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Naval Force Levels and Modernization: An Analysis of Shipbuilding Requirements

C. O. Fiske
U.S. Navy

R. B. Ehrnman
U.S. Naval Reserve

Arnold M. Kuzmack

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shelves at the U.N., it is clear that Mr. Fabian, in his scholarly fashion, focused on the problem and offered a plausible solution. Hopefully, the U.N. can do the same.

BRUCE J. HOST
Major, U.S. Air Force
Student, College of Naval Command
and Staff

Kuzmack, Arnold M. *Naval Force Levels and Modernization: an Analysis of Shipbuilding Requirements*. Washington, Brookings Institution, 1971. 47p.

Writing under the auspices of the Brookings Institution, Arnold Kuzmack addresses the problem of "block obsolescence" in the construction of naval ships. The problem is seen to lie in the area of the size of the funds involved and the implications for the future size and shape [form] of the Navy. The author's thesis is that

decisions about naval shipbuilding programs should be geared to decisions about the levels of naval forces to be maintained in the 1970's. Unless this is done, a continuing inconsistency between naval force levels and shipbuilding programs may create . . . growing problems of obsolescence . . . [and] structural imbalances within the navy since obsolescence is apt to fall with special impact on fleet support.

The paper does not recommend any given level of shipbuilding, nor does it evaluate political strategic and technical considerations inherent in a choice between alternative force structures and levels. The author bases his report on an analysis carried out before the President's 1972 budget proposals to Congress were announced, although it does consider the pattern of ship construction programs outlined in the series of posture papers presented annually to Congress by the Secretary of Defense.

By following a planned program of ship construction based upon projections of necessary force levels, Mr. Kuzmack suggests the Navy should be able to overcome the serious problems it now faces created by "block obsolescence." The author argues that planners should calculate the projected date of obsolescence of existing forces and balance this reduction in strength with carefully programed new construction. While this does not require replacement on a ship-to-ship basis, it will insure the continual existence of operational forces sufficient to achieve the Navy's mission. Since the determination of the rate of obsolescence of existing forces is more complex than the assignment of a programed age limit to weapons systems, technological change can drastically alter such rates. Breakthroughs which might make new units obsolete overnight are highly unlikely. Modular construction in the new generation of ships, too, will have drastic effects upon the operational life of future construction. As new weapons systems and propulsion plants are designed, they will be able to be installed in the already existing hulls, replacing less effective equipment. This "built-in FRAM capability" will give longer life and greater capabilities to ship systems which are now under construction.

The basic model underlying this monograph is one in which required naval force levels are explicitly determined by a precise definition of a navy's mission and in which programs of new ship construction are planned according to the necessity of achieving desired force levels at a given point in time. This can be schematized as:

mission → force levels → new construction

The explication and illustration of this three-step relationship in the determination of the proper rates and patterns of naval ship construction is the core of Mr. Kuzmack's argument.

The author illustrates the application

of his model to hypothetical U.S. requirements in the 1970's and 1980's. He demonstrates that construction must be determined as a function of present force levels, the age at which current units will be considered obsolete, and the time at which the new desired force levels are to be achieved. The rate of ship construction depends not only upon naval planners, but on the vagaries of congressional budgetary politics. Such politics not only fix monetary restraints upon the planner, they also may cause imbalances in planned force ratios since it is often easier politically to fund one type of weapons system than another.

Despite the vagaries of the future, Mr. Kuzmack contends that it is essential that present planners have a systematic approach for programming future construction needs. The development and use of a systematic model should enable the Navy to be more efficient in its use of construction funds and will provide shipbuilders with some ability to forecast future facility requirements.

Carefully developing and adhering to his methodology, the author has presented a useful intellectual exercise for planners to emulate. As such, it is a welcome addition to a rather limited, but important, body of literature—scholarly analyses of practical naval problems. The value of this paper lies in the exposition of the model rather than in the illustrative analysis which the author provides. By carefully defining the mission to be accomplished, naval planners could determine what means are required and in what manner these means can be most rationally provided.

C.O. FISKE
Captain, U.S. Navy

R.B. EHRNMAN
Ensign, U.S. Naval Reserve

Potter, E.B. *The Naval Academy Illustrated History of the United States Navy*. New York: Crowell, 1971. 299p.

In his latest work, E.B. Potter, Professor of Naval History at the U.S. Naval Academy and editor of *Seapower: a Naval History*, has presented an illustrated narrative of major battles and wartime actions from "George Washington's Navy" to the U.S. Navy in Vietnam. Enhanced by more than 230 illustrations, maps, and diagrams, the *Illustrated History* is essentially a narrative which has been dramatized by the addition of pictorial material. Employing many well-known, contemporary, and modern scenes of historic events, the author clearly and accurately describes the major episodes of American naval history.

Throughout the text the emphasis is upon tactics, dramatic incidents, and interesting anecdotes of action. Behind the frieze of great leaders and stirring events, Potter has broadly sketched the prominent strategic, diplomatic, and technological developments. He has neither attempted to fathom the art of naval warfare nor to view the Navy within a broad context. The reader finds little information on the development of strategic or tactical theory, the growth and refinement of naval administration, the place of the Navy in American society, or the complex interrelationship between land, sea, and air power. There are no footnotes, and there is no bibliography. More than one third of the book is devoted to World War II. Thus, it is a popular work for a broad, general audience rather than a professional text.

The advanced student of naval history will find several generalizations with which he may not fully agree. As an example, Potter summarizes the end of the Continental Navy by noting that after the Treaty of Paris in 1783, "Alliance was the only vessel still in commission. . . . None were added, for the war had demonstrated that any fleet the United States was capable of producing would achieve little of consequence when opposed to a first class