

Was technocratic feminism a success, in Puaca's analysis? While it did increase women's participation in society, it did little to challenge women's subordinate status. The examples provided show that much remained the same even in the 1970s and 1980s. Even though many more women were awarded Ph.D.'s, they still concentrated on typically feminine subjects, such as the biological sciences. Women were still greatly outnumbered by men, few were on the tenure track, and many were underemployed and underpaid.

Central to Puaca's analysis is the knowledge that technocratic feminism was and is, above all, a pragmatic approach to feminism. It is interesting to note that the main individuals portrayed in the book, among them Virginia Gildersleeve and Lillian Gilbreth, seem to have felt uncomfortable with a "feminist" label. Likewise, in the Soviet *Sputnik* era, the conflicting identities—between the Soviet ideal of a hard-working woman and the American ideal of a housewife—made technocratic feminists focus on women's "utility" rather than their role in society, thus also avoiding the language of women's rights. As demonstrated in chapter 4 (on science and the second wave), the change in climate with the unpopular Vietnam War and criticism against military science made technocratic feminism appear less attractive. Alongside the emergence of the second-wave movement, a shift in strategy toward women's rights and equity can be detected, which coincided with the influx of young students and scientists/engineers who helped renew the old feminist organizations and establish new ones. However, technocratic feminism has endured, and reformers keep coming back to this strategy in periods or contexts where broad support for women's rights is absent.

Searching for Scientific Womanpower is a thoroughly researched book that draws on an impressive number of sources and fills a gap in the historiography of women's employment, of feminist history, as well as of American postwar history. The book stands as a telling testimony that much is left to be done in achieving full equity between women and men in science and engineering. While we do get to know some of the women who were proponents of technocratic feminism I wish more of them had been included. Personal portraits make history more lively and interesting to read. Sometimes the reader is overloaded with details on organizations and meetings. That being said, Puaca's account deserves a wide readership as it combines military science history with feminist history during World War II and in the postwar era and beyond. In my view, her most important contribution is that she convincingly demonstrates the *continuity* in the feminist movement predating second-wave feminism, thus making the efforts of the mid-twentieth century—"the missing wave" (Dorothy Sue Cobble, *The Other Women's Movement* [Princeton, 2011])—more visible.

Annette Lykknes

Annette Lykknes is Associate Professor of Chemistry Education at Norwegian University of Science and Technology (NTNU). She has published on women and collaborative couples in the sciences and is (co)author of the 100-year anniversary history of chemistry education at NTNU.

Sonja D. Schmid. *Producing Power: The Pre-Chernobyl History of the Soviet Nuclear Industry.* (Inside Technology Series.) xxxi + 362 pp., illus., bibl., index. Cambridge, Mass./London: MIT Press, 2015. \$38 (cloth).

Sonja D. Schmid has written a remarkable new account of the Soviet nuclear industry. As its title suggests, it is, in a sense, teleological in its nature, as perhaps any account of the subject must be: there is no escaping a narrative that sees the Chernobyl accident as the ultimate result. But Schmid's book is not a polemic. *Producing Power* seeks a context in its subject, a context of not only technical and political decisions, but also the social, economic, and organizational influences of the Soviet system. As Schmid points out in an excellent introduction, to assign blame to Chernobyl is an inherently political move, with different stakes and consequences depending on whether one blames the RBMK reactor design, the Chernobyl opera-

tors, the corner-cutting aspects of the “five-year plan” approach to technocracy, the red tape of the Soviet bureaucracy, or the Soviet culture of expertise, to list just a few of the various threads that the book follows.

The introduction concerns the official Soviet inquiry of blame in 1987, which Schmid dubs the “last show trial of the Soviet era” (p. 10). Schmid illustrates here the forces at play in her narrative: the difficulty in indicting operators and designers without indicting the entire Soviet system, much less the entire Soviet nuclear industry. Over the next four chapters, she details the evolution of Soviet interest in nuclear power, from the earliest days of the Soviet nuclear program through the late 1980s. Noteworthy in Schmid’s account are the descriptions of the two parallel Soviet bureaucratic cultures that came to be centered around the atom: *atomshchiki*, the nuclear physicists, engineers, and designers who worked for the nation’s secretive nuclear weapons complex (Sredmash); and *energetiki*, the planners and operators who managed Soviet energy generation, both nuclear and nonnuclear (Minenergo). These two groups brought very different sensibilities, organizational styles, and concerns to their shared subject. The position of nuclear reactors in the Soviet Union, balanced between these two different groups, was an awkward one. Operators were given massive amounts of responsibility but were not trusted to know all details (some of which were considered military secrets) about how reactors worked. And after everything went wrong, blame was apportioned along the by then well-worn bureaucratic lines. A chapter dissecting the Chernobyl accident mobilizes this history in understanding the specifics of the disaster, as well as both the short- and long-term responses to it.

Schmid’s book intentionally backs away from any strongly condemnatory account. Historians will recognize the genre: the flaws of the RBMK are artifacts to be explained, to be shown as part of a system populated by rational people and comprehensible organizations. The RBMK worked very well for the Soviet system, given that it could be largely constructed based on local materials (unlike its major competitor, a form of pressurized-water reactor), could be converted to the military production of plutonium if need be and was capable of providing much-needed electricity and even heat generation. Its design flaws were known but judged to be unlikely to cause a serious accident, and some of the most alarming-in-retrospect decisions—such as the design’s lack of a containment dome—were seen as necessary to keep the overall costs down and efficiency up. The Soviet Union didn’t have the exact same constraints as a power company operating in a capitalist context, but it still had its push for efficiency, quotas, and energy load requirements.

And all technological choices are trade-offs; all come with consequences. When Armenia shut down its reactors in the wake of Chernobyl (and an earthquake), the local populace took to burning trees from a national park for heat that winter, Schmid relates. The local officials restarted one of the reactors soon after (p. 151).

“Everything about Chernobyl was Soviet,” Schmid writes in an elegant conclusion, “the reactor design, the operators, the bureaucracy” (p. 161). And yet, she urges, we need to keep in mind that all systems have their contexts, and all contexts come with their winners and losers. In the aftermath of an accident, it becomes all too easy to take a purely condemnatory viewpoint, but this obscures a deeper historical understanding of how contexts work. In an epilogue, Schmid applies this reasoning to Fukushima as well, pointing out the familiar interplay of technology, politics, and context that followed an accident that was in many ways different from, and in some ways similar to, Chernobyl.

Schmid’s is ultimately a “normalizing” account, showing us people who did their best given the constraints of their world and their imagination about the future. It is a valuable historical narrative, though this same methodology will make it frustrating for anyone trying to use this history as a source of lessons for future action. Still, *Producing Power* is a solid historical account, and situating Chernobyl in a deep Soviet context offers many insights of value to historians of twentieth-century science and technology.

Alex Wellerstein

Alex Wellerstein is an assistant professor of Science and Technology Studies at the Stevens Institute of Technology in Hoboken, New Jersey. He received his Ph.D. from the Department of the History of Science at Harvard University in 2010. He works on the history of nuclear weapons.