
Preface

The idea for this book grew out of a casual conversation. At a 1978 symposium on the American system of manufactures, held at the Smithsonian Institution, a colleague asked me what had been written about the role of the armed forces in American industrialization. I mentioned the literature on the military-industrial complex, but other than that I was both stumped and intrigued. My curiosity led to a bout of library research whose fruits were surprisingly meager. No standard work addressed the topic, and I could find only a few studies treating specific instances of military innovation. Further delving into the subject led to the collaborative effort embodied in the present book.

All but two of these essays were specially commissioned and are appearing in print for the first time. The exceptions are the contributions by David Noble and myself. My essay (originally presented at the Smithsonian symposium mentioned above) is included because it focuses on one of the earliest and most important instances of military enterprise in American history and contains all I had to say on the subject. Noble's essay (somewhat revised from its original appearance in a symposium volume of the American Association for the Advancement of Science) is included because its critical view of the military system seemed a salutary counterweight to the more sympathetic approaches of the other contributors and also because it provides an overview of the author's important research on the development of numerically controlled machine tools. By and large the contributions are the work of younger scholars—most of them historians of technology—whose research on technological innovation has revealed an important military presence.

The topics covered are not intended to be comprehensive,

but they should suggest the inherent richness of our theme and the variety of interpretations that can be brought to bear on it. Other topics that might have been chosen include medical technology and health care, aviation, food processing, and nuclear energy. Our goal, simply stated, is to sample a limited number of important topics, to advance some hypotheses about the meaning of military enterprise, and to suggest paths for future research. We believe that such research can provide new insights into the nature of socioeconomic change and should eventually be integrated into the mainstream of American history and policy studies. We anticipate that a second volume will carry the subject further and will allow a more comprehensive assessment of military enterprise and its influence on the course of American history.

Many people have helped in preparing this book. During the past three years it has gone through several substantial revisions and has profited greatly from the close reading and critiques of three anonymous referees. In addition, Charles Cheape, Colleen Dunlavy, W. David Lewis, Leo Marx, Bronwyn Mellquist, Alex Roland, Barbara Rosenkrantz, Charles Sabel, John Staudenmaier, S. J., and Peter Wallensteen have read portions of the manuscript and offered valuable recommendations. Throughout the project the staff of The MIT Press has provided encouragement and fine editorial support.

An early version of the manuscript formed the agenda for a four-part seminar in the Department of Technology and Social Change at Linköping University (Sweden) during my residence there as a Fulbright scholar in the spring of 1983. More condensed versions were presented to the Program in the History of Science and the Center for Peace and Conflict Research at Uppsala University, the Department of History at the University of Gothenburg, the History of Technology Seminar at the Royal Institute of Technology in Stockholm, the Fondazione Giangiacomo Feltrinelli in Milan, and the U.S. Army Military History Institute at Carlisle Barracks, Pennsylvania. At each of these institutions the audiences were receptive, and their probing questions helped to sharpen our analyses.

Finally, thanks are due to the Smithsonian Institution Press for granting permission to include an updated version of my essay, which originally appeared in *Yankee Enterprise*, a volume edited by Otto Mayr and Robert C. Post.

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