

A Philosophy of Science for the Twenty-First Century*

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Two major reasons feminists are concerned with science relate to science's social effects: that science can be a powerful ally in the struggle for equality for women; and that all too frequently science has been a generator and perpetuator of inequality. This concern with the social effects of science leads feminists to a different mode of appraising science from the purely epistemic one prized by most contemporary philosophers of science. The upshot, I suggest, is a new program for philosophy of science, a program for a socially responsible philosophy of science.

1. The Twentieth-Century Backdrop. These days the reputation of logical empiricists is being refurbished—at least the logical empiricists of Vienna Circle fame. Recent scholarship (see, for example, Cartwright, Cat, Fleck, and Uebel 1996; Sarkar 1996; and Howard forthcoming) suggests that the scientists, mathematicians, and scientists-turned-philosophers who regularly met in Vienna in the beginning of the twentieth century to construct a “scientific conception of the world”¹ were motivated not only by abstract

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1. “What characterizes the modern scientific conception of the world . . . is the interconnection of individual empirical facts with systematic testing by experiment, the integration of the particular in the texture of all sequences of events and the uniform logical treatment of all trains of thought, in order to create a unified science that can successfully serve all transforming activity.” Otto Neurath, “Ways of the Scientific World Conception”, quoted in Cartwright, Cat, Fleck, and Uebel 1996, 79.

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logical and epistemological concerns, but by concrete social and political ones as well. “One cannot begin to give an account of the Vienna Circle without seeing it not only as a movement for a scientific world conception in terms of its logical, epistemological and methodological content, but also as a movement which conceived of its theoretical contributions as being in the service of social reform, and as, in significant measure, allied with the left social movements of its time” (Wartofsky 1996, 60). Indeed, for the members of the Vienna Circle, science could, and ultimately would, reform society, and philosophy of science could, and ultimately would, expedite that reform. Witness the concluding paragraph of the Vienna Circle’s “Manifesto,” written by Otto Neurath and edited and cosigned by Rudolf Carnap and Hans Hahn:

Thus, the scientific world-conception is close to the life of the present. Certainly it is threatened with hard struggles and hostility. Nevertheless there are many who do not despair but, in view of the present sociological situation, look forward with hope to the course of events to come. Of course not every single adherent of the scientific world-conception will be a fighter. Some, glad of solitude, will lead a withdrawn existence on the icy slopes of logic: some may even disdain mingling with the masses and regret the “trivialized” form that these matters take on spreading. However, their achievements too will take a place among the historic developments. We witness the spirit of the scientific world-conception penetrating in growing measure the forms of personal and public life, in education, upbringing, architecture and the shaping of economic and social life according to rational principles. *The scientific world-conception serves life, and life receives it.* (quoted in Wartofsky 1996, 59)²

For some of the members of the Vienna Circle, moreover—Neurath in particular—*society* could, and hopefully would, reform *science* since, for them, deliberately chosen social and political policies could properly come into play in a fully objective science, underdetermined as it is by logic and experience. For the members of the Vienna Circle, in short, science was

2. Wartofsky emphasizes that many others besides Neurath, Carnap, and Hahn understood the Vienna Circle and logical empiricism in this way—for example, Olga Hahn-Neurath and Philipp Frank, Bertrand Russell and Albert Einstein, critical philosophical colleagues such as Karl Popper, American students such as Ernest Nagel and Albert Blumberg, and even political enemies such as the right-wing Austro-German nationalists, the reactionary Catholic-clerical establishment in Vienna and in the University, and the proto-Nazis and anti-Semites, all of whom saw the Vienna Circle and its ideas as a social and political threat and not only as an intellectual one. Not everyone understood the Vienna Circle in this way, however. Moritz Schlick, for example, strongly disagreed with this perspective.

integrally connected with society and its reform, and their labors analyzing and improving science were integrally connected as well.

The program for a socially engaged science and philosophy of science envisioned by the Vienna Circle, however, was thwarted before it could develop—by the war, by the death of some of its most politically active members (e.g., Neurath and Hahn), by the failure to secure appropriate academic positions for other of its members (e.g., Philipp Frank), by McCarthyism, and by other factors besides (see, for various accounts, Giere 1999; McCumber 2001; and Howard forthcoming). And what followed were the socially *disengaged* philosophies of science with which we are all familiar, starting with Anglo-American logical empiricism. But now, in the late twentieth / early twenty-first century, scientists and philosophers and others have again been involved in constructing a philosophy of science that features science reforming society and being reformed by it, with philosophy expediting the reforms. This time, however, the individuals involved are *feminists*. Feminists are providing us with a new program for philosophy of science for the twenty-first century, a program for a socially responsible philosophy of science.

