

"women's work." High visibility for men often results in favoritism, especially from male professors or administrators. Men's opinions are acknowledged and lead to advancement in ways that women's opinions proffered in men's professions would be ignored or seen as unduly aggressive.

To explain these phenomena, Williams turns to feminist psychoanalytic theory. Society defines masculinity as being superior to women, more powerful, phallic. Men, on the whole, are driven to do this by the conflicts and ambivalence entailed in breaking from their mothers and assuming male roles in a society where men are not nurturing. Williams espouses R. W. Connell's theory of hegemonic masculinity to explain men's compulsion to assert their difference from, and superiority to, women by often participating in the currently socially dominant ideal of masculinity (at present "physical strength and bravado, exclusive heterosexuality, stoicism, authority, and independence"). Thus, labor is always divided by gender to men's advantage. Williams quotes from interviews with men working in women's professions to illustrate her thesis. Although she found a few men exhibiting "alternative masculinities," she found no reformist "gender renegades." This chapter was often irritating for its failure to perceive the full array of motivations individual men have for pursuing careers in women's professions, as Williams's theories led her to read into interviews the desire for men to assert masculinity.

Williams concludes by cautioning that increasing the presence of men in female professions is likely to worsen discrimination against women in these fields. Before workplace equality can occur, society must cease devaluing female qualities (e.g., emotional expressiveness and empathy) in the workplace and must see them as valued job skills on a footing equal to masculine qualities. The organizational arrangements that give men privilege must be transformed, and the

psychological incentives that impel men to strive for differentiation and dominance over women must cease. Believing it will be easier for women than men to change, Williams sees positive social change and the goal of gender neutrality as more likely to occur if women infiltrate male professions.

This is a provocative and timely book, particularly in the present climate of threatened affirmative action. Williams points to academic librarianship as one field in which women may have gained leadership clout thanks largely to affirmative action. She challenges us to notice the often insidious influence of gender in job content, workplace behavior, and hiring/promotion decisions. It is unfortunate that she does not distinguish among different types of librarians, often generalizing based on school, public, or academic librarians as if they were identical. The applicability of her research to librarianship would be enhanced with a sample larger than the twenty-nine librarians interviewed and if she paid greater heed to the individual gender orientation of her interviewees. Recent theories of masculinity and femininity evolved by gay, lesbian, and other gender-focused minorities seem to have eluded Williams's attention. One wonders, too, whether Williams's theories would hold up in such new female-dominated professions as paralegalism, which postdates the Victorian era. Although meriting further inquiry, Williams's thoughts and conclusions stand up as challenging, highly readable, never dull, and worthy of debate.—Joseph W. Barker, *University of California, Berkeley*.

**Gibbons, Michael, Camille Limoges, Helga Nowotny, Simon Schwartzman, Peter Scott, and Martin Trow.** *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies*. London: Sage, 1994. 179p. \$21.95, paper. (ISBN 0-8039-7794-8).

The thesis of this book, which was written by an international team of six social scientists, is that a new mode of knowledge production is evolving alongside the old one. Although it is unclear at this time whether this new mode, which the authors imaginatively label "Mode 2," will eventually displace "Mode 1," the book presents convincing arguments that the new mode is becoming increasingly prevalent. Most of the book is devoted to a discussion of the causes of this new mode of knowledge production and of its effects on research, institutions, and public policy. While the book occasionally makes assumptions that pertain more to Europe, most of the concepts presented are applicable to research conditions and conventions in North America.

Mode 1 knowledge production seems to be characterized and conditioned primarily by a network of relatively clear and long-accepted boundaries: the distinction between one discipline and another, the difference between pure and applied—or academic and industrial—research, the separation of research done in different countries. The primary characteristic of Mode 2 appears to be its disregard for such boundaries; the authors argue that increasing amounts of research—knowledge production—is collaborative to a point that Mode 1 boundaries pale or disappear altogether. Mode 2 is "transdisciplinary" in that it does not even recognize traditional disciplinary divisions, drawing information as needed from many disciplines. It is performed by groups, or groups of groups, that may or may not have direct connections to the academy. It is (like this book) the product of scholars who live and work in different countries—a condition made possible especially by the ubiquity of electronic communication. Mode 2 appears also to be much more concerned with application, with responding to the need to solve specific problems, and it is generally more concerned about the social implications

of its work than is usually the case in Mode 1.

