replace epistemic values (Longino, 1995; Solomon, 2001). Yet others suggest that non-epistemic values can legitimately have an impact on the choice of background assumptions used in evidential reasoning as long as no-one has challenged these assumptions (Anderson, 1995, 2004; Longino, 1990, 2002). And not only can non-epistemic values play a legitimate role at the level of an individual scientist's decision making, but also, some philosophers argue, at the level of scientific community as long as these values maintain a distribution of research efforts among theories that have some empirical successes (Kitcher, 1993; Solomon, 2001).

While the controversy over the proper role of non-epistemic values in science has entered the mainstream in philosophy of science, there is hardly any uptake of feminist standpoint theory (see, e.g., Biddle, 2013; Carrier, Howard, & Kourany, 2008; Kincaid, Dupré, & Wylie, 2007; Machamer & Wolters 2004). Yet, feminist standpoint theory is an attempt to analyze the proper role of moral and social values in science (Crasnow, 2013, 2014; Harding, 2004a, 2004b; Intemann, 2010a, 2010b; Rolin, 2006, 2009; Wylie, 2003, 2011, 2012). I argue that feminist standpoint theory deserves more attention than it has received so far since it offers a unique model for understanding how moral and social values can play not only a legitimate but also an epistemically productive role in science.

In order to appreciate feminist standpoint theory, it is important to keep in mind that it is not meant to be a "full-service epistemology" (Wylie, 2012, 61). I introduce Scott Frickel's and Neil Gross's (2005) sociological theory of scientific/intellectual movements and argue that feminist standpoint theory is best understood

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as a *social epistemology of scientific/intellectual movements* (henceforth SIMs). While feminist standpoint theory is consistent with the view, outlined above, that moral and social values can play a legitimate role in an individual scientist's decision making as well as in scientific communities, its uniqueness lies in the idea that moral and social values can be epistemically productive via SIMs. The *feminism* in feminist standpoint theory is not merely about doing scientific research with an eye on egalitarian and emancipatory social reforms; it is also about building SIMs. I argue that SIMs can be epistemically significant in two ways. First, they can enable scientists to generate evidence under conditions where relations of power tend to suppress or distort evidence. Second, they can provide scientists with an epistemic community where they can receive fruitful criticism for research which may be ignored in the larger scientific community. While an individual scientist may work against power relations on one's own, her research is unlikely to lead to a scientific change unless she participates in a SIM. A SIM can overcome obstacles that relations of power raise for scientific inquiry more effectively than an isolated individual.

In order to highlight the special features of feminist standpoint theory, in Section 2 I review three well-known arguments against the value-free ideal: (1) an argument from inductive risk; (2) an argument from pluralism with respect to epistemic values; and (3) an argument from value-laden background assumptions. The inductive risk argument does not do justice to feminist standpoint theory because it focuses on the consequences of accepting or rejecting hypotheses, and not on the production of evidence. The two other arguments are relevant to feminist standpoint theory because they help us understand how moral and social values can have an impact on the kind of features scientific theories are expected to have and the kind of evidence thought to be relevant in a particular inquiry. Yet, they do not pay attention to the role of SIMs in scientific research.

In Section 3 I explain three theses associated with feminist standpoint theory: (1) the situated knowledge thesis; (2) the thesis of epistemic advantage; and (3) the achievement thesis. When these three theses are understood as empirical hypotheses, they comprise what Kristen Intemann calls "feminist standpoint empiricism" (2010a, 2010b). Whereas the situated knowledge thesis emphasizes the epistemic importance of social location, the thesis of epistemic advantage invites us to explore whether marginal or unprivileged social locations give rise to epistemic benefits vis-à-vis particular research projects. The achievement thesis emphasizes the role of critical awareness, moral and social values, and community building in bringing about the epistemic benefits. Yet, it is not clear what the nature of the community is and what role it plays in the production of evidence. Thus, Section 3 ends with the conclusion that the achievement thesis is in need of further theorizing.

