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# The Once and Future Threat of Smallpox

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military. He devalues by this logic large portions of ground and tactical air forces supplied by the Army and Air Force, particularly in recognition of likely diminishing defense budgets. He is not opposed to joint warfare. He supports all the catchphrases (dominant maneuver, precision engagement, full-dimensional protection, focused logistics) popularized in the chairman's Joint Vision documents. He just feels that, provided space and information superiority, the sea services can execute the bulk of this strategy.

While Deitchman argues that the book is *descriptive* rather than *prescriptive*, its strongest points are its prescriptions for developing a rational and affordable national military strategy. In particular, his arguments for the development of technology-driven armed forces with information superiority are compelling. His case against "lean" armed forces and overreliance on the civilianization of military jobs is equally powerful.

Deitchman's principal contribution to the strategic debate is his approach to handling two major regional contingencies (MRCs), if required. He opts to build technologically sophisticated and highly maneuverable conventional forces to address any military challenge (or to fight one MRC) while explicitly threatening a nuclear "rain of destruction" on anyone irresponsible enough to attack American vital interests while the United States is so occupied. As a true strategist, he thereby matches "ends" to "means" by allowing himself the opportunity to reduce the size of the relatively expensive conventional forces.

A large portion of the book is a seemingly unnecessary primer on America and the "exceptional" traits that either explain its greatness or foretell its doom. Whether or not the American education system is

fundamentally flawed or Americans are losing their work ethic obviously are debatable points. However, Deitchman's insistence that the United States engage in this self-examination is useful and meaningful. Most monographs on national security simply skip over this realm and presume the solution.

Deitchman forces the reader to delve deeper and to understand the social, economic, and psychological forces underpinning American security strategy. It is a journey well worth taking, even though a reader may disagree with the author as often as not.

Unless one is fortunate enough to spend a year at one of the nation's war colleges contemplating this subject, there is no better way to view the process of developing U.S. national strategy than to spend some time with this book.

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Tucker, Jonathan B. *Scourge: The Once and Future Threat of Smallpox*. Berkeley, Calif.: Atlantic Monthly Press, 2001. 304pp. \$26

In real estate, the three most important things are "location, location, location." In nonfiction book writing, the counterpart is "timing, timing, timing." The publication of *Scourge* in early September 2001 could not have been more timely. The book is not a rapidly compiled, superficial response to the attacks of 11 September but an in-depth study of smallpox. Jonathan B. Tucker traces the history of the disease from ancient Egypt through India to China, where it was called "Hunpox," apparently because it was believed to have been imported by the Huns. Smallpox, we are reminded,

contributed to the defeat of Athens by Sparta in the Peloponnesian War.

Unlike anthrax, smallpox is extremely contagious, and it is readily transmitted from one human to another. It can have a fatality rate of greater than one third, making it a candidate as a weapon of mass destruction. However, as a weapon, it is uncontrollable, and the using side may become victim to it unless its members have been inoculated.

In 1790 an English country doctor named Edward Jenner noticed that milkmaids appeared not to contract the disease, an observation that ultimately led to the use of the cowpox virus as a vaccine against smallpox. The science of the mechanism was not understood until recently, but over the next 170 years vaccination banished smallpox in industrialized countries, although it continued to infect the developing world. (In 1939 it was discovered that the vaccine in use was "*vaccinia*," which was genetically distinct from both smallpox [*variola*] and cowpox. Where *vaccinia* had come from and how it became the standard inoculant remains a mystery.)

In 1967 the World Health Organization launched a global campaign to eradicate smallpox, and within a decade the last natural outbreak was snuffed out. The success of the eradication program was to a great extent owed to the leadership of D. A. Henderson. The history of smallpox might have ended there, but for the defection of the Soviet military scientist Kanatjan Alibekov (a.k.a. Ken Alibek) who revealed that the Soviet Union maintained an active program to weaponize smallpox. Smallpox vaccination does not induce lifelong immunity, so should the disease be reintroduced, revaccination would be required. Currently, the whole world is susceptible, much as the Native

Americans were when Europeans brought the disease to the New World.

