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The Winning Edge: Naval Technology in Action, 1939-1945

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I am personally familiar, and I give the author high marks for accuracy.

In conclusion, it was a pleasure for this former midshipman fourth class to read, and an honor to review, this book written by Richard C. Knott, his first naval science instructor at the Villanova University Naval Reserve Officer Training Corps (NROTC) Unit. No doubt the author's admiration and enthusiasm for, and advocacy of, naval aviation thirty-five years ago had some influence on the future career path of this reviewer. It is a proud heritage of wings.

WILLIAM J. FALLON
Vice Admiral, U.S. Navy

Poolman, Kenneth. *The Winning Edge: Naval Technology in Action, 1939-1945*. Annapolis, Md.: Naval Institute Press, 1997. 256pp. \$32.95

In this study on the impact of technology on World War II's naval campaigns, Kenneth Poolman describes the development of a variety of naval sensor and weapon systems and analyzes their use during the war at sea. Poolman, a World War II veteran of the Royal Navy, is a prolific writer on naval combat, and his book demonstrates his mastery of naval technology.

The author begins by describing how Allied navies turned to new technology—including Asdic (sonar), radar, high-frequency direction finding, antisubmarine mortars, and rockets—in response to Germany's naval campaign against Allied supply lines. He also describes how the Germans fielded acoustic torpedoes, the *Schnörkel*, and

radio-controlled bombs to strengthen their blockade. While the author gives greatest emphasis to the Battle of the Atlantic, he also devotes considerable attention to the war in the Pacific, examining the development of carrier aviation, surface-search and fire-control radar, and cryptanalysis by the U.S. Navy.

Given the breadth of his subject and the brevity of the volume, the author's description of naval technology is occasionally terse to the point of confusion. Even the technologically proficient reader is likely to stumble, for example, over the author's discussion of the evolution of sonar systems. The book also contains a number of mistakes. Poolman argues that the German air force dropped its plans to develop a heavy bomber because such an aircraft was unnecessary; in fact, the Luftwaffe canceled its heavy-bomber programs—the Do-19 and Ju-89—in 1937 because of slow progress in developing engines for the aircraft and resource constraints as much as the low priority of the aircraft in a continental war.

While the book's title makes it "the winning edge," naval technology is at best a partial explanation of tactical success and failure. At the outbreak of World War II the Japanese navy possessed the world's best fighter aircraft, the Mitsubishi A6N Zeke (or Zero), as well as the world's most highly trained aviators. In the end, the United States beat Japan not by fielding its own superior technology but by developing tactics to counter superior Japanese aircraft technology. Similarly, the U.S. Navy took a pounding during the Guadalcanal campaign despite its substantial lead in naval radar. Technology clearly

played a role in the Japanese navy's effectiveness; the Japanese possessed the Type 93 (Long Lance) oxygen-propelled torpedo, a weapon with range, speed, and payload much greater than those of contemporary American and British weapons. Here again, however, technology is at best a partial explanation: the Japanese navy inflicted considerable losses upon Allied naval forces off Guadalcanal because it had developed a coherent tactical system for conducting night combat, one that included operational concepts and organizations allowing it to employ its technology (much of it seeming today decidedly "low-tech," such as high-quality optics) to maximum effect. These examples suggest that while technology is an important element of victory, it does not by itself offer a winning edge.

THOMAS MAHNKEN
Naval War College

Stevens, David, ed. *The Royal Australian Navy in World War II*. Allen & Unwin, 1996. 212pp. (approximately \$23 U.S.)

This book represents the outcome of a conference titled "The Royal Australian Navy in World War II," which was held in Australia in 1995 as part of a nationwide program, sponsored by the Australian federal government, called "Australia Remembers 1945-95." The book is an edited collection of papers presented at that conference, and as such it is quite different from many of the more traditional histories with which many of us are familiar.

I was immediately struck by the diversity of subjects covered, which range from analysis of strategic and policy considerations, through commentary on selected operations, to discussion of industrial and demographic influences. Indeed it would be fair to say that there is something for everyone in this collection, which is well edited and presents a readable and coherent account of its subjects.

The contributors to the book are as diverse as its topics, including both professional and part-time historians, as well as people who were actually involved in the events discussed. This adds a unique dimension to the book, and the mixture of backgrounds and treatments generally works well.

The book contains an excellent summary chapter by Frank Broeze, and for many readers this might be a very good place to start; it will serve to focus consideration of the individual chapters. Because of its nature, this publication does not attempt to address any topic in great depth; however, enough detail of events is provided to support the commentary and analysis. What this does is invite the reader to conduct further reading and research.

Many chapters represent only a first step in examining issues that have in the past received scant attention. Typical of this are the chapters on the industry perspective by Chris Coulthard-Clark, the role of women by Kathryn Spurling, and social and demographic issues by Jason Sears. As a surface warfare specialist, I was particularly interested in Bruce Loxton's account of the loss of HMAS *Canberra* in the battle of Savo Island. The author was serving in *Canberra* at the time and has made a