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.

A. H. T.

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

"collaborators," plus many part time). It is hardly necessary to comment on the meagerness of our own facilities.

Until recently, even reviews and abstracts of Russian literature were pitifully sparse, although here there has been vast improvement. The original Kantorovich-Krylov has been known and appreciated by a few Americans, probably largely due to informal publicity given it by George Forsythe, who encouraged the making and publishing of the present translation. But *Mathematical Reviews* has no review of the second edition, published in 1941, and for the third edition it listed chapter headings and remarked, in an unsigned article, only that the edition differed very little from the previous one.

At any rate, we can be grateful to translator and publisher for the present volume. The book itself is concerned mainly with the numerical solution of partial differential equations, as the title to the first edition (1936) indicated. The first chapter deals with expansion in series, both orthogonal and nonorthogonal, with a section on the improvement of convergence. Next come methods of solution of Fredholm integral equations with applications to the Dirichlet problem. Then comes a chapter on difference methods, and one on variational methods. This accounts for slightly more than half of the book. There follow two chapters, for a total of nearly 250 pages, on conformal methods, and finally about 50 pages on Schwarz's method. Throughout, the presentation is extremely readable, with the inclusion of numerous examples, but no exercises. Unfortunately there is no index, either, although the table of contents is fairly detailed (5 pages).

In organization the translation deviates from the original only in collecting the references at the end, with footnotes referring to author and number. This I consider to be desirable. In detail the translation is faithful and quite clear. At times the phraseology is too faithful for elegance, and on rare occasions the translator is even led astray. One such example occurs on page 7: "Just as there, we may separate the problem into two, and moreover in each case the conditions are null on two sides." While the reader should understand what is meant, there are two faults to find here. First, "pričem" should be translated as "where," not "and moreover." Second, a condition cannot be null. I confess, I do not understand the construction in the original, which is "usloviya nulevye," and perhaps the translator can be forgiven for assuming the adjective to be in predicate form in spite of the ending. Perhaps the authors themselves were careless.

But one could always find fault with details, whereas the important thing is that the book is now available to readers of English. Again our thanks to publishers and translator.

<div style="text-align:right">A. S. Householder</div>

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25[Z].—Franz L. Alt, *Electronic Digital Computers*, Academic Press, New York, 1958, x + 336 p., 23 cm. Price $10.00.

In the preface to his book, Alt addresses himself primarily to "physicists, chemists, engineers and others in similar occupations who have occasion to require the solution of computational problems by means of digital computing machines."