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CAN FEMINIST THOUGHT MAKE ECONOMICS MORE OBJECTIVE?

Sandra Harding
Philosophy Departments, University of Delaware and U.C.L.A.

ABSTRACT

Feminist research is often perceived to be less objective than conventional research on the grounds that the latter is value-neutral and the former is not. This essay shows that a major problem with the familiar standards for maximizing objectivity that permit such a conclusion is that they are too weak. They have no resources for detecting widespread cultural assumptions, values and interests, such as the androcentric ones to which feminist work draws attention. Good method works by identifying cultural values that differ between researchers or research communities. However, since androcentric values are often culture-wide, something more rigorous than only conventional good methods evidently are needed for researchers to be able to identify them.

Thus feminist research does not introduce political assumptions, values and interests into research fields that are otherwise value-neutral; it identifies the ones that are already there. Rejecting the debilitating relativist stance usually seen as the only alternative to conventional standards for maximizing objectivity, feminist thought increases the objectivity of research. This essay reviews recent arguments in both conventional and feminist philosophy and history that support this analysis, and shows how it leads to the construction of stronger standards of objectivity than the conventional only "weak objectivity" that is dependent upon the neutrality ideal. Paradoxical though it may appear, "strong objectivity" requires the kind of conscientious socially situated production of knowledge characteristic of feminist work in economics.

KEYWORDS

Feminism, method, objectivity, philosophy of economics, relativism, values, value-neutrality, politics

1. IS FEMINIST RESEARCH OBJECTIVE? THE DOUBLE BURDEN OF JUSTIFICATION

Feminists in the social sciences encounter a double burden in justifying their claims.[1] As Janet Seiz (1993: 190) puts the point:

> [F]eminist historians of thought seeking to demonstrate that gender bias has had serious consequences in economics can expect to meet with a double resistance: one, a resistance to feminist characterizations of gender relations and calls for change, and two, a resistance to any arguments about the role of external values in economic inquiry.

The two issues are related since those who care about supporting *women's* values and interests are often perceived by the disciplines to be intruding damaging political elements into research that is presumed otherwise to be value-free.

Should social values and interests play a role in economic inquiry? Here feminist researchers confront the fact that widely recognized problems with the old, self-confident "logics of explanation" for the natural sciences are still largely unrecognized or ignored in those mainstream social sciences that model their research processes on those of the natural sciences. It is clear now that the natural sciences always have been and, indeed, must be saturated not only with such science-wide, "constitutive" values as desires for accuracy, comprehensiveness and preserving the data, but also with more local, "contextual" values such as, for example, a fascination with scarcity, competition, hierarchy and accumulating power over others, or with plenitude, cooperation, equality, and distributing power as widely as possible.[2]

Everyone has always recognized the importance of the constitutive values and interests in advancing the growth of knowledge, for some such set is necessary to get sciences under way at all. It is only the contextual ones that have been thought problematic. According to the conventional philosophies of science, the methods of the sciences are supposed to eliminate these contextual kinds of normative elements from the results of research, leaving only "information" that is neutral ("positive") to those social, psychological, political and economic normative commitments that make societies culturally distinctive.[3] However, feminists have joined other critics of the older philosophies of science in pointing out that contextual values, such as androcentrism, in fact function as constitutive ones (as Helen Longino, 1990, put the point) in all of the social sciences and biology, constructing scientific projects that express and serve the projects only of the dominant institutions from the design and direction of which women have systematically been excluded (cf. Donna J. Haraway 1989; Sandra Harding 1986, 1991; Evelyn Fox Keller 1985; Carolyn Merchant 1980). Parallel arguments have long been made about bourgeois, racist and Eurocentric values and interests (cf. Susantha Goonatilake 1984; Stephen Jay Gould 1981; Haraway 1989; Harding 1993; Ashis Nandy 1990; Joseph Needham 1969; Patrick Petitjean *et al.* 1992; Sardar Sardar 1988). Moreover, feminists have also shown that at least some of

the constitutive values and interests, ones such as simplicity, comprehensiveness, and preserving the data, have political effects in the very same senses that contextual values do; thus they are not only "internal" or apolitical at all (cf., e.g., Longino, forthcoming). Finally, it has become clear that some contextual values and interests, instead of deteriorating the quality of research in the natural sciences, improve it (cf. Thomas S. Kuhn 1970; Needham 1969). Thus neutrality, in the sense of freedom from *all* social values and interests, is neither possible nor desirable.

If this is true for the natural sciences, on what grounds could it still be claimed possible and desirable to exclude all values and interests from social research? How ironic if the "positivist" philosophy now increasingly regarded as misleading for the natural sciences were to remain dominant only in the social sciences. The social sciences would benefit from more vigorously examining how for their research, too, these findings hold. First, economics research cannot achieve value- and interest-neutrality for it must be saturated not only with constitutive but also contextual values and interests. Second, contextual values and interests, ones that "intrude" from the social communities within which economics research occurs, often function as constitutive ones. And third, constitutive ones, themselves supposedly only internal to economics research and, therefore, neutral to contested external values and interests, in fact are not neutral in this way for they "take sides" with "external" value/interest positions.

In economics, feminists have identified numerous androcentric values and interests that have shaped the fundamental concepts and analytic methods of economics. For example, Julie Nelson argues that the dominant definition of economics as dealing with "choice in the face of scarcity" reflects gender bias:

> Defining the subject of economics as individual choice makes the detached cogito, not the material world or real persons in the material world, the center of study. Nature, childhood, bodily needs, and human connectedness, cut off from 'masculine' concern in the Cartesian split, remain safely out of the limelight.
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> (Nelson 1993a: 26; see also Nelson 1993b)

Sociologist Paula England also argues that the archetypical rational economic man pervading economic theory is generated from an androcentric "separative model" of human nature. Consequently, economic models are likely both to represent men's life-experiences better than those of women and to serve men's interests at the expense of women's (England 1993).

Diana Strassmann examines ways in which economists' seemingly neutral prescriptions regarding analytic method limit "the kinds of explanations that the discipline can provide" and constrain "the pattern

of acceptable disagreement" in ways which make it extremely difficult for feminists and others working for social justice to be heard in the profession (Strassmann 1993a: 54–5; see also Strassmann 1993b).