In Section 4 I argue that the notion of SIM is a key to understanding the nature of communities claimed to be epistemically significant by feminist standpoint empiricists. While feminist standpoint empiricism is an attempt to analyze the epistemic significance of a particular kind of SIM, a movement driven by feminist values, it outlines a novel research program in philosophy of science: a social epistemology of scientific/intellectual movements.

2. Three arguments against the value-free ideal

Before discussing feminist standpoint empiricism, it is appropriate to review recent developments in the values-in-science debate. In this section, I examine three arguments aiming to show that the value-free ideal is not feasible—or even if it is feasible under some circumstances, there are reasons which speak against its adoption as a standard of good science. By the value-free ideal I mean the view that *non-epistemic* values are not allowed to play a role in the practices where scientific theories and hypotheses are justified and evaluated epistemically. While there is a controversy concerning the way the epistemic/non-epistemic distinction is drawn (Douglas, 2013; Rooney, 1992; Steel, 2010), *epistemic* values are here understood as values which promote the attainment of truth, either intrinsically or extrinsically. As Daniel Steel explains, an epistemic value is intrinsic when manifesting that value constitutes an attainment of or is necessary for truth, and it is extrinsic when it promotes the attainment of truth without itself being an indicator or a requirement of truth (2010, 18). For a value to promote the attainment of truth may mean that it leads scientists to support practices or social arrangements which are instrumental in the epistemic success of science. For example, diversity is an extrinsic epistemic value insofar as it leads scientists to cultivate a diversity of perspectives, and this in turn facilitates transformative criticism in scientific communities (Longino, 2002, 131).

The first argument against the value-free ideal is the inductive risk argument. A number of philosophers argue that the value-free ideal is not feasible because non-epistemic values have a legitimate role to play in the evaluation of risks involved in acceptance (e.g., Biddle, 2013; Brown, 2013; Douglas, 2009; Elliott, 2011; Steel, 2010, 2013; Wilholt, 2009). One version of the inductive risk argument can be found in Richard Rudner's (1953) article titled "The Scientist qua Scientist Makes Value Judgments." Rudner's argument is based on the premise that a scientist as scientist accepts or rejects hypotheses and acceptance involves uncertainty (1953, 2). In accepting a hypothesis a scientist has to decide whether the evidence at hand is sufficiently strong to warrant the acceptance. This decision, Rudner argues, depends on the risks involved. If a scientist accepts a false hypothesis, there may be a cost associated with this type of error. Also, if she rejects a true hypothesis, there may be another cost associated with the other type of error. The key premise in Rudner's argument is that the assessment of the costs involved in these two mistakes is a matter of moral value judgment (1953, 3).

While the inductive risk argument offers a valuable insight into the proper role of non-epistemic values in science, it provides us with a limited perspective on non-epistemic values in science. The reason for this is that non-epistemic values are thought to be relevant in judgments concerning the degree of evidential warrant required for acceptance. Non-epistemic values are not thought to be relevant in the production of evidence or the weighing of different kinds of evidence (see also de Melo-Martin & Intemann, 2015; Miller, 2014).

The second argument against the value-free ideal, the argument from pluralism with respect to epistemic values, has more in common with feminist standpoint empiricism than the inductive risk argument because non-epistemic values are thought to be relevant in judgments concerning the desirable features of scientific theories. The argument from pluralism states that the value-free ideal is not attainable because the set of epistemic values includes a variety of criteria and desiderata which cannot be realized at the same time, and non-epistemic values can legitimately play a role in determining which epistemic values scientists emphasize when they evaluate theories (e.g., Elliott, 2013; Kuhn, 1977; Longino, 1995; Solomon, 2001). Some philosophers argue that the plurality of epistemic values is a consequence of the plurality of epistemic goals when the goals are taken to be either significant truths (Anderson, 1995; Kitcher, 1993) or empirical successes (Solomon, 2001). Some others argue that the plurality of epistemic values is revealed by studying history of science. For example, Thomas Kuhn (1977) claims that the five epistemic values of accuracy, consistency, simplicity, breadth of scope, and fruitfulness have played a role in theory choice throughout the history of