Everett Carl Dolman. *Can Science End War?* New Human Frontiers Series. Malden: Polity Press, 2015. 200 pp. $45.00 (cloth), ISBN 978-0-7456-8595-3; $12.95 (paper), ISBN 978-0-7456-8596-0.

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Yes, Science Cannot End War: Probing Questions and Grounded Essays

Everett Carl Dolmanâs book *Can Science End War?* is part of the Polity Press series New Human Frontiers. Additional titles in the series ask similar, difficult questions, including Harry Collinsâs *Are We All Scientific Experts Now?* (2014), Mike Hulmeâs *Can Science Fix Climate Change?* (2014), and Hugh Penningtonâs *Have Bacteria Won?* (2015). Big questions related to science, including social science and political science, should inform the research and study of the major issues of the day. No doubt, advances in the studies of neuroscience, bioscience, bioengineering, data analytics, nanotechnology, cyber security, and artificial intelligence are highlighted in the academic and popular press. How then do the big questions about the new human frontiers deepen the study and research of the age-old questions of âscienceâ or at least new technology?

The broad purpose and scope of Dolmanâs book is highlighted in the preface: âThis is a book about the promise and limitations of science and scientific thinking in the context of war. It is meant to inform those conscientious scientists and engineers who are continually stymied by the political and social impediments blocking their research and developmentâ (p. vi). The author does not directly explain what these impediments are or why a scientist or engineer, or anyone else, would not understand that political and social ideas and emotions influence states and their citizens, as well as most other human behavior. The author then provides the straightforward answer to the question raised in his title: âThus science alone cannot find a solution to war, nor can politics or morality by themselvesâ (p. vi).

Since the primary research question is addressed and answered in the bookâs preface then why read the rest of the book? The answer to that question is that the bookâs thoughtful chapters will inform and ground the reader in relevant supporting arguments, peppered with brief historical examples, as well as classic philosophical concepts. Dolmanâs book serves as a useful introduction to the many layers of knowledge for thinking critically and analytically about the study of science and technology and warfare.

Each of the six chapters poses a challenging research question. Chapter 1 starts with the bookâs title: âCan Science End War?â Calling this âthe most important question of our age,â Dolman ends up arguing that the question cannot be answered through the scientific method (p. 4). Instead, the reader is encouraged to consider ethics and the need for âmoral judgmentâ and essential questions regarding political and social sciences (p. 21). Some history of the US nuclear Manhattan Project and Robert Oppenheimerâs fascination with Hinduism is retold, relying in part on the excellent book by Richard Rhodes, *The Making of the Atomic Bomb* (1986), on the early atomic era. Definitions of science, by the UK Science Council, and of war, by Karl Marxâs colleague Frederich Engels, are interesting but could have been further developed with more recent scholarship. These ideas have value but mainly for understanding the relationship of science and warfare in the twentieth century and earlier periods. For introducing the topic, it would assist to explore all the scope and variations of science, such as natural sciences, social sciences, and applied sciences.

In the second chapter (âIs War Good for Scienceâ), the author provides an extensive review of warfare in the Middle Ages. Chapter 3 (âCan Scientists End War?â) and chapter 4 (âCan Science Limit War?â) continue the historical review. The chapters discuss interesting if sometimes obscure scientists and their ideas on science and the ethics of war, such as Alfred Nobel, Leonardo DaVinci, Hippocrates, and Bernard Brodie, as well as John Napier (the inventor of the logarithm) and Fritz Haber (developer of German World War I chemical weapons). The author does pay some attention to more recent political, legal, and social issuesâsuch as nonlethal weapons and military policy and the 1995 UN protocol on blinding laser weaponsâand space warfare. Two final chapters, chapter 5 (âWhat Will Tomorrowâs War Look Like?â) and chapter 6 (âWhat Will End War?â) provide insight on more recent emerging issues, such as space and cyber warfare. In these chapters, the author describes current advances in technology and our popular fascination for the potential uses of robots and a âcybernetic killing machine,â 3D printers, and DNA manipulation (p. 107).

Dolman thoughtfully explores the potential for space-based energy platforms as an approach to creatively use science and technology in a manner that would address political, economic, environmental, and security concerns. Given the authorâs experience in the US Air Force and National Security Agency, working and teaching in intelligence, cyber security, and space operations, this is one area of the book that his research and writing could contribute more to deepening our understanding of important issues on the future of science and technology for shaping ethical and effective governmental policy, as well as economic and business decisions, that will have to be made through innovative political and social processes. As the authorâs conclusions point out: âWith science, humanity can continue to expand, press the frontiers of space and, with its help, make life better for people to come. What is *better* however, including a preference for war or peace in a given context, will be determined outside of scienceâ (p. 173).

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