Nancy Folbre (1991) has traced the history of economists' concepts of labor and national income, showing how women's unwaged work in the home came not to be counted as part of what society counted as labor, and how the fruits of this work came to be excluded from society's "national product." In other work (e.g. 1982) she criticizes both neoclassical and Marxian economists for their unduly "rosy view" of economic relations between women and men in the household. (See also Heidi Hartmann 1981.)

And Seiz (1992) discusses arguments about how the standard analytic techniques of mainstream economics obscure the exercise of power. (See also Seiz 1993.)

These thinkers are arguing that an exclusive centering of those values and interests important to the dominant institutions can provide only a partial and distorted account of how economic relations actually work. In order to generate economic theory that is more comprehensive and accurate, research must value – be interested in – nature, childhood, bodily needs, human connectedness, women's work in the household, the gender-differing values and interests within every household and gendered power relations more generally. The neutrality ideal (ideal of "positivity") itself, they are arguing, has been shown to limit the empirical and theoretical adequacy of economic theories.

However, in spite of feminism's undeniable challenges to conventional assumptions, feminist research can nevertheless still be justified in ways that are perfectly reasonable from the perspective even of those very same conventional philosophies of science, as Seiz and others have argued. In other words, the conventional philosophies of science contain conflicting assumptions about how to arrive at reliable knowledge claims; feminist projects force some of these conflicts to come to our attention. In periods of "normal research," to borrow a contrast from Thomas Kuhn's work, researchers don't have to pay much attention to such philosophical issues (Kuhn 1970). "If it's working well, don't fix it" is an economical way to distribute a research community's energies! But whenever challenges arise to the general adequacy of a field's knowledge claims rather than only to some specific claim, then researchers sooner or later find that they have to go back and re-examine the adequacy of the general assumptions they are making about such issues as the standards for objectivity, good method and the like.

My project here is to show how the ideal of objectivity is one of those conventional resources that can be recovered for understanding how feminist research successfully addresses central concerns of the older philosophies of science as well as of feminist theory. However, it would be

equally accurate to say that I am concerned to show how feminist research makes an important contribution to achieving more accurate, comprehensive, realistic and useful philosophies of sciences and research methods. The three decades of social studies of science referred to earlier (including feminist work) made clear that the neutrality ideal has weakened standards for maximizing objectivity, for it precludes actively seeking socially marginalized locations or vantage points – "standpoints" – from which to generate analyses capable of identifying and critically examining such culture-wide assumptions as Eurocentric or androcentric ones. The solution is not to abandon the goal of objectivity as many mainstream and some feminist theorists have argued, but to strengthen its standards. Standards for maximizing objectivity can and should be strengthened so that they are more useful for achieving the greater accuracy and comprehensiveness of scientific accounts that are not beholden to power.

I shall first briefly review some of the most important recent shifts away from the older logics of scientific explanation. Then I turn to focus on how the goal of maximizing objectivity can be updated and strengthened to make it more useful for getting "the facts" about nature and social relations. "Facts" on this account are neither absolutely uncontestable nor merely relative, for they are supported by maximally objective evidence that must itself always be open to new empirical and conceptual challenges. But I get ahead of myself here.

2. FROM SCIENCE AS A MIRROR OF NATURE TO SCIENCE AS PRACTICE AND CULTURE

The work of Thomas Kuhn and Jerome Ravetz is usually cited to mark the beginning of more than three decades of studies of science that have shown how the cognitive, technical cores of the natural sciences have always been consistent with diverse social formations and belief systems of their eras. They have been part of their era's social history as well as part of intellectual traditions (Kuhn 1970; Ravetz 1971). These cognitive cores of the sciences have both drawn on and also helped to create cultural assumptions. Sometimes these assumptions have been those of the marginalized or not yet dominant groups, as in the materialist assumptions of early modern scientists whose methods and results of research challenged the spiritual assumptions of the Church. At other times, the assumptions have been those of the dominant groups, as in the racist, sexist and class-bound biological determinist ones shaping nineteenth-century craniology and other studies of "intelligence" (Stephen Jay Gould 1981).

By the mid-1970s, it had become clear that observations are theory-laden, and – for better as well as for worse – theories are value, interest,

and culture laden. Facts *are* facts – they can only be maintained uncritically as facts – if one does not question the theories and their background assumptions that point to *those* phenomena and *that* way of conceptualizing them as the only reasonable ones. Do we observe the sun rising or ourselves "falling towards" it? Was it a riot or a strike in front of the factory gates? Do women do a double-day of work because of their "natures" or exploitative social relations? Are the fewer numbers of women seeking careers in mathematics to be explained as a consequence of women's biologically inferior intellects or of systematic discrimination? In each case it depends upon one's theory, and all of these theories are highly shaped by and, in turn, play a role in shaping cultural assumptions and practices. When our hypotheses appear rejected by "the data," it is always reasonable to ask whether it is our explicit hypotheses or the implicit background beliefs with which they are enmeshed – assumptions about the way we have posed the problem, the adequacy of central concepts, the suitability and functioning of our testing instruments, the level of evidence required, how we interpret the data, etc. – that are at fault. We can never uncontroversially distinguish "the facts" from the values and interests that select them as evidentially supported, meaningful and relevant. For each of us, our total set of beliefs – common sense and scientific – form an interlocked network such that none of the logical, empirical or normative constituents of such networks are in principle immune from revision. Observations have (reasonably and unreasonably) been "revised" or ignored because of theoretical commitments as often as theories have been revised or abandoned because of observations. And even definitions, and other logical and mathematical principles, have been adjusted in the processes of achieving empirically and theoretically more useful knowledge claims.[4] Theories are underdetermined not just by any evidence that happens to have been collected for them, but by any possible evidence for them. These findings have the consequence that there is enough slack in scientific belief sorting to permit social values and interests fully to permeate these processes and their results (Paul Feyerabend 1965, 1969; Harding 1976; Mary Hesse 1966; Kuhn 1970; Willard Quine 1953; Ravetz 1971; Richard Rorty 1979; Steven Shapin and Simon Schaffer 1985).