2. What Feminists Contribute to Philosophy of Science. A *new program* for philosophy of science, for a *socially responsible* philosophy of science, provided by *feminists*? How can I even begin to justify this claim?³ Start small. Start with differences. The work of feminists exemplifies a different focus from the work of most twentieth century philosophers of science. A major reason feminists are concerned with science is that science can be a powerful ally in the struggle for equality for women. Science, after all, can expose society's prejudice against women for what it is, and science can both justify the replacement of this prejudice with a more adequate perspective, and also move society to accept the replacement. All too frequently, however, science has done more to perpetuate and add to the problems women confront than to solve them—a second major reason feminists are concerned with science. For example, one of psychology's central messages, historically, has been that women are inferior to men—intellectually, socially, sexually, and even morally (Marecek 1995; Wilkinson 1997). And biology historically has set for itself the task of explaining the basis and origin of this inferiority in terms of what is largely unchangeable—biology. This has had the effect of justifying—and thus, helping to perpetuate—women's inferior educational and employment opportunities as well as women's inferior positions in the family, government, and other social institutions.

3. I justify it in far greater detail in my forthcoming book *Philosophy of Science after Feminism*.

Consider women's intellectual capacity, for example. For centuries it was claimed that women are intellectually inferior to men, and for centuries the basis for such inferiority was sought in biology. In the seventeenth century, women's brains were claimed to be too "cold" and "soft" to sustain rigorous thought. In the late eighteenth century, the female cranial cavity was claimed to be too small to hold a powerful brain. In the late nineteenth century, the exercise of women's brains was claimed to be damaging to women's reproductive health—was claimed, in fact, to shrivel women's ovaries. In the twentieth century, the lesser "lateralization" (hemispheric specialization) of women's brains compared to men's was claimed to make women inferior in visuospatial skills (including mathematical skills) (Schiebinger 1989). And the research continues. During the 1980s and 1990s, for example, scientists claimed that women's brains are smaller than men's, even after taking into account average differences in body size; that the corpus callosum (the mass of nerve fibers connecting the right and left cerebral hemispheres) is more slender in women's brains than in men's; that the splenium (the region of the corpus callosum found at the back of the head) is more bulbous in women's brains, more tubular in men's brains; and so on. And these differences were again being linked to differences in intellectual capacity (that people with smaller brains have lower IQ test scores; that greater splenial bulbosity means less lateralization, and hence, less visual-spatial ability, and hence, less mathematical ability, etc.). Of course, methodological and other kinds of problems have been pointed out in the recent claims, problems every bit as serious as the problems pointed out in past intelligence difference research. Nevertheless, the recent claims (like the past ones) have still managed to gain notoriety in the popular press and a foothold in the popular consciousness. And the research *still* continues (Fausto-Sterling 1992, 2000).

But fields like psychology and biology are not the only sources of the view that women are inferior to men—*demonstrably* inferior, *scientifically*. The historical sciences, too, have supported this view of women's inferiority through their modes of representation of the past, modes of representation marked by heroic exploits and spectacular accomplishments of men counterpoised with lackluster doings and non-accomplishments of women. What archaeologists recognize as the "hallmarks" of human evolution, for example—tools, fire, hunting, food-storage, composite tools, language, agriculture, metallurgy, and so forth—have until very recently all been associated with males (Conkey and Williams 1991). What's more, other scientific fields, such as economics and medical research, have perpetuated or added to the problems women confront, but in different ways than by documenting women's inferiority. Neglecting women's needs and priorities in the employment as well as household sectors in economic

model-building, for example, has had dire effects on public policy relating to women (Waring 1992; Ferber and Nelson 1993; Nelson 1996). And neglecting women in both basic and clinical research—in, for example, heart disease, AIDS, and cancer research—has had dire effects on women's health care (Rosser 1994; Weisman and Cassard 1994; Schiebinger 1999).

