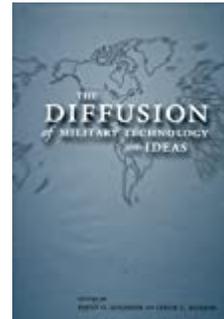




**Emily O. Goldman, Leslie C. Eliason, eds.** *The Diffusion of Military Technology and Ideas*. Palo Alto: Stanford University Press, 2003. xx + 415 pp. \$75.00 (cloth), ISBN 978-0-8047-4535-2.



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### Problems Arising with the Transfer of Technological Ideas

In an era of globalization and continuing search for effective arms control, a study of the diffusion of military technology and ideas is bound to attract readers. The editors have pulled together the work of a dozen authors, which should insure an appropriate variety of perspectives. Unfortunately, we are told little of the genesis of this study. The chapters presented were not the result of papers presented at a symposium, the usual sources of such collective works. On what basis were the authors selected, presumably by the editors? The editors allude to three workshops conducted prior to the compilation of this book, one at the University of California, Davis, one at the Monterey Institute of International Studies, and a final session at the University of California, Davis, Center in Washington, D.C., but we are not told just who attended these sessions if any or some of the authors, or what workshop agendas may have been. There is a section on contributors with a paragraph on each author and the two editors. Notably absent from the roster of authors are Air Force, Marine Corps, and Army representatives, although some of those with predominantly naval affiliations at one time taught in Army schools.

The editors visualize a readership both academic and military, the latter described as “policy practitioners” (p. 5). To help insure the relevance of their research, the editors invited a retired naval captain and a retired army colonel to attend their workshops along with Andrew Marshall, long-time Director of Net Assessment in the Office of the Secretary of Defense, who attended the Washington session and wrote a foreword for the book. In this he suggests that the case studies of the volume and their efforts at analysis offer a useful “picture of the complex processes by which innovative military capabilities” diffuse from the originators to other nations (p. xiii). Marshall asks how we should change the acquisition process to foster innovation by making experimentation easier and thus obtain competitive advantage over our enemies. This is a sensible suggestion but none of the authors seem to have followed his lead in this direction.

The editors indicate their central concern is “not how RMAs begin, but how they spread, to whom, how quickly, and with what consequences for U.S. national security and the global balance of military power” (p. 2). These are significant questions, but here again it is

difficult to see that the authors of the several essays regarded them as their central objective. Ten pages into their introduction, the editors finally state their objective: "This volume seeks to remedy gaps in diffusion research by bringing together scholarship from a variety of disciplines—military history, strategic studies, political science, sociology, public policy and international relations" and "to make our research useful both to scholars and (perhaps more importantly) to the policy community. Our goals therefore are twofold: to generate a set of hypotheses to guide future research on diffusion of military innovations and provide insights useful to policy makers during a period of military transformation (p. 10). Did the editors articulate these ideas in their workshops leading up to the writing of this book, or did they formulate them only after the contributors had finished their chapters? Although many of the ideas offered by the editors in their thirty-page introduction are provocative, their very profusion tends to blur the focus.

The book is organized around four major themes. The first deals with "the way local culture shapes and redirects even the most assiduous attempts at emulation" (p. 25). The second theme examines "whether and to what extent it is possible to shape, direct, and manage the diffusion process" (p. 26). The third deals with diffusion "during periods of rapid military transformation" (p. 29). And finally, the fourth examines "diffusion of the information revolution in military affairs including the global spread of the U.S. information technology-based military model and commercial and dual-use technologies" (p. 29).

The first essay "Heart of the Sepoy: The Adoption and Adaptation of European Military Practice in South Asia, 1740-1805," by John A. Lynn, a historian who writes gracefully and with an economy of words, illustrates with great clarity how local culture shapes the diffusion process. The East India company learned from a hundred years of exposure to Indian culture to adapt in order to build its successful Sepoy armies more by absorbing the native value systems than by the superiority of western arms.

A second chapter, cleverly titled "Armies of Snow and Armies of Sand: the Impact of Soviet Military Doctrine on Arab Militaries" by Michael Eisenstadt and Kenneth M. Pollack deals with the Soviet Union's military patronage of Egypt, Syria and Iraq. While these countries readily accepted Soviet hardware, Arab culture tended to encourage conformity rather than independent thinking; so leadership in the armies of sand did not live up to the So-

viet Model.

In a third chapter, *Cooperative Diffusion through Cultural Similarity: The Postwar Anglo-Saxon Experience*, Thomas-Durell Young explores the problem of diffusion with culturally similar nations: Britain, Canada, Australia, New Zealand, and the United States. Here, the cultural similarity made it relatively easy to achieve not only a considerable degree of interoperability in military communications—electronics (limited only by the extent of allied funding) but also in doctrinal and procedural matters.

