MICHIGAN WAR STUDIES REVIEW
MiWSR.COM

2016-114 30 Nov. 2016

Scientists at War: The Ethics of Cold War Weapons Research by Sarah Bridger.

Cambridge, MA: Harvard Univ. Press, 2015. Pp. x, 350. ISBN 978–0–674–73682–5.

Review by Larry Owens, The University of Massachusetts–Amherst (larry01003@gmail.com).

Historian of science Sarah Bridger (Calif. Polytechnic State Univ.) has written a nicely constructed account of scientists and weapons research in the tortured ethical landscape of the Cold War. Her case studies illuminate the institution-building provoked by the USSR's dramatic launch of the Sputnik 1 satellite in 1957. She concentrates on the moral conundrums raised for US scientists by the proposed nuclear test ban, anxieties over conventional warfare, the moral maze of the Vietnam War, the implications of weapons work at schools like MIT, the problem of calibrating moral standards to notions of objectivity, and the fraught struggle over implementing the Strategic Defense Initiative (SDI), better known as "Star Wars." She embeds these and other issues in her narrative of generational change from the veterans of the Manhattan Project era to the rising cohort of younger scientists with a very different sense of right and wrong.

The history of science was once a niche discipline of interest to a cultured few who followed in the footsteps of George Sarton.[1] The scientists who worked in the Manhattan Project changed all that. It is no surprise that, immediately after World War II, James Conant, one of the creators of the atomic bomb, created a history of science course at Harvard University. Bridger's study is a recent example of the flood of new scholarship loosed over the following half century.

In the 1940s and 50s, the work of scientists like James Phinney Baxter[2] and Hunter DuPree,[3] which centered on organizational matters (the military-university-industrial complex and the proliferation of new disciplines), set the tone for much of this scholarship. More recent approaches have evinced a (sometimes controversial) fascination with cultural anthropology, the sociology of scientific knowledge, the places and interests that engender new disciplines, and the definition of "good" science and appropriate behavior.[4] But few if any of these studies have anticipated Bridger's preoccupation with the ethical sensibilities of the generation of scientists that followed the pioneers of the Second World War.

Robert Oppenheimer's famous announcement in 1947 that physicists had come to know sin provoked a frenzied controversy over the (im)morality of participating in weapons research. Edward Teller, who vigorously defended such work, became the darling of hawks and headed a new laboratory dedicated to the creation of the hydrogen bomb. Later, MIT physicist Peter Hagelstein wrestled with

1. Author of the monumental *Introduction to the History of Science*, 3 vols. in 5 (Baltimore: Williams and Wilkins, 1927–48; often reprinted), and scores of other books and articles.

2. Pulitzer Prize-winning author of *Scientists against Time* (Boston: Little, Brown, 1946).

3. Author of *Science in the Federal Government: A History of Policies and Activities to 1940* (Cambridge: Harvard U Pr, 1957).

4. See, e.g., Sharon Traweek, *Beamtimes and Lifetimes: The World of High Energy Physicists* (Cambridge: Harvard U Pr, 1988); Paul Forman, "Behind Quantum Electronics: National Security as Basis for Physical Research in the United States, 1940–1960," *Historical Studies in the Physical and Biological Sciences* 18.1 (1987) 149–229. David Noble, *The Forces of Production: A Social History of Industrial Automation* (NY: Knopf, 1984); and Paul Edwards, *The Closed World: Computers and the Politics of Discourse in Cold War America* (Cambridge: MIT Pr, 1996).

such issues in the era of Ronald Reagan's SDI.[5]

Sarah Bridger has broken new ground by studying the growing numbers of ordinary figures that flooded into the nation's laboratories and universities during the Cold War. In so doing, she exploits both the secondary literature and a daunting array of archival source material. We readers are the beneficiaries of her diligent and dusty labor.

Scientists at War is not easy to read. Its focus on case studies limits the reader's sense of continuity and context. In addition, Bridger's narrative of generational change serves her purpose well, but naturally prioritizes individuals rather than organizations. After all, only individuals engage large issues as ethical actors. But organizations do constitute the ethical arenas of moral conflict. How one may behave ethically depends in part on where one works. And if organizations foster specific ethical cultures, then so must the largest of organizations—the nation-state.[6] In the end, the tragedy of Vietnam was rooted in an American culture of war that emphasized certain virtues over others—virtues appropriate to the decade of the sixties.

I often found myself wishing Bridger had moved onto higher ground and described the broader environment of her cases. This might have revealed earlier crises of conscience overlooked by historians. Although the Great War was remembered as "the chemists' war," not every scientist of the time was as exuberantly opportunistic as the astronomer George Ellery Hale;[7] many surely shared the dour opposition of intellectuals like Randolph Bourne.[8] Pulled in various directions by powerful patrons and their own ambitions, American scientists have learned to live with ethical uncertainty.

While *Scientists at War* will test the common reader's powers of concentration, Sarah Bridger has raised compelling new questions about the place of scientists as ethical actors and the intricate, immensely important ties between science and the military during and beyond the Cold War era.

---

5. See further William Broad, *Star Warriors: A Penetrating Look into the Lives of the Young Scientists behind Our Space Age Weaponry* (NY: Simon and Schuster, 1985).

6. See Loren Baritz, *Backfire: A History of How American Culture Led Us into Vietnam and Made Us Fight the Way We Did* (NY: W. Morrow, 1985).

7. "Hale played a key role in founding the National Research Council to support the government in using science for its policy aims, in particular to further its military ends"—*Wikipedia*, s.v. George Ellery Hale.

8. For a taste of this nonscientist's opposition to the war, see his labored diatribe in "A War Diary," *Seven Arts* 2 (Sept. 1917).