Comments on Philosophy of Science after Feminism, by Janet Kourany

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Comments on *Philosophy of Science after Feminism,* by Janet Kourany

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These comments generally applaud Kourany's project: if, as a growing number accept, one vital perspective on science is as a social practice, then it must surely be a central task of philosophy of science to evaluate this practice and consider how it should be carried out for the greatest social good. Kourany's book considers this task and offers interesting ideas about what this implies for science and for philosophy of science, while also relating this to the more familiar epistemological perspective on science. Some points where further work is needed are suggested, including the nature of value-ladenness in the epistemic content of science, the specific role of feminism in relation to a range of other critical standpoints on science, the appropriate treatment of values strongly opposed to those that Kourany advocates, and the diversity of roles that philosophy of science might expect to play in addressing the social nature of science.

First, this is an excellent and valuable book. Philosophy of science should matter—science is the dominant knowledge system of our age, and philosophers are supposed to be experts on knowledge—but it's sometimes hard to believe that a lot of it matters at all. Kourany here makes a serious and uncompromising attempt to figure out how we got to this point, and what we should do about it. This is the kind of book that should be widely read and talked about by students of philosophy of science as well as by professionals.

The book's goals are ambitious. Philosophy of Science, according to Kourany, is seriously disordered. There remains a tradition of treating science as a source of pure disembodied knowledge, somehow untainted by any contact with the human processes from which it emerged. This, many of us will now agree, is unsupportable. Whatever else science may be it is a human activity embedded in the social, political world characteristic of

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humans, and carried out by people pursuing status, power, money, sex, the well-being of their loved ones, and even sometimes justice. It would be remarkable if this did not leave its mark on the products of science, and in fact there is no doubt that it often does. The investigations by feminist philosophers of science of the way gendered assumptions have been inscribed on many areas of scientific activity provide a paradigmatic, perhaps the paradigmatic, illustration of this fact.

Having said that the mark of the social on science is only to be expected and is perhaps inevitable, we need to be careful how we evaluate this observation. The immediate reaction that it is unequivocally a bad thing, reflecting the tradition of science as something that aspires to transcend the mundane normative contingencies of human life, must be reconsidered. If science is inevitably social then we should not condemn it for being so. Rather, we will surely need to integrate our epistemological analysis of science as a producer of knowledge (or at least justified belief) with a socio-political analysis that considers how best this epistemic practice should be fitted into its social context to promote the flourishing of humans. This is the project of Kourany's book. It is not the first attempt to address this problem but, she argues, none has hitherto provided an adequate solution.

For Kourany, then, philosophy of science is essentially both normative and epistemological. It is normative because there is nothing intrinsically good about science as such; if science were the one true path to socially disembodied truth, then perhaps it could be seen as an intrinsic good with which we should not meddle. But if this transcendent view of science is rejected, the problem of what kind of science ought to be pursued is unavoidable; and philosophers of science should be at least as well equipped to address this problem as anyone else. Philosophy of science matters because whereas science itself matters a great deal, it also has pervasive flaws that philosophy of science, as a normative activity, should be concerned to address. So, picking up the central themes of the book, it will be natural to divide these comments in the following way: first, what's wrong with science?; second, what's wrong with philosophy of science that it fails to address the deficiencies of science properly?; and finally, what should we do about it?

What's wrong with science? As the book's title should lead us to expect, the argument begins with some basic feminism. Globally women are disadvantaged relative to men: they work harder, have less, and are frequently subject to violence. Has science helped to address this problem or, rather, exacerbated it? On the positive side, the indisputable truth of the basic fact of female disadvantage has been established by the work of many social scientists—whether social scientists count as scientists at all, I should perhaps

add, is an issue that will not be the subject of the present discussion. I shall assume they do. But on the negative side, as many feminist critics of science have observed, science has often responded to the condition of women by claiming that it is natural, inevitable, or partly justified by the inherent deficiencies of women themselves. And of course the most prestigious areas of scientific work remain predominantly male preserves.

Kourany voices further concerns. In a passage with just a distant echo of the famous Monty Python question, "What have the Romans done for us?", she mentions among the achievements of science such things as variety and abundance of food, eradication of several dreaded diseases and effective treatments for many more, more comfortable homes, better communications and quicker more convenient transportation. On the other hand, she continues, our food is contaminated by all manner of agricultural chemicals, our air and water are polluted, and diseases of an unhealthy (fatty, salty, sugary) diet are reaching epidemic proportion, and so on. I'm perhaps a bit more impressed than Kourany by the positive aspects of what the scientists have done for us. Life expectancy at birth has risen over the last century by about 30 years in the West; at the last census even the diseases of the affluent—cancer, heart disease, etc.—were beginning to decline, and of course their prevalence is always to some degree a function of the good fortune of living long enough to get them. It does seem that bad though pesticides, salt, fat, and so on may be, the whole scientific package has been pretty good for us.

But I am quibbling here. Certainly I don't want to deny that science could be better directed at amelioration of the human condition. In fact, I would identify the excessive concern with the diseases of the old and rich—heart disease, cancer, type 2 diabetes, and so on—as rather central symptoms of its failings. Life expectancy is around 80 years in most developed countries, but just over 40 years in, say, Afghanistan. Generally—and this is very substantially a consequence of the application or not of science—health is a function of economic resources. In sub-Saharan Africa over 20% of children fail to reach the age of 15, and this is mainly due to infectious diseases that can be prevented by various well-known techniques, most obviously vaccination. (It is a sorry spectacle to see affluent Westerners promoting fantasies about autism and the MMR vaccine, while over the last decade UN backed vaccination campaigns have reduced mortality from measles from about 750,000 to 200,000 people a year, mainly children in the developing world.) A million dollars spent on cancer research may, eventually, save a life. A million dollars spent on vaccinating children in Southern Africa will certainly save a significant and predictable number of lives. This, at any rate, is one core issue in the proper application of science.

But I don't want to give the impression that the problems with science are limited to its direction to the wrong problems or its application in the wrong places. As I have already noted, feminist critique of science has demonstrated very clearly that social values can be inscribed in the outputs of science, and sometimes with very bad consequences. Time and again research in psychology, economics, evolutionary biology, and other fields has come up with explanations of the disparities in achievement between men and women grounded in their evolutionary history, brain size, genes, and so on, and critics have pointed out the gendered assumptions that have been embedded in the research project from the start. I am gesturing here at the tip of a philosophical iceberg. If science is inescapably social and inescapably marked by its origins in human society, is there a criticism here? The bullet is most forthrightly bitten here by Helen Longino, with her proposal that there is nothing epistemically wrong with science from a sexist perspective provided it is properly counterweighed by science from an antisexist perspective. I shall return in a moment to Kourany's response to this position.

There is a point about the sex difference research just referred to that I would like to mention in passing, not so much as a criticism as a point in need of further discussion. As Kourany describes, work on behavioral differences between men and women has been powerfully criticized on many grounds by feminist scholars. On the other hand, she also refers to the neglect of women in medical research. Presumably this could be explained either by the lesser concern of the researchers or by the assumption, tacit or otherwise, that men and women were similar in relevant respects. Kourany notes that, with regard to susceptibility to major diseases, there are important sex-linked differences, and women have suffered from their exclusion from much of the relevant research. Now of course there are biological differences between men and women and there is nothing mysterious about these potentially leading to differences in disease susceptibility. But it should remind us that psychological differences are not something we can respond to dogmatically either. Whereas claims that there are systematic psychological differences between "races" can be more or less dismissed out of hand on the grounds that there are no relevantly interesting biological differences between the kinds, the case with sex differences is trickier. The effective response to these claims is, I take it, broadly empirical. Feminist research has again and again shown that such claims are in fact based on bad science of many kinds and are very poorly supported by empirical facts. There is much to be said, in general, for grounding our beliefs in the empirical world.

Empiricism is good, but naïve empiricism isn't, which is one reason why a book such as this is important. I think that Kourany might have

done more to emphasize the generality of the involvement of values in science, in which issues of gender are certainly a central case, but by no means the only one.[1] One way of seeing the inescapable intrusion of values into science is to note that we cannot describe the world, or at least the bits of it we care most about, without using language that is value-laden. Parts of science explore the determinants of health and well-being or ways to avoid crime, disease, and unhappiness. These are, of course, normative concepts. We attempt to remove the normative aspects of these concepts at the quite unacceptable cost of ceasing to address the central human concerns to which they refer. I have encountered the suggestion that evolutionary psychologists are exploring the causes of rape in a purely value-neutral sense—one that applies equally to flies and ducks—but one should surely conclude that they have lost track of what they are supposed to be talking about. Value-ladenness can be more subtle. A favorite example of mine is inflation, which may well sound like a thoroughly objective measure of price rises until one reflects that not all prices rise at the same rate, so that which ones count and how much they count for are decisions buried in the measurement procedure. One could suppose that the decisions were just arbitrary, but more plausibly and reasonably we should take them to reflect the goals that those interested in economic variables are trying to achieve. Inflation for the rich may be very different from inflation for the poor, for example.

