

but it was postponed until January 21, 1912, on account of the death of Mme. Darboux on October 8, 1911.

The addresses which were delivered at the Jubilé give abundant evidence of the great influence of M. Darboux as a teacher. Several of them direct attention to his fundamental contributions to the advancement of mathematical knowledge. The address by M. Henri Poincaré is especially interesting in this direction. The American representatives on the committee in charge of this Jubilé were G. E. Hale and H. Hancock.

G. A. MILLER.

Applications of the Calculus to Mechanics. By E. R. HEDRICK and O. D. KELLOGG. Ginn and Company, 1910. 116 pp.

IN the mathematical courses given to engineering students the analytic procedures find applications to geometry, and here the applications often end. Hedrick and Kellogg through their book, *Applications of the Calculus to Mechanics*, have given material help toward eliminating this mistake.

The book is clearly written, and for the most part in such a way that the student after his first course in the calculus will be able to read it understandingly. It is refreshing to find an accurate treatment of subjects in mechanics in which the authors have evidently kept their prospective readers in mind while writing it. It shows that after all there is no inherent reason why such a treatment may not be accurate, and at the same time clear to the student who is to read it. With the exception of a few paragraphs the authors seem to me to have put into their book these two essential qualities of a good text book. There are a few paragraphs which, I think, are too condensed, in which too much is left to the student. To illustrate what is meant, on page seven it is stated that "If a vector vary with the time t , or any other parameter, its derivative may be defined, for we know how to subtract vectors and divide by numbers. The notion of limit of a set of vectors will be sufficiently clear." The rest is left to the student. However, even if my supposition here is correct, this is only one of a few isolated cases and the teacher can easily supply the necessary amplifications. In nearly the whole of the book the definitions and theorems are led up to in such a plausible way, and so well illustrated by examples worked out and fully explained in the text, that

the student is in a position to comprehend the subjects treated and to use the theory developed in the formulation and solution of problems for himself.

The book contains five chapters: Vectors; Statics; Dynamics of a particle; Work and energy; Mechanics of rigid bodies. Center of mass is treated in Chapter II, and moments of inertia in Chapter V. There are fifteen sets of problems under the different subjects treated. These sets contain in all two or three hundred carefully selected and well graded problems.

I have been greatly aided by this book during the past two years in teaching the calculus to engineering students.

DAVID C. GILLESPIE.

NOTES.

THE closing (October) number of volume 13 of the *Transactions of the American Mathematical Society* contains the following papers: "On the pseudo-resolvent to the kernel of an integral equation," by W. A. HURWITZ; "Infinite systems of indivisible groups," by G. A. MILLER; "Improper multiple integrals over iterable fields," by J. K. LAMOND; "On a theorem of Fejér and an analogon to Gibbs' phenomenon," by T. H. GRONWALL; "The southerly and easterly deviations of falling bodies for an unsymmetrical gravitational field of force," by W. H. ROEVER; "On approximation by trigonometric sums and polynomials," by DUNHAM JACKSON. Also notes and errata, volumes 7 and 13.

THE annual meeting of the American association for the advancement of science will be held in Cleveland during the week beginning December 30 under the presidency of Professor E. C. PICKERING, of Harvard University; Professor E. B. VAN VLECK, of the University of Wisconsin, is chairman of Section A. It is expected that a large number of societies will affiliate with the association for this meeting.

THE annual meeting of the French association for the advancement of science was held at Nîmes, August 1-7, under the presidency of Professor CH. GARIEL. The section in mathematics and allied subjects was presided over by Pro-