

# The World of Strategic Planning

**Counsels of War.** GREGG HERKEN. Knopf, New York, 1985. xvi, 413 pp. \$18.95.

As more and more scholars from more and more disciplines contribute to the discourse in international security and peace studies a demystification about nuclear issues has started to take place. Gregg Herken's *Counsels of War* adds in an important way to this process. Extending the analyses of earlier authors, most notably Fred Kaplan in his *The Wizards of Armageddon*, Herken introduces the reader to the world of U.S. strategic planning: the statesmen and soldiers responsible for directing nuclear policy and the civilian scientists and strategists to whom policy-makers have turned for advice. The chronological scope of *Counsels of War* is broad as well, covering the entire nuclear age from Truman to Reagan.

As Herken demonstrates, not all has been sweetness and light within this very special community of people who make a business of thinking about the bomb. The ideas of defense intellectuals at think tanks like the Rand Corporation and the Hudson Institute, for example, have at different times come into direct conflict with those of military planners and science advisers. Each of these groups, moreover, has been plagued by internecine struggles over defense doctrine and strategy, repeatedly "pitting expert against expert" (p. 189) and contributing to the vicissitudes of U.S. policy over the past 40 years.

Why have even the "experts" been at odds? The answer to this question forms the central focus of *Counsels of War*. In attempting to answer it, Herken resists for the most part the temptation to either criticize or extol. Rather, he lets his subjects tell their own story in their own words, drawing upon their public and private writings as well as numerous personal interviews. One can quibble with this approach and its results, and several reviewers in fact have. Yet it makes for fascinating and thought-provoking reading.

One major theme emerges from this narrative. Despite their emphasis on numbers, technical "facts," esoteric concepts, and rational planning, differences over basic philosophical views about the Russians and the arms race lie at the heart of the experts' debate. What is the nature and extent of the Soviet threat? What does it take to deter the Soviets? What is the political utility of nuclear weapons? Can the United States rely on technology alone to address its security

problems? What is the role of diplomacy and arms control? To a large extent, these fundamental questions have been played again and again in internal debates over the Superbomb, the ABM, MIRV, and the MX. Herken suggests they have significant implications for the current debate over the Strategic Defense Initiative, or Star Wars, as well (although the SDI is not discussed in great detail in the book).

As in *Wizards of Armageddon*, the Brodies, Wohlstetters, Kahns, and other "paper warriors" figure prominently in Herken's account. Yet in many ways he is at his best in describing another group, whose names may not be as well known but who nonetheless have been very influential in defense policy circles, the atomic scientists. Scientists were the first to advise the government directly on nuclear policies through the numerous summer studies of the 1940's and 1950's (later institutionalized as the influential JASON group), the first to promote arms control as part of national security policy (with their advocacy of the test ban), and the first to develop internal divisions over these issues (symbolized by the rift between Edward Teller and Robert Oppenheimer).

As he develops the scientists' and other experts' stories, Herken elaborates another theme that is becoming very familiar in the literature on the bomb: the role of technology as a driving force in the arms race. He makes two important points: (i) the difficulty of forecasting the impact of new weapons technologies and (ii) the difficulty of doing anything about it once recognized. MIRV of course is the quintessential example, "a technological Pandora's box" (p. 246) that in the near term seemed to offer something for everyone (arms controllers as well as technologists) but in the long term created tremendous instabilities, as nearly all have recognized in retrospect. Alain Enthoven, one of the "strategic *Wunderkinder*" in McNamara's defense department, commented typically to Herken in a 1981 interview, "I didn't see [at the time] and I don't think anyone else saw, the implications of MIRV for the strategic balance" (pp. 200, 373).

How have the contending ideas of the strategic theorists and scientists affected decision-making at the top? For General Curtis LeMay, Thomas Power, and the other war planners at the Strategic Air Command and in the other services, the experts' ongoing debate apparently has had only a marginal impact. Operational policies, embod-

ied since 1960 in the various Single Integrated Operational Plans, or SIOP's, have always contained a full range of nuclear options, including notions of counterforce targeting, first-strike preventive war, damage limitation, and preemption.

The attitude of the U.S. political leadership toward nuclear strategy, however, has been more profoundly influenced by the experts, portended early on by Eisenhower's often neglected "other warning" in his farewell address that "public policy could itself become the captive of a scientific-technological elite" (p. 133). Presidents and civilians in the Pentagon have gradually and sometimes grudgingly brought the many options of operational plans into the realm of declaratory policy, reflecting in part the erosion over time of the position of deterrents vis-à-vis war-fighters in policy circles.

Herken's excellent description of the Carter administration's tortured grappling with the nuclear question perhaps most vividly illustrates this point. Carter came into office committed to the idea of minimum deterrence and to the goal of ultimately eliminating nuclear weapons. Like many before him, he was shocked and dismayed by a SIOP that contained literally thousands of potential targets. Not surprisingly, therefore, the administration's initial review of nuclear strategy, PRM-10, identified arms control and more specifically "deep cuts" in the strategic arsenal as among the highest national priorities. Yet by the end of his term and despite the achievement of SALT II, Carter—in the face of technological innovations such as the MX, the "conservative critique" of Paul Nitze and the revived Committee on the Present Danger, and Soviet actions such as those in Afghanistan—had relented in the face of internal pressures and endorsed the "war-fighting" principles of PD-59. "There were people in the government who believed in protracted nuclear war and even in prevailing in a nuclear war," Secretary of Defense Harold Brown later explained. "The outcome [PD-59] was a rather uncomfortable compromise between those people and the people who believed mostly in deterrence" (p. 301).

