

fairly general nonlinear equation of polynomial class); coefficients of the expansion of the first and second Painlevé transcendents. Forty pages of tables of values of these Painlevé transcendents (for the initial conditions $y(0) = 1$, $y'(0) = 0$), of solutions of Van der Pol's equation (with $y(0) = 2$, $y'(0) = 0$), and of solutions of a special Volterra equation, together with a bibliography of 350 items, complete the work.

Paul R. Beesack, Carleton University

Estimation from Grouped and Partially Grouped Samples, by Gunnar Kulldorf. John Wiley, New York; and Almqvist and Wiksell, Stockholm, 1961. 144 pages. \$5.00.

This book, based on the author's Ph.D. dissertation, is a clearly written account of estimation of population parameters for sampling from untruncated and truncated exponential and normal populations, when the samples are either grouped or partially grouped. The latter is a generalization of the grouped case and can also be viewed as a generalization of "censored samples".

The so-called equidistant case, that is, when lengths of cell intervals are all taken to be equal, is discussed in detail. Maximum likelihood estimators and other types of estimation are exhibited, as well as a discussion of optimum grouping procedures.

Irwin Guttman, University of Wisconsin

Group Theory, The Application to Quantum Mechanics, by Paul M. E. Meyer and Edmond Bauer. North-Holland Publ. Co. Amsterdam. Interscience, New York, 1962. 288 pages. \$9.75.

The book comes in eight chapters: 1. Vector spaces (a concept that is not properly defined in this book), 2. The principles of quantum mechanics, 3. Group theory, 4. General Applications to Quantum Mechanics; Wigner's theorem, 5, 6. Rotations in 3-dimensional space: Group D_3 , 7. Space groups, 8. Finite groups. The mathematical treatment of group theoretical concepts and their applications to quantum theory given in this book is much inferior to the one given in the book by Van der Waerden, *Die gruppen theoretische Methode in der Quantenmechanik* (Springer, Berlin 1931) e. g., no proof for the uniqueness theorem in representation theory is given (see p. 81) and in the application of Schur's lemma (p. 85) it is tacitly assumed that a reducible representation of a group is fully reducible. The theory of Lie groups is not properly dealt with at all. On the other hand the principles of theoretical physics which suggest an application

of group theoretic methods to quantum mechanics, could have been far more thoroughly discussed on the space available. As it is one is referred in decisive moments to some other source book so that it is not possible to learn the underlying principles by studying this book though, of course, new applications of representation theory to quantum mechanics have been discovered since the appearance of Van der Waerden's book which are discussed in this book.

There is no intrinsic evidence given why a student of theoretical physics interested in the application of group theory to quantum mechanics should not directly proceed to study the books by E. Wigner and by L. D. Landau and E. M. Lifschitz on Quantum Mechanics.

Hans Zassenhaus, McGill University

Russian-English Mathematical Dictionary. Words and Phrases in Pure and Applied Mathematics with Roots and Accents, Arranged for Easy Reference, by L. M. Milne-Thomson. The University of Wisconsin Press, Madison, 1962. xiv + 191 pages. \$6.00.

This will be a valuable aid for all those mathematicians who wish to read mathematical work in Russian. In spite of the fact that a good deal of the Russian mathematical literature is now being translated into English (and (or) German and French), many readers will find it desirable to be their own translators. This will not only enable them to get to know earlier; in the case of books they will have them at one fifth of the price of the corresponding American edition.

An outline of the Russian grammar is added which will enhance a more intelligent use of the dictionary and perhaps induce the beginner to undertake a more extensive study of the Russian language without which even the best dictionary is only a makeshift tool.

H. S.

Vector Analysis Including the Dynamics of a Rigid Body, by G. D. Smith. Oxford Mathematical Handbooks, Oxford University Press, London, 1962. 192 pages. \$4.50.

This book is the third in the series of Oxford Mathematical Handbooks, and is aimed at the reader interested in applications of vector analysis.

A geometrical treatment of vectors, with a careful definition of a vector as a directed line segment, is given in the first five chapters.