Most disturbing for the older rationalist accounts is the increasing plausibility of the argument that this slack turns out not always to be an unmitigated defect but, instead, is often a crucial resource for the growth of scientific knowledge. The looseness with which our theories fit the world permits more than one theory reasonably to fit any set of observations, and more than one reasonable interpretation of any theory (Bas Van Fraassen and Jill Sigman 1993). For example, both Ptolemaic and Galilean/Copernican astronomical theories are supported by lots of "the same data." Both theories go far beyond what this data did or could

support, and there is no way neutral to the assumptions of both earth-centered and sun-centered models of our planetary system to explain these observations that are "common" to the two systems. And deciding how best to apply theory to new situations – what phenomena and processes to interpret a theory as relevant to – is the everyday task of most research projects. This slack enables us to "see" nature in ever new and more illuminating ways, for there is always more to see than can be contained by any simple representational model, no matter how fully it is elaborated. Theories are kinds of maps; each can represent only part of reality, and there are always other theories available and/or possible that could illuminate other characteristics of the phenomenon of interest. The fruitfulness of any such map or paradigm for expanding our knowledge eventually wears out as the new data becomes more and more expectable and, thus, less and less interesting.

Recognition of these findings leads fewer and fewer thinkers to be confident about such central conventional assumptions as the possibility of scientific images of nature that merely reflect regularities and underlying causal determinants that are "out there" in nature – the glassy mirror mind referred to in the title of Richard Rorty's (1979) influential book, *Philosophy and the Mirror of Nature*. Indeed, this kind of assumption now appears as an obstacle to understanding how sciences do work when they are working at their very best. Which values and interests advance the growth of knowledge and which retard it? The mainstream in feminist work in every discipline has had to abandon such assumptions. Feminist economic theory reasonably fits well the "same data" used to support conventional, pre-feminist accounts, while also illuminating aspects of economic relations not visible from within the assumptions of pre-feminist theories (cf., e.g., Hartmann 1981). After all, feminist theory is not the first economic theory – nor will it be the last – to provide illuminating alternative interpretations of economic data. Sciences' achievements are better understood with the same kinds of explanations used to understand their failures: both are the consequence of sciences' practices and culture, as the title of a recent collection puts the point (Pickering 1992).

I must set aside further general reflection on the "crisis in epistemology" that now generates uncomfortable and confusing questions about who gets to set the standards for objectivity, rationality, empirical adequacy and the best or right knowledge claims.[5] However, we can remember just that this crisis originates, of course, in the shifting global economic, social and political relations (including gender ones) since World War II.

So what is wrong with the conventional notion of objectivity? What makes it too weak to be useful in the sciences today? How can standards for maximizing objectivity nevertheless be strengthened?

3. OBJECTIVITY: AN ESSENTIALLY CONTESTED CONCEPT

What is this thing called "objectivity"? One problem in answering this apparently obvious question is that the term has many, diverse references. Objectivity, or the incapacity for it, has been attributed, first, to individuals or groups of them, as in "women (or feminists, workers, Marxists, environmentalists, blacks, welfare recipients, patients, etc.) are more emotional, less impartial, more politically committed, less capable of objective judgments." Second, it has been attributed to knowledge claims, to statements, where it does not seem to add anything to the assertion that this claim is "true" or better supported by evidence than its competitors. Third, the term is used to refer to methods or procedures that are thought to be fair: statistical, or experimental, or repeated procedures (in the law, ones appealing to precedence) are more objective because they maximize standardization, impersonality or some other quality assumed to contribute to fairness. Fourth, objectivity is attributed to certain kinds of knowledge-seeking communities – in Kuhn's account, the kind characteristic of modern natural science (Kuhn 1970); in other accounts, communities of experts, or ones that include members of different classes, races and/or genders (or that do not), or that maximize adversarial relations of rigorous criticism of ideas and claims, or that maximize ideal speech conditions, etc. Though distinct, these different referents of "objective" clearly are not totally independent of each other. For one thing, the objectivity of individuals, methods and scientific communities should generate results of research that are better supported by evidence – that are less false.[6]

But noting these four distinct references for the term is only the beginning of mapping its convoluted outlines. I cannot take space to continue that mapping here, but refer readers instead to two recent, highly acclaimed histories of the notion. In one of them, Peter Novick shows that objectivity

> is not a single idea, but rather a sprawling collection of assumptions, attitudes, aspirations and antipathies. At best it is what the philosopher W. B. Gallie has called an "essentially contested concept," like "social justice" or "leading a Christian life," the exact meaning of which will always be in dispute.
>
> (Novick 1988: 1)

Some elements in the notion originate in Aristotle's thought; others have arisen in the last few decades. However, "older usages remain powerful" (ibid.: 2), and are called up today whenever people are struggling to determine who should get to decide what counts as a valid exercise of reason. As Robert Proctor, the author of the other history, puts the point

about the neutrality ideal that both he and Novick note has always been required of anything deserving the label "objective," "the ideal of value-neutrality is not a single notion, but has arisen in the course of protracted struggles over the place that science should have in society" (Proctor 1991: 262).

Both Novick and Proctor point out that asserting objectivity sometimes has been used to advance and sometimes to retard the growth of knowledge, and the same can be said of assertions of the relativism that is imagined (falsely, I believe) to be the only alternative to it. Neither position automatically can claim the scientific high-ground. Nor does either assure the political high-ground, for each has been used at some times to block social justice and at other times to advance it. As Proctor puts the point, neutrality, the central requirement of the conventional notion, has been used as "myth, mask, shield and sword" (Proctor 1988: 262).

My focus on the notion will be on the scientific procedures and methods supposed to secure objectivity. Widespread criticisms in feminist, anti-racist, postcolonial and other movements for advancing democracy have argued that systematically distorted results of research are the consequence not only of carelessness and inadequate rigor in following existing methods and norms for maximizing objectivity in research practices, but, more importantly, of unnecessary limitations in how those methods and norms are conceptualized in the first place. As noted earlier, their particular focus is on the fact that where paradigms, conceptual frameworks, and epistemes constitute scientific problems in the first place, prevailing standards for good procedures for maximizing objectivity are *too weak* to be able to identify the kinds of culture-wide assumptions that have shaped the initial selection of those procedures as good ones.

