between 1847 and 1865. In 1865, however, encouraged by the interest in his researches manifested by many English mathematicians, in the forefront of whom must be named Cayley, he returned to the subject of the geometry of space. Referring to his abandonment of his geometrical work twenty years before, he said that while the details had escaped from his memory, two leading questions had remained dormant in his mind; the first was that of introducing right lines as elements of space, instead of points and planes; and in close connection with this was the second, a question in mechanics. To these he devoted the last three years of his life, developing his ideas in a series of papers, Nos. 33–38, published in England, France and Italy, all leading up to his *Neue Geometrie des Raumes*, 1868–9.

The last paper in the volume, No. 39, published in 1833, is a preliminary account of the *System der analytischen Geometrie*, on which he was then engaged. It is sometimes remarked that the eminently proper person to review a book is the writer thereof, and in this announcement, as in his prefaces, Plücker appears as his own sympathetic reviewer.

The concluding thirty pages of the volume are devoted to the editorial comments; by his interesting historical notes and helpful criticisms here contained, as well as by the care bestowed in making good the original carelessness in the matter of proof-reading, Professor Schoenflies has made all lovers of Plücker his debtors.

CHARLOTTE ANGAS SCOTT.

BRYN MAWR COLLEGE,
October, 1897.

NOTES.

PROFESSOR NEWCOMB has chosen the philosophy of hyperspace as the subject of his presidential address to be delivered at the annual meeting of the AMERICAN MATHEMATICAL SOCIETY on December 29th.

A NEW list of members of the AMERICAN MATHEMATICAL SOCIETY will be published in January. Blank forms for furnishing necessary information have been sent to each member, and a full and prompt response is requested.

AT the annual meeting of the London Mathematical Society, held on November 11, 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 and Dr. E. W. Hobson ; Treasurer, Dr. J. Larmor ; Secretaries, R. Tucker and A. E. H. Love. Other members of the Council, Lieutenant-Colonel A. J. Cunningham, Dr. J. W. L. Glaisher, Professor M. J. M. Hill, Professor W. H. H. Hudson, Morgan Jenkins, A. B. Kempe, F. S. MacAulay, D. B. Mair, G. B. Mathews and W. D. Niven.

THE department of mathematics at Wellesley College has been divided, Miss ELLEN HAYES, hitherto professor of mathematics, becoming professor of applied mathematics. Miss E. L. BURRELL has been appointed acting professor of pure mathematics. Miss H. A. MERRILL, Miss B. DENIS and Miss H. M. KELSEY have been appointed instructors in mathematics.

AT the University of Chicago Dr. J. W. A. YOUNG has been advanced to an assistant professorship of mathematical pedagogy, and Dr. HARRIS HANCOCK and Mr. HERBERT E. SLAUGHT have been advanced to instructorships in mathematics.

DR. R. J. ALEY, who was last year at the University of Pennsylvania as fellow in mathematics, has resumed his duties as professor of mathematics at Indiana University. Assistant Professor D. A. ROTHROCK, of the same department, has been granted leave of absence during the present year and is studying at Leipzig.

MR. JOSEPH ALLEN, formerly instructor in mathematics at Cornell University, has been appointed tutor in mathematics at the College of the City of New York.

ALEXANDER PELL, Ph. D. (Johns Hopkins, 1897), has been appointed professor of mathematics and astronomy at the University of South Dakota.

DR. LOTHAR HEFFTER, associate professor of mathematics at the University of Giessen, has been appointed to a similar position at the University of Bonn.

DR. ARNOLD SOMMERFELD, lecturer at the University of Göttingen, has been called to the professorship of mathematics at the Clausthal Academy, to succeed Professor FRANZ MEYER, who is now at Königsberg.

PARIS FACULTY OF SCIENCES. The mathematical courses offered during the first semester of the current academic year are the following:—Professor G. DARBOUX: Theory of curvilinear coördinates.—Professor E. GOURSAT: Differential and integral calculus from the point of view of real

variables.—Professor P. APPELL: General laws of equilibrium and motion.—Professor H. POINCARÉ: Planetary perturbations and the development of the perturbative function.—Professor V. J. BOUSSINESQ: Analytical theory of heat.—Professor G. KŒNIGS: Kinematics of a solid body; motions depending on several parameters; kinematics of deformable bodies.—Mr. RAFFY: Mathematics introductory to the study of physics.—Mr. ANDOYER: Motion of rotation of heavenly bodies by the method of variation of arbitrary constants. In addition, mathematical conferences are conducted by Messrs. Hadamard, Puiseux, Andoyer and Blutel.

For the second semester the following courses have been announced:—Professor PICARD: Theory of algebraic surfaces.—Professor GOURSAT: Principles of the theory of analytical functions.—Professor BOUSSINESQ: Propagation of heat in crystals.—Professor KŒNIGS: Study of Machines. Professor Appell will also lecture, but the subject of his course has not been announced.

NEW PUBLICATIONS.

I. HIGHER MATHEMATICS.

ABRAMOV (V.). Sketch of the methods of integrating differential equations. Part I. (In Russian.) Moscow, 1897. 8vo. 24 pp. Mk. 1.60

ARCHIMEDES. Works, edited in modern notation, with introductory chapters, by T. L. Heath. Cambridge University Press, 1897. 8vo. 514 pp. 15s.

BOOLE (M. E.). See GRATRY.

BURALI-FORTI (C.). Introduction à la géométrie différentielle, suivant la méthode de H. Grassmann. Paris, Gauthier-Villars, 1897. 8vo. 11 and 166 pp. Fr. 4.50

BURNSIDE (W. S.). The theory of groups of a finite order. Cambridge University Press (New York, Macmillan), 1897. 8vo. 16 and 388 pp. Cloth. $3.75

CAUCHY (A.). Oeuvres complètes, publiées sous la direction scientifique de l'Académie des sciences et sous les auspices du ministre de l'instruction publique. Première série. Vol. X: Extraits des comptes rendus de l'Académie des sciences. Paris, Gauthier-Villars, 1897. 4to. Fr. 25.00

DELASSUS (E.). Leçons sur la théorie analytique des équations aux dérivées partielles du premier ordre. Paris, 1897. 8vo. 88 pp. Fr. 5.00

DIRICHLET. See LEJEUNE-DIRICHLET.

ECHEGARAY (J.). Lecciones sobre la resolucion de las ecuaciones y la teoria de Galois. Madrid, 1897. 4to. 272 pp. Fr. 13.00