

Janet A. Kourany

Philosophy of Science after Feminism

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What should be the underlying motivation of science? Should it be primarily an epistemic endeavor or should it strive to promote the well-being of all members of society? Janet Kourany's *Philosophy of Science after Feminism* offers an answer that reveals new areas of research for philosophers in the process. A much-needed addition to the Oxford University Press series *Studies in Feminist Philosophy*, Kourany's book is the first in the series to address the nature of science, which not only fills a critical void, but also calls attention to the continued social injustice sanctioned by scientific research. Advocating for a new science that serves the needs of society, Kourany recommends a more comprehensive program for philosophy of science, one that is more socially informed and motivated by "an egalitarian ideal of human flourishing" (15). To that end, *Philosophy of Science after Feminism* functions as a "blueprint for a philosophy of science more socially engaged and socially responsible than the philosophy of science we have now" (vii). Kourany's task, amounting to the overhaul of an entire discipline, is ambitious, and the topics introduced in the book require more treatment than a single work can provide. Yet *Philosophy of Science after Feminism* offers a general survey of the terrain, making it a ready guide for future work in the philosophy of science.

Kourany's first chapter, "A Feminist Primer for Philosophers of Science," opens with four examples of the social injustices experienced by women around the world. Citing statistics from different agencies of the United Nations Development Group, for example, UNICEF and UNFPA, Kourany points to injustices occurring in the workplace and home as well as those existing in broader contexts, such as the increase of military strategies that include rape and violence toward women. Kourany notes that these problems, among others, might be alleviated, or even solved, by science. Yet in spite of its resources to contribute to the cause of social justice, research referencing women has often perpetuated the belief that women are inferior, giving rise to research determined to locate differences between genders and informing social

policies affecting women. Recent examples taken from biology, psychology, economics, and medicine support Kourany's point: science serves only some of society.

Given that science has the resources to combat the marginalization of women--and by analogy that of nondominant races, ethnicities, sexual orientations, and physical abilities--should it take on a more socially responsible role? Kourany's answer is a resounding yes, for two reasons. First, science has the potential to enact further future harms on already marginalized groups; therefore, it should, at the very least, halt any future harm. Second, in light of the fact that society finances science and that our self-understanding is largely informed by science, science must be responsive to societal needs. Since every member of society requires justice, science should, if it is to be responsive, promote justice.

Unlike current philosophy of science, Kourany's program includes the broader, normative questions about the "social responsibility of science" (SRS) (14). In fact, the SRS questions introduce new areas of discourse and "encourage a comprehensive, well-integrated exploration of science in society and a comprehensive, well-integrated plan of action to bring about needed change in both science and society" (16). This new philosophy of science, one meant to go beyond the traditional epistemic role, introduces the social context in which science is conducted. Of course, a broader program of research may not offer an incentive to persuade philosophers of science to embark on socially engaged research, especially if some may incur costs. To that end, Kourany devotes the following chapters to exploring the motivations for the discipline's neglect of a wider social context and anticipating the possible reasons for continuing that neglect. Kourany concludes by advocating for a new, politically active role for philosophers of science who adopt "the ideal of socially responsible science" (68).

In "The Legacy of Twentieth-Century Philosophy of Science," Kourany provides an abridged historical account of the philosophy of science intended to explain why the discipline does not engage a wider social context. Coming into its own as a professional discipline in the mid-twentieth century, philosophy of science was largely guided by the context distinction attributed to Hans Reichenbach. Influenced by the context of justification, philosophy of science exhibits a tendency toward a narrow conception of scientific rationality. Of course, some features of rationality were not captured by the tools of logic and empiricist epistemology, as was evident in the critiques tendered by "Thomas Kuhn, Paul Feyerabend, Norwood Russell Hanson, Stephen Toulmin, and many other distinguished philosophers and historians of science" (24). Although these critiques broadened the range of contextual factors, Kourany notes that the issues of how society was shaped by science, and how politics and private funding shape science, were not addressed (30 and 46).

Like the questions concerning the direction of research programs, objectivity, and realism, SRS questions fall squarely in the domain of philosophy of science as well. For example, the military funding of science exerts great influence on the methods and sizes of groups performing research, creating new issues for philosophers (30). Requirements of "secrecy, classification, and restriction of access to research results," even the departure from "basic research to military applications," pertain to the basic issues of philosophy of science (30–31). Politics, too, generates similar issues, and the question of society shaping science, or vice versa, demands the attention of philosophers of science as well (42–46). Kourany further cites the controversy surrounding the effects on science during different presidential administrations. Conservatives and liberals both charge each other with the manipulation and distortion of science (43). Kourany notes that questions about expertise, the increase of specializations, and the use of different methods and standards may be "more congenial to one political perspective" or other (44). Even though such issues belong to the philosophy of science, philosophers "remained silent" (46).