4. WEAK OBJECTIVITY: DISABLED BY THE NEUTRALITY IDEAL[7]

When the values and interests to be identified by researchers are those that differ between individual researchers or even recognized research communities, the neutrality ideal can be useful. Here feminists have stressed that it has not been vigorously enough pursued. (It has its limits here, too. My point is only that it also has its uses.) But when culture-wide values and interests shape research projects, the neutrality ideal is not just useless; even worse, it becomes part of the problem. It defends and legitimates the institutions and practices through which the distortions and their often exploitative consequences are generated. It certifies as normal, natural, and therefore not political at all, the policies and practices through which powerful groups can gain the information and explanations that they need to advance their priorities. As two feminist

postcolonial critics put the point, modern science's claimed neutrality is "a politics of disvaluing local concerns and knowledge and legitimating 'outside experts'" (Jayantanuja Bandyopadhyaya and Vandana Shiva 1988: 60).

Such information and explanations may well "work" in the sense of enabling prediction and control. However, this obvious fact does not end the matter. One form of explanation that "works" may at the same time obscure or draw attention away from other regularities and their causes that would suggest other possibilities for organizing nature and social relations. One can get information about the natural and social order that makes possible the accumulation of wealth by the few and misery by the many, or other information that makes possible the equitable distribution of means to satisfy basic human needs for food, shelter, health, work and just social relations. Moreover, the regularities of nature and social relations that make possible healing a body, charting the stars, or mining ores may be explained in ways permitting extensive, though not identical, prediction and control within radically different and even conflicting, culturally local, explanatory models. The kinds of explanations favored by modern science are not necessarily the most effective ones for all projects – for example, for achieving environmental balance, preventing chronic bodily malfunctions or distributing access to scarce resources fairly. The fact that societies with massive investments of public resources in natural and social science research have not been interested to prioritize such fundamental human problems is itself illuminating. "It works" is no guarantee that "it" works for explaining all of nature's regularities and their underlying causal tendencies, that "it" is the only reasonable explanation of a given phenomenon, or that "it" does not also generate systematic ignorance. "It works" is no guarantee of cultural neutrality (cf. Harding 1994, forthcoming b). This kind of argument is widespread in U.S. anti-racist analyses and in the postcolonial science studies and development literature, including much work now generated under U.N. auspices as that institution tries to grasp why forty years of conceptualizing "development" primarily as a matter of science and technology transfer from North to South has largely resulted in the dedevelopment (and worse) for the vast majority of the South's peoples. (Cf. Vernon Dixon 1976; Susan Feiner 1994; Goonatilake 1984; Harding 1993, 1994, forthcoming b; Nandy 1990; Petitjean *et al.* 1992; UNCSTD forthcoming.)

The neutrality ideal functions more through what its normalizing procedures and concepts implicitly prioritize than through explicit directives. This kind of politics requires no informed consent by those who exercise it, but only that scientists be "company men" (and women), following the prevailing rules of scientific institutions and their intellectual traditions. This normalizing politics frequently defines the objections of its victims and any criticisms of its institutions, practices or conceptual

world as agitation by special interests that threatens to damage the neutrality of science and its "civilizing mission," as an earlier generation saw the matter. Thus, when sciences are already in the service of the mighty, scientific neutrality ensures that "might makes right." Feminists in every discipline have argued that androcentric "might" has all too often appealed to neutrality-maximizing standards in order to justify as "right" distorted descriptions and explanations of natural and social regularities and their underlying causal tendencies. We need a concept of objectivity, and methods for maximizing it, that enable scientific projects to escape containment by the interests and values of the powerful. This only weak concept of objectivity, that remains contained by the neutrality ideal, can't do it.

What is the mechanism in scientific processes through which neutrality, and thus objectivity, is supposed to be maximized? Method is supposed to "operationalize" neutrality and, thus, achieve objectivist standards. However, method is conceptualized too narrowly to permit achievement of this goal. For one thing, method – in the sense in which students take methods courses or a research report describes its methods – is conceptualized as functioning only in the context of justification when hypotheses are being tested. It comes into play only after a problem is identified as a scientific one and after central concepts, a hypothesis and research design have already been selected. It is only after a research project is already *constituted* that methods of research, in this conventional narrow sense of the term, start up.

However, as critic after critic has pointed out, it is in the context of discovery that culture-wide assumptions shape the very statement and design of the research project, and therefore select the methods. Moreover, it is well known that the availability of a research technology that was itself selected in earlier contexts of discovery and found productive frequently helps select which scientific problems will be interesting to scientists and to funders (cf., e.g., Strassmann 1993a). And cultural interests, values and relevances always select which problems will get to count as important ones for research. Of course in the "mangle of practice" (Andrew Pickering 1991) during the research process, hypotheses, representations of the object of knowledge and research technologies are adjusted to each other such that an important element of objectivity is produced without the promise of total neutrality. The world constrains our beliefs without uniquely confirming them. The "positive" neutrality ideal has blinded us to the costs of limiting our understanding of "method" only to techniques that standardize or otherwise obscure the values and interests represented in the results of research. Even the U.S. National Academy of Sciences – certainly not a den of wild-eyed radicals – now argues that the notion of research method should be enlarged beyond its familiar meaning of techniques to

> include the judgments scientists make about interpretation or reliability of data, ... the decisions scientists make about which problems to pursue or when to conclude an investigation, ... the ways scientists work with each other and exchange information.
> (National Academy of Sciences 1989: 5–6)

All three of these expansions of the notion of method make clear that methods can themselves be selected because they advance local social values and interests. Thus methods aimed only at eliminating all values and interests from the results of research have no way of detecting the ones that first constitute scientific problems, and then select central concepts, hypotheses to be tested and research designs. The issue I am raising is that some normative influences on research evidently advance the growth of knowledge and others retard it, but the "positivist" understanding of method lacks any way to identify which are which; moreover it is incapable of detecting the most widespread cultural assumptions, such as androcentric, economically elite or Eurocentric ones, that invariably lead to only partial and distorted representations of nature and social relations.

