NOTES.

A REGULAR meeting of the AMERICAN MATHEMATICAL SOCIETY was held in New York on Saturday afternoon, November 28th, at three o'clock, the President, Dr. G. W. HILL, in the chair. There were twelve members present. On the recommendation of the Council, the following persons, nominated at previous meetings, were elected to membership: Mr. W. E. BROOK, University of Nebraska; Dr. L. E. DICKSON, University of Chicago; Dr. ARNOLD EMCH, University of Kansas; Dr. J. W. GLOVER, University of Michigan; Dr. J. I. HUTCHINSON, Cornell University; Lieut. H. H. LUDLOW, U. S. A., Jackson Barracks, New Orleans, La.; Mr. H. O. MURFEE, University of Virginia; Professor A. W. PHILLIPS, Yale University; Dr. VIRGIL SNYDER, Cornell University; Professor J. H. TANNER, Cornell University; Professor W. C. TINDALL, University of Missouri. Two nominations for membership were received.

The following paper was read:

Professor HENRY TABER: "Notes on the theory of bilinear forms."

AT the annual meeting of the London Mathematical Society, held on November 12th, the following officers and members of the Council were elected for the ensuing year: President, Professor E. B. ELLIOTT; Vice-Presidents, Major P. A. MACMAHON, MORGAN JENKINS and Dr. E. W. HOBSON; Treasurer, Dr. J. LARMOR; Secretaries, R. TUCKER and A. E. H. LOVE; other members of Council, Lieut.-Col. A. J. C. CUNNINGHAM, H. T. GERRANS, Dr. J. W. L. GLAISHER, Professor A. G. GREENHILL, Professor M. J. M. HILL, Professor W. H. H. HUDSON, A. B. KEMPE, F. S. MACAULAY and D. B. MAIR. Major MACMAHON, the retiring President, delivered an address, of which the subject was " The Combinatory Analysis." At this meeting the De Morgan medal was presented to Mr. SAMUEL ROBERTS, the fifth recipient of the medal.

UNIVERSITY OF MUNICH. The following mathematical courses are announced for the winter semester: By Professor BAUER : Theory of equations ; Applications of the differential and integral calculus to curves and surfaces. —By Professor LINDEMANN: Analytical geometry of two dimensions ; Theory of Abelian functions ; Mathematical theory of life insurance.—By Professor PRINGSHEIM : Differential calculus ; Fourier's series.—By Professor GRÖTZ :

Analytical mechanics.—By Dr. DÖHLEMANN : Descriptive geometry ; Kinematics.—By Dr. ANDING : Theory of probabilities and method of least squares.—By Dr. WEBER : Introduction to analysis ; Differential equations.—Dr. KORN : Calculus of variations with respect to its applications to physics.

THE scientific world suffers a serious loss in the death of Professor F. F. TISSERAND, who died of apoplexy at Paris, October 20th, aged fifty-one years. At first an assistant in the Paris Observatory, and later professor of astronomy and director of the observatory at Toulouse, he was called to Paris as professor of mechanics, afterwards becoming professor of astronomy. In 1892 he was made director of the Paris Observatory, succeeding the late Admiral Mouchez.

AT the celebration of the Princeton sesqui-centennial, October 22, 1896, the degree of LL.D. was conferred upon the following mathematicians : Professor J. W. GIBBS, Dr. G. W. HILL, Lord KELVIN, Professor FELIX KLEIN, Professor SIMON NEWCOMB, and Professor J. J. THOMSON.

THE number of honorary members of the New York Academy of Sciences was increased, Monday evening, October 5, by the election of Professor FELIX KLEIN, of Göttingen, and Professor J. J. THOMSON, of Cambridge, England.

DR. W. S. EICHELBERGER has resigned his position as instructor in mathematics at Wesleyan University, to accept a place in the Nautical Almanac Office at Washington, D. C.

E. M. BLAKE, Ph. D. (Columbia, 1893), has been called to Purdue University, Lafayette, Ind., as instructor in mathematics.

G. H. LING, Ph. D. (Columbia, 1896), has been appointed instructor in mathematics at Wesleyan University, Middletown, Conn.

MR. J. J. SKINNER has been promoted to an assistant professorship of mathematics at the Massachusetts Institute of Technology.

DR. DAVIS GARBER, professor of mathematics and astronomy in Muhlenberg College, Allentown, Pa., died on September 22, aged sixty-seven years.

PROFESSOR A. W. PHILLIPS, of Yale University, is engaged in revising the series of mathematical text-books written by the late Professor Loomis.

AT the University of Virginia, Professor W. H. ECHOLS succeeded Professor C. S. VENABLE, who resigned as head of the department of pure mathematics. Dr. J. M. PAGE has been since appointed adjunct professor of mathematics.

A VACANCY was caused in the department of mathematics at Wells College by the resignation of Miss S. A. ACER. It has been filled by the appointment of Miss ANNIE L. MACKINNON, Ph. D. (Cornell). Miss MacKinnon's dissertation, "Concomitant Binary Forms in Terms of the Roots," appeared in the *Annals of Mathematics* for July, 1895.

PROFESSOR E. D. ROE, JR., for the last five years associate professor of mathematics at Oberlin College, has resigned his position in order to spend the next two years in travel and study abroad.

NEW PUBLICATIONS.

I. HIGHER MATHEMATICS.

BALL (W. W. R.). Mathematical recreations and problems of past and present times. 3d edition. London, Macmillan, 1896. 8vo. 288 pp. 7s.

BIANCHI (L.). Vorlesungen über Differenzialgeometrie. Autorisierte deutsche Uebersetzung von M. Lukat. (In 2 Lieferungen.) Lieferung I. Leipzig, Teubner, 1896. 8vo. 4 and 336 pp. Mk. 12.00

BINDER (W.). Theorie der unikursalen Plankurven vierter bis dritter Ordnung in synthetischer Behandlung. Leipzig, Teubner, 1896. 8vo. 11 and 396 pp. 2 plates. Mk. 12.00

BREGGEN (J. VAN DER). Integraalrekening. Versameling van opgeloste Vraagstukken. Zutphen, 1896. 8vo. 4 and 160 pp. 1 plate. Mk. 3.50

COHN (J.). Geschichte des Unendlichkeitsproblems im abendländischen Denken bis Kant. Leipzig, 1896. 8vo. 7 and 261 pp. Mk. 5.00

DEDOFF (T.). Untersuchungen über quadratische Formen. [Diss.] Leipzig, Teubner, 1896. 4to. 40 pp. Mk. 2.80

FISKE (T. S.). The straight line as a minimum length. (*Science*, new series, Vol. IV., 1896, p. 533.)

GOUDIN (J. B.). Considérations élémentaires ou notions sur le calcul infinitésimal et ses dérivés. Paris, 1896. 8vo. Fr. 2.00

HAGEN (J. G.). Index operum Leonardi Euleri. Berolini, Dames, 1896. 8vo. 8 and 80 pp. Mk. 2.00

JACOBI (C. G. J.). Ueber die Bildung und die Eigenschaften der Determinanten (De formatione et proprietatibus determinantium. 1841.)