

Naval War College Review

Volume 28
Number 3 *May-June*

Article 12

1975

Plowshares into Swords; Managing the American Defense Establishment

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Recommended Citation

Walgreen, John A. and Stockfisch, J. A. (1975) "Plowshares into Swords; Managing the American Defense Establishment," *Naval War College Review*: Vol. 28 : No. 3 , Article 12.

Available at: <https://digital-commons.usnwc.edu/nwc-review/vol28/iss3/12>

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writings. Perhaps most important of all, Clay's papers prove the thesis of John Gimbel, a scholar who has written on the American occupation, namely that four-power rule of Germany failed not because of American hardliners, particularly military men who advocated opposition to the Soviets, but because of French intransigence and the support of French attitudes found in the old-boy clique of the American State Department.

Smith has done an unusually good job of selecting and explaining the documents in this collection. These documents are required reading for any student of German-American relations, the occupation, or the cold war, and one can only hope that a good many libraries will add them to their collections. Smith is now at work on a biography of General Clay, and the present documents collection can only whet the anticipation of readers.

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Stockfisch, J.A. *Plowshares into Swords; Managing the American Defense Establishment*. New York: Mason & Lipscomb, 1973. 328pp.

Jacob Stockfisch has written a perceptive account of the process by which the United States acquires its arms. He was moved to produce this work because:

... (T)he need to improve the system is greater than even the well-publicized shortcomings of weapon-system cost overruns and failures to meet technical performance objectives might suggest... [The] fault is that, even if there were no cost overruns and even if the systems met their technical design objectives, many of them would still not be worth their cost because they possess dubious combat utility.

Thus, if Stockfisch is correct, critics of

the weapon system acquisition methods of the Defense Department may be dealing with only the tip of the iceberg.

Stockfisch concludes his book with some recommendations which he estimates could save \$13 to \$23 billion dollars a year in the total defense budget with no loss of fighting capability. The dollar savings are arrived at by crude, rule-of-thumb techniques, but they are indicative of the magnitude of the problem as Stockfisch sees it.

Essentially his recommendations call for greater reliance on the professionalism and dedication of the officer corps. This group should be motivated to try to get the greatest military effectiveness from the weapons systems it develops and buys because the officers will have to operate them in combat. This incentive does not exist now, according to Stockfisch, because of the perverse influence that budgetary policy and practices have on the military bureaucracy.

Stockfisch's reform would not hand the military a blank check with which to buy hardware; it would remove the allocation of dollars to the military departments from being tied to advocacy of particular weapons programs. Based upon overall national priorities, Congress and the executive branch would make an aggregate amount of financial resources available to the services, and the military would decide how to divide those dollars among alternative possible weapons systems.

The debilitating effects of higher level interference in fine-grained decisions best made at lower levels would be avoided. However, although greater reliance would be placed on the professionalism of military managers, Stockfisch argues that certain tasks must be performed by the Office of the Secretary of Defense (OSD). He gives the following list:

1. Determine Total Defense Budget
2. Allocate Budget Between
 - a. Military Departments
 - b. Major Defense Missions

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3. Resolve Critical Roles and Mission Issues

4. Promote Innovations

5. Specify and Evaluate Combat Readiness and Sustainability

6. Overwatch Service Operational Testing and Evaluation, and Conduct Joint Operational Testing and Evaluation.

Stockfish has excellent credentials for writing this book. He is an economist who has been concerned with defense management in both the Government and several "think tanks." In addition to his personal knowledge developed over many years of military analysis, he has drawn on an impressive number and variety of sources. His bibliography covers nine pages with references to economics, strategy, sociology, political science, and military history. The book is rich with case studies and examples.

Several of the chapters in this book, such as his first two on bureaucracy, could be read for their own intrinsic interest as well as for what they contribute to his general thesis. This reader found the application of the economic concept of innovation to military tactics, strategy, and the programing of forces especially interesting.

A major problem in post-World War II weapons development has been the "technological syndrome" which equates higher technical performance to greater military effectiveness. Stockfish discusses at length how this syndrome was demonstrated in the Army's development of the Sheridan armored vehicle and the Main Battle Tank-70 (MBT-70). Both of these tanks were equipped with the Shillelagh missile launcher which could also fire a radically new form of conventional ammunition.

These programs were replete with problems, and the MBT-70 was finally cancelled when it became clear that it would cost more than \$1 million per vehicle. An effort is made to incorporate into a fixed design concept at its

early stages whatever appears to be technically feasible, based upon present knowledge and projected trends in engineering sciences. This development approach accounts for the difficulties that these armor programs encountered. Similar examples of the technological syndrome can be found easily in the other services.

Stockfish indicates that in the development of weapons systems the effort is to pick technical performance characteristics that are assumed to have military worth. But it is rarely demonstrated that these high performance capabilities really have sufficient utility in an operational military environment to make them worth buying. The Shillelagh missile may be designed to have a .95 first-round-hit probability at very long ranges and to penetrate the thick frontal armor of enemy tanks. But if most tank engagements take place at less than 1,000 meters because of the use of cover and concealment and if most tank kills are due to side or rear hits, even if the system could achieve the high technical performance of its engineering specifications, the combat utility may be considerably less.

Not surprisingly, Stockfish makes a strong case for operational testing of potential new weapons concepts. Without such testing the military effectiveness of the new weapons concepts is really unknown. Consequently, cost-effectiveness studies to evaluate potential new systems have an *a priori*, hypothetical quality because they lack measures which have operational significance.

Stockfish contrasts the scholastic model building of contemporary systems analysis and operations research with the valuable results achieved during World War II when the scientific method was linked with factual inputs on military operations. This union resulted in operational analysis which contributed to the war effort by making better use of existing military assets and

directing technology toward products which were most valuable in terms of operational military effectiveness.

Stockfisch was one of the early members of the OSD Systems Analysis Directorate (later an Assistant Secretary's office). While he believes that the OSD systems analysts did make contributions to the better allocation of resources in the Defense Department, their efforts fell short of their potential because meaningful military worth data were generally lacking.

Stockfisch goes on to discuss the problems in getting the military services to generate the operational data that are needed to make realistic cost-effectiveness analyses. Although there have been exceptions, the services have generally not had the apparatus to conduct tests that would permit the evaluation of the military worth of proposed new weapons systems. There are technical problems in developing instrumentation and designing tests that will yield data of operational significance, but the main obstacle to such investigations is that

they represent potential threats to new programs. The military bureaucracies which rely on these programs to generate the budgetary resources needed to maintain their organizations strive to avoid uncovering damaging information.

Stockfisch would change the budget allocation mechanism to create incentives to obtain military effectiveness data. He would also reinforce the stronger service incentives for operational testing by OSD monitoring of testing efforts.

Plowshares into Swords was written to provide the intelligent citizen with an understanding of the complexity of the weapon system acquisition process and how military management can be improved. The book achieves that purpose admirably. It also provides the military professional with a sympathetic but critical view of the system in which the military man operates and whose purpose is to serve his needs.

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