Although mainstream philosophy of science ignored the larger, social questions, Kourany notes in the second chapter, "What Feminist Science Studies Can Offer," that "feminist philosophers of science, along with feminist scientists and historians" responded to more local, gender inequality questions in various ways (49). Kourany points out that a majority of these responses proceeded from the belief that sexist and androcentric science resulted from a poor methodology and were motivated by the belief that an "ideal of value-free science" was still possible (55). Yet the move to privilege feminist values in science did not make science more objective (57). According to Kourany, "no clear replacement for the ideal of value-free

science has yet emerged" (57). She devotes the rest of this chapter to the analyses of three possible alternatives.

The first, referred to as the "Social Value Management Ideal of Science," is associated with the major works of Helen Longino (Longino 1990; 2002) (58). Longino's account is informed by a social conception of objectivity based on the methods of scientists (58). On this procedural account, scientific communities are organized in such a way as to ensure the potential for "transformative criticism" (59). Kourany points out that the knowledge acquired via this alternative may not be free of bias, and it is possible that the procedures might fail to "bring about social reform" (62). Thus Kourany contends that this view does not escape the same pitfalls encountered by the "Ideal of Value-Free Science" (62).

The second alternative, "The Empiricist Ideal of Science," is exemplified by the work of Louise Antony and Miriam Solomon (Antony 1993; 1995; Solomon 2001). Kourany describes the primary motivation of this view as an examination of scientific practice for "features that contribute to and explain its success" (63). For example, having a particular standpoint may enable one to detect biases in science (63). Also, certain values, such as those that are distinctly feminist, might promote a more objective science (63–64). These two explanations for empirical success are what underwrite this alternative. However, for Kourany, the standpoint and the values hypotheses are problematic. As regards standpoint, supporters have yet to explain the "feminist consciousness," the particular heightened awareness that aids in the detection of bias, making a test for its role in epistemic success impossible (66). The values hypothesis is equally problematic. At times, feminist values have not been successful and/or empirical success may depend upon other features, ones that are not distinctly feminist (67). Thus, "The Empiricist Ideal of Science," whether dependent upon a specific standpoint or on values that may play a key role in the success of a science, fares no better than the "Social Value Management Ideal" or the "Ideal of Value-Free Science." The shortcomings of these previous contenders open the door for a new alternative, one endorsed by Kourany (68).

Referred to as the "Ideal of Socially Responsible Science," this alternative "recognizes that rooting sexism and androcentrism out of science is tantamount to implanting egalitarian social values into science" (68). Values are inescapable in science, and Kourany believes that society can exert influence--both financial and regulative--to promote those values that address its needs (68). Success, for this alternative, includes not only the standard notion of empirical success, but also "human flourishing, what makes for a good society" (68). Given its aims, this alternative addresses the political needs not filled by the other alternatives.

To assess whether the Ideal of Socially Responsible Science functions as a "genuine source of knowledge," Kourany provides an example of a socially responsible science: a "new psychological research program" presented by Carolyn West (West 2002) (69). The aim of this research program, as described by Kourany, is "to uncover the similarities in intimate-partner violence within the black and white communities of the United States without negating the experiences of black women and simultaneously to highlight the differences within the black and white communities without perpetuating the stereotype that black Americans are inherently more violent than other ethnic groups" (69). Given the program's complexity, the research looks radically different from its predecessors. Changes in the definition of violence, different standards of measurement, and the exploration of other explanatory factors, such as violence due to "socioeconomic differences," are examples of modifications in the new program (69). In short, egalitarian social values as well as epistemic values both equally guide the research (69).

The research program presented by West is Kourany's only example of SRS-guided research. Given that this example bears the burden of convincing the reader to support her "Ideal of Socially Responsible Science," I would like to have seen a second case or, at the very least, more detail that would distinguish this research from that described by the previous alternatives. I would particularly like this program to be contrasted with the "Empiricist Ideal of Science" when motivated by standpoint theory. A concrete example taken from West, appearing in Kourany's footnote 10, notes the possible contribution made by Black feminist thought to the identification of differences between communities that doesn't resort to racial stereotypes (70). According to Kourany, Black feminists are in a position to provide historic context, which might explain why Black women who have been battered are not as likely to pursue legal actions against

their partners (70). Although not a "feminist consciousness," this unique experience and/or knowledge may be considered a standpoint, thereby requiring further treatment from Kourany. If experience is constitutive of one's standpoint, then the "Empiricist Ideal of Science" remains on the table.