By *knowledge* the authors mean primarily scientific and technical knowledge, although they do devote one of the best-written chapters in the book (pp. 90–110) to an heroic attempt to show how some aspects of Mode 2 are also evident in the humanities. Despite dutifully and respectfully referring to the likes of Baudelaire and Heidegger, however, the authors cannot conceal their sense that humanities scholarship, whose practitioners "stand a little aside, as quizzical commentators," is ultimately peripheral when viewed in relation to the production of scientific knowledge.

Despite its brevity, this book does not exactly "move along": it is, in fact, a hard read. Its contents are repetitive, its discussion wanders, its focus blurs, and its style is distractingly uneven—perhaps the result of joint authorship. (None of the chapters is attributed to any one author, and the authors are listed on the title page in alphabetical order.) Some of the language is impenetrably dense, and a few of the sentences read like inept, word-for-word translations from some other language. The citations also leave a great deal to be desired: getting from this book to related sources will not be an easy matter. One complicated, detailed chapter ("Reconfiguring Institutions," pp. 137–54) is provided with only a single reference.

Each chapter begins with a summary, and it is in the summaries that the poorest editing will be found in this already poorly edited book. Consequently, some parts of the summaries border on the incomprehensible. ("We distinguish between three main phases, marking the transition of a policy for science towards science and policy and, during the 1980s, entering a policy for technological innovation phase" [p. 155].) Rather than serving as surrogates for the chapters, therefore, or helping the reader to make sense of the chapters, the summaries often have

the opposite effect of forcing the reader to read through the chapters—in order to make sense of the summaries.

Although few academic librarians will want to read through this book, it is nevertheless well worth reading. My advice is first to read carefully through the short glossary (pp. 167–68), and then to read the "Introduction" (pp. 1–16), which presents all of the key ideas. Depending upon one's interest or purpose, one can then read selectively from the remaining chapters. Of special interest to academic librarians will be the discussion of the shift of knowledge production away from the academy. While the research university remains the primary center for research even in Mode 2 (p. 82), knowledge production is no longer the university's exclusive responsibility. New centers of knowledge production, such as small-technology businesses, are rapidly evolving and contributing. One reason for this trend is the "massification" (i.e., massive growth) of higher education following World War II (pp. 70–89). This created, among other things, more people capable of knowledge production than there has been room for in the academy, so that such scholars are now finding work—and are producing university-quality knowl-

edge—in the private sector. There are also other issues raised in the book that will be of interest to anyone trying to understand how knowledge is produced and exchanged, as, for example, the useful distinction between tacit and codified knowledge (pp. 24–26), or the discussion of the increasing "density" of scientific communication (pp. 38–40). Also of special concern to some academic librarians will be the examinations throughout the book (especially pp. 8, 31–34, 65–69, and 152–54) of how the quality control of knowledge production (and therefore presumably publication) is affected by judgment and measures that are no longer limited to the standard conventions of academic peer review.

Although a few brief case studies and other examples are presented, the content of this book is for the most part abstract: there is little detailed or extended discussion of how these new trends are affecting actual research now under way. Nor do the authors feel obliged to draw any general conclusions. The book ends somewhat abruptly with a one-page list of some "future issues." While the main purpose of the book is presumably to identify and investigate the qualities of Mode 2, the real interest of the authors seems to be not so much in the nature of Mode 2 itself as in the socioeconomic implications of the shift from Mode 1 to Mode 2. As a result, Mode 2 is defined and made understandable primarily on the basis of its difference from, or opposition to, Mode 1. In the end, therefore, this book is not so much an analysis of how research is done—or how knowledge is produced—as it is a rather rushed and somewhat disjointed commentary on currently changing social and economic values.—*Ross Atkinson, Cornell University, Ithaca, New York.*

*Higher Education under Fire: Politics, Economics, and the Crisis of the Humanities.*  
Eds. Michael Bérubé and Cary Nelson.

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