Let us approach the issue one more way. One point of repeating observations, through experimental or other techniques, is so that variations in the results of observations can be scrutinized for the traces of social interests and values which would distort the image of nature and social relations produced by science. Any community that *is* a community, including the community of a laboratory or discipline as well as other kinds of cultural communities, shares values and interests. But if all observers share a particular value or interest, whether this arrives from the larger society or is developed in the group of legitimated observers, how is the repetition of observations by these like-minded people supposed to reveal it? It is not individual, personal, "subjective" error to which feminist and other social critics of science have drawn attention, but widely held androcentric, Eurocentric and bourgeois assumptions that have been virtually culture-wide across the culture of science (cf. Seiz 1993). The assumptions of Ptolemaic astronomy, Aristotelian physics, or of an organicist world-view were not fundamentally properties of individuals. Assumptions that women's biology, moral reason, intelligence, contributions to human evolution, economic well-being, or to historical change are inferior to men's are not idiosyncratically held beliefs of individual "subjects"; they are widespread assumptions of entire cultures institutionalized in global and local practices and discourses. These assumptions have constituted whole fields of study, selecting their preoccupying problems, favored concepts, hypotheses and research designs; these fields have in turn lent support to male supremacist assumptions in other fields. The issue is not fundamentally that individual

men (and women) happen to hold false beliefs, but that the conceptual structures of disciplines, their institutions, and related social policies make less than maximally objective assumptions. Local cultures, not individuals, are the active agents of knowledge in these respects. Whatever cultural beliefs are not critically examined will surreptitiously function as evidence for the results of research "behind the backs" of scientific communities' most rigorous methods.[8]

This argument should not be taken to be claiming that sexism and androcentrism affect only the "context of discovery," for the problems there are exacerbated in the "context of justification." A theory which seems plausible from the perspective of one social group, and perhaps serves its interests as well, isn't likely to be subjected to the kind of "severe criticism" and testing that philosophers like Karl Popper (1959) recommend. Its weaknesses simply won't come to light because those who might challenge it lack numbers and influence.[9] Feminists have noted how the very best mainstream journals often subject androcentric and anti-feminist arguments to far less rigorous standards than they do feminist arguments.[10]

In reflecting on how so much scientific racism and sexism could be produced by the most distinguished – and, in some cases, politically progressive – nineteenth-century scientists, historian of biology Stephen Jay Gould puts the point this way:

> I do not intend to contrast evil determinists who stray from the path of scientific objectivity with enlightened antideterminists who approach data with an open mind and therefore see truth. Rather I criticize the myth that science itself is an objective enterprise, [in the sense that it is] done properly only when scientists can shuck the constraints of their culture and view the world as it really is.... Science, since people must do it, is a socially embedded activity. It progresses by hunch, vision, and intuition. Much of its change through time does not record a closer approach to absolute truth, but the alteration of cultural contexts that influence it so strongly.
>
> (Gould 1981: 21–2)

When a scientific community shares assumptions, there is little chance that more careful application of existing scientific methods will detect them.[11] It is important that Gould's reflection makes clear that not all cultural interests and values ("contexts") retard the growth of knowledge. Some advance it, he is saying: science has often progressed because of changes in its cultural contexts. So it is problematic that the neutrality ideal is supposed to eliminate *all* social values and interests.

Such an analysis leads to one obvious possibility: to separate the goal of maximizing objectivity from the neutrality requirement in order to identify the knowledge-limiting values and interests that constitute

projects in the first place. This possibility has been hinted at again and again in the criticisms of weak objectivity. What we need is a procedure for maximizing objectivity that has the resources to detect (a) values and interests that *constitute* scientific projects; (b) that is, ones that will tend *not to vary* between legitimated observers; and (c) the difference between those values and interests that enlarge and those that limit our images of nature and social relations.

Before turning to a program for the project of maximizing objectivity after the neutrality ideal, we should be aware, as indicated earlier, that the issue has special urgency for women and for feminist analyses.

5. CAN WOMEN BE OBJECTIVE?

We noted above that objectivity has been attributed to several distinct components of the research process. One of these was potential researchers; gender has been claimed to distinguish the capacities of men and women for generating objective results of research. Manliness has been claimed to be more capable of objectivity than womanliness. Indeed, in so-called modernizing cultures, manliness has often been not just correlated with but defined in part through its capacity for the neutrality regarded as necessary for objectivity. Consequently, the results of men's research and the processes used to arrive at them by communities that exclude or marginalize women have been able to bask in the beneficial status conferred on them by the presumed greater objectivity of men. Critics point out that this is often so, regardless of the empirical or theoretical adequacy of the research results or the validity of the methods used to arrive at them. Economists have often pointed out this phenomenon (cf. Nelson 1993a).

Insofar as objectivity is identified with neutrality, it appears impossible for women ever to be perceived as objective. This problem appears to persist regardless of how many women score high on mathematics tests or win Nobel Prizes. Briefly, objectivity has been thought to require neutrality; neutrality is coded masculine; and masculinity as individual identity and as symbolic meaning is culturally formed in opposition to the "feminine" and is continuously so maintained; masculine is defined primarily by the absence of the traits attributed to the feminine. (Psychologists discuss this in terms of the aspects of the self that are projected onto the Other.) So how could women ever be perceived to be objective? This problem infects related concepts, also thought to require value-neutrality, such as "rational" and "scientific." It is worthwhile looking briefly at main themes in several of the widely cited analyses supporting this argument.

Susan Bordo points to the ways in which the Cartesian age's "flight to objectivity" was a flight from the feminine – a defensive response to

anxiety over the loss of the organic female universe of the Middle Ages and the Renaissance. "The Cartesian reconstruction of the world is a defiant gesture of independence from the female cosmos – a gesture that is at the same time compensation for a profound loss" (Susan Bordo 1987: 451). We should not, however, think of these meanings of masculinity and femininity only as mythologies, for

> the sexual division of labor within the family in the modern era has indeed fairly consistently reproduced these gender-related perspectives along sexual lines ... boys tend to grow up learning to experience the world like Cartesians, while girls do not, because of developmental asymmetries.... The historical identification of rationality and intelligence with the masculine modes of detachment, distance and clarity has disclosed its limitations, and it is necessary (and inevitable) that feminine modes should now appear as revealing more innovative, more humane, and more hopeful perspectives.
>
> (Bordo 1987: 454, 456)

Genevieve Lloyd's *The Man of Reason: "Male" and "Female" in Western Philosophy* (Lloyd 1984) charted the trajectory of the association between the meanings of masculinity and rationality throughout the history of philosophy. In a later paper she analyzes further the difficulty of women being perceived to speak, from the neutral position that is, paradoxically, also masculine.

