

# BOOK REVIEWS

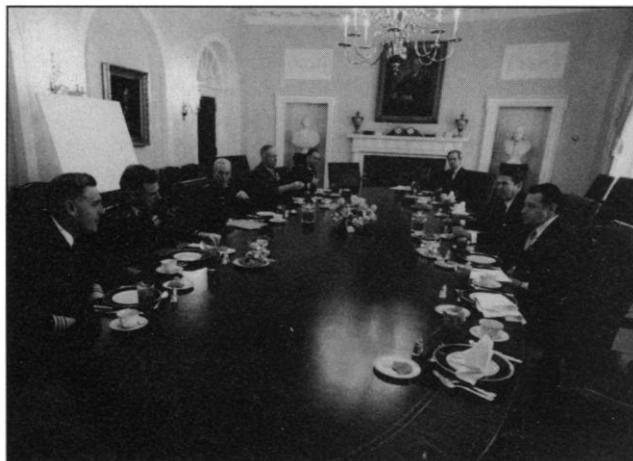
## Star Wars in Context

**The Origins of SDI, 1944–1983.** DONALD R. BAUCOM. University Press of Kansas, Lawrence, 1992. xx, 276 pp., illus. \$29.95. Modern War Studies.

The most distinctive and important contribution of this new book on the Strategic Defense Initiative is that it ends where most other studies begin, with President Ronald Reagan's famous (or infamous, depending on one's perspective) March 1983 speech that introduced the "Star Wars" concept. In taking this approach, Donald R. Baucom—a former Air Force historian who has been the official historian of the Strategic Defense Initiative Organization since May 1987—helps to correct the common misperception that U.S. efforts in strategic defense began and ended with the SDI. Although Baucom tells us that *The Origins of SDI* is a "significantly revised version" of an SDIO study he completed in 1989, representing his own views and not those of the SDIO, the reader should be warned that the book reads like an official history. It is often dry or too episodic and offers little that is new in the way of analysis or interpretation.

Baucom's first five chapters work methodically over familiar historical ground, examining the initial strong interest in ballistic missile defenses after World War II, the military service programs of the 1950s and '60s, the seminal ABM debate of 1969, and the decline of defense during the SALT era of the 1970s. In these chapters, Baucom clearly draws out the key security questions of the post-World War II era: the utility of military power in an age of nuclear weapons, the nature of Soviet intentions and capabilities, and the concept of an East-West "arms race." Debate over these questions, he concludes, led to a perception of increased vulnerability of U.S. offensive strategic forces, in particular American ICBMs, to a Soviet first strike. This "changing strategic environment," in turn, served as the backdrop to renewed interest in ballistic missile defense in the late 1970s.

With his emphasis on the importance of this early period for strategic defense, it is curious that Baucom does not cite or apparently draw upon other key works about those years. Two prominent examples come to mind: Sanford Lakoff and Herbert York's *A Shield in Space?* (1989) was the culmination of a three-year-long review and evaluation of the SDI sponsored by the Carnegie Corporation that also places heavy emphasis on the historical antecedents of the SDI, and Glenn Seaborg's *Stemming the Tide* (1987) deals extensively with the offense-defense strategic debate during the Johnson



"'Don't lose those words' was Reagan's response when in the course of a briefing to the president on 11 February 1983 General John Vessey, chairman of the Joint Chiefs, asked the rhetorical question: 'Wouldn't it be better to protect the American people rather than avenge them?' These words originated in a briefing that Chief of Naval Operations Admiral James D. Watkins had given earlier to the Joint Chiefs. In this photograph Watkins, at the extreme left, seems to be talking to President Reagan (second from the right). To Reagan's left is Secretary of Defense Caspar Weinberger; on Reagan's right is National Security Adviser Robert C. McFarlane. To Watkins's left are General Edward C. Meyer, chief of staff, U.S. Army; General Vessey; General Robert H. Barrow, commandant of the Marine Corps; and General Charles A. Gabriel, chief of staff, U.S. Air Force." [From *The Origins of SDI, 1944–1983*; Presidential Libraries Branch, National Archives]

years. Baucom also makes little use of the significant body of secondary literature on Soviet offensive and defensive programs of the 1960s and '70s.