At any rate, once we embrace the starting point of Kourany's book, that science is as much a part of human society as any other practice or institution, it is no surprise to find that it is inextricably connected with human values. I think it is important to stress that much of this intertwining of values and science is inevitable, though certainly there are also ways in which science is distorted by extrinsic values in ways that violate internal epistemic commitments of the practice of science. But given that the values inscribed in science in these various ways will often be ones we may wish to contest—sexism, racism, unbridled capitalism and individualism, and so on—this leads finally to the implications for philosophy of science. Philosophy of science, given the value-involvement of science, cannot limit itself to a noncritical exploration of why science is so great. It has—and this I take to be one of the central claims of Kourany's book—a responsibility to engage with science in ways that aim to align the practice of science with the most defensible social values. And of course the answer

1. Various perspectives, including but not only explicitly feminist perspectives, on the interpenetration of science and values can be found in H. Kincaid, J. Dupré and A. Wylie, 2007.

to my second question, what's wrong with philosophy of science, is that by and large it has declined to do this.

I shall pass over the chapter addressing the origins of contemporary conceptions of the philosophy of science, not because it is uninteresting, but because I have little to add, and move on to perhaps the heart of the book, the possible feminist responses to the predicament just sketched. But before that I have another brief digression, this time on the need to say just a little more on the special role of feminism in this project. The historical role is, of course, uncontentious. Kourany's project is substantially grounded in work by feminist scholars and, more importantly, feminist critiques of sexist science continue to describe for us some of the paradigm examples of normatively bad science. Nonetheless, the topic that is being addressed certainly goes much beyond the traditional concerns of feminism, and raises questions not only about other disadvantaged groups (race, class, people of different abilities, etc.) but questions about the environment, the status of animals, relations between the developing and developed worlds, militarism, and so on and on. While all are issues that have concerned feminists they are hardly the exclusive preserve of feminism. The issue I would like to raise, then, is whether while acknowledging the central role of feminist criticism in alerting philosophers of science to the political dimensions of science, there is a way of going beyond these roots and, possibly, broadening the appeal of the more general arguments. "Philosophy of Science after Feminism" is certainly a wholly appropriate title for this book; I do wonder, though, whether a title of, say, "Towards a Socially Responsible Science" might have attracted more readers. This is an empirical question of course, if a hard one to answer. My point is just that the aim of this book is to expand a set of insights very largely developed in the context of feminist research, to a general view of the philosophy of science. What is the right balance between acknowledgement of these roots and a focus on the wider intended future?

Returning to the main thread, Kourany identifies two main responses to the question of values in science. Very well-known is the view already alluded to of Helen Longino, that democratic integration of all relevant normative perspectives into the production of scientific knowledge will produce the nearest thing to objective science that is attainable for finite, political animals. Since I do believe that in many contexts, at least, science is inevitably value-laden, I find much that is very attractive in this view. If we can't remove the values the idea of democratically cancelling them out has great appeal. But I do also share some of Kourany's doubts about the approach, or perhaps have some different if related doubts. First, it is extremely difficult to imagine the "social value management" approach as seriously implementable; it would be very hard to show that it had actu-

ally been implemented, at any rate. Perhaps this is the wrong way to think about it: one might think of it as a regulative ideal, one that might be used, for example, to justify moves to increase the representation of women or minorities in science. But I also have a more serious worry, which I think connects more closely with the direction of Kourany's argument. Should the practice of science be the place in which democratic debate about values is played out? Would it not make more sense, if we do acknowledge that science, or at any rate the parts of it that are of greatest concern to us, is inevitably informed by social values, to aim at democratic agreement on values first, and then carry out science informed by those values? That will no doubt seem highly, indeed unrealistically, optimistic; but surely no more so than the application of Longino's recommendations to scientific practice. In both cases we are surely concerned to a substantial extent with regulative ideals rather than implementable policy suggestions.

This connects with the concerns about the empiricist ideal, the other alternative that Kourany considers. On this view, as Kourany describes it, we look closely at the most successful scientific projects and try to emulate them. Feminists following this recommendation have identified the standpoint of women or the values of feminists as key factors in explaining the advances made by feminist engagement with science. But how do we measure the success of scientific projects that we are then supposed to emulate? Given the assumption that science is a socially embedded human practice, success must surely involve political as well as epistemic aspects. There are, surely, an infinite number of truths that we might seek to discover, and any normative ideal for science must be concerned with which ones it would be desirable or useful to know. It seems that the empiricist ideal as Kourany describes it puts the cart before the horse: we cannot identify successful science unless we have already decided what values it is attempting to promote. This leads us immediately to something like Kourany's candidate, the ideal of socially responsible science.

It is not, of course, that easy. First, and most obviously, agreement on values has notoriously not been a simple goal to attain. Kourany suggests that there is at least a core of agreement, as she writes:

> it is . . . uncontroversial that women deserve to live without fear of rape, sexual harassment, incest, and other forms of violence directed at women and that women deserve equal educational opportunities with men, equal employment opportunities with men, equal opportunities for health care, and so on. (p. 76)

But sadly, I'm not at all sure that even this is uncontroversial. It was not long ago that the possibility of rape within marriage was even acknowl-

edged, and I fear there remain societies in which the husband's self-evident right to sexual relations with his wife still make marital rape unintelligible. I suspect there are still some even in the developed world who think it a bad thing for women to receive equal pay, as it might encourage them to leave their proper places in the kitchen, nursery, and bedroom. And there are certainly some, even in the United States, who think health care is something that should be preferentially available to the wealthy, so that equal opportunities for health care on grounds of gender would be an irrelevance.

