provide a convergent expansion for every continuous function. In an appendix he proves the following generalization by Lozinskii and Harshiladze: there exists no sequence $\{U_n\}$ of linear operators on C such that U_n takes every element of C into a polynomial of degree at most n, and leaves such polynomials invariant, while $U_n(f)\to f$ for every f in C.

The translation reads smoothly, with no relics of Russian mathematical style; it appears to be quite idiomatic, even to the extent of rendering "Buniakovskii's inequality" by "Cauchy's inequality" or "Schwarz's inequality" according to circumstances.

R. P. BOAS, JR.

BRIEF MENTION

Allgemeine Theorie der algebraischen Zahlen. By Ph. Furtwängler. Reworked by H. Hasse and W. Jehne. Enzyklopädie der mathematischen Wissenschaften, vol. I_2, no. 8, part II. 2d ed. Leipzig, Teubner, 1954. 50 pp. 6 DM.

This subject being surrounded in the Enzyklopädie by articles on Allgemeine Modul-Ring- und Idealtheorie, Bewertungstheorie, Theorie der abelschen Zahlkörper, and a section on analytic number theory, the authors faced a considerable problem in choice of material. In the reviewer's opinion they solved it admirably, allowing enough overlapping to make the various approaches to the subject clear. The first 40 pages are devoted to the arithmetic in integral domains of algebraic number fields as worked out by Kummer, Dedekind, and Kronecker, with an indication of the approach by valuation theory. The description of Kummer's approach, which is seldom mentioned but turns out to be surprisingly modern, is of interest. Main topics: ideals, ideal classes, different and discriminant, units. Except for a brief hint under "Axiomatische Begründung der Idealtheorie," there is no indication that practically all of this applies equally well to function fields of transcendence degree 1. The last 10 pages are devoted to Artin's theory of the conductor and L-series, and analytic formulas for the class number.

G. WHAPLES

An introduction to stochastic processes with special reference to methods and applications. By M. S. Bartlett. Cambridge University Press, 1955. 312+14 pp. \$6.50.

This book deals primarily with elementary heuristic applications to genetics, population growth, insurance risk, statistics, queuing and waiting time, epidemiology, particle physics, turbulence, prediction, information theory, time series, etc. There are a number of illustrative numerical examples.

DONALD A. DARLING

Numerische Behandlung von Differentialgleichungen. By L. Collatz. Berlin, Springer, 1955. 15+526 pp., with 118 illustrations and a portrait. Paperbound, 56 DM.; clothbound, 59.60 DM.

The first edition of Collatz's Numerische Behandlung (reviewed in this Bulletin, vol. 59, pp. 94–96) was noteworthy as the most extensive and most complete treatment of the numerical solution of differential equations that had yet appeared. The second edition now at hand continues to maintain this leadership. It is still larger (526 pages) and has undergone considerable reorganization. A major part of the reorganization consists in the insertion of a new chapter at the beginning devoted to basic material needed later, such as finite differences, interpolation, formulas for numerical differentiation and integration, Green's theorem and related topics, least squares, orthogonality, and concepts from functional analysis. The remaining five chapters cover substantially the same material as in the first edition except for the topics now collected in Chapter I and the expansion of the remaining topics by more detailed treatment and the addition of new items. The high character of the first edition has been well preserved.

W. E. MILNE

Curso de análisis matemático. Vol. 3. By C. de Losada y Puga. Lima, Universidad Católica del Perú, 1954. 22+814 pp.

This final volume of Professor de Losada y Puga's treatise covers trigonometric series, divergent series, functions of a complex variable, differential equations, calculus of variations (very briefly) and probability. The exposition is for the most part at the advanced calculus level, and in a leisurely and readable style. The section on differential equations (350 pages) is more up-to-date and detailed than many textbooks on the subject in English.

R. P. BOAS, JR.

Opere. Vol. 3, *Sistemi tripli ortogonali.* By L. Bianchi. Ed. by the Unione Matematica Italiana with the assistance of the Consiglio Nazionale delle Ricerche. Rome, Cremonese, 1954. 6+851 pp. 7500 lire.

For the first two volumes cf. this Bulletin, vol. 60, p. 288.