

## Book Reviews

**Women and Minorities in Science. Strategies for Increasing Participation.** Sheila Humphreys, ed. Colorado: Westview Press, 1982. Pp. 218;

**Science and Gender. A Critique of Biology and Its Theories on Women.** Ruth Blier. Elmsford: Pergamon Press, 1984. Pp. 220.

We live in a society and a time which has seen not only the explosion of scientific and technical knowledge but which has seen the increasing integration of that knowledge and the scientific world view which has accompanied it into all areas of society. When one considers that, on the one hand, science is seen as *the* model for rationality and truth and, on the other hand, that women are largely excluded from the practice of science, the wonder is not that feminists have begun a critical examination of science. The wonder is that it took so long. The last half-dozen years have seen the blossoming of feminist scholarship (and activism) around science and technology. The two books under review here both build on and make important contributions to that enterprise.

*Women and Minorities* is concerned with the practice of science as a profession. It is a collection of articles, most presented originally at an American Association for the Advancement of Science symposium in 1980, that report on specific projects aimed at improving the participation of women and men from disadvantaged groups. These projects build on earlier work by feminists in identifying barriers to such participation and in outlining the different experiences of white men and others in scientific professions or in jobs that require some technical background. Some articles in the book itself summarize some of this work, particularly in the article by Lucy Sells on the importance of mathematics

and in the report by Betty Vetter on labour force participation of women baccalaureates in science. The rest of the material, however, provides a wealth of information on the effectiveness of a wide variety of intervention programs in the United States. The programs represented include ones that involve training for educators as well as those which focus on women and minorities as students in math, physics, engineering and medicine. The effectiveness of conferences, workshops, special courses and other specific program features are reported. This will be an essential reference for anyone concerned with such matters.

A few questions come to mind while reading the book, however. Clearly, funding is crucial for the continuation of such projects and, while the introduction mentions that this will be a problem, especially given the cuts in the National Science Foundation Education budget which has been a major source of support for many of these programs, there is no real assessment of how limiting lack of funding will limit further implementation of such programs (I would predict severe limitations). It would have been helpful also to have some idea of how widespread such programs are in the U.S. For example, many of the ones reported here are from California—is there something special about that state or was it an artifact of the fact that the conference was held in San Francisco. Finally, there is little consideration of non-educational barriers to women's participation in science. Discrimination and family responsibilities come immediately to mind. It is true that women drop out of science education faster than boys do but as Lantz and Ingison point out in their article on retraining women scientists, there are already over 500,000 women with at least baccalaureate degrees in scientific fields since 1960 who are not using their training.

A second area of feminist scholarship around science is illustrated by *Science and Gender*. Ruth Blier's book is an examination of ways in

which specific scientific disciplines have provided justification and support for women's oppression. There are two quite different ways to come to such a study. First, one can assume that science is basically as it presents itself, an objective, value-free enterprise. In this case, problem areas are viewed as aberrations, as a falling away from a standard which need not itself be questioned. Most commonly, however, in feminist critiques the analysis of specific uses of science against women is linked with a more general feminist critique of science itself, particularly ideas of scientific objectivity and the legitimacy of the idea of control in present science.

Blier clearly takes the second approach and she offers her case studies as examples of a more general problem with science. The opening chapters offer a critique of sociobiology and of popular theories about the brain, 'human nature' and sex differences based on theories of brain lateralization and hormone functioning. These 'scientific' theories have received very wide attention with their assertion that inequality in general and women's roles in particular are biologically determined and hence inalterable. The shoddiness of such arguments is documented in detail in Blier's book and one can only wish that her work would get as wide a circulation as the popular media that circulate biological determinist theories of women's inferiority. Although the subtitle only mentions biology, the book also deals with bias in anthropology and primatology as well, since these are also major contributors to 'scientific' theories of women's biological inferiority.

As a critique the book is invaluable—there is nothing else that brings all of this material together in one place. The book does not offer an extended critique of science generally but, in the introduction, outlines the critical feminist argument and offers these areas as illustrations. In the final two chapters Blier does offer some theoretical considerations both about the relationship between science and society and about the require-

ments for a feminist science. These are probably the weakest parts of the book and I would argue at length with some of the apparent assumptions about the primacy of sexuality in Chapter 7. Such disagreements are only to be expected, however, in an area where feminist theory is still growing rapidly and Blier's book is an important step in the development of that theory.

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**Discovering Reality. Feminist Perspectives on Epistemology, Metaphysics, Methodology, and Philosophy of Science.** Edited by Sandra Harding and Merrill Hintikka. *Dordrecht: D. Reidel Publishing Co., 1983. Pp. 332.*

This is a text many of us have been waiting for. It will be especially welcomed by philosophers and sociologists of science who teach women's studies.

All of the papers in this anthology deserve recognition. In the first two essays, both Linda Lange and Elizabeth Spelman argue that the sexism found in Aristotle's thought cannot be disassociated from the rest of his writings as philosophers have attempted to do in recent apologetics. In the third essay, Judith Hicks Stiehm extends the critique of the first two papers to an examination of the manner in which Aristotelian assumptions about the natural order of things and women's and men's place in that order infuses contemporary political analysis with a distortive male-biased view of the problems of justice.

In 'Have Only Men Evolved?', Ruth Hubbard takes on main-stream evolutionary theory and its errant child, sociobiology. Hubbard argues, in a vein familiar to most feminist critics of so-called 'value-neutral' science, that science is a social construction of reality and that evolutionary theory and sociobiology reflect the values of