

## BOOK REVIEW/COMPTE RENDU

**Londa Schiebinger, ed.**, *Gendered Innovations in Science and Engineering*. Stanford: Stanford University Press, 2008, 256 pp. \$US 24.95 paper (9780804758154), \$US 65.00 hardcover (9780804758147)

This edited volume begins with the premise that science has been gendered. Traditionally, a masculine scientific culture has not only made it difficult for women to remain and succeed in a variety of scientific fields, but it has shaped the ways in which science has been conducted and understood. Through its many diverse chapters, this book aims to show the ways in which “gendered innovations” have taken place, to encourage the entrance and advancement of women in science, and to alter the theories and methodologies being used to understand our world. In her introduction, editor Londa Schiebinger defines gendered innovations as “transformations in the personnel, cultures, and content of science and engineering brought about by efforts to remove gender bias from these fields” (p. 4). Although the book is not divided into subsections, in general chapters in the first part of the book look at how taking women and feminist critique into account has affected research in some science subspecialties. The middle chapters discuss the value of feminist methodologies in science. The last several chapters explore American government and university policies aimed at increasing the numbers of women in science, and making university science and engineering faculties more friendly to women.

The contributions to this volume are impressively broad. The 12 chapters are written by women scientists and researchers in a variety of fields including genetics, archaeology, agricultural science, geography, history, stem cell research, engineering, and physics. Geared towards a science audience, the book aims to show that taking gender into account can enhance scientific research and to outline ways in which women and feminist analysis can be brought into existing science programs and research practices. This focus is a strength, but from a sociological point of view, also a weakness. For the social scientist aware of the literature on the ways in which science, academia, or workplaces are gendered, there is little new here. The focus of the chapters is frequently narrow, and there is little to no analysis to enable the reader to understand the broader significance or relevance of changes occurring in one field on

another. For instance, a chapter by Mei-Po Kwan shows how feminist geographers might benefit from using geographic information systems (GIS) in their research. The chapter is clearly targeted at a narrow audience (feminist geographers) rather than a general one. Other chapters are broader, such as one by Sarah Richardson exploring how contemporary assumptions about sex and gender have shaped genetic research to identify the genes that determine sex. The focus, she explains, has been on the genes that produce males, with an underlying assumption that there is an active, dominant, masculine gene that is responsible for producing active, dominant males. This has proven to be incorrect, and feminist critiques of existing research are leading to a more complex and accurate picture of how sex is genetically determined in both men and women. Although interesting, this chapter is very technical, and not terribly accessible to a general audience.

There are a few chapters that succeed at being both insightful and accessible, reaching a broader audience. In particular, Lori D. Hager's chapter on archaeological and paleoanthropological research on skeletons does an excellent job of showing how modern assumptions about gender (for instance, that men are larger than women, more active and more robust) have been imported into analyses of prehistorical humans. Skeletons (especially partial ones) are difficult to sex-type, and it has often been assumed that people with robust bones are masculine; this has led to mistaken classifications (many more skeletons are classified as masculine than feminine), and a distorted understanding of what prehistorical life was like for men and women. Hager's chapter shows how a more feminist, critical approach is leading to more accurate classifications of skeletons, and an improved understanding of the lives of prehistoric men and women. This chapter is well-argued, accessible, and provides a nice example of the ways in which researchers' assumptions can shape what they look for and what they find in their research. It would provide a nice case study for courses on research methodology and gender. C. Megan Urry's somewhat personal chapter on gender bias in academic physics is also insightful and accessible, and may be useful for students and others exploring the ways in which gendered workplaces can negatively affect women.

Urry's chapter, along with the succeeding chapters by LaVaque-Manty and Stewart, Rosser, and Cordova might also be useful to those seeking concrete strategies for improving women's access to and success within academic science and engineering faculties.

Overall, the book's strengths are that it not only documents cases of bias in science, but also discusses concrete steps some have taken to reverse it. The book presents a positive message about the prospects

for change, and shows that enhancing the involvement of women and a consideration of women's point of view in research can lead to better research. However, the sociological reader will miss the presence of an analytical framework to join these disparate chapters together and make their relevance, beyond their particular subspecialties, clear and comprehensible. There is very little analysis in this book, feminist or otherwise, and there is no attempt to build a broader theoretical understanding of the changes and events unfolding in the scientific subfields discussed. Nonetheless, a few of the chapters might be useful for those studying gender and science, those seeking to bring about institutional change, and those teaching about gender or methodology.

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