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U.S. Destroyers: An Illustrated Design History

Thomas R. Weschler

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PROFESSIONAL READING

“ . . . though the book seems to promise more than it delivers, it is an excellent reference work, topnotch for selected reading, and the only reasonable historical source . . . for a line officer thrust into destroyer modification, procurement or design.”

by
Vice Admiral Thomas R. Weschler, US Navy (Retired)*

Friedman, Norman. *U.S. Destroyers: An Illustrated Design History*. Annapolis: Naval Institute Press, 1982. 489pp. \$46.95

This handsomely jacketed, but soberly covered, large book presents a complete history of the design and detailed characteristics of every destroyer type in the US Navy (covering a period of over 80 years), but it does so in too many instances with a labored pedagogic style. This is in contrast to a few chapters, less cluttered with such detail, that are alive with the interplay between design discussion, final characteristics and wartime or Fleet achievements. The author, in his acknowledgement, indicates that a suggestion for a book showing the linkage between national strategy, naval doctrine, and ship design was the genesis of this work. It is disappointing not to have that intriguing suggestion fulfilled more adequately.

The book is distinguished by the fine black and white pictures and line drawings of all the destroyer types discussed. They are presented appropriately supporting the text, and help to enliven the book and provide a pictorial continuity.

As a former program manager of the *Spruance* and *Virginia* classes, I can attest to the great value of this book to anyone moving new into the area of

*Admiral Weschler was the DX/DXG Program Coordinator and a Director of OP36 (Ship Characteristics Board).

ship design, development and procurement. The changes in priorities, guidelines, procedures and goals, and the hundreds of possible designs that are studied, are phenomena well recognized in this presentation. It is a history well worth skimming. Chapter 8 (Destroyer Warfare, 1941-45), Chapter 12 (Postwar ASW Escort), Chapter 14 (Nuclear Destroyers and Frigates), Chapter 15 (The New Escorts), and Chapter 16 (The Future) are deserving of close reading. Chapter 8, which reviews the marvelous achievements of destroyermen and their ships in World War II, is a real tour de force.

Though the author makes some effort to equate new characteristics to changed national strategy or naval mission, this is so lightly interwoven as to pass almost unnoticed. In the welter of presentation of every change in characteristic or installation between one *Fletcher*-class DD and another, or one World War II DE and another, one loses any sense of why, and even of interest! Thinning out the detail (to be presented in a chart or table if necessary for completeness) would have aided the comprehension and enhanced the readability. In the recommended chapters, the author strikes a better balance between strategic guidance or mission, design considerations and ultimate choices.

The work is incomplete in two ways. Frequently the United States has not been in the forefront of ship design or outfitting. Thus a generalized reference to what was going on in the other destroyer navies of the world, any why, might have been illuminating in showing the wisdom or error of the selections made for US destroyer types. The slow inclusion of surface-to-surface missile capability, gas turbines, and helos in destroyers are cases in point. The other partial omission is in the discussion and presentation of the significant changes in the technical milieu from which the destroyer capabilities spring. The tremendous change in sonar capability from the hydrophones of World War I to the long-range active and passive capability of today, with its consequent impact on tactics and numbers, is not articulated in any single section of the book. Nor is the long spread in time from the introduction of the first SQS-26 sonar to the actual ability of integrated fleet units to use it (about 15 years) well noted.

The increase in electrical power needs by a factor of over 20 to 1 from World War II to today is not highlighted clearly, though it deserves a diagram to show the fantastic growth. Reduction in manning is referred to; but such key facts as that the new light 5"/54 mount is unmanned, or that the gas turbine plant brought an overall engineering force reduction of better than two to one, are not stated. The development of Prairie/Masker, skewed blade propellers, self-ballasting, and standard distillate fuel go unheralded. The changes in shock and blast resistance may have been clouded by security, but they are significant in their current levels. No mention is made of low silhouette, minimum radar signature and infra-red

signature suppression, except with respect to DDG-51 and some pre-WWII designs, though these have been continual considerations.

It would have been good for the general reader to have been reminded that ship procurement is but one aspect of ship cost. The costs of operations and maintenance and those of manning equal or exceed those of procurement. Thus every ship is bought three times or more. This provides another perspective on such features as ease of maintenance, equipment reliability, manning, and full economy. In this regard, the author notes that the low efficiency of gas turbines was a consideration in earlier ship design. The great improvement in the FT4 and particularly in the LM2500 (*Spruance*, *Perry*, and *Ticonderoga* classes) is not noted, though this was one of the major factors in their selection, once distillate fuel became standard in the Navy.

Overall, though the book seems to promise more than it delivers, it is an excellent reference work, topnotch for selected reading, and the only reasonable historical source or indoctrination medium for a line officer thrust into destroyer modification, procurement or design.

Bartell, Joyce J., ed. *The Yankee Mariner and Seapower: America's Challenge of Ocean Space*. Los Angeles: University of Southern California Press, 1982. 299pp. \$20.00

Was there ever a Yankee Mariner? If so, is he still with us? And what are his prospects for the future? These questions are the focus of this guide to the United States as a sea-faring nation. The book is about American sea power, as defined in the foreword by Dr. Don Walsh, of *Trieste* fame, as "the sum total of all uses made of the oceans: their living and non-living resources, the energy wrested from them, their use as avenues of transport, their value and potential for recreation, as well as the vital role they play in national defense." Walsh's is a theme much in vogue these days, sounded perhaps most forcefully by Admiral of the Fleet Sergei Gorshkov in his book, *The Sea Power of the State*, and highlighted by the perhaps concluded negotiations at the Third UN Conference on the Law of the Sea.

efforts, has several objectives. First, it seeks to provide a history of the American experience with the sea. Second, it intends a tour d'horizon as to the total impact American sea power has had in the past and should have in the future. And, finally, it attempts to offer an understanding of the importance of the oceans for the future of the United States. The editor and authors make a valiant attempt, but fall short of covering these fields as completely as they desired.

This result is predestined by the nature of the book itself. It is a collection of papers presented at a conference held at the University of Southern California in March 1981, sponsored by the Center for the Study of the American Experience, the Annenberg School of Communications. Some of the monographs trace the development of the United States as a sea power from the historical point of view, while others describe specific ocean uses and the US prospects for future developments in those areas. The denouement is