

Meusnier and Bonnet follow the definitions of asymptotic lines and lines of curvature; their properties, together with those of conjugate lines, are then discussed and geodesic lines are defined. After an application of the preceding theories to several of the simpler surfaces—cones, surfaces of revolution, quadrics, developables, surfaces of Monge—the book closes with a treatment of the general equation of geodesic lines.

The print is good, the figures are helpful and the general arrangement is very attractive.

L. P. EISENHART.

NOTES.

THE secretaryship of Section A of the American association for the advancement of science has been filled by the appointment of Dr. G. A. MILLER. Papers intended for the programme of the Denver meeting (August 24–31) of Section A, should be sent to Dr. Miller, at 115 Cook St., Ithaca, N. Y.

THE April number of the *American Journal of Mathematics* (volume 23, number 2) contains the following articles: “The cross-ratio group of 120 quadratic Cremona transformations of the plane,” by H. E. SLAUGHT; “Memoir on the algebra of symbolic logic,” by A. N. WHITEHEAD; “On a special form of annular surfaces,” by V. SNYDER; “On the transitive substitution groups whose order is a power of a prime number,” by G. A. MILLER; “Geometry on the cubic scroll of the second kind,” by F. C. FERRY.

AT the regular meeting of the London mathematical society held on May 9, 1901, the following papers were read: “A case of algebraic partitionment,” by Major P. A. MACMAHON; “On the series whose terms are the cubes and higher powers of the binomial coefficients,” by Major P. A. MACMAHON; “A property of recurring series,” by Dr. G. B. MATHEWS; “The product of two spherical surface harmonic functions,” by Mr. J. B. DALE.

THE German Society for the promotion of instruction in mathematics and science held its tenth annual meeting the last week of May at Giessen under the presidency of Dr. Rausch. The society has nine hundred members.

THE committee elected to judge the competition in 1901 for the Francoeur and Poncelet prizes of the Paris academy of sciences consists of Professors C. JORDAN, H. POINCARÉ, E. PICARD, P. APPELL, and MAURICE LEVY.

THE following additional volumes (see BULLETIN, volume 6, pp. 306 and 355) are announced as either in preparation or under the press for B. G. Teubner's series of text-books in the mathematical sciences: G. BOHLMANN, The mathematics of insurance; G. H. BRYAN, Thermodynamics; L. E. DICKSON, Linear groups, with an exposition of the Galois field, theory (English, in press); G. ENESTRÖM, with the coöperation of other scholars, Handbook on the history of mathematics; PH. FURTWÄNGLER, Mechanics of the simplest kinds of physical apparatus and of experiments; M. GRÜBLER, Hydraulic motors; L. HENNEBERG, Text-book of graphical statics; K. HEUN, The kinetic problems of the modern theory of machines; G. JUNG, Geometry of masses; H. LAMB, Acoustics; A. LOEWY, Lectures on the theory of linear substitution groups; A. E. H. LOVE, Textbook of hydrodynamics; A. E. H. LOVE, Theory of elasticity; W. MEYERHOFFER, The mathematical foundations of chemistry; E. OVAZZA (from the field of mechanics); FR. PÖCKELS, Optics of crystals; P. STÄCKEL, Textbook of general dynamics; H. E. TIERDING, Theory of systems of vectors and screws; A. VOSS, Principles of rational mechanics.

Of the volumes previously announced three have appeared, viz., E. PASCAL, Determinants; O. STOLZ and J. A. GMEINER, Theoretical arithmetic, Part I; E. v. WEBER, Lectures on the problem of Pfaff. Three others are in press, viz., L. E. DICKSON, Linear groups (see above); G. LORIA, The theory and history of special algebraic and transcendental plane curves; E. NETTO, Theory of combinations.

SUBSCRIPTIONS are invited toward the publication of the complete works of the late Professor E. BELTRAMI (see BULLETIN, volume 7, p. 46), which has been undertaken by the faculty of science of the University of Rome. There will be four large volumes with about 2000 pages in all. A copy of the complete works will be sent to those who subscribe not less than fifty lire. Subscriptions may be sent to ISAIA SONZOGNO, Piazza S. Pietro in Vincoli, 5, Rome.

It appears, from *Nature*, that the English civil service commission no longer insists, in its examinations in geometry, on preserving the Euclidean sequence of propositions, but now accepts correct demonstrations whether those of Euclid or not. Recent papers also encourage teaching of a less abstract character than that usually associated with Euclid's geometry.

To the list of mathematical courses to be given at Colum-

bia University in 1901–1902, as announced in the last number of the BULLETIN, there is to be added a course on “The history of mathematics,” three hours weekly, by Professor D. E. SMITH.

A BUST of GAUSS has been placed in one of the halls of the University of Berlin.

PROFESSOR E. H. MOORE is one of the five new members elected to the National academy of sciences at its annual meeting April 16th–18th.

DR. J. A. GMEINER has been made professor extraordinarius of mathematics at the German University of Prague.

PROFESSOR GINO FANO, now at Messina, has been made assistant professor of projective and descriptive geometry at the University of Turin. Professor U. DINI of the University of Pisa has been elected a member of the superior council of instruction of Italy.

AT Yale University Professor J. E. CLARK, James E. English professor of mathematics in the Sheffield Scientific School since 1873, has resigned because of poor health. He has been made professor emeritus, and Professor P. F. SMITH has received the title of James E. English professor. Dr. E. R. HEDRICK has been appointed instructor in mathematics in the Sheffield Scientific School.

NEW PUBLICATIONS.

I. HIGHER MATHEMATICS.

- BALL (W. W. R.). A short account of the history of mathematics. 3d edition. London and New York, Macmillan, 1901. 12mo. 552 pp. Cloth. 10s.
- BEMAN (W. W.). See DEDEKIND (R.).
- BLICHFELDT (H.). On a certain class of groups of transformations in space of three dimensions. (Diss.) Leipzig, 1900. 8vo. 61 pp.
- BONNEL (J.). Note sur les systèmes de géométrie et l'atome. Paris, Gauthier-Villars, 1900. 8vo. 15 pp. Fr. 1.00
- CADENAT (A.). See RUSSELL (B. A. W.).
- CARNOY (J.). Cours d'algèbre supérieure : principes de la théorie des déterminants ; théorie des équations ; introduction à la théorie des formes algébriques. 2^e édition. Paris, Gauthier-Villars, 1900. 8vo. Fr. 11.00
- COUTURAT (L.). See RUSSELL (B. A. W.).
- CRIVETZ (T.). Essai sur l'équidistante. Bucarest, Göbl, 1900. 8vo. 50 pp.
- DARREYE (A.). Polare Felder und Kegelschnitte mit gemeinsamem Poldreieck. (Diss.) Strassburg, 1900. 8vo. 41 pp., 2 plates.