Feminists, then, are particularly concerned with science because of the beneficial effects that scientific knowledge *can have* on women's struggle for equality, and also because of the unfortunate effects that scientific knowledge *has had* on that same struggle for equality. Most twentieth-century philosophers of science, in contrast, are concerned with science because of the knowledge that it produces, *period*—are concerned, that is, with science as a purely “epistemic” enterprise. If anything social leaks into their reflections on science, it generally appears in their accounts of the goings-on within scientific laboratories and scientific conference rooms and the like—the symbiosis of experimental and theoretical practices, for example, or the interplay between cooperation and competition, or the factors influencing consensus formation. The “social,” for these philosophers, stops at the doors of scientists' immediate environments. It does not extend to such things as health care, or the labor market, or the educational establishment. The social effects of scientific knowledge, if considered at all, constitute *separate* questions that come *after* the epistemic ones. Philip Kitcher's perceptive and candid admissions in the final paragraphs of *The Advancement of Science* seem perfectly applicable to this work of most twentieth-century philosophers of science:

the foregoing chapters leave untouched some of the largest questions about science. . . . To claim, as I have done, that the sciences achieve certain epistemic goals that we rightly prize is not enough—for the practice of science might be disadvantageous to human well-being in more direct, practical ways. A convincing account of practical progress will depend ultimately on articulating an ideal of human flourishing against which we can appraise various strategies for doing science. . . .

Kitcher continues:

we can envisage a very general problem of optimization. Given an ideal of human flourishing, how should we pursue our collective investigation of nature [or, he adds later, how should we modify the collective investigation we have now]? Beyond my attempt to understand the *epistemic* features of the scientific enterprise lies this far broader question about science, a question that a critical philosophy of science ought to address. (1993, 391)

It is Kitcher's far "larger," "far broader" question about science, the question that any "critical philosophy of science ought to address" but that most philosophers of science have not addressed⁴—it is this question that feminists have been at pains to explore. After all, feminist scientists and philosophers and historians of science have been working to appraise "various strategies for doing science"—that is, various questions and assumptions and concepts and hypotheses and research programs and methods of data collection and evaluative criteria and the like—against feminist ideals and practices, they have found in the process that many of these science strategies are wanting, and as a result they have called for modifications to these strategies, and have offered a welter of specific as well as far-reaching modifications besides (see Kourany 2002 for examples). At the same time, feminist political theorists have been working to develop an *egalitarian* "ideal of human flourishing" that articulates and justifies the feminist ideals and practices made use of by the feminist scientists and philosophers and historians of science (see, e.g., Okin 1987, 1999; Benhabib 1992; and Nussbaum 1999). Feminists, in short, seem to be engaged in a project genuinely different from that of most twentieth century philosophers of science, the stuff of a truly critical philosophy of science according to Kitcher.

But might the project of feminists and the project of most twentieth-century philosophers of science be at bottom simply different aspects of the same overall project? Not at all. For example, in *The Advancement of Science* Kitcher treats his far larger, far broader question regarding the appraisal of science in terms of human flourishing as an *addition* to the epistemic questions which have been his main concern, as almost an afterthought to them (his far larger, far broader question, after all, occupies the very last page of a nearly 400-page book). For feminists, however, the question of the appraisal of science in terms of an egalitarian ideal of human flourishing is central, primary. Consider, for example, some feminist scientists' rejection of traditional epistemic values such as consistency with established knowledge, simplicity, and scope, in favor of values such as: "novelty" (the valuing of theories that differ in significant ways from presently accepted theories, whether in the kinds of entities the theories postulate, or the kinds of explanation they offer, or the kinds of concepts or metaphors they employ); "ontological heterogeneity" (the valuing of theories that grant parity to different kinds of entities over theories that postulate only one kind of causally efficacious entity, or that treat apparently different entities as merely different versions of a single, standard kind of entity, or that treat differences as eliminable through decomposition of entities into a single basic kind); and "complexity of relationship"

4. Kitcher himself has now begun to address it. See especially his 2001.

(the valuing of theories that treat relationships between entities and processes as interactive rather than unidirectional, and as multi-factored rather than single-factored) (see Rosser 1990 and especially Longino 1994, 1995, 1997). One of the reasons feminist scientists favor the newer values over the traditional ones is that the newer values more readily support egalitarianism.⁵ For example, the value of novelty (unlike the traditional consistency) allows scientists to move in more egalitarian theoretical directions, directions very different from what has heretofore been accepted in their fields. The value of ontological heterogeneity (unlike the traditional simplicity and scope) allows scientists to theorize women's bodily, social, psychological, and moral dissimilarities from men as signs, not of women's inferiority to men—where men are taken as the norm or standard of comparison—but simply as signs of women's *differences* from men—where women and men have equal standing. And the value of complexity of relationship (again unlike the traditional simplicity and scope) allows scientists to steer away from simple dominant-subordinate theories of nature that naturalize social domination, toward more complex interactive theories of nature, theories that make visible female contributions, whether the females be gametes in fertilization theory, or langurs in primatological theory, or housewives in economic theory. Along the same lines would be evaluative criteria that, for example, require higher standards of evidence for inegalitarian views.

