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Book Reviews

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BOOK REVIEWS

WARD, R. A., *Operational research in local government.* London: Royal Institute of Public Administration in collaboration with George Allen & Unwin, Ltd., 1964, 91 pp., 12s.6d. net paper (in U.K.).

This interesting book represents a collection of attempts by an operations research team to study some of the problems of local government. It will be of special interest to operations researchers and management scientists who believe that a great deal of assistance can be given to managers of government agencies in making their operations more rational. Specific consideration has been given to such problems as stock control, invoice checking, depot operations, refuse collection and school transport.

The reader is quickly made aware of the philosophy underlying these efforts, which were sponsored by the Research Committee of the Royal Institute of Public Administration of the United Kingdom. Specifically, the operations researchers serve as staff personnel to assist local governments in untangling some of their bothersome operational problems. There is little discussion of the basic policy problems of government agencies and the ways in which operations research might assist in this regard. This is by no means a criticism of the effort of the book but possibly calls for some further consideration on the part of this very excellent effort in the direction of objectives as well as rational operations.

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BRIGHT, JAMES R., *Research, development, and technological innovation.* Homewood, Illinois: Richard D. Irwin, Inc., 1964, 783 pp., $10.00.

According to the author, the goal of this book and, similarly, of a new course at the Harvard Graduate School of Business Administration, is "to create a sound understanding of technological innovation and its problems for all managers." That such a course outline and textbook are, as late as 1964, the outgrowth of only recent "exploration of the desirability and feasibility of formal training in this area" indicates the serious lag in what is now being tastefully termed "the state of the art." For this, Professor Bright need accept no responsibility. His early research into the impacts of automation on skill requirements and his book, *Automation and Management*,[1] as well as his journal articles, wrote clearly on the wall for all to read the message that the business community was nowhere near ready to understand, cope with, or take full advantage of the changes occurring in office and factory, in field and outer space. Accustomed to applying an Industrial Revolution (*ma un poco più pesante*) philosophy to the transformation taking place in processing and production, we are still indulging

[1] James R. Bright, *Automation and Management*, Boston, Harvard Business School, Division of Research, 1958.

in fruitless forensics. We argue about what is automation, is this a revolution, what constitutes a scientific breakthrough and what is just old wine in a new bottle. We fail to address adequately the portentous ramifications of an "environment in which violent technological change and severe interactions with social, economic, and political factors are major elements of many business decisions."[2] Again, we cannot say that Professor Bright did not warn us. "Technological change, I believe, is," he stated in 1963, "the most powerful factor in the business environment today, and its power seems to be growing."[3] In what he described as a "mercurial environment," traditional products, materials, skills, and production facilities face obsolescence in ever-shortening periods of time.

The fact that these statements and, in fact, the total article in which they originally appeared, are incorporated in this book without mention of the earlier publication elsewhere, is quite disturbing to the reader, upon whom recognition dawns slowly that the words are not only vaguely familiar, not only taken from the context of an article read several years ago, but that this is simply a sort of unidentified reprint of an already read and appreciated opus. Other writings of the author are included in part or *in toto*, reproduced this time, we are informed at regular intervals, in the framework of an approach whose usefulness lies in the specific focus on technology as a force in the environment. It is not always easy to identify Professor Bright's own contributions. They are dispersed among numerous readings, ranging from the ruminative (which might come under the term *omphaloskepsis*, or "meditation oriental fashion while gazing at the navel"[4]) to the strictly utilitarian, as, for example, McCrory's paper on design method, presented originally at a conference of the American Society of Mechanical Engineers.

The book has five major sections dealing, respectively, with (1) the process of technological innovation; (2) case studies in research, development, and technological innovation; (3) finding and evaluating significant technological opportunities; (4) the use of advanced technology; and (5) technological planning and forecasting. Each chapter starts with a quotation anywhere from a sentence to over a page long, selected for its pertinence to the material to follow. Marcus Aurelius finds himself sharing this honor with a vice president of Arthur D. Little, Inc. Next, there follows a reprinted speech or journal article or part of a case study, these often being presented piece-meal, perhaps in order to fit somehow the structure of the book. If the reason for the breakings and groupings was ever stated in the book, I missed it. A clue to the rationale for this organization would have been helpful to the reader.

After having read *Research, Development, and Technological Innovation* with a

[2] James R. Bright, *Research, Development, and Technological Innovation*, Homewood, Illinois, Richard D. Irwin, Inc., 1964, p. 1.

[3] James R. Bright, "Opportunity and Threat in Technological Change," *Harvard Business Review*, Vol. 41, No. 6, Nov.–Dec. 1963, p. 76.