The second group of chapters on *Managing and Controlling diffusion* opens with Christopher Jones's "Reflections on Mirror Images: Politics and Technology in the Arsenal of the Warsaw Pact." Here, coercive diffusion by the Soviets on their client allies sought standardization but inevitably encountered distortion because the aims of the Soviets were "less likely to be sensitive to the social, political, and cultural contexts of the client states," (p. 117). A notable insight in this chapter suggests that the sizing of forces and the distribution of tanks to Warsaw Pact clients were "functions of the political assignments rather than military missions" (p. 120).

William C. Potter's chapter, "The Diffusion of Nuclear Weapons," homes in on national proliferation decisions. By examining the decisions of twenty-six states either to acquire or forego a nuclear capability the author finds no typical profile for proliferation. He reaches the obvious conclusion that states unthreatened are less likely to opt for nukes than those confronting serious rivals.

The final chapter in this section, Timothy D. Hoyt's "Revolution and Counter-Revolution: The Role of the Periphery in Technological and Conceptual Innovation" explores the role of four innovations, two Israeli (fast naval attack craft and remotely piloted vehicles) and two Iraqi (chemical weapons and ballistic missiles). All three essays in this second group are well written and rich with insights such as Hoyt's footnote suggestion that the 9/11 terrorist attack might well be regarded as a conceptual innovation in the spirit of this chapter.

The third group of chapters concentrates on diffusion during periods of rapid military transformation. Geoffrey L. Herrera and Thomas G. Mahnken offer a really excellent essay on "Military Diffusion in Nineteenth-Century Europe: The Napoleonic and Prussian Military Systems." Catastrophic defeat induced an impetus to reform and emulation of the best. Mahnken repeats the

performance in “Beyond Blitzkrieg: Allied Responses to Combined-Arms Armored Warfare during World War II.” The author usefully applies the lessons of this chapter to the United States today, warning against hubris and pointing to the importance of the ability to identify and adapt to innovations before they appear on the battlefield” (p. 266).

The final chapter in this section, Emily O. Goldman’s “Receptivity to Revolution: Carrier Air Power in Peace and War” traces the practices of revolutionary maritime airpower from 1920 to 1943. Her documentation shows a thorough familiarity with the literature, but her effort to project her analysis in terms of “neo-realism, bureaucratic functionalism and organizational sociology” seem to this reviewer to inject jargon which inhibit more than they help understanding (p. 268). The historical narrative of her essay helps one to grasp the multiple dimensions of diffusion, but her effort to impose theory on the process miscarries. Surely her mention of “a complete theory of military diffusion” in her conclusion is a pipe dream (p. 301).

The last of the four sections studies the diffusion of the information revolution in military affairs. Chris C. Demchak’s “Creating the Enemy: Global Diffusion of the Information Technology-Based Military Model” gets off to a dubious start by asserting, that “Standard theories of ‘adaptive rationalizations’ cannot explain this current modernization trend” (p. 308). Are there such things as “Standard” theories? She compounds the difficulty by presenting opaque charts and repeated instances of jargon. Will most of her reader’s know ANOVA tests and CART analyses? Will military readers grasp “Structuration through Mimetic Institutional Isomorphism”? This reviewer, who taught for years in most of the war and staff collages, has serious doubts.

Fortunately, readers are rescued by John Arquilla’s excellent and gracefully written but poorly titled es-

say, “Patterns of Commercial Diffusion” which addresses “The tension between pursuit of economic gain and the security risks often engendered by commercial activity” (p. 349). His findings on the tension conclude that “there is very little hope that active control measures” will stop the spread of dual use innovations (p. 367).

In a concluding chapter “The Diffusion of Military Technology and Ideas,” Emily O. Goldman and Andrew L. Ross summarize the objectives of the volume “to integrate theory and practice, to act as a guide to the policy community and to inform academic researchers” (p. 372). Wisely they admit “We do not labor under the illusion that we have eliminated the gap between theory and practice” (p. 372). This humility is appropriate, but then they go on to assert the gap can be bridged! Indeed they lay out a twofold goal for the book: “First ... to introduce greater theoretical rigor into the study of diffusion in the military sphere. Second ... to aid practitioners by helping them to develop a methodology to diagnose problems accurately” (p. 373).

As many of the excellent essays in this volume reveal, “The impact of diffusion on any particular military is rarely one of perfect emulation” (p. 372). In this spirit, the editors would do well to realize that their professed goals of greater theoretical rigor and developing a methodology for diagnosing problems have about the same probability of success as diffusion has of perfect emulation. Nonetheless policy makers should definitely read these essays even if they do not yield an all-embracing theory of diffusion.

There is so much of benefit in this volume that it may seem churlish of this reviewer to chide the editors for failing to spot a most egregious error in one of the essays. To use the phrase “mitigate against” where the correct term is “militate” is an error one expects to catch in a freshmen English composition class.

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