

In view of the interest which has recently been manifested in this subject of map projections, it is fortunate that a book dealing "comprehensively with the theories that underlie their construction" should have appeared. To the geographer with a mathematical bias this carefully prepared book will be especially welcome. J. E. C.

Properties and Mechanics of Materials. By Prof. P. G. Laurson and Prof. W. J. Cox. Pp. x + 353. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1931.) 17s. 6d. net.

WRITTEN for students of American universities and based on American standards and specifications, this book, within these limitations, constitutes a useful introduction to the subject, in that it combines an account of the stresses to which materials are subjected in constructional work with the description of the materials themselves. It is mainly of the nature of a preliminary survey, with the emphasis properly laid on fundamental principles, which it is desirable that the student should grasp thoroughly before allowing his attention to be diverted to specialised problems. The English engineering student will find in it a number of terms, units, and methods with which he may not be altogether familiar, but it will be useful to him in widening the range of his knowledge and giving him an insight into trans-Atlantic standards and practice. At the same time, the references to the conditions governing such characteristic American structures as the multi-story building, or 'skyscraper', are by no means prominent, and one looks in vain for information on the subject of foundations. There is a list of references for further reading, but it is entirely American; no British or European standard books are quoted. B. C.

Hydraulics: a Textbook covering the Syllabuses of the B.Sc. (Eng.), A.M.Inst.C.E. and A.M.I.Mech.E. Examinations in this Subject. By E. H. Lewitt. (Pitman's Engineering Degree Series.) Fourth edition. Pp. xii + 372. (London: Sir Isaac Pitman and Sons, Ltd., 1932.) 10s. 6d. net.

THIS is a textbook which has been compiled for the specific purpose of covering the examination syllabuses of certain universities and professional bodies. It is, therefore, somewhat narrow and rigid in its treatment of the subject, but that it is popular with engineering students is evident from the fact that the work is now in its fourth edition. Indeed, as an examination textbook, it is admirably clear and concise. But as a general review of the subject it is, perhaps unavoidably, a little lacking in breadth. The chapter on flow through open channels, for example, gives the Chezy formula with Bazin's values for the coefficient, but takes no note of the elaborate, and more generally recognised, expressions of Ganguillet and Kutter, or those of Hazen and Williams, Manning, Barnes, and others. The present edition of the book has been enlarged to include new material on the viscous resistance of a fluid, and the sections on hydraulic machines have been considerably amplified. On

page 174, the author is mistaken in attributing to the late Lord Kelvin the explanation of scouring at river bends: it is to his brother, the late Prof. James Thomson, that the credit is due. B. C.

- (1) *Operational Methods in Mathematical Physics.* By Dr. Harold Jeffreys. (Cambridge Tracts in Mathematics and Mathematical Physics, No. 23.) Second edition. Pp. viii + 119. (Cambridge: At the University Press, 1931.) 6s. 6d. net.
- (2) *Cartesian Tensors.* By Dr. Harold Jeffreys. Pp. vii + 93. (Cambridge: At the University Press, 1931.) 5s. net.

(1) A NEW edition of this really useful book is to be welcomed. The author has returned to Heaviside's notation of p for the operator, a distinct improvement. The chapter on Bessel functions has been rewritten and illustrated with reference to submarine cable telegraphy.

(2) While vector algebra demands the learning of a new notation, the tensor method is only a concise way of writing a notation which is already familiar. Special simplifications are introduced by the use of rectangular Cartesian co-ordinates, and tensor algebra is then a simple and useful tool for obtaining general theorems in a concise manner. In this excellent little book the notation is explained and illustrated by applications to geometry, dynamics, elasticity, and hydrodynamics.

The Archaeology of Cornwall and Scilly. By Dr. H. O'Neill Hencken. (The County Archaeologies.) Pp. xvii + 340 + 12 plates. (London: Methuen and Co., Ltd., 1932.) 10s. 6d. net.

DR. HENCKEN'S volume on Cornwall and Scilly, while following the plan of the series, is somewhat broader in its method of treatment. For this, the material is in part responsible. It was inevitable that such topics as the Cornish megalithic monuments and the burial chambers of Scilly, the position of Cornwall in prehistoric trade, its tin mining industry, and the relation of its legendary history to its archaeology after the Roman evacuation should call for discussion on broad comparative lines. As a result, the book, while no less valuable to the archaeologist than its predecessors, is even more attractive to the general reader.

Zoologie biologique. Par Prof. Étienne Rabaud. Fascicule 1: *Morphologie générale et système nerveux.* Pp. xxi + 223. (Paris: Gauthier-Villars et Cie, 1932.) 45 francs.

THIS is the first of three volumes which deal respectively with general morphology in relation to the nervous system, nutrition, and reproduction. The first volume approaches the problem of general morphology by describing the fundamental structure of all animal forms in terms of the integument, organs of locomotion, and the body cavities.

The relation of the organism to the environment is approached by the study of the peripheral nervous system, with special attention to the nerve endings of ordinary and special sensation. The author has succeeded in introducing many of the conceptions of modern physiology into morphology.