Technology and the American Way of War since 1945
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such as this is very brave indeed, and an author must be careful not to oversimplify the technological complexities of weapons systems. Unfortunately, Peden’s book has a large number of errors, for instance in the account of First and Second World War antisubmarine warfare technology. While correctly pointing out that convoys were the single most important factor in defeating U-boats in 1917–18, Peden gives far too much credit to the development of hydrophones and makes no mention of the invention of active sonar by French scientists. Hydrophones on the whole did not work. Despite the deployment of some 10,000 of these devices, ship-borne hydrophone detection played a role in the sinking of only three or four German submarines. Peden does not cite Willem Hackmann’s history of the development of sonar, implying that radio intelligence during World War II consisted primarily of enigma intercepts. But David Syrett has conclusively argued that strategic and tactical high-frequency direction-finding were far more important than decryption in redirecting convoys around submarine patrol lines.

Surprisingly, several major themes of Britain’s wartime industrial mobilization are not fully explored. Quite correctly, Peden explains that the dominions provided little assistance in the rearmament program of the 1930s. In addressing World War II, however, he makes little mention of the industrial and financial contributions made by Canada, Australia, and other components of the empire, and he does not mention the British Commonwealth Air Training Plan, perhaps one of the best examples of successful imperial planning for a long war. Shortcomings in design and industrial-production techniques caused numerous problems in weapons development and manufacturing in the United Kingdom, and in transferring these for overseas production. Peden argues that such issues were no worse than in Germany, but it would be hard to find a German equivalent to the scandalously inferior British tank designs.

While this book is not perfect, it is still a very useful study on a very important topic. There is little doubt that Britain’s decline as a great power is one of the most important developments of the twentieth century. Peden greatly contributes to our understanding of why this occurred.

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Technology and the American Way of War since 1945.


“This book is about the interaction of technology and culture,” says Thomas Mahnken in the introduction to this concise history of U.S. weapons devel-
opment in the last sixty years (p. 10). Mahnken, who served as assistant secretary of defense for policy planning from 2006 to 2009, argues that each service has its own culture, which shapes its relation to technology. He believes that “although the culture of the U.S. armed services both shaped and was shaped by technology, the services molded technology to suit their purposes more often than technology shaped them” (p. 219). His book provides some support for these claims, though the treatment is too brief and comprehensive to prove them in detail.

In six short chapters, Mahnken surveys U.S. weapons development from the nuclear revolution to what he calls “The Global War on Terrorism.” Hardly a significant weapons system escapes his ken, from the Davy Crockett nuclear field mortar to the B-2 stealth bomber, with occasional excursions into other military technologies such as field radios and night-vision goggles. The sources are mostly secondary and the coverage often thin, but Mahnken is thorough, well-informed, and generally reliable in both his choices and his interpretations. This book offers something of a catalog of the American arsenal since World War II.

The forest, however, often disappears into the trees. Service culture, in practice, was just one of many variables shaping technological choices within the Department of Defense. Necessity dictated some choices, spy satellites for instance. The missions of the various services dictated others, such as silent-running submarines. Politics had as much impact on the nuclear-powered aircraft as did air force predilections. Economics drove development of the F-111 swing-wing fighter/attack aircraft, which secretary of defense Robert S. McNamara forced on a resistant navy and air force. Technological choice proved too complicated to be explained by any one variable, let alone by the notoriously vague concept of culture. Furthermore, differences between service cultures become less easy to isolate as time passes, in part because we lack perspective on the recent past and in part because the services have been growing more “purple,” i.e., homogeneous, since the 1980s. Indeed, Mahnken makes clear that the Office of the Secretary of Defense, at least since McNamara’s time, has been a culture of its own, distinct from the collective and multiple cultures of the uniformed services, though he does not himself articulate this insight. The result is that service culture becomes something of an icon for the swirling confluence of forces that drove weapons development within the American military establishment.

Still, Mahnken arrives at some conclusions that complement his main thesis. He discerns, for example, two great revolutions in American military technology since World War II. Nuclear technology is the most important and the subject of his longest chapter. The information revolution is still under way and seems to be having a greater impact than the precision-guidance and stealth technologies that played such prominent roles in the two Gulf Wars. These are conventional judgments, but well-argued and -illus-
trated. Mahnken also achieves a balance of sorts between the advocates and critics of the so-called “revolution in military affairs.” He thinks that there has been a revolution, but he doubts that it trumps all military practice. He is harsh on the military reformers of the 1980s, harsher still on all experts. In his view, the rapid pace of change in military technology during the past half-century made the changing nature of conflict almost impossible to predict.

Mahnken does not escape political bias. He supports ballistic missile defense and finesses the failures of the Patriot in the first Gulf War. He drubs the Clinton administration for its pursuit of al-Qaeda and forgives the Bush administration, in which he served, for failing to run Osama bin Laden to ground. But for an author whose insights were gleaned in large part from hands-on experience with his topic, he remains remarkably even-handed and perceptive. This is a practitioner’s account of military equipment and weapons written with the insight of a historian of technology.

ALEX ROLAND

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By Alex Roland, W. Jeffrey Bolster, and Alexander Keyssar.

The standard view of American maritime history celebrates the era of blue-water sailing and the introduction of steam power and laments the merchant marine’s steady decline after the Civil War. The authors of The Way of the Ship revise this view by taking a global perspective and by bringing domestic coastal, lakes, and river shipping into the story. They do this while following five analytical threads: economics, policy, labor, military, and technology. What results is not only a major new interpretation of the nation’s maritime history but a truly fresh account of American history in general, couched in its maritime milieu.

Jeffrey Bolster opens The Way of the Ship with a lively retelling of the colonial and revolutionary maritime experience. Largely rejecting the simplistic “triangular trade” explanation for colonial commerce, Bolster provides a thorough and nuanced analysis of the era’s “complicated pan-Atlantic trading system” (p. 36), which is much more satisfying than the traditional tale. He moves from Richard Hakluyt’s earliest maritime plantations through New England’s maritime foundations and the rise and eclipse of Boston as America’s leading shipping center. He focuses on the enormous extent of coastal and inland-waters trading, treating readers to a marvelous tour of British North America in which a rich understanding of local history fleshes out the larger story.