1. F. G. Tricomi, *Lezioni sulle funzioni ipergeometriche confluenti*, Gheroni, Torino, 1952.

2. H. Buchholz, *Die konfluente hypergeometrische Funktion mit besonderer Berücksichtigung ihrer Anwendungen*, Springer, Berlin, 1953.

3. A. Erdélyi, W. Magnus, F. Oberhettinger, & F. G. Tricomi, *Higher Transcendental Functions*, v. 1, Chapter VI, McGraw-Hill, New York, 1953.

4. RMT 46, *MTAC*, v. 12, 1958, pp. 86–88.

23[M, X].—G. Doetsch, *Einfuhrung in Theorie und Anwendung der Laplace-Transformation*, Birkhäuser Verlag, Basel, Switzerland, 1958, 301 p., 24 cm. Price SFr 39.40.

This book forms an excellent introduction to the subject of Laplace transformations in one dimension, written by one of the leading experts in the field. From his wide knowledge of both the theoretical and applied aspects of the subject, the author has written a very readable, rigorous exposition which also indicates relations with appropriate physical concepts.

After a general introduction, the basic properties of the Laplace transform are developed in ten short chapters. Included are discussions of half-planes of convergence, uniqueness of the inverse, analytic properties of the transform, the effect of a linear transformation of the independent variable on the transform, the effect of differentiation and integration, and the transformation of a convolution. Because each chapter is devoted to a separate topic, the book is very useful for reference purposes. Many examples of specific transforms are given.

The next four chapters deal with the application of Laplace transforms to the following problems: the initial-value problem in ordinary differential equations with constant coefficients; the solution of differential equations for special input functions; homogeneous and non-homogeneous systems of differential equations; the initial-value problem for difference equations.

The next group of chapters deals with further properties of the transform, some of which may not be familiar to the reader: the behavior of the transform at infinity; inversion formulas expressed as integrals along vertical lines, as integrals along deformed paths in the complex plane, and as series of residues; conditions for the representation of a function as a transform; functions given as the sums of series of transforms; the analogue of Parseval's formula and transforms of products; and the asymptotic behavior of the transform and of the "original" function.

The book concludes with three chapters on further applications of the Laplace transform to differential equations with variable coefficients, to simple partial differential equations, and to certain integral equations.

A useful feature of the book is the inclusion of necessary background material, particularly in the later chapters.

<div style="text-align:right">Dorothy L. Bernstein</div>

Goucher College
Towson, Baltimore 4, Maryland

24[S, X].—G. I. Marchuk, *Numerical Methods for Nuclear Reactor Calculations*, (An English translation of a work originally published in Russian as Supplement Nos. 3–4 of the Soviet Journal of Atomic Energy, Atomnaîa Énergiîa. Atomic Press, Moscow, 1958.) Consultants Bureau, Inc., New York, 1959, 293 p. 28 cm. Price $60.00.

A more accurate title for this book would have been *Numerical Methods for*