The feminist project of appraising science in terms of an egalitarian ideal of human flourishing can generate useful results, as well, in that sphere of science traditionally neglected by most philosophers of science, the “context of discovery.” For example I, for one, would favor a national science policy that prioritizes the funding of research of interest and benefit to women (who have been, and in many areas continue to be, severely neglected). In this way scientists would be encouraged to pursue such research. The policy I would favor would also deny funding for research that neglects women's interests and needs.⁶ This is in fact what has hap-

5. Note that the scientists in question *positively prefer* novelty, ontological heterogeneity, and complexity of relationship to consistency, simplicity, and scope. They do not simply settle for the former traits when they have to. This contrasts even with Kuhn's revolutionary scientists, who introduce novelty (e.g., conventionality of simultaneity / action at a distance), ontological heterogeneity (e.g., quantum mechanics vs. general relativity theory), and complexity of relationship (e.g., chaos theory) when they have to, as a last resort, not because they prefer these traits to consistency, simplicity, and scope.

6. For medical research “neglecting women's interests and needs” means, for example, excluding women from, or underrepresenting women in, clinical studies relating to non-gender-specific conditions such as heart disease. It also means, for example, failure to conduct sufficient research on conditions that primarily or exclusively concern women, such as breast cancer.

pened in federally funded medical research since 1993, when the National Institutes of Health Revitalization Act mandated the inclusion of women and minorities in U.S. medical research, and made funding contingent on that inclusion. Because of this act and the lobbying efforts of the National Breast Cancer Coalition, for example, funding for breast cancer research *more than quadrupled* within *three* years—from \$90 million in 1991 to \$410 million in 1993 (Marshall 1993; Dickersin and Schnaper 1996). I would also favor more radical funding initiatives—for example, prioritizing the funding of research that promises support for egalitarian views and programs (e.g., research that seeks to explain different levels of success between men and women on the basis of social factors). In this way, again, scientists would be encouraged to pursue such research. At the same time I would favor initiatives that *deprioritize* the funding of research that *threatens* egalitarian views and programs (e.g., research that seeks to explain different levels of male/female success on the basis of biological differences). The latter initiatives would not *prohibit* (e.g., criminalize) such research, nor would they even deny funding for it. They would simply make research that threatens egalitarian views and programs a lower priority item in our national research agenda, in view of our pressing social needs.

3. A Chorus of Objections. The feminist project of appraising science in terms of an egalitarian ideal of human flourishing is, then, quite different from the epistemic project pursued by most philosophers of science, and it has had, and promises still to have, quite different results. But is it *better* than the epistemic project? Indeed, is it even minimally acceptable? Doubtless many will object that the feminist project is antithetical to science as an impartial pursuit of truth, *all* truth. But science does not impartially pursue all truth,⁷ nor can it: there is just so much time and money for research, and choices must be made, and are made. Of course, my objectors will continue, such choices should be made on purely “scientific” grounds, purely “epistemic” grounds: the most interesting, the most important research, from a purely scientific perspective, or the research that will have the greatest impact on its field, or the most immediately doable research, should be the research that is pursued, else the continued epistemic success of science will be jeopardized. But why? It is far from clear that this is the way decisions are now made in our “epistemically successful” science. After all, most current research is paid for by the military; or by the pharmaceutical industry, the oil industry, the chemical industry, agribusiness, biotechnology firms, . . . ; or by the government on behalf

7. In fact, science may not impartially pursue *any* truth. After centuries of thought on the realism/antirealism question, we are still in no position to say that the aim or outcome of science has anything to do with truth.

of these industries, in response to lobbying by them.⁸ And not surprisingly, most current research is tailored to the goals of these funders. Thus we have, for example, agricultural research that revolves around pesticides, herbicides, growth hormones, and other petrochemicals, of little help to smaller, poorer farmers around the world; and medical research that revolves around expensive high-tech treatments and cures rather than the less lucrative preventive knowledge that would help so many more people, especially poorer people. In short, “purely epistemic” reasons for pursuing research function a lot less frequently in science than we have been led to suppose, and other kinds of reasons—for example, profit-seeking—function a lot more frequently. And epistemically successful science goes on in spite of it. So research pursuit linked to support for egalitarian views and the like need not pose any insurmountable problems.

