

complex variable method for two-dimensional problems, on other methods for non-viscous incompressible flow (including Stokes' stream function, hodograph methods, and a short description of the relaxation method for the solution of Laplace's equation), on compressible flow and on viscous flow. There is an Appendix on vector formulæ, which are used freely in the text. One appreciates the carefully chosen examples of the use of the complex variable method, which, although mathematically elegant, is of limited physical importance. The chapters on compressible and viscous flows are very welcome in a new textbook at this level. The reviewer would like to point out, however, that the solution proposed for flow at supersonic speed into a concave corner is incorrect. An examination of shock polars based on pressure and flow direction shows at once that the postulated regions of uniform flow separated by vortex sheets cannot be found. The author also states that in the limit of a continuously curving wall the envelope of the Mach lines represents a shock-wave; in fact, it indicates only the presence of a shock-wave, the solution of the problem being much more complex than is suggested in the text.

The book is the first printed by Messrs Oliver and Boyd on their new "4-line mathematical" Monotype machines. The type is pleasing to the eye and the formulæ are well displayed.

D. C. PACK

WIGNER, E. P., *Group Theory and its Application to the Quantum Mechanics of Atomic Spectra* (Academic Press Inc., New York, 1959), translated by J. J. Griffin, xi+372 pp., 80s.

This translation of the well-known book published by Wigner in 1931 is to be warmly welcomed. Of the first half of the book about 60 pages are devoted to matrix theory and to a résumé of the relevant parts of quantum mechanics and about 120 pages to the theory of groups and their representations. The remainder of the book is concerned with the application of group theory to atomic spectra and includes three additional chapters dealing with developments, such as time inversion and the Racah coefficients, which have been made since the original publication of the book.

The whole book is written with the utmost clarity, and a student wishing to acquire, for any purpose whatever, a knowledge of elementary group theory including the theory of the symmetric and the rotation groups, could not do better than read the 120 pages referred to above. The translation, too, is excellent; one or two slips have been made, but they are of a very trivial nature and do not warrant mention here.

The printing and layout of the book are first-class.

D. MARTIN