NOTES.

WITH the present issue of the BULLETIN Professor H. S. WHITE retires from the editorial staff, to assume larger responsibilities as member of the Editorial Committee of the *Transactions*. The Committee of Publication takes this opportunity to express its sense of obligation to Professor White for his valuable editorial support during the past two years.

A MEETING of mathematicians interested in the formation of a Southwestern Section of the AMERICAN MATHEMATICAL SOCIETY was held at Columbia, Mo., on Saturday, December 1, about thirty-five persons being in attendance. Over twenty papers were presented. Steps were taken toward permanent organization. A full report of the meeting will appear in the BULLETIN.

THE concluding (October) number of volume 28 of the *American Journal of Mathematics* contains the following papers : " Functions of three independent variables (concluded)," by H. L. COAR ; " An invariant condition for certain automorphic algebraic forms," by A. B. COBLE ; " On some cases of motion of a solid in infinite liquid," by G. KOLOSOFF ; " On the arrangement of the real branches of plane algebraic curves," by V. RAGSDALE.

THE January number (volume 8, number 2) of the *Annals of Mathematics* contains : " Circles orthogonal to a given sphere," by C. L. E. MOORE ; " On functional determinants," by PAUL SAUREL ; " Involutory transformations in the projective group and its subgroups," by E. B. WILSON ; " On the convergence and differentiation of certain classes of trigonometric series," by W. C. BRENKE ; " Note on the definition of an abelian group by independent postulates," by W. A. HURWITZ.

AT the annual meeting of the London mathematical society held on November 8, the following officers were elected : W. BURNSIDE, president ; A. E. H. LOVE and J. H. GRACE, secretaries ; J. LARMOR, treasurer ; two vice-presidents and ten other members of the council. The following papers were read : By A. R. FORSYTH (presidential address), " Partial differential equations, some criticisms and some suggestions " ;

by A. C. DIXON, " Harmonic expansions of functions of two variables " ; by G. N. WATSON, " General solution of Laplace's equation in n dimensions " ; by H. HILTON, " On subgroups of a finite abelian group " ; by J. E. CAMPBELL, " On Bäcklund's transformation and the partial differential equation $s = F(x, y, z)$ " ; by H. BATEMAN, " Inversion of a double integral."

THE annual meeting of the National academy of sciences was held at Harvard University, November 20–21.

THE seventh meeting of the Association of teachers of mathematics in the Middle States and Maryland was held at the Central high school, Philadelphia, on December 1, 1906. After an address of welcome by R. E. THOMPSON, president of the Central high school, the following papers were read : By CHARLOTTE F. MCLEAN : " Some suggestions for relieving the strain in elementary mathematics " ; by HARRY ENGLISH : " The teacher — his preparation, place, and power ' ; by A. G. RAU : " Co-ordination in mathematics " ; by JOHN MIL-LER : " The fundamental theorems and elementary mathematics " ; by ALICE M. MCKELDEN : " The problems that arise in the teaching of elementary algebra " ; by F. H. SAF-FORD : " Inversion."

The following officers were elected for the coming year : president, E. S. CRAWLEY ; vice-president, J. S. FRENCH ; secretary-treasurer, J. T. RORER.

THE Central association of science and mathematic teachers, acting with the American society of teachers of mathematics and the natural sciences, has issued a call for a meeting of delegates of associations of like nature, to be held at Columbia University on December 27, for the purpose of discussing the question of the formation of a national federation of teachers of mathematics and science.

THE annual meeting of the New York state science teachers association was held at Teachers College, Columbia University, New York, on December 26–27. Several papers on mathematical topics were presented.

THE following books are announced in the press of B. G. Teubner, Leipzig, and will probably appear in a few weeks : Encyklopädie der Elementar-Mathematik, volume 3, by H.

WEBER and J. WELLSTEIN; Vorlesungen über Geschichte der Mathematik, volume 4 (1758–1800), by M. CANTOR; Theorie des Integrallogarithmus und verwandter Transzendenten, by N. NIELSEN; Vorlesungen über die Elemente der Differential- und Integralrechnung, by H. BURKHARDT; Vorlesungen über Zahlentheorie, by J. SOMMER; Fragen der Elementargeometrie, volume 2, by F. ENRIQUES, translated by H. FLEISCHER; Synthetische Geometrie der Kegelschnitte, by P. SCHAFHEITLIN.

AMONG the new models which have just been added to the list of Schilling in Halle are an elliptic circle, by K. ROHN; a wooden model to illustrate the Dandelin theorem, by E. KÖTTER, and a metallic one to demonstrate the generation of an ellipse in space, by C. HILDEBRANT; three dimensional nets of four dimensional bodies, by R. GAETSCHENBERGER; and a plaster model of the locus of the center of a chord of a twisted quartic curve, by D. BÖHMLÄNDER.

THE new rules regarding the mathematical tripos of Cambridge University, as sanctioned by the senate on October 25 are as follows : (1) A student may be a candidate for part I at a date not earlier than the second term nor later than the seventh term ; (2) A student having failed to obtain honors may try a second time, upon accepted recommendation ; (3) The subjects must be chosen from the schedule annexed to the report ; (4) The list of successful candidates will be published in three classes, each arranged alphabetically ; (5) The subjects for part II must be from A, B of report, and part I ; (6) The successful candidates will be announced as wranglers, senior optimes and junior optimes, each arranged alphabetically ; (7) The class will be determined by the proficiency shown in A, provided a fair showing is made in B. (Cf. BULLETIN, volume 12, page 468 and volume 13, page 131.)

OXFORD UNIVERSITY (*Hilary term*, 1907). — By Professor W. ESSON : Comparison of analytic and synthetic methods in the theory of conics, two hours ; Synthetic properties of cubics, one hour. — By Professor E. B. ELLIOTT : Elements of elliptic functions, two hours ; Theory of numbers (continued), one hour. — By Professor H. H. TURNER : Mathematical astronomy, two hours. — By Professor A. E. H. LOVE : Theory of potential, two hours ; Calculus, two hours. — By Mr. P. J.

KIRKBY : Higher plane curves, two hours.—By Mr. A. L.
DIXON : Calculus of finite differences, two hours.—By Mr. J.
E. CAMPBELL ; Differential equations, II, two hours.—By
Mr. C. H. SAMPSON : Solid geometry, two hours.—By Mr. J.
W. RUSSELL : Determinants, two hours.—By Mr. C. LEUDES-
DORF : Geometry of inversion, two hours.—By Mr. A. E.
JOLLIFFE : Analytical geometry, two hours.—By Mr. R. F.
McNEILE : Integral calculus, two hours.—By Mr. E. H.
HAYES : Elementary mechanics, three hours.—By Mr. C. H.
THOMPSON : Dynamics of a particle, two hours.

AMONG the medals presented at the annual meeting of the
Royal society of London was a royal medal to Professor A. G.
GREENHILL for his researches in the applications of elliptic
functions.

AT the Stuttgart meeting of the Deutsche Mathematiker-
Vereingung the sum of 933.80 marks was set apart to restore
and preserve the grave of RIEMANN, who was buried at Bigan-
zolo, Italy, in 1866.

AT the University of Maine, Mr. E. E. MOOTS has been ap-
pointed instructor in mathematics.

CATALOGUES of second-hand mathematical works: Gustav
Fock, Schlossgasse 7, Leipzig, Germany, Antiquariats-Ver-
zeichnis no. 293, 4401 titles in mathematics and physics. — W.
Junk, Kurfüstendamm 201, Berlin, Bulletin nos. 1–2, 163 titles
in mathematics.