When we move from questions of research pursuit to questions of research evaluation the objections are likely to be more strident. The fact that science pursues truth, it will be said, is just the feature of science that can *enable* science to be a powerful ally in the fight for equality for women—since the fight is against prejudice and ignorance and misinformation about women, all the things that scientists as seekers and exposers of truth can combat. But the feminist project is *antithetical* to such a pursuit of truth since it offers as a mode of evaluating scientific research something—support for egalitarian views—that is *not* a criterion or indicator of truth. If science would be an ally in the fight for equality for women, then, science must stick to established modes of evaluation and not move in the new egalitarian directions.

Ah, but if the realism/antirealism controversy teaches us anything at all it teaches us that *no* criterion for the evaluation of scientific research thus far put forth—not simplicity, not fruitfulness, not scope, not external consistency, not even predictive accuracy or long term empirical or methodological or technological success—has been shown to be an indicator of truth. The feminist project’s mode of evaluation is in this respect, therefore, no worse than the others. Indeed, this circumstance is one of the main reasons some philosophers—for example, Bas van Fraassen—conclude that the most reasonable interpretation of the aim of science is not truth at all (see, e.g., van Fraassen 1980).

8. Note that I said that *most* current research is paid for in these ways. It goes without saying that *some* current research is *not* paid for in these ways. For example, some government funded science responds to the priorities of the elite academic scientists who serve as reviewers and panelists for NSF, NIH, etc. and who are constrained by conflict of interest guidelines. The funding provided for such science is, however, very small compared to the government/industry funding mentioned in the text. See, for example, Mirowski and Sent 2002.

My objectors continue: But even if we were to conclude with van Fraassen that the aim of science is not truth, the same problem still arises. For the feminist project's mode of evaluating science is antithetical to the pursuit of any other scientific aim as well (for example, van Fraassen's empirical adequacy, or some instrumentalist aim, or Kuhnian aim, etc.), since support for egalitarian views is also no criterion or indicator of the achievement of these other aims.

But this is confused. What any of these other scientific aims requires is a system of scientific knowledge (theories and observation statements) that fits all our observations. According to the Duhem/Quine underdetermination thesis, however, there will always in principle be more than one such system that can do this, and according to what the history of science discloses, there is frequently in practice more than one such system as well.⁹ What the feminist project's mode of evaluation requires, on the other hand, is the pursuit, from among the available possibilities, of only those systems that support, or most support, egalitarian goals. More concretely, the feminist project, first, encourages scientists—e.g., through funding initiatives—to choose research programs that promise support for egalitarian goals. And second, the feminist project encourages those same scientists—e.g., through the provision of epistemic values supportive of egalitarian goals as well as a choice procedure that favors egalitarian options in cases of underdetermination—to pursue their research as far as empirically possible in ways that maximize that promise. The feminist project thus narrows science's set of options; it does not undercut its empirical choice procedure. That is to say, it still allows science to provide us with empirically grounded information to replace society's prejudices and ignorance and misinformation about women, and hence, it does not undercut science's ability to be a powerful ally in the fight for equality for women.

But why should science's set of empirically acceptable options be narrowed in this way, my objectors will ask. That is to say, why should the feminist project be pursued? Because society—both women and men—ultimately pays for science. And because society is deeply affected by science. Science shapes our lives, and perhaps most important, science shapes our consciousness of ourselves. As A. J. Heschel explained almost a half century ago: "A theory about the stars never becomes a part of the being of the stars. A theory about man enters his consciousness, determines his self-understanding, and modifies his very existence. The image of a man affects the nature of man. . . . We become what we think of ourselves" (Heschel 1965, 7). In short, science, so much a shaper of society and so

9. Followers of theorists such as Kuhn and Hanson actually require a more complicated description than this, since in an important sense the various systems of knowledge do not fit the same observations.

much a beneficiary of society, should be deeply responsive to the needs of society. But surely one of the needs of society—of both women and men—is justice, and equality for women is one aspect of that justice. This is why science's set of empirically acceptable options should be narrowed to include only the ones that support (or most support) egalitarian goals. This is why the feminist project of appraising science in terms of an egalitarian ideal of human flourishing should be pursued.