The last four pages of "What Feminist Science Studies Can Offer" include some objections and responses to SRS, both of which are necessary and appreciated given the quick pace of the previous section. One worry is that the style, one that assumes an adversarial reader, detracts from the meat of the issues. Phrases such as, "you exclaim, voice rising" or "you retort, irritation in your voice" may miss the mark and irritate or more likely confuse the reader (71 and 72). The issues surrounding SRS are substantial, for example, what to do when the social/epistemic values conflict with each other or whether the "Ideal of Socially Responsible Science" impedes the acquisition of knowledge. Kourany makes good points with respect to these issues, but I fear that the style will hinder uptake. Of course, these are not the only objections levied against a socially responsible science.

In "Challenges from Every Direction," Kourany acknowledges that the "Ideal of Socially Responsible Science" poses to science a threat of "serious social interference" (79). Historically, scientists and science are believed to value freedom from particular types of social interference. Anticipating the resistance to contextualizing science, Kourany addresses five reasons for maintaining a science insulated from social interference. Of the epistemological, historical, sociological, economic, and political reasons, I restrict my comments to Kourany's discussion of the political reason because it, unlike the other reasons, does not generate testable claims for defending the autonomy of science (100). Rather, it motivates a new line of philosophical inquiry focused on instances where scientific freedom and social values conflict.

Various charters, declarations, and congresses have claimed that scientists have rights and that these include, but are not limited to, the right to freely choose an area of research, to have a say in how research is to be carried out, and to publish their research results (100–01). Social interference, as Kourany describes, consists of various types of "constraints" that a socially directed science imposes upon the freedom of individual scientists (101). Protecting the environment, recognizing personhood, and even the "respect for 'human dignity' and the 'integrity of the person' [found] in the European Charter," are a few examples of the constraints scientists already face, but these, according to Kourany, are often "vague and incomplete," requiring "further specification" (102). Not only is there a need for specificity, but the conflict between the needs of society and the freedom of scientists also requires some method of adjudication (103). Previously left out of the conversation, philosophers of science, Kourany believes, have an important role in articulating the ideals that guide SRS practice. Kourany touches upon various issues in the last chapter, "The Prospects for Philosophy of Science in the Twenty-First Century."

Historically, the goal of philosophy of science was "to articulate and even improve upon . . . scientific rationality," which came to include not only nondeductive forms of argumentation, but also the contributions of knowledge provided by models and equipment (107). Today, the goal of philosophy of science is still to improve science, but it is no longer strictly an epistemic endeavor. The presence of codes of ethics in different scientific associations signals a different need in science, one of values. Although these codes were created to address specific needs, Kourany notes that they often suffer from "vagueness and incompleteness" (109). Also, professional associations may lack the resources to sanction violators (113). In spite of the presence of ethics codes, little has been accomplished toward mitigating public anxiety concerning science (114–17). New codes, conscious of connecting both the epistemic and normative projects, form the starting point for Kourany's science, and philosophers of science seem best suited to advise and play a productive role in the creation of these codes (119). Although I agree that philosophers of science have the resources to make a contribution to the creation of codes of ethics, I think that it may be more of a collaborative effort between scientists and philosophers than Kourany admits. Her example, Alison Wylie's role in the creation of an ethical code for the Society for American Archaeology, points to Wylie's ability as a philosopher of science while neglecting that Wylie is also an archaeologist. In fact, Wylie 2005 contains a list of those in attendance at the November 1993 organizational meeting; along with the many archaeologists present were nonscientist Native Americans. Simply put, those affected were a part of the discourse. I suggest that most scientists may not have the ethical training that philosophers of science possess whereas philosophers may lack the training in science required to create some ethical

codes. As is apparent from Wylie 2005, input from nonscientists might also be required for the creation of such codes. Collaborative interactions give those involved a much-needed opportunity to address the broader contextual questions posited by a socially responsible science. How philosophers of science enter into these collaborations will be critical to political and epistemic success.

In *Philosophy of Science after Feminism*, Kourany takes on a daunting task: the complete overhaul of philosophy of science. As part of her account, she seeks a contextualization of science inspired by the work of feminist philosophers, one that captures both the epistemic and normative aspects of scientific rationality. I doubt that many would like to see science continue to marginalize segments of society. Thus, Kourany's goal of a more egalitarian science offers hope for needed changes in science. Her project, however, is grand, and Kourany has just scratched the surface.

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