Biological weapons (BW) are often presented as a serious and looming threat in light of alleged terrorist interest and their attractiveness as an asymmetric weapon capable of offsetting the United States’ conventional military superiority. However, many of the dynamics associated with these unique weapons are not well understood. In *Living Weapons: Biological Warfare and International Security*, Gregory Koblentz offers one of the most comprehensive surveys in print of the international security implications of biological weapons.

Koblentz, the Deputy Director of the Biodefense Graduate Program at George Mason University and a member of the Scientist Working Group on Chemical and Biological Weapons at the Center for Arms Control and Non-Proliferation, examines nearly every dimension of biological weapons, from the military utility of such weapons to the ways in which the multiple applications of biotechnology inhibit the ability to verify that such technology is being used for peaceful purposes. *Living Weapons* should serve as essential reading for anyone looking for a thoughtful and current overview of biological weapons issues. It is particularly helpful in illuminating the paradoxes presented by biological weapons.

The author quickly points out a number of these paradoxes, such as the fact that biological weapons are considered very threatening, yet are almost never used; that they provide allegedly little deterrent value, yet are often called the “poor man’s atomic bomb”; and that such weapons were the first prohibited by international law, yet their proliferation surged after they were banned. *Living Weapons* shines a light on these and other issues and leaves the reader with a deeper understanding of the factors leading to these apparent contradictions and of the BW threat in general. The principle evidence for the arguments in the book derives from numerous case studies of the Soviet, Iraqi, and South African BW programs, which, in addition to supporting Koblentz’s arguments, make the book much more enjoyable and interesting to read.

In the first chapter, *Living Weapons* provides a robust orientation to biological weapons. First, Koblentz offers a historical review of the four eras of BW: the pre-germ theory era from ancient times up through the mid-nineteenth century, the applied microbiology era through World War II, the industrial microbiology and aerobiology era during the early period of the Cold War, and, finally, our current era of molecular biology and biotechnology beginning with the genomic revolution in the 1970s. He then examines the various characteristics of biological weapons and four key international security implications: biological weapons strongly favor the attacker; biological weapons can serve as a force multiplier for conventional military operations; biological weapons are a poor strategic deterrent; and, biological weapons have eroded the normative, technological, and political constraints on the development and use of BW are eroding. For example, in support of the argument that biological weapons strongly favor the attacker, *Living Weapons* discusses the wide-ranging diversity of agents, including not only pathogenic organisms and toxins but also the emerging category of bio-regulators, which are chemicals that control communication between cells and play a role in directing many biological systems. Koblentz points out that a consequence of this broad range of agents is that defending against such a wide and unpredictable threat spectrum is extremely difficult. This provides the attacker with an inherent advantage.

Of the four security implications Koblentz examines, his weakest claim is that biological weapons have limited value as strategic deterrents. This is one of the major biological weapons paradoxes examined in *Living Weapons*, and the argument is based on the fact that biological weapons have uncertain effects relative to kinetic weapons, that defenses are widely available (such as vaccines, quarantines, and other medical countermeasures), and that biological weapons programs are often shrouded in secrecy, prohib-