> Seeing the maleness of reason is part of coming to understand how the symbolic structures work, realizing that there are speaking positions that, though supposedly gender-neutral, in fact depend on the male–female opposition.
>
> (Lloyd 1993: 76)

She draws attention to how examples of sexual symbolism can be only contingent to a philosophical argument, or somewhere between contingent and constitutive of it, or sometimes fully constitutive, deeply embedded in it. "Sexual symbolism operates in this embedded way in, for example, the conceptualization of reason as an attainment, as a transcending of the feminine" (p. 82).

Evelyn Fox Keller (1985) notes that it is not only contemporary feminists who have pointed to the association of masculinity with objectivity. A century ago, George Simmel stated:

> The requirements of ... correctness in practical judgements and objectivity in theoretical knowledge ... belong as it were in their form and their claims to humanity in general, but in their actual historical configuration they are masculine throughout. Supposing

> that we describe these things, viewed as absolute ideas, by the single word 'objective,' we then find that in the history of our race the equation objective = masculine is a valid one.[12]

When science is defined in terms of these linked meanings of objectivity and masculinity, not only is it difficult for women to speak within scientific discourses, but science itself is distorted.

> The disengagement of our thinking about science from our notions of what is masculine could lead to a freeing of both from some of the rigidities to which they have been bound, with profound ramifications for both. Not only, for example, might science become more accessible to women, but, far more importantly, our very conception of "objective" could be freed from inappropriate constraints [pp. 92–3].

Finally, Catharine MacKinnon shows how this linkage between objective, neutral, rational and scientific on the one hand, and masculine on the other, deeply biases jurisprudence:

> the state will appear most relentless in imposing the male point of view when it comes closest to achieving its highest formal criterion of distanced aperspectivity. When it is most ruthlessly neutral, it will be most male; when it is most sex blind, it will be most blind to the sex of the standard being applied. When it most closely conforms to precedent, to "facts," to legislative intent, it will most closely enforce socially male norms and most thoroughly preclude questioning their content as having a point of view at all. Abstract rights will authorize the male experience of the world.
>
> (MacKinnon 1983: 658)

Thus "the feminist theory of knowledge is inextricable from the feminist critique of power because the male point of view forces itself upon the world as its way of apprehending it" (p. 645).

Similar observations and arguments appear in the anti-racist and postcolonial literatures cited earlier. An obvious consequence of this symbolic gendering of objectivity and reason is to complicate attempts to resolve the objectivity question. For one thing, relativism and subjectivism are doomed from the start never to be able to achieve the kind of universal appeal of which their defenders dream since they carry ancient meanings of "not masculine" or "not European," and thus "not ideally human." On the other hand, how could feminism or the other liberatory discourses recover and transform a notion of objectivity that has been defined in terms of neutrality so that it will work for marginalized peoples, too, when it is constituted in the first place in opposition to the feminine, the "oriental," etc.? It is not itself value-neutral. Choosing between weak

objectivity and its neutrality ideal, on the one hand, or subjectivism/relativism, on the other, appears to be a lose/lose choice in these contexts.

Such reflections give added reason to try to delink maximizing objectivity from maximizing neutrality. By doing so, weak objectivity's hostility to the womanly can be mitigated by substituting a gender-ambiguous notion for the choice between ones that have been coded fully masculine or fully feminine. Objectivity without neutrality can disrupt the gender dimensions – and, more generally, the power relations – of the discourse of weak objectivity.[13]

6. STRONG OBJECTIVITY

How might we accomplish our tasks of systematically identifying values and interests that constitute scientific projects, and thus that tend not to vary between legitimated observers, and of specifying the difference between those that enlarge and those that limit our knowledge?

First, we can reflect on the familiar observation that it will be easier to identify the contours of a given conceptual scheme or paradigm from "outside" than from within its categories, concepts, puzzles and other preoccupations that usually fill up the entire horizon of our thought. We want to start off our thought from "elsewhere." Of course, there is nowhere that is outside all culture; there are no vantage points anyone could find that are not themselves also discursively constructed within power relations: that was the delusion of weak objectivity and its neutrality ideal that must be abandoned. Nevertheless, we still have useful resources, for we can start thinking from within another, different framework that enables us to look more objectively at our usually favored one. Where might we find one?

Here, we can reflect on a second familiar observation that ways of life or distinctive kinds of activities tend to give rise to distinctive ways of thinking and seeing the world. What we do both enables and limits what we can know. Of course the sciences incorporate this insight in their understanding of the importance of having diverse methods as resources: each enables the researcher to interact in different ways with the world, and so to have the chance to know different things about it. Feminists have developed this line of thought by arguing that if one starts off thought from the kinds of activities or "life worlds" assigned primarily to women in any particular historical situation (in any particular class, race, ethnicity, culture, etc.), one can gain different and valuable insights not only about those activities but also about the kinds of activities and thought that tend to be favored by those groups of men who are not expected to do such "women's work." For example, one would expect, and can find, distinctive kinds of moral reasoning and insights into how the dominant institutions work arising from child care, care of the elderly, the sick, and of people's

bodies and emotions more generally that do not arise in the administrative/managerial "head work" that constitutes ruling in our kind of society (Carol Gilligan 1982; Harding 1986, 1991; Nancy Hartsock 1983; Hilary Rose 1983; Dorothy Smith 1987, 1990). The time and energy for some people to perform the abstract, mental labor of administrative/managerial work is created by assigning the work of caring for their bodies and emotions, and the bodies and emotions of everyone else, to others – primarily but not exclusively women. Thus "women's work" is a precondition for the existence of the "autonomous" thought and will of the ideal human figured in Western political and moral philosophy. Far from being autonomous, this thought and will turns out to be dependent on the thought and activity of women and other groups whose distinctive sociality Western political and moral philosophy devalues and marginalizes. Theories of the political, the social, the economic, the moral, the rational and the intellectual that fail to discuss the valuable distinctive forms of these human characteristics arising from "women's work" are the functional equivalent of sociobiology; in excluding women's activities from the proper domain of their study, they implicitly assign these activities to the natural and misunderstand the conditions for and nature of administrative/managerial work. "Women's work" disappears into the natural for men who still associate it with the "motherworld" they struggled to leave behind as they grew up. The economists cited earlier have started off thinking about economic relations from the perspective of women's activities rather than of the conceptual schemes in the dominant institutions, including the discipline of economics, from which women have systematically been excluded.