The debate continues as to whether smallpox has ceased to be a potential scourge of mankind. There are two known collections of the smallpox virus, located in Atlanta, Georgia, and in Moscow. The World Health Organization has been attempting to destroy all the viral stock, but it has been blocked by the United States and Russia, as well as some in the scientific community. At this writing, the deadline for its destruction is spring 2002. The deadline for the final destruction of all stockpiles has been changed in the past, and that may happen again.

*Scourge: The Once and Future Threat of Smallpox* is not alarmist; it gives a balanced, in-depth account of the history, politics, and science one should know about the disease. No technical background is required to understand the complexities of the political issues. The book may be read as three separate parts: chapters 1 to 4 deal with the historical understanding of smallpox and its relation to mankind; chapters 5 to 7 describe the successful global eradication effort; and chapters 8 to 12 discuss current politics and worst-case scenarios for reintroduction of the disease.

Jonathan Tucker is well qualified to write this book, having an undergraduate background in biology and a Ph.D. in political science. He was on the Congressional Office of Technology Assessment project technical staff that wrote the respected 1993 reports *Proliferation of Weapons of Mass Destruction*, *Assessing the Risks*, and *Technologies Underlying Weapons of Mass Destruction*. His book is recommended reading for anyone who wishes to claim competent opinions on

weapons of mass destruction and bioterrorism.

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FitzGerald, Frances. *Way Out There in the Blue: Reagan, Star Wars and the End of the Cold War*. New York: Simon and Schuster, 2000. 499pp. \$30

In 1984, while the Cold War was raging, then-Senator Gary Hart expressed a sentiment shared by many then and now: “It’s unfortunate and tragic. The Reagan Administration has to understand that our relationships with the Soviet Union spring from whether or not we’re achieving arms control. If we’re not achieving arms control, then it spills over into and colors every other aspect of our relationship.” While it purports to be something else, Frances FitzGerald’s *Way Out There in the Blue* adopts the same theme. It is virtually impossible to turn to any page in the book and not find a critical discussion of arms control—mostly, of course, regarding the 1972 Anti-Ballistic Missile Treaty.

Folks who work in the U.S. government often say, “We know we don’t get it right all of the time, but can we really get it wrong all of the time?” The author, however, can find no redemption for the Reagan years—they got it wrong, at every step, all of the time. Those who toiled in Washington through those years were both wrongheaded and wrong-hearted, according to FitzGerald. As a consequence, as analysis the book is deficient; it qualifies more appropriately as applied ideology. As a wag once put it, “Ideology is a filter through which facts pass for interpretation.”

So, the story of *Way Out There in the Blue* is of a simple-minded President

Reagan surrounded and captured by hard-line anticommunists, bent on confrontation with the Soviet Union and heating up the arms race in pursuit of a foolish dream. On essentially every page one feels the author’s contempt and disdain, derision and ridicule, for the “star wars” program and for the benighted approach of the two Reagan administrations. This is not a balanced attempt to understand the policy and politics of the Reagan years but a savage skewering.

The book’s focus is on politics and arms control, but the author’s lack of understanding of strategy deeply undermines her already flawed presentation. Throughout the book FitzGerald ridicules the notion that a defense, any defense, can be perfect. However, strategists recognize that perfection is not at issue. A defense need be only good enough to forestall an attack. If an attacker can be made to believe that his offensive thrust will fail, then the defense will not be challenged. For example, if an attacker has twenty ballistic missile warheads and is faced by a defense with interceptors each of which is judged to be 80 percent effective, he might, if he chooses to disarm himself by firing all of his warheads, expect to have four warheads penetrate the defense. Well, that might be true if the defense shoots only one interceptor at each incoming warhead. On a given day, the defense might opt to use more than one, so its effectiveness might be significantly better than 80 percent. Accordingly, a reasonable strategic assumption of would-be attackers would be that opposing defenses will work, and will work well.

Yet there is another overarching strategic factor at work here. To shoot missiles at the United States is not the same as shooting them at Australia or Belgium; whether or not any missiles get through