1989

Technology and War: From 2000 B.C. to the Present

D. K. Pace

Martin Van Creveld

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however, are minor. *Enter The Dragon* is nothing short of superb.

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Van Creveld, Martin. *Technology and War: From 2000 B.C. to the Present.* New York: The Free Press, 1989. 342pp. $22.95.

This book is different. Its goal is to provide a historical analysis of the role that technology has played in the development and transformation of war, but it is not simply an account of weapon evolution and the impact of that evolution on combat. The book has a larger vision of technology within the society and the total impact technology has on war. Accordingly, a great deal of attention is given to mundane subjects such as roads, maps, communications, and management, each of which has a significant influence on war.

Van Creveld has organized his material by four eras. The first, reaching to about 1500 A.D., is the Age of Tools, when military technology derived its energy from the muscles of men and animals. The second extends to about 1830 and is the Age of Machines. The third goes through the Second World War and is the Age of Systems. The final era covers from 1945 to the present: the Age of Automation. Each of these four sections of the book contains five chapters. Four of them each deal with a particular aspect of warfare, such as field warfare or naval warfare, more or less chronologically for the era. The fifth chapter in each section is thematic. These deal with irrational or disfunctional technology which does not get exploited, the rise of military professionalism, the invention of invention, and real war (as opposed to make-believe war).

In addition to a decent index, the book contains a bibliographical essay with brief comments about books related to each chapter of the book. Its conclusion is that a comprehensive and systematic theory of the relationship between technology and war is not available. Perhaps such will have to wait for a modern Clausewitz.

Martin Van Creveld is an internationally acclaimed military historian who teaches history at the Hebrew University in Jerusalem. He brings a broad international perspective to this book due to his interaction with members of both the American and Israeli defense communities.

His discussion of guerrilla war and terrorism is quite worthwhile, but there is much more of value in this book. It helps to put in proper perspective the impact of a nation's infrastructure and technology on its war-making. It will stimulate one's thinking. Each of the four sections of the book devoted to the different eras contains approximately the same number of pages; this places most emphasis upon the more modern periods since the four eras are progressively shorter. Even so, the book is weakest in its final section.

The treatment of the Age of Automation, 1945 to the present, seems superficial when compared to the fundamental insights for earlier eras. Perhaps this is the result of so many technological changes since the Second World War; or perhaps some of the fundamental interactions between technology and war in this era are still obscure. Whatever the cause, it suggests that a great deal is yet to be said on the subject of modern technology's relation to war.

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Baker, A.D. III, ed. *Combat Fleets of the World 1988/89: Their Ships, Aircraft, and Armament*. Annapolis, Md.: Naval Institute Press, 1988. 908pp. $96.95

Giorgerini, G., and Nani, A., eds. *Almanacco Navale 1988*. Genoa, Italy: Instituto Idrografico Della Marina, 1988. 1092pp. $59

These two large volumes are awesome compilations of data and illustrations on the world's navies. As anticipated in the review of the previous edition of *Combat Fleets* published here (*NCWR* Summer 1987, p.129), *Combat Fleets 1988/89* arguably now has overtaken the longtime "standard reference of the world's navies," *Jane's Fighting Ships*, as the best single encyclopedia of naval vessels. Their opposite number from Italy, *Almanacco Navale 1988*, adopts a somewhat less ambitious

format but succeeds nonetheless in providing a wealth of information and many unique illustrations.

The trend over the past decade or so for naval annuals to become huge, very expensive books reflects several factors. One of these is the proliferation of navies: there are many more independent nations now than 100 years ago. Brassey's *The Naval Annual* of 1886 tabulated data for ships of 32 nations; today, *Combat Fleets* includes 160 nations! Another factor is the growing tendency in naval annuals to account for subsidiary craft of almost any kind, most of which were ignored in Brassey and Jane (though not in Clowes' *The Naval Pocket Book*) in the early years of their publication.

How do these reference books compare in terms of accuracy? To some degree, this is unknowable. How, for example, does one find authoritative data on ship displacements, torpedo loads, etc.? As a practical matter, the degree to which the books' data reflects photographic evidence, takes advantage of the rather voluminous periodical literature, and draws on official and shipbuilder public releases determines the level of accuracy achieved.

Combat Fleets is arranged alphabetically by country. Each nation's entry includes introductory data and narrative on shipboard weapons and other systems, naval aircraft, and (for a few major navies) shipbuilding programs by financial year. The book contains about 3600 photographs, including almost 600 of Soviet ships and aircraft alone, and