

- 21[W].—KENNETH J. ARROW, SAMUEL KARLIN & HERBERT SCARF, *Studies in the Mathematical Theory of Inventory and Production*, Stanford University Press, Stanford, California, 1958, x + 340 p., 25 cm. Price \$8.75.

This work is the initial volume in the Stanford Mathematical Studies in the Social Sciences. The reviewer joins the principal authors in recommending careful attention to the first two chapters: in Chapter I, Arrow presents a remarkably concise and enlightening discussion which, more constructively than anything else the reviewer has read, relates inventory theory to economics; in Chapter II, this useful survey is continued as the principal authors treat common features of many inventory models after placing them within a realistic framework for decision models. The Introduction ends with summaries of results of the remaining three parts: Optimal Policies in Deterministic Inventory Processes, Optimal Policies in Stochastic Inventory Processes, and Operating Characteristics of Inventory Policies. This book is judged to devote reasonable attention to computing problems both for calculation of solutions and for illumination. Reading of individual chapters has convinced the reviewer that the general promises on computing made by the authors on pages 16–19 were honestly kept. The frequent graphs and tables are uniformly helpful and pleasing. A bibliography of four pages covering mainly the years 1955–1957 is also included. It is to be hoped that subsequent volumes of this Stanford Series will push forward into the wide reaches of inventory problems including, for example, areas of demand prediction, measures of utility for satisfying differing demand patterns, and even seemingly prosaic questions such as how to maintain records of extensive inventory systems. In summary, this book is a substantial contribution to the mathematics of inventory and production problems. Since it provides a sound exposition over quite a broad range, it should serve as a valuable source for further research.

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- 22[W, Z].—DANIEL D. McCracken, HAROLD WEISS, & TSAI-HWA LEE, *Programming Business Computers*, John Wiley & Sons, Inc., New York, 1959, xvii + 510 p., 24 cm. Price \$10.25.

Here is a well-written book about the elements of programming high-speed electronic computers. It is particularly written for those people who are interested in the programming of management data problems. The book touches upon down-to-earth details such as verifying the program accuracy, input and output programming, and rerun techniques. It discusses the advantages and disadvantages of machine-aided coding. In general, *Programming Business Computers* is a comprehensive survey of programming with special emphasis on business data processing.

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- 23[X].—J. N. GOODIER & P. G. HODGE, JR., *Elasticity and Plasticity*, v. 1, Surveys in Applied Math. Series, John Wiley & Sons, Inc., New York, 1958, ix + 152 p., 23 cm. Price \$6.25.

The articles of this series are said to be "aimed at a broad, mathematically literate audience looking for an up-to-date account of modern progress in applied mathematics and an appraisal of future promising research directions." The first author of Volume 1, J. N. Goodier, who contributed the article entitled, "The Mathematical Theory of Elasticity," assumed that the reader was well versed in the theory of elasticity, and made no effort to make his article self-contained. He contented himself with a brief survey of "those significant recent developments believed least known to readers whose first language is English." However, even this intention is not fully carried out and a list of topics omitted is given at the end of the article. Three pages of bibliography are given, which include only those books and papers actually discussed or cited.

The major portion of the discussion deals with work of Russian authors. Great stress is given to the work of Muskhelishvili and to investigations inspired by it.

There is no mention in this article of the application of numerical methods to problems in elasticity, aside from a reference to the survey of numerical methods in conformal mapping given by G. Birkhoff, D. M. Young and H. Zarantonello, in *Proc. Symp. Appl. Math.*, v. 4, 1953, p. 117.

The second article written by Phillip G. Hodge and entitled, "The Mathematical Theory of Plasticity," is practically self-contained and satisfies, very well, the needs of the member of the audience described in the first paragraph of this review.

Chapters 1 to 4 of this article are theoretical in nature, and Chapters 5 to 7 are concerned with applications of the theory. In particular, Chapter 5 is a well written, moderately exhaustive treatment of the behavior of a simply supported circular plate under a uniform normal pressure. In Chapter 6 other problems are discussed more briefly in an attempt to illustrate the current state of development in plasticity problems.

Particular attention is paid to significant Russian contributions. Chapter 7 contains transcription of parts of a report by W. Prager on Russian contributions up to 1949, and a section by the author entitled, "Contributions from 1949 to 1955."

There is no mention made in this article of the applications of numerical methods to problems in plasticity.

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24[X].—L. V. KANTOROVICH & V. I. KRYLOV, *Approximate Methods of Higher Analysis*, Translated from the third Russian edition by Curtis D. Benster, Interscience Publishers, Inc., New York, 1958, xv + 681 p., 24 cm. Price \$17.00.

In the April 30, 1959 issue of *Le Monde*, on page 5, there is a description of the organization of scientific activities in Russia, in the course of which the following remark is made: "Contrairement aux Américains, les Russes paraissent parfaitement au courant de la littérature mondiale." The author is Maurice Letort, "président du comité consultatif de la recherche scientifique et technique."

One would like to be indignant, but unfortunately the gibe is deserved. In fact, many Americans who visit Russia, or otherwise make contacts with Russian scientists, are amazed at how up-to-date their acquaintance is with American literature, which implies that their own acquaintance with Russian literature is much less so. However, the article in *Le Monde* also provides a partial explanation by describing the extensive Russian facilities for translating and abstracting (2000 full time