

BOOK REVIEWS

Bracing for Armageddon? The Science and Politics of Bioterrorism in America. William R. Clark, 2008, Oxford University Press.

Bracing for Armageddon: Why Civil Defense Never Worked Dee Garrison, 2008, Oxford University Press.

Carla S. Prater

Hazard Reduction & Recovery Center
Texas A&M University
carla@archone.tamu.edu

Perhaps it is a sign of the times. On the day I finished the second of these books, a 31-page glossy full color brochure on household preparation for an influenza pandemic arrived in my mailbox, courtesy of my county health department. Much of the material in it could have been drawn directly from Clark's book on bioterrorism. In any case, my interest had been piqued earlier this year when, following up on one of those intriguing references that pop up serendipitously during research, I found not one but two books using the metaphor of Armageddon to analyze U.S. policy. I simply had to review them together.

Garrison is a historian and Clark is an immunologist, but historical analysis is a significant and useful element of both these volumes. Rarely has a sense of perspective been so lacking in public discourse as it has during the decade now ending. Both volumes address the important changes in emergency management philosophy that have occurred in reaction to the 9/11 attack on the World Trade Center. This is only part of their appeal, however.

Clark begins his work with a fictional treatment of the Dark Winter exercise of June 22-23, 2001 that simulated a bioterrorism attack using smallpox. He refers back to the exercise frequently as a means of illustrating the importance of several issues, and it serves as a useful framework for the book. He then offers a "Brief History of Bioterrorism", and makes a case for distinguishing between bioterrorism and biocrime, which has narrower aims and usually fewer victims.

The "science" part of Clark's book is very useful for non-specialists seeking to understand the physical mechanisms of the microbes and toxins that have been or could be used to cause large numbers of casualties. One chapter is devoted to agents from categories A, B and C of the Centers for Disease Control list of critical biological agents. Another chapter covers the possible next generation of biological weapons that may or may not be under development by governments or other groups. The chapter on

agroterrorism is also very informative, but the most interesting of all was the chapter on naturally occurring pathogens that details what influenza epidemics of the past have done and what they could do now.

A detailed description of the U.S. government's response to the growing international level of concern about biological weapons occupies one chapter. Key elements of this response include the Strategic National Stockpile of medical supplies and materials; Project Bioshield, funding for research, development, and purchase of new vaccines and drugs; the Biowatch and Biosense programs that use sensors and data searches to monitor the development of new threats; and the National Strategy for Pandemic Influenza (NSPI) of 2006. The NSPI defines the three pillars of U.S. response to a catastrophic influenza pandemic as Preparedness and communication, Surveillance and detection, and Response and containment. These elements cover the familiar (to readers of this journal) territory of hazard analysis, disaster preparedness, and response as applied to biological and chemical hazards.

The final two chapters of the book address policy directly. In Chapter 9 Clark summarizes some of the major events that have driven policy on bioterrorism since 1985. Chief among these is the 1992 defection of Kanatjan Alibekov (Ken Alibek), the Soviet bioweapons expert. He disseminated information indicating the Soviets had continued to work on biological weapons since signing the 1972 Biological Weapons Convention and assumed the U.S. was doing the same. Unfortunately, as with other well-known defectors and dissidents, his information was not completely accurate, but it did influence many in high levels of leadership and served to promote a "growing hysteria" about bioterrorism. Numerous reports and journal articles appeared during the 1990s, and their effects were amplified by popular entertainment such as *The Cobra Event* and *Executive Order*. In 1999, the Johns Hopkins Center for Civilian Biodefense Studies was established, and the infrastructure was in place to push for major action after the 2001 attacks on the World Trade Center. The upshot was over \$40 billion invested in defense against bioterrorist attack.

The problem is that much of the money was not invested following a serious risk analysis, and so some at least was wasted. According to Clark, the main biological threat to the U.S. is not bioterrorism, but natural pandemics. Once again there is evidence that an overly fearful response to the 9/11 events resulted in neglect of the hazards posing the greatest risk to the nation, while misleading the public on the level of preparedness at all governmental levels.

Chapter 10 asks three questions: what have we seen and learned so far, how ready are we to defend ourselves against possible biological agents, and who (or what) could use biological weapons against the U.S. The first part consists of a series of case studies of three bioterrorist or biocriminal attacks, and shows what we can learn from an objective look at what has actually been achieved to date, which turns out to be surprisingly little

given the effort that has been put into developing biological weapons. Smallpox, anthrax, and plague (*Yersenia pestis*) are the agents most likely to be weaponized, although other possibilities remain. The usual array of disgruntled individuals, groups, and states are the main suspects. However, the technical difficulties are great and the U.S. public health system is much improved, so any attack would probably have less than the desired effect. While bioterrorism remains a small but credible threat, the most likely source of a pandemic is one of the existing and constantly mutating naturally occurring pathogens such as AIDS, influenza, or a variety of drug-resistant tuberculosis.

