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# "Atomic Energy for Military Purposes: The Official Report of the Development of the Atomic Bomb under the Auspices of the United States Government, 1940-1945," "The Day Before Doomsday: An Anatomy of the Nuclear Arms Race," and "The Secret History of the Atomic Bomb"

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lost to surface escorts (two were sunk by patrol aircraft) and approximately 20 merchantmen were sunk—it was really an Allied win. Not only did the bulk of the convoys reach their destination but March was to mark the high point of the German U-boat successes. In fact, during the period 28 April-6 May 1943 convoy "ONS-5," composed of 42 ships, transited the North Atlantic with a loss of "only" 13 ships although it was opposed by up to 51 U-boats. In addition, seven of the submarines were sunk, five by the convoy's escorts and two by aircraft. On 24 May 1943 Germany withdrew its submarines from the area. In Rohwer's words, "the Battle of the Atlantic had been decided."

The author discusses more than just this brief period and provides valuable information about the operating methods of Allied and German commanders as they contested the convoys' passages. The heart of the German campaign was communication. The effectiveness of the "wolf pack"—the tactic of coordinated attacks on a convoy by several submarines—depended on frequent use of radio communications. This provided the Allies with a valuable source of intelligence about the U-boats' locations and intentions. Rohwer emphasizes that the Germans were surprisingly slow to appreciate how much information they were giving away to the Allied "HF-DF" or direction-finding effort. Indeed, the author concludes that this was the decisive factor in the Allied victory in the Atlantic, with radar a distant second.

Also of great importance to this victory was the increasing number and range of patrol aircraft. As the primary U-boat tactic was to attack on the surface, aircraft visual and radar surveillance capabilities were excellent detection means, well outranging the surface escorts' radar and sonar resources.

What is striking about the Battle of the Atlantic is the heroism and resourcefulness of the men who fought it. The

winter of 1942-1943 was one of the harshest on record and the warships involved, both submarines and escorts, were relatively small, with the latter averaging only 1,000 tons. The author states that he did not intend to produce a book about the "human" story of the battle but rather to investigate "the interplay of forces on both sides in the sphere of operational command with its many technical aspects." He has accomplished this purpose admirably, but also has produced a record of determined and courageous actions by seamen of many nations.

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Smyth, Henry DeWolf. *Atomic Energy for Military Purposes: The Official Report of the Development of the Atomic Bomb under the Auspices of the United States Government, 1940-1945*. New York: Da Capo Press, 1976. 264pp. Lens, Sidney. *The Day Before Doomsday: An Anatomy of the Nuclear Arms Race*. Garden City, N.Y.: Doubleday, 1977. 274pp. Cave Brown, Anthony, and MacDonald, Charles B., eds. *The Secret History of the Atomic Bomb*. New York: Dial Press, 1977. 582pp.

The books under review here address three aspects of the same conviction: that the advent of atomic and nuclear weapons has constituted an essential break with the past, and a principal problem for the present and future. The Smyth report, a physicist's description of the bomb's genesis, rested on the premise that good national policy in the new technological era would depend on wide public and professional understanding of the problems and capabilities inherent in atomic power. Sidney Lens' book elaborates the author's conviction that exploitation of nuclear technology has threatened the human species, jeopardized democratic and liberal political institutions, and

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made war obsolete. The book of documents edited by Brown and MacDonald shows that the nuclear age imperils not only people and political institutions but scholarly standards.

Henry Smyth's report on atomic energy for military purposes was written at the request—or order—of Gen. Leslie R. Groves, who headed the wartime Manhattan Project for the development of an atomic bomb. Completed before the atomic bomb was even tested, it was always intended to be made public—in the case of failure perhaps as an explanation of how huge problems had required huge expenditures even while defying solution, in success as a restrained celebration of triumph in the emerging collaboration of government and science. Originally published late in 1945 (first by the Pentagon and then by Princeton University Press), the report summarized the theoretical problem the atomic scientists had faced at the outset of their wartime crash program, the administrative history of the project's several phases, and the main lines of research on principal alternative solutions to the difficulties of atomic weapons development.

The report undoubtedly was a landmark in public knowledge of the new technology. In the introduction to their book, discussed below, Brown and MacDonald also argue that the report was one ingredient vital to the success of Russian catchup atomic development from 1945 to 1949, serving as a sort of handbook of problems and solutions outside the classified fields of bomb engineering. Parenthetically, in this age of Freedom of Information laws and voluminous declassification requests, it is interesting to see the curt and confident manner in which Gen. Groves anticipated the possibility that the Smyth report might stimulate rather than satisfy curiosity. The volume appeared with his personal introduction containing this paragraph:

All pertinent scientific information which can be released to the public at this time without violating the needs of national security is contained in this volume. No requests for additional information should be made to private persons or organizations associated directly or indirectly with the project. Persons disclosing or securing additional information by any means whatsoever without authorization are subject to severe penalties under the Espionage Act.