Pursuing the feminist project is bound to be self-defeating, however, my objectors will reply, because in the end the project will serve to suppress knowledge unfavorable to women rather than deal with it in a constructive way. Consider a concrete example. Consider the hypothesis that women are inferior to men in mathematical ability due to the biology of their brains. Such a hypothesis, as well as the research program that leads to it, will very likely be judged unacceptable by the modes of evaluation of the feminist project. So, too, research questions and hypotheses responding to the hypothesized inferiority, even responding constructively to it—they too will be unacceptable. But what if the hypothesis concerning biologically-based female mathematical inferiority is true? Then it will turn out that the feminist project, though aiming to bring about gender equality, actually makes it more difficult to do so.

The above conclusion fails to follow, however. Granted that the hypothesis that women are inferior to men in mathematical ability due to the biology of their brains would very likely be judged unacceptable by the modes of evaluation of the feminist project. But this does not mean research that constructively responds to that biologically based inferiority would also be judged unacceptable. Indeed, research that constructively responds to that biologically based inferiority would not have to be premised on it, and could be supported even if it were rejected. An example would be research regarding teaching techniques or curricular changes helpful to females. Such research could be beneficial and recognized to be so whether or not the lack of achievement in mathematics to which it responds is biologically based, and even whether or not the lack of achievement to which it responds is more prevalent among females than among males (an added bonus of such research, of course, is that it could help males as well as females, whoever is failing to flourish under the current system of instruction). Needless to say, such research is just the kind of equality-supporting research the feminist project applauds.

But what if the most constructive response to our hypothesized female mathematical inferiority would come from biological research, not social (e.g., pedagogical) research? What if, for example, biological research could lead scientists to pedagogical techniques that would not even be imagined, let alone considered, without that biological understanding? Or what if biological research could lead scientists to a purely physical fix for

the female brain, say a nutritional supplement that would reverse some chemical imbalance that retards mathematical development? If the feminist project rules out such biological research—rules out the research that seeks to explain female mathematical inferiority in terms of female biology—then the feminist project may still prove self-defeating even with the modes of research (e.g., pedagogical) that it allows. For no one can say before the research is attempted that biological research will not be a good way, perhaps even the best way, to pursue equality in mathematical achievement.

But the feminist project does *not* rule out the biological research in question. It simply assigns higher priority to other modes of research, other modes of research that, in light of their track records, show greater promise of helping to bring about gender equality in mathematical achievement. Up until now, after all, biological research has not helped to bring about such equality—has often helped to bring about just the reverse—though other modes of research have helped. But this situation could change, and if it does the feminist project's specific recommendations will change as well. The only constant here is the feminist project's emphasis on scientific appraisals informed by egalitarian goals.

4. Lots to Do. If the feminist project should be pursued, if it is the socially responsible thing to do, still why does it constitute a whole *program* for philosophy of science, a program for a socially responsible philosophy of science—what I immodestly claimed at the outset? Isn't the feminist project nearly completed? Not at all. To mention just one consideration, the project's egalitarian ideal of human flourishing—the ideal in terms of which we are to appraise science—includes so much more than *gender* equality: it includes, as well, equality pertaining to race and ethnicity, sexual orientation, age, and other struggles for social justice. Science can be a powerful ally in these struggles too, and in these struggles too science has all too often done more to perpetuate and add to the problems of inequality than to solve them. If feminists have done much to sketch gender into philosophy of science's picture of science there is much of the social still to sketch in to complete that picture, and hence much still to do to provide a full understanding of science's epistemic/social responsibilities. What feminists have done is provide a model of how to proceed, a kind of pilot project for how to do socially responsible philosophy of science.

But is the feminist program, then, simply *too* ambitious? Not since the heady days of the Vienna Circle, after all, have scholars of science attempted to provide such a program—a theory of science in the service at once of scientific and social reform, a theory of science allied with the great egalitarian social movements of the day. Perhaps in our new cen-

tury's beginning, though, it is time once again to take on such a program—albeit with feminists this time leading the way.

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