Despite these omissions, Baucom's historical overview is a valuable prelude to his chapters dealing directly with the 1983 presidential decision. Drawing on extensive interviews (facilitated by his connection

with the SDIO) with most of the principals and some interesting new written materials—for example, the private papers of Karl R. Bendetsen and Air Force Ballistic Missile Office histories—Baucom provides much new information and insight into why Reagan included the SDI in his March 1983 speech.

Baucom details the role of key individuals and groups both outside and inside government who influenced the president. These included such "visionaries" as aerospace engineer Maxwell Hunter II, Senator Malcolm Wallop, and High Frontier founders and proponents Bendetsen and Daniel "little dog" Graham. Although the "hard driving, determined" Graham pushed his ideas about off-the-shelf technologies and early deployment so hard that he produced a schism within High Frontier itself, his persistence kept the notion of missile defenses constantly before the administration and Congress.

Among the White House inner circle, Baucom confirms the critical contributions of National Security Adviser Robert McFarlane and Chief of Naval Operations Admiral James D. Watkins. Baucom interviewed each of these pivotal players a number of times. For McFarlane, the promise of new technologies for strategic defense could both "out-flank" the nuclear freeze movement and move the U.S.–Soviet competition into an arena favorable to Washington. The SDI could be used to force the Soviets into high-tech competition, an American strong suit, and "draw" Moscow into strategic arms negotiations. Watkins's belief that the United States was heading into a "strategic valley of death," coupled with his religious and moral concerns about nuclear weapons, led him to push hard for defenses with his fellow Joint Chiefs of Staff. Like McFarlane, he emphasized "America's forte" of high technology to solve the crisis in strategic modernization. Overcoming interservice rivalries and inertia, McFarlane and Watkins convinced the Joint Chiefs of Staff to brief Reagan on ballistic missile defense capabilities. The resultant meeting on 11 February

1983 turned out to be the critical point in the decision-making process. And, as Baucom shows, the concerns of McFarlane, Watkins, Hunter, Graham, and others coalesced nicely with the technological enthusiast Ronald Reagan's personal motives and goals.

In his discussion of personalities and politics, Baucom also corrects some common

misperceptions, some noted by others and some not. In the first category, Baucom agrees with Gregg Herken, the author of this review, and others that many key individuals, such as science adviser George Keyworth, were not brought into the decision-making loop until very late in the game. In addition, Edward Teller emerges as an important figure but not, as in many accounts, the single most important progenitor of the defense idea. Teller is not mentioned extensively in *The Origins of SDI* until nearly two-thirds of the way through the book.

Overall, Baucom's narrative is thoughtful and detailed. But the book's short (four-page) epilogue, offered as almost an afterthought to the text, is an exception and would have been better left out. In this seeming apologia for the SDI, Baucom offers up a number of questionable conclusions. The SDI "forced" the Soviets "into a responsive mode," "defused" the freeze movement, created a new political consensus, and "contributed significantly to the West's triumph in the Cold War." This simply goes too far. To be sure, SDI was a contributing factor in the Cold War struggle, but not an overriding one. Baucom's assertions do not take into account major internal changes taking place in the Soviet Union that had very little to do with U.S. actions or, at home, the influence of the freeze movement in bringing the administration to a more serious and realistic internal assessment of arms control.

Absent the epilogue, however, Baucom does make a good start toward achieving his stated purpose of setting the SDI decision "firmly within its historical context." The book does serve as a good beginning for anyone looking into the SDI phenomenon.

G. Allen Greb

Nuclear History Program,  
College Park, MD 20742

## A Disease in Resurgence

**Cholera.** DHIMAN BARUA and WILLIAM B. GREENOUGH III, Eds. Plenum Medical, New York, 1992. xx, 372 pp., illus. \$59.50. Current Topics in Infectious Disease.

A publisher could not wish for more help in promoting a series on Current Topics in Infectious Diseases than that provided by the explosive cholera epidemic spreading through Latin America. As of December 1992 the outbreak had resulted in more than 700,000 cases of cholera and claimed 6323 lives.

