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## Unguided Missiles: How America Buys Its Weapons

D.K. Pace

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paring this useful and thought-provoking reference work.

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Andriole, Stephen J. and Hopple, Gerald W. ed. *Defense Applications of Artificial Intelligence: Progress and Prospects*. Lexington, Mass.: Lexington Books, 1988. 385pp. \$65

Over the next few years, smart computer systems will become ubiquitous. They will impact all aspects of the defense world: policy and strategy, resource and force structure decisions, system design and production, and operational planning and execution. Thus, it is important that the entire defense community have at least some level of understanding of artificial intelligence (AI), a topic that many have hitherto relegated to the arcane domain of computer specialists.

Andriole and Hopple have provided us with an excellent introduction to AI as it pertains to defense and a succinct, yet surprisingly comprehensive, status report on defense applications of AI. Consequently, this book is a very valuable resource for both the uninitiated and the person with substantial AI knowledge. It is not AI hype, nor is it overly technical. It is a candid, balanced, well-written, and authoritative assessment. Its score of contributors come from several universities and major defense-related organizations as well

as a variety of government R&D activities.

The book is divided into four main sections. The first provides a foundation for understanding AI and its tools and techniques. The second presents the technology-push side of AI's spread within the defense world by presenting a number of specific AI research areas that relate directly to military operations (such as intelligent training systems). The third (and largest) section focuses on the applications-pull of defense needs by presenting a number of AI defense applications, including management of the air-land battle, tactical planning and replanning, SDI, logistics, and tactical command and control. The final section of the book addresses future prospects for AI in defense.

Although the book is oriented toward Air Force and Army applications of AI, this does not diminish its importance for naval officers because its primary value lies in its presentation of the general principles and potential of AI rather than in its descriptions of specific AI applications.

Readers should find this book stimulating.

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Hampson, Fen Olser. *Unguided Missiles: How America Buys Its Weapons*. New York: W. Norton & Company, 1989. 370pp. \$19.95

Idealists should avoid this book. It will depress them.

There are a number of recent books that deal with the weapon acquisition process. This book is different from the rest because it is mainly a collection of case studies.

Hampson begins with a tutorial about how defense acquisition works. He briefly describes the formal stages of the weapons acquisition cycle and indicates peculiar aspects of it for each of the services. He then addresses the way that the Pentagon and Congress work the defense budget. In this tutorial he indicates fundamental problems, recent and current reform efforts, and trends.

With the stage thus set, Hampson then presents detailed case histories of the following programs: the Trident submarine and missile, the MX and Midgetman missiles, the B-1 bomber, the air-launched cruise missile, the M-1 Abrams tank, and SDI. None of these case histories is a pretty picture. They provide stories of services clinging tenaciously to old technologies and outdated missions, of turf battles that lead to irrational compromises of system technical characteristics, of military leaders deliberately thwarting the desires of the President, and so on.

*Predictable, inevitable, and wasteful* are the words Hampson uses to summarize the bungling way America buys its arsenal of weapons. It is a story of failed leadership and of institutions which have gotten out of control. He believes this results from

the competitive-cooperation of the political and bureaucratic interests that (mis)manage our nation and its defense establishment. He does not limit his call for reform to DoD, but also includes the President, Congress, and the entire DoD-related community—those who must do better if we are to extract ourselves from the present quagmire.

The case studies are fascinating. They reveal the multiplicity of pressures and decisions that shaped the programs described, each of which had its share of shameful and embarrassing aspects. It is unfortunate that Hampson does not include for comparison any case studies of “successful” programs, i.e., ones without such faults. The weakest part of Hampson’s book is his approach to improving the weapon acquisition process. He allocates only a few pages in his concluding chapter to this subject, and his suggestions struck me as trite, neither demonstrably workable nor necessarily adequate.

The case studies make this book important reading for leaders in the defense community. They should challenge us all to do what we can to make things better in the future.

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Werrell, Kenneth P. *ARCHIE, FLAK, AAA, AND SAM: A Short Operational History of Ground-Based Air Defense*. Maxwell Air Force