Starting off our thought from the lives of those who are assigned body and emotional labor is an empirical and theoretical project. It does not automatically flow or erupt into the consciousness of those who perform it. Women have had to *learn* to characterize their activities in terms of a double-day of work, to recognize sexual harassment not as "boys will be boys," but as a violation of our civil rights; to see rape not as a consequence of our "asking for it" or of the inevitability of some deranged men acting out; to see their lower wages not as a reflection of their lower natural talents and abilities or their natural obligations to domestic work, but as a matter of economic exploitation. Feminist insights are empirical and theoretical achievements, requiring political and scientific struggles against the dominant institutions and their discourses. The point is that "legitimated" knowledge communities tend to come from, or aspire to, the same social strata as do managers and administrators – the "rulers" of modern societies. No wonder the conceptual schemes of economics, sociology, political science, philosophy and other disciplines "echo" those of the dominant public policies. The social sciences "work up" everyday life into forms suitable for administrators to process; philosophy justifies these forms as rational, objective and ethically ideal.

But what about our second task? Have we identified the difference between values and interests that advance and those that retard the growth of knowledge? Obviously not every starting point for thought that lies outside a dominant conceptual framework is likely to enlarge our understandings. We can agree with the defenders of weak objectivity that at least *some* of the interests and values they think should be excluded from directing knowledge projects do indeed retard the growth of knowledge – "Think of Nazi science!" And we can look to see which kinds of shifts in the social climate, as Gould put the point, have enabled the detection of distorting culture-wide values and interests. One important set of scientifically helpful values and interests are those that resist "hiding" the most telling evidence against them. If women, the poor, and racial and ethnic "colonies" are kept illiterate, not permitted or encouraged to speak in public, and excluded from the design of the dominant institutions that shape their lives, they do not have the chance to develop and circulate discourses – their politically and scientifically produced perspectives on the dominant institutions – that could provide the most trenchant critiques of them. Keeping the hypotheses that are most critical of the favored ones from ever getting to the starting line of a scientific research process obviously benefits the dominant groups (Strassmann 1993a). Clearly the relations between the expansion of knowledge and the expansion of democratic social relations – always offhandedly claimed to be mutually supported by sciences' public discourses – need to be explored in greater detail. This democratic discourse of science conflicts with its authoritarian practices.

The "standpoint theorists" have called on familiar social science understandings of counter-hegemonic discourses to explain how feminist research could be achieving such successes when it clearly centers on distinctive moral and political values and interests. The values of stranger, outsider, underclass and loser perspectives have been joined by those of "outsiders within" (Patricia Hill Collins 1991) and "bifurcated consciousnesses" (Smith 1987, 1990). Such borderland positions enable their occupants to examine how the activities of groups on both sides of the border structure the activities of the other while making invisible the causal connections between these activities. Anyone can learn to occupy such a position or, to change metaphors, enter such a discourse. But it requires socially marginalized moral and political commitments to do so. Maximizing objectivity requires abandoning wishful thinking and refusing to come to terms with bad news. It requires suspending "one's own perceptions long enough to enter sympathetically into the alien and possibly repugnant perspectives of rival thinkers," as one historian put the point (Thomas L. Haskell 1990: 132; cf. Harding 1992a).

I cannot take space to explore standpoint epistemology further here. Its counter-intuitive "discovery" that politically disadvantaged positions

offer scientific and epistemological advantages has provided valuable resources for those seeking a path out of the late twentieth-century "epistemological crisis" – which, perhaps, is another name for the "crisis of the West." It charts such a path without abandoning commitments to objectivity, rationality and the growth of scientific knowledge.

7. CONCLUSION

One more consequence of the demise of the neutrality ideal should be noted in closing this discussion. If more than one theory can reasonably be supported by any set of observations, and if every theory is reasonably open to more than one interpretation, is it still useful to invoke the notion of truth in conceptualizing an ideal relationship between our best knowledge claims and the nature and social relations that they are intended to describe, explain or interpret? When the ideal results of research could be assumed to be socially neutral, truth or truth-approaching could appear to be a reasonable way to conceptualize the relationship. The best knowledge claims should be true of the world in the sense of reflecting without distortion the way the world is, of corresponding to a reality that is "out there" and unchanged by human study of it. Claims that satisfied the requirements of knowledge (that constitute "justified true belief") would bear a unique relationship to the world.

The feminist science critics have explained how we need not fall into relativism just because we have lost the possibility of absolute truth. Science always promised something better than truth. It has always been said that what makes a claim a scientific one, and not a matter of political dogma or religious faith, is that it must in perpetuity be held open to revision on the basis of future, possibly disconfirming, observations and/or of revisions in the conceptual frameworks of the sciences. The abandonment in scientific circles of the concept of the crucial experiment in the late nineteenth century reflected that recognition that no empirical observations could prove a hypothesis true; (at most) they could only show it to be less false than its known competitors. Subsequently, Popper's deductivist logic and all the logical positivist focus on "verisimilitude" depended upon the assumption that truth could still function as a useful ideal as long as absolute falsifiability was possible. However, dreams of absolute falsifiability have proved unrealistic, also (cf. Harding 1976). As discussed earlier, since facts – empirical observations – are picked out as relevant ones by the theory they are supposed to be testing (including all of the background beliefs that support it), facts can hardly stand as independent, value and interest neutral tests of the empirical adequacy of the theory. Observations are theory-laden no less than theories are observation-laden, one could say. Historians have pointed out various kinds of situations where it was reasonable to retain a hypothesis in the

face of apparent falsification; for example, it often makes good sense for young theories to be retained in the face of occasional or even frequent falsifying observations until they have developed more robust means of showing their empirical adequacy. Moreover, favored older theories turn out to be reasonably retained in spite of accumulating empirical evidence against them until there is an alternative available that appeals to the scientific community. (And, of course, feminist economists are trying to show why their alternative approach, well supported by evidence, should appeal to their discipline.) In short, falsity is assigned to a theory not on the basis of some theory-neutral standard of the theory's inadequate fit with nature, but, instead, on the basis of a complex calculation by "the scientific community" as to when the potential benefits outweigh the potential losses in abandoning a hypothesis or theory. (Here is where scientific communities especially benefit from looking beyond their "legitimate" borders for guidance.)