The editors of this contribution to the series are cholera veterans. It was Barua who first reported the intriguing connection be-

tween blood group O and increased risk of cholera gravis, and he has a long association with the World Health Organization program for diarrheal disease control. Greenough is a codiscoverer of the role of cyclic AMP in the pathogenesis of cholera and participated in early clinical trials of oral rehydration therapy, the use of which is largely responsible for the remarkably low mortality rate associated with the current epidemic.

The book begins with a brief illustrated history of cholera, one of humankind's oldest documented diseases, and ends with an epilogue devoted to the Latin American epidemic. The chapters in between cover the bacteriology, genetics, and ecology of *Vibrio cholerae* and related vibrios; the epidemiology and pathogenesis of cholera; its pathophysiology, laboratory diagnosis, and clinical management; immunity and vaccine development; and the prevention and control of diarrheal diseases.

For the growing numbers of health professionals who are treating cholera patients for the first time, the chapters on clinical management of and pathophysiological responses to the disease should prove helpful. The detailed discussion of methods of prevention, control, and laboratory diagnosis could function as a practical guide for the public health community in recently affected areas. Standard diagnostic techniques are described, but newer procedures involving recombinant DNA technology are not discussed.

The chapters on *V. cholerae* bacteriology and diagnosis overlap but complement the section on "non-O1" (that is, nonepidemic-serogroup) vibrios. Characteristics used in identifying these opportunistic pathogens capable of causing cholera-like diarrhea are described. This information should be helpful to physicians and lab workers in and around estuarine environments where cholera infections are likely to increase.

Comparison of the epidemiology and ecology chapters illustrates the impact of recent findings concerning *V. cholerae* ecology on older concepts of disease transmission. Prior to the introduction of molecular epidemiology (when most of the studies covered in the epidemiology chapter were conducted) it was thought that epidemic cholera persisted within a reservoir of subclinical infections disseminated during outbreaks by contaminated water or food. Newer ecological studies have revealed that *V. cholerae* O1 is, in fact, ubiquitous in aqueous environments, often in "non-cultivable" forms that may require intestinal growth for resuscitation. These data have spawned debates regarding what constitutes an "epidemic strain" of *V. cholerae* and whether non-toxigenic O1 serogroup isolates should be included.

The enterotoxin chapter, subtitled "a historical perspective," is more of an introspective treatment of the subject, in which

the author voices his unique opinion on the evolution of cholera and *Escherichia coli* enterotoxin research and its impact on vaccine development. More current and provocative is the treatment of genetics, pathogenesis, and immunity and vaccine development. The chapter on genetics describes the control of expression of *V. cholerae* virulence factors including the environmentally triggered "regulon" cascade controlling expression of cholera enterotoxin, toxin-coregulated pili, and outer-membrane proteins and adhesins. Information about new *V. cholerae* "toxins" ZOT (zonula occludens toxin) and ACE (accessory cholera enterotoxin), discovered in the chapter author's laboratory, is too recent to have been included. These and other, as yet undiscovered virulence factors revealed by new in vivo growth selection techniques (such as the IVET system; see *Science* 259, 686 [1993]) will likely revolutionize traditional concepts of *V. cholerae* pathogenesis.

The fiercest competition in cholera research is in the development of vaccines that can emulate the solid protection afforded by the disease itself. Leading candidates are genetically engineered live *V. cholerae* that are capable of producing all of the components (except active toxins) expressed by wild-type vibrios in the appropriate environment (that is, the small intestine). Other promising formulations contain killed vibrios supplemented with controversial protective antigens (for example, pili proteins or hemagglutinins). The chapters on pathogenesis and vaccines and immunity discuss these and other vaccine strategies and inform the reader of the latest developments.

*Cholera* is historically oriented and lightly edited, but it makes interesting reading for cholera devotees and novices alike. With the expanding boundaries of cholera coming ever closer, those who may have to face this old disease sooner than they realize should acquaint themselves with this book.

Stephen Richardson

Department of Microbiology,  
Bowman Gray School of Medicine,  
Winston-Salem, NC 27157

## Andean Imperialism

**Provincial Power in the Inka Empire.** TERENCE N. D'ALTRIOY. Smithsonian Institution Press, Washington, DC, 1992. xii, 272 pp., illus. \$42.50.

The New Archeology is no longer new in North America, having been accepted into the mainstream of academic thought well