other distinctive contribution. It will be very helpful to investigators in the fields of genetics, tumors, endocrinology, as well as pathology and biology in general.

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MATHEMATICS

University Mathematical Texts. General editors, Alexander C. Aitken, D.Sc., F.R.S., Daniel Rutherford, Dr. Math. Edinburgh and London: Oliver and Boyd. New York: Interscience. *Determinants and Matrices,* by A. C. AITKEN; *Statistical Mathematics,* by A. C. AITKEN; *Waves,* by C. A. COULSON; *Integration,* by R. P. GILLESPIE; *Integration of Ordinary Differential Equations,* by E. L. INCE; *Functions of a Complex Variable,* by E. G. PHILLIPS; *Vector Methods,* by D. E. RUTHERFORD; *Theory of Equations,* by H. W. TURNBULL. Each volume, $1.50.

IN continental Europe the publishing of brief introductory texts at a low price has long been an established custom. It is very fortunate that, by constructive editorial activity, the present mathematical series in the English language was started. All the little books of the series published so far can be characterized as unassuming, straightforward, directed toward tangible facts rather than toward generalities, conscious of applications, and written by competent authors. They can not possibly give more than introductory information and they can not suffice as bases for more detailed studies. But within the limitations imposed by their small size (about 65,000 words on the average), they will serve a really useful purpose. It is to be hoped that the editors will be able to maintain the same standards in the future publications of the series.

A Treatise on Advanced Calculus. By PHILIP FRANKLIN, Ph.D., professor of mathematics, Massachusetts Institute of Technology. xiv + 595 pages. New York: John Wiley and Sons. 1940.

RIGOR, whatever this word may mean, was one of the great mathematical achievements of the nineteenth century. Only gradually has this tendency penetrated into text-books. The first great work of this kind, Jordan's "Cours d'analyse," was followed by many others, of which Hardy's "Pure Mathematics" seems to be the foremost in English. Franklin's book is an admirable attempt on a much broader scale to combine rigor with completeness in a volume of modest size. It will appeal to readers who are already well informed but want to revise and to supplement their knowledge in the light of modern precision. Not only are the traditional subjects of a book on advanced calculus covered, but also many more advanced topics are included. There is a section on the Laplace transformation, one on Poisson's sum formula, and a brief exposition of the theory of partial differential equations of the first order. The material is presented in an original way with extraordinary care.

Of course it is impossible to discuss analysis from the real number system to the Hamilton-Jacobi theory in less than 600 pages without being somewhat dogmatic. The reader who wants to absorb new material will miss a convincing illumination of motives and goal for all these deductions. The critic may take exception to points where the personal taste of the author has asserted itself in a striking way, such as in the discussion of the trigonometric functions. Or he might be disappointed to find in such a thoughtfully precise book an introductory remark on limits, where the idea of a steadily moving independent variable is mentioned without being explicitly disavowed. From Zeno to Leibniz this concept has been one of the main impediments to rigorous mathematical treatment, and its replacement by "static" concepts was the decisive step towards logical clarity in the modern definitions of limit and continuity. Of course such criticism of minor details does not matter much in view of the merits of the book as a reliable guide. The great effort embodied in this work will certainly assure it a more than transitory place in the literature and a lasting influence on those for whom it is written.

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SPECIAL ARTICLES

THE EFFECT OF SULFANILYLGUANIDINE ON THE THYROID OF THE RAT[1]

FOLLOWING the announcement of Marshall *et al.*[2] that orally administered sulfaguanidine (sulfanilylguanidine) reduces the concentration of coliform bacteria in the feces of mice, we investigated the possibility that this substance, when fed to rats on a purified diet containing synthetic B vitamins, would prevent the synthesis of additional essential nutrients by the intestinal flora. In view of Woods's[3] finding that p-amino benzoic acid interferes with the bacteriostatic

[1] Supported by a grant from The Rockefeller Foundation.

[2] E. K. Marshall, Jr., A. C. Bratton, H. J. White and S. T. Litchfield, Jr., *Bull. Johns Hopkins Hosp.*, 67: 163, 1940.

[3] D. D. Woods, *Brit. Jour. Exp. Path.*, 21: 74, 1940.