Of course, this is also a point at which to remember that the intertwining of fact and value also encompasses the frequent relevance of appeals to facts in debates about values. If middle-aged white men really were much smarter than anyone else, many of the normative positions central to the argument of Kourany's book would have little merit. Kourany discusses Carolyn West's research on the similarities and differences between occurrences of domestic violence in black and white communities in the US (pp. 69 ff.), and also the objection to that research that it hampers the possible discovery that black men just are more violent than white men. It is surely a relevant response to this objection that given what we know about human biology such a racial difference is an absurdly improbable hypothesis. The fact that our racial categories are overwhelmingly grounded in social distinctions rather than systematic and significant biological differences is surely relevant.[2] But not all cases are like this. If we want to discover the incidence of rape within marriage we had better agree that this is an intelligible possibility, something which, as I have noted was a not too distant normative advance. In this case the resolution of the normative debate (accomplished, I take it, in this case for most of us!) is a prerequisite to proper formulation of the facts. Here and in many other cases, the crucial point once again is that the language we use to talk about the things that concern us most is an indissoluble mix of the normative and the descriptive.

Given the social embeddedness of science, and the inseparability of fact and value, the ideal of socially responsible science is one that I can hardly dissent from; and, though the matter is set up as a winner-takes-all debate in the book, I take it that Kourany would agree that acceptance of this ideal is compatible with retaining a good many of the insights from the other two positions she reviews. The problem of course is in agreeing exactly what this ideal means or entails. Or perhaps a slightly easier question, what does it entail for philosophers of science? I think that Kourany's

2. For detailed elaborations of this point in the context of recent biological science, see B. A. Koenig, S. S.-J. Lee, and S. Richardson, 2008.

plea in the final chapter of this book for philosophers of science to increase the scope and ambition of their engagement with science is an enormously important one. The example of involvement with formulation of ethical codes for scientists is a good one. It is hardly debatable that the practice and, just as importantly, the funding, of science raise vital ethical issues, and it is hard to see who is better equipped to engage with these issues than philosophers of science. Of course all professional groups would prefer to regulate themselves and formulate their own ethical codes, so this is a partly political issue. But no one will invite us to be part of such processes if we don't pay attention to the issues and contribute to the discussions. And this leads into the further point that I think we should also take very seriously Kourany's comments about the possible role of philosophers of science as public intellectuals. In the areas of biology with which I primarily work this role is almost entirely occupied by scientists, and though there are notable exceptions, in my view the public is often poorly served. No doubt there are many reasons for this. Evolutionary psychology, for instance, has had a deplorably prominent role in public discussions because its ideas are simple to understand and lend themselves to engaging narrative presentation; the fact that they are also often simple-minded fables with little or no grounding in biological reality is a less exciting matter to explain. If philosophers of science are to become public intellectuals there are issues they will have to grapple with about the way the media selects its celebrities and its stories.

But let me end on a fairly banal point that should not get lost in this discussion. The debate between feminist empiricism, Longino's social value management, and Kourany's socially responsible science is one at a fairly high level of abstraction. How should philosophers of science think about their activities and how should this thought guide their choice of ways to engage with science. But the coalface work that underlies this debate and makes it possible is science criticism. If scholars, including philosophers, had not engaged in the detailed analysis of scientific ideas that exposed the normative assumptions and biases that too often underpin them, there would be no basis for this higher level discussion. So while I would be delighted to see more philosophers of science involved in constructing scientific codes of ethics and, indeed, engaging in public debates, we should not lose sight of the more mundane activities that ground our claims to be heard in these more public arenas. And while I say "mundane activities" there is of course a coded message here too: philosophers of science are often tempted to go native, to aspire more to the respect of the scientists whose work they study than to contribute to the often very different goals that do most to justify the existence of our field. And while I might prefer to see it as one among a range of goals, I

certainly agree with Kourany that the characterization and promotion of a socially responsible science should be preeminent among them.

References

Kincaid, Harold, John Dupré and Alison Wylie, eds. 2007. *Value-Free Science: Ideals and Illusions.* New York: Oxford University Press.

Koenig, Barbara A., Sandra S.-J. Lee, and Sarah Richardson, eds. 2008. *Revisiting Race in a Genomic Age.* Rutgers University Press.

Kourany, Janet. 2010. *Philosophy of Science after Feminism.* Oxford: Oxford University Press.