[4] James R. Bright, *Research, Development, and Technological Innovation, op. cit.*, p. 121.

good deal of care, one feels impelled to raise several basic questions: (1) Can a textbook like this one really provide the sound understanding of technological innovation claimed by the publisher and implied by the author? (2) Are graduate students in our colleges of business administration so academically untutored that they cannot do their own library research? (3) Once they have done their assigned reading, are the students and managers, all of whom are regarded as potential beneficiaries of the book, so intellectually unsophisticated that they require a junior high school type of question list at the end of the chapter? The section titled, "What Do We Mean by 'Research and Development'?", for example, is followed by eight questions, the first two of which are quoted verbatim: "1. Define *research*; *development*. What is *invention*? *Discovery*? 2. What is the difference between *basic*, *applied*, *experimental*, and *pure research*?"

Although cognizant of and sympathetic with the difficulties involved in acquiring good case materials, we cannot feel that the undigested, unstructured morass of raw documents thrust before the reader really enlighten him sufficiently to warrant the inclusion of all of them. The exhibits, consisting of whatever reports the company was willing to release, technical diagrams and pictures of new pieces of equipment, and discrete instances of individual companies' procedures cannot be regarded as a model for achieving an understanding of the process of introducing technological innovation. Moreover, although the textbook and the course are based on case method, one gets no clue as to what properly constitutes a case study. If the book is appropriately couched in such elementary terms as to ask for a definition of *discovery*, the reader can legitimately expect to be introduced to the ground-rules for developing a worthwhile case study.

Having made the important point that the understanding of the total socio-economic climate is a *sine qua non*, the book omits further reference to the matter. No consideration is given to resistance to change below the managerial level and we find little mention of the reactions of the workers. This oversight is especially glaring in view of the fact that one of the industries selected for case study (in five parts) is the printing industry. Any reader of newspapers can attest to the severity of the problems in labor relations arising from the introduction of new devices and processes. At the writing of this review, expiration of newspaper contracts in New York is two weeks away, and the spectre of the 114-day shutdown of 1963 stalks the bargaining sessions, where computers and automatic typesetting are the crucial issues. Consideration of this and other aspects of the socio-economic climate are missing not only from the book content but also from the bibliography of suggested readings (Appendix II), which appears to suffer from the author's admitted haste, with which the rest of the book was assembled. As a suggestion for further future improvement, since this is the spirit in which these criticisms are offered, I should like to urge that prospective revisions of the book include a full index. The lack of one has impaired the use of this volume both as a reference and a textbook.

Accepting the injunction to receive this beginning effort with a kindly toler-

ance, admirers of Professor Bright find that this endeavor falls short of instilling into its reader any of the brilliant knowhow that he has distilled from his many years of experience. With his other, notable contributions serving the professional, managerial, and academic community so well, we are convinced that many of the shortcomings of the present book will be overcome in later editions.

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BOOKS RECEIVED

(*Inclusion of books in this list does not preclude their subsequent review.*)

BARLOW, RICHARD E. AND PROSCHAN, FRANK. *Mathematical theory of reliability.* New York: John Wiley & Sons, Inc., 1965, $11.00, 240 pp.

BUFFA, ELWOOD S. *Modern production management (2nd ed.).* New York: John Wiley & Sons, Inc., 1965, $8.95, 744 pp.

BURCK, GILBERT AND THE EDITORS OF *FORTUNE*. *The computer age—and its potential for management.* New York: Harper & Row, Pub., Inc., 1965, $3.95, 141 pp.

ENRICK, NORBERT LLOYD. *Management operations research.* New York: Holt, Rinehart and Winston, Inc., 1964, $5.95, 315 pp.

FLETCHER, ALLAN AND CLARKE, GEOFFREY. *Management and mathematics.* London: Business Publications Limited, 1964, 55s net, 230 pp.

GORE, WILLIAM J. AND DYSON, J. W. *The making of decisions; a reader in administrative behavior.* London and New York: The Free Press of Glencoe, A Division of the Macmillan Co., 1964, 410 pp.

GOURLAY, JACK G. *The Negro salaried worker.* New York: American Management Association, 1965, $4.50 (AMA members $3.00), 103 pp.

GROSSMAN, ISRAEL AND MAGNUS, WILHELM. *Groups and their graphs.* New York: Random House and the L. W. Singer Co., 1965, $1.95 (paper), 188 pp.

HOROWITZ, IRA. *An introduction to quantitative business analysis.* New York: McGraw-Hill Book Co., 1965, $7.95, 265 pp.

JANOWITZ, MORRIS. *The new military—changing patterns of organization.* New York: Russell Sage Foundation, 1964, $6.95, 343 pp.

JUCIUS, MICHAEL J. AND SCHLENDER, WILLIAM E. *Elements of managerial action.* Homewood, Illinois: Richard D. Irwin, Inc., 1964, $8.00, 481 pp.

LANGHOFF, PETER (ed.) *Models, measurement & marketing.* Englewood Cliffs, New Jersey: Prentice-Hall, 1965, $8.50, 211 pp.

LE BRETON, PRESTON P. *General administration: planning and implementation.* New York: Holt, Rinehart and Winston, Inc., 1965, $5.95, 248 pp.

LEVIN, RICHARD I. AND KIRKPATRICK, C. A. *Quantitative approaches to management.* New York: McGraw-Hill Book Co., 1965, $8.50, 360 pp.