

Short Notices

Traité de Géodésie. Par Capt. P. Tardi. Fasc. 1 : *Généralités sur la géodésie, géodésie mathématique, triangulations.* Pp. xxx+422. 80 francs. Fasc. 2 : *Astronomie géodésique de position, géodésie dynamique, la figure de la terre.* Pp. xi+425-732. 70 francs. (Paris : Gauthier-Villars et Cie, 1934.)

Vol. 1 of this important treatise opens with a succinct historical account as to attempts made to determine the figure of the earth, and goes on to detail the mathematical formulæ on which the more elementary part of the work is based. Methods of calculation of geodetic co-ordinates and of the commoner map projections used in large-scale survey maps are set out in detail. Under the former heading, Roussilhe's method of calculating co-ordinates, developed in recent years, is fully set out, but the Bonne projection, important in France, is but briefly dealt with.

As might be expected, the method of least squares receives full attention, and the value of the volume is very much enhanced by the clearly arranged correction sheets for a primary triangulation.

Vol. 2 deals in greater detail with the determination of the figure of the earth, and gives a full consideration to the mathematical aspect of the finding of latitude, longitude and azimuth, the field work being only treated as incidental thereto. Modern tendencies in the direction of gravity surveys, and a résumé of the geodetic side of isostasy and of theories as to the rigidity of the terrestrial globe conclude the work, which is of a high order. The reviewer does not know any British or American work on geodesy which covers so wide a field in so short a space. It will prove of immense interest to geodesists and to those connected with the mathematical side of Ordnance Survey work.

B. H. K.

Modern Home Laundrywork. By E. Henney and J. D. Byett. Pp. x+171. (London : J. M. Dent and Sons, Ltd., 1934.) 3s. 6d. net.

OUR educational systems have failed to impart the desire on the part of many boys and girls to know about the ordinary things around them; they are content to drive a motor-car, but not to understand it, to do laundry work and complain of the results equally without understanding. It is true that an increasing number of girls pass through a course of domestic science, and it would be all to the good if a much larger number could be induced to do so, for which purpose much greater facilities for part-time study are required.

This little handbook includes instruction in every process of laundry work from the practical point of view, with just enough science to give a clue to the basis of the treatment advised. Fibres, water, cleansers, are explained; there is a very practical chapter on stain removal.

We would advocate the presenting of such a book to all girls on leaving school, confident that if they took the trouble to master it, their subsequent path through life would be materially smoothed.

L'Électron magnétique (théorie de Dirac). Par Prof. Louis de Broglie. Pp. viii+315+2 plates. (Paris : Hermann et Cie, 1934.) 100 francs.

In this book Prof. Louis de Broglie gives an admirable historical introduction to the theory of the spinning electron, starting from the early theories of Bohr and Sommerfeld and exposing all the difficulties which were encountered in connexion with the fine structure and Zeeman effect. He then develops in great detail the theory of the linear wave equation due to Dirac. Dirac's theory is then applied to obtain the fine structure of hydrogen-like atoms and Landé's formula. Finally, the book concludes with a discussion of the problems raised by the existence of states of negative energy.

The mathematical treatment is almost entirely in terms of wave functions and wave operators, the spin operators introduced by Dirac being always taken to have that particular matrix representation which he himself used.

As a result, some of the analysis is rather lengthy, and could have been considerably simplified by the use of operational methods. However, there are many workers in this field who will find it extremely convenient to have a book which sets out in full the wave mechanical aspect of Dirac's theory. There are certain omissions from the book, notably Mott's theory of scattering and the recent theoretical speculations of Eddington.

G. T.

The Subject Index to Periodicals, 1933. Issued by the Library Association. Pp. x+273. (London : Library Association, 1934.) 70s.

GREAT credit is due to the editor, Mr. T. Rowland Powel, his staff and the voluntary contributors for a further speeding up of the publication of the annual volumes of this subject index. This year, the volume for 1933 appeared only eight months after the end of that year. Although these subject indexes have a permanent value as a record of published work, it is obvious that those who are engaged in investigations will wish to have the work of others in the same field brought to their notice as soon as possible.

The present volume comprises entries of more than 25,000 articles, selected from periodicals of which a list is given. Of these periodicals, no less than 539 are English and American, but 41 are French, Belgian, Swiss, German and Italian publications. It should, however, be noted that the indexing of English and American periodicals is not complete, because, with few exceptions, no attempt has been made to index periodicals covered by the following publications: *Agricultural Index, Engineering Abstracts, Engineering Index, Index Medicus, Journal of the Society of Dyers and Colorists, Photographic Abstracts, Revue de Géologie, Minéralogie et Crystallographie, Royal Meteorological Society's Bibliography, Science Abstracts and Journal of the Textile Institute.* A wide range of subjects has been selected for indexing, but verse and fiction are excluded.