SLATER, L. J., *Confluent Hypergeometric Functions* (Cambridge University Press, 1960), 247 pp., 65s.

Many problems in mathematical physics can be solved in terms of confluent hypergeometric functions, and for that reason it is useful to have collected together the basic formulae relating to these functions and an extensive set of numerical tables of Kummer's function ${}_1F_1(a; b; x)$, computed by the author on EDSAC I. The book, which is most beautifully produced and pleasant to handle, is written rather concisely and will be of value as a work of reference only. Despite its usefulness as such, it is difficult to support the claim made on the dust cover that " This book does for confluent hypergeometric functions what G. N. Watson's *Treatise on the Theory of Bessel Functions* did for Bessel functions." That claim could surely be made more strongly for Tricomi's *Funzioni Ipergeometriche Confluenti* (Cremonese, Roma, 1954).

I. N. SNEDDON

LAMB, H., *Statics* (Cambridge University Press, 1960), pp. 357+xii, 18s. 6d.

This reprint of the third edition of 1928 of the textbook first published in 1912, too well known to generations of British students to require detailed description, is now issued by the original publishers as one of their admirable series of " Cambridge Students' Editions ", bound in a serviceable glossy cover, at a price relatively very much less than the original figure. In its fifty years of life this book, like Lamb's other writings, must have exerted an immense influence on the teaching of applied mathematics in schools and universities; and there is no doubt that in any revision of content and method of presentation of courses of instruction to meet modern needs, for which the time appears to be ripe, this hale and hearty survivor of a former era will continue to be a fixed point of reference.

R. SCHLAPP

WEBER, C., AND GÜNTHER, W., *Torsionstheorie* (Friedr. Vieweg & Sohn, Braunschweig, 1958), 306 pp.

This book is entirely devoted to the classical theory of torsion, considering both direct solutions of the equilibrium equations and variational methods. It is well written and although the text is reproduced by photo lithography it is well done and easy to read. However, it is a book which is likely to be of interest only to specialists in this particular branch of the mathematical theory of elasticity.

I. N. SNEDDON

RINDLER, W., *Special Relativity* (University Mathematical Texts Series, Oliver & Boyd, 1960), x+186 pp., 10s. 6d.

Relativistic effects are becoming of increasing importance in many branches of theoretical physics and yet there are few books devoted to their exposition as a glance at the fairly complete bibliography in this book will show. This is a pity for the subject is one to which most students come after a thorough grounding in classical dynamics so that a real insight into the novel concepts of relativity is only to be achieved by detailed revision of deep rooted notions. The wider the range of viewpoints available to the student for this purpose the better, and it is unfortunate that all too often recourse is had to the bare manipulative bones of the subject, with little real attempt at interpretation, which appear as a chapter in a book on more general physics or tensor calculus. For this reason any new specialist book on relativity is to be welcomed and when it is written with authority, as this is, it is doubly welcome.

Dr. Rindler has given an elegant and clear treatment of the principles and applications of the special theory. Into the limited space at his disposal he has managed to pack a wealth of discussion and there is no doubt that the book will be found most useful not only for the student but also for the more advanced worker. A particularly stimulating feature is the collection of a dozen or so exercises (with occasional hints) at the end of each chapter. Among these are to be found several important results and they should therefore be regarded as an integral part of the text and not merely as examples of the theory.

The first three chapters establish the special principle of relativity and proceed to discuss relativistic kinematics and optics. No techniques are used here other than the most elementary calculus and vector analysis. The elegant presentation of the remaining material makes general use of tensor concepts and for this purpose there is an Appendix which develops *ab initio* those aspects of tensor analysis and calculus needful to the main text. To indicate the scope of topics treated by these means one can hardly do better than cite the five chapter headings: Space-time, Relativistic mechanics of mass points, Relativistic electrodynamics in vacuo, Waves, Relativistic mechanics of continuous matter. The last chapter forms an excellent springboard for entry into the general theory of relativity.

This is a book the early parts of which one could recommend to a mature schoolboy with an enquiring mind. The whole book is perfectly suitable as a basis for an undergraduate course. As usual the complicated printing has been admirably carried out by Messrs. Oliver and Boyd.

J. B. HELLIWELL

AHARONI, J., *The Special Theory of Relativity* (Clarendon Press: Oxford University Press, 1959), 285 pp., 45s.

This further addition to the list of books on the special theory of Relativity has been written with the student of quantum theory particularly in mind. The work covers the usual topics dealt with in books on Relativity but in addition contains a valuable chapter of eighty pages or so in length on spinors and the Lorentz group. The Maxwellian field is discussed at length and, in a chapter on general field theory, the Proca field is treated. The book is not encyclopaedic and the bibliography contains only twenty items or so but, nevertheless, it should be useful to atomic physicists and especially to those beginning the study of elementary particle theory. The printing and layout are excellent.

D. MARTIN