physical problems has great difficulty in turning his formulas into numbers. Accordingly the examples worked in the text include several numerical ones, and some attention is given to putting results of theory in a form convenient for calculation. The book has a utilitarian bias which should make it useful to the engineering student, as well as interesting and live to the student of pure science. This attitude is emphasized throughout and is especially noticeable in the chapter on motion in two dimensions, where practical numerical applications are made of almost every topic treated, and in the applications to problems of astronomy.

The book begins with the subject of statics and, in addition to usual topics under this head, Part I contains chapters on graphical methods, moments of inertia, potential and attraction, and an extensive chapter on elasticity including strength of materials. Part II is devoted to the dynamics of a particle and the usual special types of motion are treated in excellent style. Besides a fairly complete chapter on central forces there is one on the problem of two or more bodies. The dynamics of a rigid body forms Part III and this is concerned principally with motion parallel to a fixed plane. There is also a chapter on motion in three dimensions of a rigid body with a symmetrical axis. The last chapter is on units and dimensions. If the student is to use the idea of dimensions as a check on his equations, it seems better to place this subject in the earlier part of the book.

<div align="right">W. R. LONGLEY.</div>

Annuaire pour l'An 1915. Publié par le Bureau des Longitudes. Paris, Gauthier-Villars, 1914.

THE Annuaire bears no signs of the struggle which is taking place in Europe. It arrived about the usual time and contains the usual information brought up to date. The astronomical part is increased by a descriptive note, with maps, of the constellations and with the names and positions of the stars which form these groups. The editors frequently find it necessary to add new information and, in order to keep the volume within reasonable limits, to omit less needed tables and articles, publishing the latter only occasionally. This year the geographical positions of the principal towns on the earth are omitted as well as the long table of magnetic elements in France.

The single Notice is a long one by M. G. Bigourdan, "Les méthodes d'examen des miroirs et des objectifs." As is often the case in these appendices, both the older and the more modern methods are described, their mathematical bases are explained and applications to various instruments are made, so that the article practically constitutes a treatise on the subject in a form which can be read and understood without serious difficulty.

E. W. BROWN.

NOTES.

AT the meeting of the London mathematical society on March 11 the following papers were read: By E. W. HOBSON: "Some theorems in the theory of series of orthogonal functions"; by P. A. MACMAHON: "Investigations in the theory of the partition of numbers by a new method of partial fractions"; by R. L. HIPPISLEY: "Reciprocal and parallelogram linkages"; by J. R. WILSON: "A pseudo-sphere the equation of which is expressible in terms of elliptic functions"; by T. C. LEWIS: "Circles, spheres, etc., associated with a triangle, orthocentric tetrahedron, etc."

THE fifth ordinary meeting of the Edinburgh mathematical society for the session was held at the University of Glasgow on March 12. The following papers were read: By A. W. H. THOMPSON: "Solid geometry"; by G. D. C. STOKES: "A simple link apparatus for the mechanical solution of quadratic equations"; by F. TAVANI: "New formulae about the theory of the series of alternate sign."

BEGINNING with the April number, the staff of associate editors of the *Transactions of the American Mathematical Society* will include Professors A. B. COBLE and W. A. HURWITZ in place of Professors J. I. HUTCHINSON and MAX MASON, who have served since 1902 and 1911 respectively.

THE March number of the *Proceedings of the National Academy of Sciences* contains the following mathematical papers: "A note on functions of lines," by G. A. BLISS; "A classification of quadratic vector functions," by F. L. HITCHCOCK. The April number of the *Proceedings* contains: