detailed elliptic analysis. This twofold nature of the work is desirable, especially when the division is as clean cut as here, because each type of reader can find and use the part of the book he most needs and at the same time he can gain a glimpse, if not an appreciation, of the sort of work on the same problem which interests the other type of reader.

The forty-nine carefully executed figures are collocated upon large plates at the end of the book. For some of the illustrations this arrangement is satisfactory, but others of them should have been placed at the appropriate places in the text for the readers' ease in following demonstrations. The typography of the work seems excellent. We have now in English a great reference book on the top, a worthy companion and counterpart to that of Klein and Sommerfeld in German, one decidedly more compact and cheaper in price.

EDWIN BIDWELL WILSON.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

NOTES.

THE second annual meeting of the Mathematical Association of America was held at Columbia University, Thursday to Saturday, December 28–30, 1916. Thursday afternoon was devoted to a joint session with the American Mathematical Society, the American Astronomical Society, and Section A of the American Association for the Advancement of Science, and Thursday evening to a joint dinner of the four organizations. The programme of the Association included addresses by FLORIAN CAJORI: "Discussion of fluxions from Berkeley to Woodhouse"; M. W. HASKELL: "University courses in mathematics intended for teachers of secondary mathematics"; T. H. GRONWALL: "A nucleus for a mathematical library"; E. B. WILSON: "The mathematics of aerodynamics." On Friday there was an exhibition of portraits and medals of mathematicians from the collection of David Eugene Smith, the presentation and discussion of the report of the library committee, and a business meeting including the election of the following officers: President: FLORIAN CAJORI; vice-presidents: D. N. LEHMER and OSWALD VEBLEN; secretary-

treasurer: W. D. CAIRNS; members of the council: E. R. HED-
RICK, E. V. HUNTINGTON, HELEN A. MERRILL, R. E. MORITZ,
D. E. SMITH.

AT the meeting of the Edinburgh mathematical society on
December 8 the following papers were read: By L. R. FORD:
"On a class of continued fractions "; by E. T. WHITTAKER:
"On certain determinants of Cayley and Sylvester "; by E. M.
HORSBURGH: "An addition to the slide rule."

THE opening (January) number of volume 39 of the *American
Journal of Mathematics* contains the following papers : "Linear
difference and differential equations," by TOMLINSON FORT ;
"Some singularities of a contact transformation," by W. V.
LOVITT ; "Oscillations near an isosceles-triangle solution of
the problem of three bodies as the finite masses become un-
equal," by DANIEL BUCHANAN ; "The finite groups of bira-
tional transformations of a net of cubics," by L. C. COX ;
"On the determination of a certain class of surfaces," by A. E.
YOUNG ; "On orthoptic and isoptic loci," by HAROLD HILTON
and R. E. COLOMB ; "A new canonical form for systems of
partial differential equations," by L. B. ROBINSON.

THE December number (series 2, volume 18, number 2) of
the *Annals of Mathematics* contains the following papers :
"The numerical factors of the arithmetic forms $\prod_{i=1}^{n} (1 \pm \alpha_i^m)$,"
by T. A. PIERCE ; "A problem in geometry connected with
the analytic continuation of a power series," by T. H. GRON-
WALL ; "On the power series for log $(1 + z)$," by T. H. GRON-
WALL ; "On the convergence of Binet's factorial series for
log $\Gamma(s)$ and $\Psi(s)$," by T. H. GRONWALL ; "Note on Cauchy's
integral formula," by J. L. WALSH ; "On the rational, inte-
gral invariants of nilpotent algebras," by O. C. HAZLETT ;
"On trigonometric series," by W. L. HART.

JOHN WILEY and Sons announce the publication of volumes
on Elliptic Integrals by HARRIS HANCOCK and Differential
and Integral Calculus by H. B. PHILLIPS.

PROFESSORS PAUL PAINLEVÉ, of the University of Paris, and
VITO VOLTERRA, of the University of Rome, have been elected
honorary members of the Royal Institution, of London.

PROFESSOR TOMLINSON FORT, of the University of Michigan, has been appointed head professor of mathematics in the University of Alabama.

MR. E. J. OGLESBY, of the University of Virginia, has been appointed professor of mathematics in William and Mary College.

DR. P. H. LINEHAN has been promoted to an assistant professorship of mathematics at the College of the City of New York.

MR. J. K. WHITTEMORE has been appointed instructor in mathematics in the Sheffield Scientific School.

MR. J. A. BULLARD and Mr. C. E. NORWOOD have been appointed instructors in mathematics in the U. S. Naval Academy.

CHARLES SMITH, master of Sidney Sussex College and author of well-known textbooks on algebra and analytic geometry, died November 13, at the age of seventy-two years.

PROFESSOR H. A. SAYRE, of the University of Alabama, died December 2. Professor Sayre had been a member of the American Mathematical Society since 1891.

CHARLES A. PITKIN, professor of mathematics and physics at Thayer Academy, South Braintree, Mass., since its opening in 1877, died November 5, aged sixty-three years.

BOOK CATALOGUES:—Henry Sotheran and Company, 140 Strand, London, catalogue 766, exact sciences, about 1800 titles.—John Wheldon and Company, 38 Great Queen Street, London, scientific transactions and periodicals, 800 titles.