Finally, Herken touches upon one other important subject, the subtle transformation of public attitudes toward nuclear issues in general and the experts in particular. As the questions being debated grew more complex, with increasing emphasis both in strategy and in arms control on "technological minutiae" (p. 240), Americans began to abandon their nearly blind faith in the experts' opinions and to regard them with growing suspicion and distrust. Vietnam played a crucial role in this process. Ironically, as no other strategic issue had done

before, the war exposed the deep divisions within the ranks of strategists and demonstrated their fallibilities. In Herken's words, "the illusion of objectivity had finally been shattered" (p. 222). An "encouraging sign" in the current debate is the continuing and expanding involvement of this "very different group of nuclear gnostics" (p. 343).

Despite its readability and richness in detail and ideas, there are a few disconcerting things about Herken's book. The numerous chapter and section headings are more dramatic than informative, and too much valuable information is hidden away in lengthy footnotes (which the reader should take the time to pursue). More seriously, Herken makes a number of factual errors in his presentation that others—primarily participants themselves in the events—have chosen to stress. Though these errors (most of them minor in nature) should make the reader wary, they should not overshadow the basic contribution Herken makes in unraveling without polemics the evolution of conflicting ideas about American nuclear strategy.

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## A Division in Chemistry

**Science versus Practice.** Chemistry in Victorian Britain. ROBERT BUD and GERRYLYNN K. ROBERTS. Manchester University Press, Dover, NH, 1984. 236 pp. \$35.

This book deals, as the authors note, with what might appear to be one of the most practical of sciences in one of the most pragmatic of nations, chemistry in mid-19th-century Britain; and it deals with much more than this. For chemistry was the most popular and the most publicly visible science at the beginning of the century, and it became the major academic science and the most powerful industrial enterprise later on. Debates over the relationship between theoretical or scientific knowledge and practical or industrial performance moreover reached a critical stage during the 19th century, when both academic chemistry and the chemical industry were growing in importance and self-awareness and their sometimes conflicting views became a matter of national interest. Hence the authors quite justly assume that a study of these debates should reveal a great deal about 19th-century science in general and about the origins of many institutional and educational patterns that still continue.

In the beginning gentlemanly London, the industrial north of England, and the Scottish university cities offered rather different social and institutional conditions for chemistry. Eventually Thomas Thomson's research school, which adopted Berzelius's chemical system, established itself as the leading group in the country, took a firm stand in the "Decline Debates" of the 1830's, and exerted its power through the Chemistry Section of the British Association for the Advancement of Science. Thomson's catholic view of chemistry, embracing both theoretical and practical goals, dominated the first stage of institution-building in Britain. In 1845 the Royal College of Chemistry was founded with support from academics, manufacturing and consulting chemists, landowners, and medical men, and a professor from Germany, August Wilhelm Hofmann, a student of Liebig's, was hired to teach. Similarly the Chemical Society, founded in 1841, was meant to serve as a link between the London professional chemists and chemical manufacturers and the new generation of young academics. Since research abilities and publications soon became the decisive criterion when new teaching positions had to be filled, the research-oriented academics gradually acquired hegemony over the discipline. Institutional development and educational aims of the Royal College of Chemistry, University College London, and Owens College Manchester clearly indicate an increasing separation between the leading group of academics, devoted to increasing theoretical knowledge, and the more humble but more numerous practical men. Under these circumstances attempts, such as Lyon Playfair's, to create a first-rank Continental-style educational system for engineers and manufacturers were bound for failure. In fact, the authors argue, there was a sharp social division between academics and practical men, as an analysis of the membership of the Chemical Society and the publication patterns of chemical patents reveal. The scientific professoriate, who portrayed themselves as disinterested spokesmen for the entirety of chemistry, bridged this gap by creating a new rhetoric of pure science, according to which the principal responsibility of academia would be to create and pursue pure science, the results of which could in turn be applied to industry. The authors question the validity of this rhetorical compromise and point to the fact that in chemistry the relationship between theory and practice is far more complex. They quote a few supporting statements by 19th-century chemical manufacturers, but their far-reaching claim that "on the whole, the academic discipline of chemistry did not

prove to be in itself a basis for industrial innovation, even in the chemical industries" (p. 108) should have been based upon more factual evidence. The division of labor between pure and applied chemistry, as developed by the academic elite, became a powerful argument in the late 1860's and early 1870's, when chemistry was given high priority in the reform of higher education, and this not primarily because of chemistry's potential utility but because of its contribution toward the ideal of a liberal education. Thus again the leading role of pure chemistry was reinforced. "Ironically chemistry, which had always been championed as the most universally applicable of the sciences, thrived especially as a pure science taught separately from its applications" (p. 147).

For those who are willing to struggle through the peculiarities of British and especially London institutional history, the book offers a stimulating introduction to the debates over the relationships between academic science, higher education, society, and industry, based upon sound historical scholarship. Similarities with present-day issues are obvious. Being historians of science, however, the authors have wisely avoided drawing anachronistic parallels between entirely different historical contexts.

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## Blacks in Science

**Black Scientists, White Society, and Colorless Science.** A Study of Universalism in American Science. WILLIE PEARSON, JR. Associated Faculty Press, Millwood, NY, 1985. xii, 201 pp. \$24.

The corpus of research on careers in science gives little attention to the experiences of black scientists. To correct this state of affairs, Willie Pearson conducted a study in 1978 on the background and status of blacks in the social, life, and physical sciences. The present volume summarizes the results of that study. Pearson subtitles the book "A Study of Universalism in American Science" to capture his theme that from the vantage point of black scientists universalistic principles in science have not always prevailed. The ethos of science, Pearson asserts, holds that "a given contribution should not be accepted or rejected merely on the basis of some particular trait of its contributor such as race, ethnicity, sex, religion, nationality, or social origin." But large numbers of