That, one might suspect, is enough to induce attacks of nostalgia in hundreds, perhaps thousands, of government officials of the 1970s.

In his ominously titled book, Lens presents familiar arguments against reliance on nuclear weapons or technology. Nuclear weapons, he asserts, have made war obsolete because they have removed war's decisiveness as between major nuclear adversaries, and war that cannot bring decision—victory—to one side or the other is purposeless. Nuclear weapons have made it impossible to defend national boundaries. Nuclear wastes are perennially poisonous and probably unmanageable. These things mean that the world faces an immediate choice: either it must accept the fact that nuclear weapons, nuclear wastes, and nuclear proliferation require complete and effective international control leading to their elimination, or (alternative a) somebody will blow humanity to hell; (alternative b) to keep the lid on it will be necessary to erect extremely stable political institutions, which will be possible only at the expense of personal and political liberties.

It will be obvious that the argument of this volume is exaggerated, the viewpoint extreme and pessimistic. Yet it is worthwhile reading, especially for people who do not as a matter of course follow the arms race and associated issues. Lens presents his views, and a lot

of information on recent and current policy, with logic, flair, and literacy. He has a good eye for the absurdities and infelicities of official justifications for policies that do not stand close scrutiny. And he points clearly to the most worrisome aspect of present developments in this area. In the "first nuclear age," as he calls it, only the United States and the Soviet Union were seriously engaged in quasi-nuclear antagonism. But as of the early 1970s, a "second nuclear age" has opened, in which the number of nuclear weapons and nuclear capable states is increasing rapidly. Clearly, the nuclear threat to world security is not going to become easier to manage in the near future.

In *The Secret History of the Atomic Bomb*, Cave Brown and MacDonald have unfortunately given in to the temptation to publish a "non-book." They have published almost 600 pages of selections from the 35-volume official history of the Manhattan Engineering District. More than one-fifth of their book is an incomplete version of the Smyth report discussed above. Cave Brown's introduction to the volume is inappropriately titled, unfocused, and erroneous. The documents are presented without explanations of significance, selection criteria, annotation, or indications of abridgment. There is no index. In many instances the editors chose to publish the summary chapters of long sections in the official histories, so that the coverage of topics is extensive in breadth, abbreviated in depth. In sum, Cave Brown and MacDonald have succeeded in being the first to "edit" and "publish" this material, and perhaps that is distinction enough.

It remains an open question just what difference the bomb has made to politics, civilization, humankind. This riddle needs to be asked and answers attempted, whether doomsday is near or far, even though any clear solution seems likely to be elusive for some time to come.

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Snyder, Glenn H., and Diesing, Paul. *Conflict Among Nations: Bargaining, Decision Making, and System Structure in International Crises*. Princeton, N.J.: Princeton University Press, 1977. 578pp.

In this lengthy book Glenn Snyder and Paul Diesing have made a carefully argued and clearly written contribution to the growing contemporary literature on the anatomy of crises. As they acknowledge in the preface, the Naval War College Center for Advanced Research was able to provide the support needed for completion of the work.

The book, while clear and well-organized, is not easy to read because the material itself is very complex. There are only seven chapters, some of them 100 pages long. Sequentially, these chapters cover, after a short introduction, formal models of bargaining, crisis bargaining strategies and tactics, information processing, decisionmaking, crises and international systems, and—finally—summary and synthesis. Interspersed are 61 "figures" and 15 tables.

It is too difficult to attempt to summarize the argument in the limited space of a review. The progression of the book can, however, be indicated. Chapter II shows that bargaining models vary greatly in their "usefulness for understanding crisis bargaining." The most useful model they found to be the 2 x 2 game (and its 3 x 3 extension), at least with certain adaptations to "incorporate various cognitive processes—search, information processing, building up and revising subjective estimates of the bargaining situation, constructing and revising strategies." Accordingly, after a less formal analysis of the bargaining process in crises (Chapter III), Chapters IV and V analyze that reformulated model. Chapter VI examines the effects caused by variations in the nature of the international system (i.e., variations in number of actors, etc.). Chapter VII is a summary and synthesis.