We can console ourselves by noting that abandonment of appeal to the truth of our knowledge-claims does not commit us to relativism. After all, the procedures of the sciences (at their best) do generate claims that are validly and usefully regarded as "less false" in a limited (not absolute) but meaningful way: the hypothesis passing empirical and theoretical tests is less false than all (and only) the alternatives considered, though that judgment, too, must be held always only provisionally. Of course its status relative to hypotheses not yet tested is unknown, and we have already discussed the necessity of shifting social climates to enable vigorously critical alternative hypotheses to emerge.

Thus we could say that truth-maximizing procedures are not just unachievable but incoherent. What could it mean to imagine that all possible future observations and conceptual frameworks are available now for our critical scrutiny – that there is a finite supply of possible maps that cultures reasonably would find valuable to guide their interactions with the world, and that all such maps can be made not just consistent, but coherent with each other? The achievement of truth would mark not only the end of science, but also of history. Of course there are other criteria of truth; however it is this correspondence criterion, paradoxically, that has been central to modern sciences and their philosophies.

Thus we may conclude that the notion of objectivity can be extracted from the neutrality requirement that has for a certain range of cases blocked its competence at advancing the growth of knowledge. When values and interests constitute conceptual frameworks in the first place, one can come to identify them and then decide which to retain and which to discard only by starting off thought from outside those dominant frameworks. Feminist work in economics and other social sciences, as well as in biology and the humanities, has made its greatest contributions to the growth of knowledge when it has been able to step outside the

preoccupations of the disciplines and, from the perspective of one or another of the diverse political discourses constructed from the perspective of women's lives and interests, take a fresh look at nature, social relations and the ways the dominant discourses have represented them. We should reject the neutrality requirement as a nostalgic reminder of an innocent epistemological world that is gone from us forever.

Sandra Harding, Departments of Philosophy, University of Delaware, Newark, DE 19716, USA and University of California at Los Angeles, Los Angeles, CA 90024, USA

NOTES

[1] This paper draws on a number of earlier ones. See Harding (1986, 1991, 1992a, 1992b and forthcoming a). I am grateful for helpful comments on this essay by Nancy Folbre, Drucilla K. Barker, Janet Seiz and Diana Strassmann. Valuable responses to an earlier version were provided by the participants in the conference "Out of the Margin: Feminist Perspectives on Economic Theory" in Amsterdam, June 2–5, 1993.

[2] Helen Longino (1990) adds to the familiar designation of constitutive values the term "contextual" to refer to the purportedly offending kinds of "external" values and interests.

[3] Value-neutral or value-free are the terms philosophers and historians of science have usually favored to refer to what economists often call "positive" elements of knowledge-claims. Since "positive" calls up more specific historical meanings for philosophers and historians of science, I shall restrict myself to the terms "value-neutral" and "value-free."

[4] See Imre Lakatos (1963–4) for the standard study of historically shifting standards of proof in modern mathematics.

[5] For one classic review of this crisis, see Richard J. Bernstein (1978).

[6] For reasons to be recounted below, claims to less falsity are preferable to those for truth or verisimilitude.

[7] This section draws especially on Harding (1992a).

[8] In this context it is puzzling why Longino thinks that giving authority to "legitimate members of scientific communities" addresses the problems feminists have raised about exactly who gets to count as legitimate, how conceptual frameworks of such communities reflect only dominant groups' priorities, relevances, values and interests, etc. Of course science is a social process in the sense that communities, not individuals, do it – a point underappreciated in the conventional philosophies of science. But which communities get to do it, and whose priorities do they center? Of course scientific communities have to be made more inclusive – this is crucial. But this goes only part of the way to meet the issues about detecting conceptual frameworks. After all, the members of marginalized groups who are first "included" are usually those who have most been socialized into the discipline; they are usually junior, and alone in hostile environments. They can hardly be expected to generate empirically and theoretically well-supported alternative disciplinary paradigms all by themselves! Clearly more than inclusiveness is required, crucial as this step is. Some would say that it is also crucial that no discipline or set of them have monopolistic authority over the descriptions and

explanations of their subject-matter. That is, the desirable "social-ness" of scientific processes must be vastly expanded to include critical perspectives-from all of those groups who bear the consequences of such descriptions and explanations.

[9] I am indebted to Janet Seiz for putting the point this way.

[10] As I write, *The Chronicle of Higher Education* (November 9, 1994) reports diverse criticisms of the American Economic Association's journals' "lack of openness to research that diverges from the mainstream 'neoclassical' view" (p. A6).

[11] Some might think this problem can be resolved by adding members of excluded groups into the community ("diversity"), or by building more conflict into scientific processes. Efforts in these directions can be helpful, but reflection on the Gould discussion makes clear that success at such strategies requires massive political changes. (See Collins 1991 and Janice Moulton 1983 on limitations of the adversarial model for advancing knowledge.)

[12] Keller cites Karen Horney's quotation from Simmel in Horney's, "The Flight from Womanhood," in J. Strouse (ed.) *Women and Analysis*. New York: Dell, 1975, pp. 199–215. (Keller 1985: 75.)

[13] Similar issues about the Westernizing of objectivity and reason appear throughout the postcolonial analyses of science. (See Goonatilake 1984; Nandy 1990; Petitjean *et al.* 1992; Sardar 1988.)

We should at least consider the possibility that while there may well be lots of other good reasons to balk at such a delinking, at least one source of resistance to it may be fear of the loss of the masculinity of science, philosophy of science and epistemology. Philosophies of objectivity, rationality and science that do not proclaim their distance from, their transcendence of, their unaccountability to, the messy moral and political demands of the social order just may not be as attractive to people seeking affirmations of their masculinity through practicing in such fields. Objectivity without neutrality may for them have the odor of social work.

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