Garrison's 2006 book focuses on the threat of nuclear war and its effects on Civil Defense policy, the emergence of nuclear strategies including Mutually Assured Destruction (MAD) and Nuclear Utilization Target Selection (NUTS), and the return of Civil Defense under another name during the G. W. Bush administration. Like Clark's book, it offers a useful tutorial on the relevant science for the non-specialist, coupled with a critical analysis of the history of nuclear weapons and strategy. Although the broad outlines of the effects of the atomic bombs that have been exploded are well known, it was fascinating to read the eyewitness accounts of events in the book and the descriptions of probable effects of a larger bomb are truly horrific.

In the light of such horrific detail, the survey of nuclear war planning over the years is truly appalling. In the naive early days the Civil Defense authorities offered sunny pamphlets on emulating "Grandma's pantry" while other branches of government were developing increasingly powerful weapons that would make any but the most expensive protection useless. There seems to have been a total disconnect between reality and policy during the discussions of population dispersal, evacuation, and sheltering. None of these strategies offered any realistic options, for reasons that are familiar to readers of this journal. However, the political risks of doing nothing to "prepare" the population were so great that some action was deemed necessary, so for years public education campaigns continued to reassure the population that readily available household products and simple cleanliness measures would be adequate to protect them against nuclear fallout.

This phase ended as evidence mounted of the true nature of the hydrogen weapons under development and their capacity for much greater levels of damage than the A-bombs familiar to most people. The Bravo nuclear test in 1954 was a key event that prompted a reexamination of the public education effort. Eisenhower is presented as a realist, committed to developing a policy with the largest possible chance of avoiding nuclear conflict because he recognized that using available weapons would involve a suicidal level of destruction. The whole sorry story took years, but eventually the notion of countering the nuclear threat with population dispersion, mass evacuations, or fallout shelters was totally discredited. One of the most interesting episodes was the demise of the "Operation Alert" series of annual drills, which were opposed most effectively by

young mothers allied with experienced activists such as the Catholic Workers under Dorothy Day's leadership. Outright opposition to the drills was important; probably public indifference to the obviously inadequate and impractical sheltering exercises was more effective. Under Kennedy there was a short-lived effort to make a booklet on nuclear shelters available to all citizens. The first drafts were so ridiculous the whole project was drastically reduced in scale, and the resulting booklet was 24 pages of mostly recycled and unrealistic propaganda about how individual resourcefulness and ingenuity would adequately protect the majority of the population. Ultimately, as it became clear that the only people likely to survive a nuclear attack were the government officials with access to the elaborate Continuity of Government shelters, people became less and less likely to believe anything the government said about the issue.

The MAD doctrine actually makes a kind of twisted sense, but NUTS was really ...well...the name says it all. NUTS was a response to the totally unacceptable Single Integrated Operational Plan (SIOP) that involved the delivery of almost 4,000 nuclear warheads to targets in Eastern Europe, the USSR and China, a first strike apparently to be delivered within a 24-hour period. NUTS ignored civilian targets, focusing on military installations in an effort to limit a nuclear war to more manageable conventional dimensions. The logistics of this option proved so intractable, and the idea of a "limited" nuclear war so abhorrent to popular and scientific opinion, that NUTS was effectively abandoned. Consequently, the uneasy balance of MAD was maintained for the duration of the Cold War, although SIOP was kept in war plans as well. All of these strategies seem completely insane in the light of what we now know, but fear is a powerful motive—as recent foreign policy mistakes show.

Civil defense never really recovered its respectability after the reality of nuclear war became widely understood. Under President Carter the program was tucked into the blandly named FEMA, where it continued to suck up a lot of funding for programs such as Crisis Relocation Planning. Once again, readers of this journal will be familiar with the outlines of this fiasco. The peace and nuclear freeze movements of the 1980s had their unexpected outcome in Strategic Defense Initiative (SDI, popularly called *Star Wars*) and the signing of nuclear weapons reduction treaties by Gorbachev and Reagan. FEMA, meanwhile, stumbled from scandal to scandal. One new (to this reader) fact was the involvement of Lt. Colonel Oliver North in FEMA's Continuity of Government plans from 1982-1984. This did not help FEMA's reputation, nor did the controversy over withholding disaster relief from states that did not participate in nuclear attack-oriented civil defense drills.

FEMA found its soul when it lost its civil defense "cred" after the Hurricane Hugo debacle. However, the "golden years" did not outlast the Clinton presidency. Although the 9/11 attack on the World Trade Center was not nuclear, it was not exactly conventional either, because it used one of the most successful technologies of the U.S.

against itself. The shock was great, and those whose limited imaginations had prevented them from considering the possibility that the U.S. was not universally loved and revered reacted with ferocity, ramping up civil defense until it swallowed FEMA completely within a much larger and more military-oriented agency. The consequences were not long in coming, but now we may have an opportunity to once again reorient civil defense toward a truly civilian posture.

The theses of these books are familiar; their greatest value lies in the technical and historical cases they make for such a reorientation of policy. They are well-written in language suitable for upper-level undergraduate as well as graduate level classes and professional readers.