Allegiances Under Question

Universities and the Military. DAVID A. WILSON, Ed. American Academy of Political and Social Science, Philadelphia, 1989. 202 pp., illus. Paper, $7.50. Annals of the AAPSS, March 1989.

Seventy years ago social critics like Thorstein Veblen (*The Higher Learning in America*) and Upton Sinclair (*The Goose-Step*) condemned the American university for selling itself to the highest bidder. In so closely embracing the world of affairs, they argued, the university had turned its trustees into boards of directors, its presidents into hustlers, its faculty into entrepreneurs, and its students into mass-produced, interchangeable articles of commerce. At stake, they said, was the academy's traditional autonomy, its claims to larger public purpose, and ultimately its very soul.

Whether or not recent efforts to reforge the alliance of higher learning and big business will confirm such fears, the greatest challenge to the integrity and independence of our universities in recent years has come less from corporations than from the federal government, most notably its military agencies. In the two decades following the Second World War, the Department of Defense (DOD) became the largest single patron of the American university, predominant in engineering and the physical sciences and important in many of the social sciences as well. The National Institutes of Health has now eclipsed DOD as the primary federal funder of academic research, but in such high-tech fields as electronics and computer science the military remains the biggest spender for university R&D.

The recent thaw in the Cold War offers a particularly appropriate moment to assess the impact and implications of this pattern of postwar science. To do so, David Wilson, as editor of this special issue of *The Annals of the American Academy of Political and Social Science*, has gathered a group of contributors whose expertise and experiences run the gamut from the physical to the political sciences and from the laboratory bench to the corporate board room. Avoiding either "extreme enthusiasts or extreme opponents," Wilson presents a reasonable cross-section of public opinion, a balance of practitioners and critics, of those who helped shape the so-called "military-industrial-academic complex" and those who were shaped by it.

In one way or another all the authors suggest that there is something distinctive about the American style of academic research and the place of the military within it. Economist Carl Kaysen defines it as an implicit contract between universities and the military such that sponsored research would be done in the traditional academic manner—scholar-initiated, self-directed, unrestricted, and basic rather than applied. That contract, it seems, has been all too often ignored in practice. After reading these papers it is hard to disagree with the assessment of historian Richard Abrams that "nothing has had the overall force of the defense establishment in redirecting basic and applied research, in putting limits on the free exchange of intelligence, and in dampening discussion of the merits of research that has policy implications, or in converting scientists into policy advocates and scholars into entrepreneurs" (p. 28).

Edward Gerjuoy and Elizabeth Baranger suggest that in the physical sciences and mathematics even the best-intentioned military contracts have had significant consequences for academic programs, "skewing research directions and affecting university policies" (p. 71). Yet hungry institutions like Carnegie-Mellon and Georgia Tech still emulate the postwar examples of Stanford and M.I.T., looking for military money to carry them to the top. Carnegie-Mellon's new Air Force–sponsored Software Engineering Institute, for example, clearly draws on older precedents like M.I.T.'s Lincoln Laboratories.

Such enterprises have usually contributed little to the university's on-campus research program, and even less to its teaching mission. Outgoing Johns Hopkins president Steven Muller offers a spirited defense of Johns Hopkins's Applied Physics Laboratory (a center for naval guidance and weapons research) and its place in the university, highlighting its ties to engineering, medicine, astronomy, and continuing education. But aside from occasional collaborations in biomedical engineering and a few joint appointments (two dozen out of a professional staff of 1600) APL seems to receive far more benefits from the university, say in recruiting good scientists and engineers, than it gives back, especially for a division with a $300-million annual budget.

Perhaps the most striking, albeit the most disturbing, measure of the military's impact on the university is the influence it has had on the subsequent careers and attitudes of the students trained there. Writes M.I.T. physicist Vera Kistiakowsky, "Universities are educational institutions, and, in addition to the formal curriculum, they teach their students how to function as scientists and engineers. The senior research personnel are the models from which the students learn their future roles" (p. 153). What happens, she asks, when several generations of students learn to put contracts ahead of conscience and disciplinary advancement ahead of wider social vision? She raises equally challenging questions about the opportunity costs of our nation's heavy investment in military R&D on campus. Has it trained a generation of scientists and engineers so addicted to the wasteful culture of military spending that they can no longer flourish in the more cost-conscious world of civilian technology?

Julian Cooper offers an instructive comparison between the United States and the Soviet Union. Soviet military R&D may be organized differently, in separate institutes and industrial ministries, but the implications for higher education have been very similar. Cooper's timely questions about the effects of Soviet political reform on this pattern of research and education, and whether a new generation of Soviet professors and students will challenge the long-standing military presence on campus, suggest some further parallels with the American experience.

Given its publication in a leading social science journal, this collection says surprisingly little about the military's influence on the social and behavioral sciences. Only Richard Lambert addresses the question directly, and then primarily to complain that the social sciences have not received their fair share of money or attention from the DOD. Lambert argues that although many of our best foreign-language and area-stud-

ies centers were founded by veterans of the Office of Strategic Services and funded by the CIA and other intelligence agencies, their subsequent intellectual directions showed no influence of such sources. As evidence he points to the growing tensions between the intelligence community and many of the scholars trained in those centers. Nonetheless, an unrelated review of a new biography of China scholar John Fairbank in the same issue at least suggests that programs willing to deal with the military and intelligence agencies prospered while others did not.

Disappointingly, this collection only hints at the crucial connections between military research in the academy and in industry. Though huge by university standards, military spending for academic programs represents less than 5% of the DOD's overall R&D budget, most of which goes to industrial contractors. Kaysen estimates that something like a quarter of all American electrical engineers, and a third of all our mathematicians and physicists, work in industries that are dependent on defense contracts. Since universities provide much of the basic research and all of the manpower for the defense industry, it is only by looking more closely at the corporate side of the ledger that we can fully understand why academic research has become anything but academic.

Before committing ourselves to a second mobilization of our universities, this time in the name of international competitiveness, we deserve a careful examination of the impact and implications of the first, toward which this collection makes an important start. Postwar events largely proved out the predictions of Cornell physicist Philip Morrison and others that the military would end up buying American science and engineering on the "installment plan." While the short-run benefits of the university-military alliance—better facilities, bigger budgets, more political clout in Washington, and ever more sophisticated military hardware—were obvious to everyone, the long-term costs have become apparent only in recent years. Indeed, many analysts lay a substantial share of the blame for the decline in American competitiveness on our willingness to let the military set high-technology policy for industry and universities alike. As industry now follows the military in turning to the academy for new ideas and manpower, it should bear in mind that our universities are far too valuable a social resource to be squandered for short-term profit.

STUART W. LESLIE
Department of the History of Science, Johns Hopkins University, Baltimore, MD 21218

Reviewed in This Issue