

de Paris. It represents a course given at the Sorbonne in 1912 by Professor Guichard to the candidates for the "certificat de mécanique rationnelle."

The first four chapters contain solutions of the problems proposed under the following headings. plane kinematics, kinematics of a solid body, dynamics of a point and geometry of masses, and dynamics of systems of bodies. The remainder of the book (about 70 pages) is devoted to an exposition of the theories of kinematics.

W. R. LONGLEY.

NOTES.

THE twenty-second summer meeting of the American Mathematical Society will be held at the University of California and Stanford University on Tuesday–Thursday, August 3–5. Titles and abstracts of papers intended for presentation at this meeting should be in the hands of the Secretary by July 5.

THE March number (volume 16, number 3) of the *Annals of Mathematics* contains the following papers: "Note on normal sections of a surface in a space of n dimensions," by C. L. E. MOORE; "An algebraic treatment of the theorem of closure," by A. A. BENNETT; "An integral equation of the Volterra type," by T. H. GRONWALL; "The linear continuum in terms of point and limit," by R. L. MOORE; "A plane cubic Cremona transformation and its inverse," by F. M. MORGAN; "Relation between the roots of a rational integral function and its derivative," by FRANK IRWIN.

THE forty-third meeting of the French association for the advancement of science was held at Havre July 27–30 under the presidency of A. GAUTHIER. M. BRESSE was chairman of the mathematical section, before which the following papers were presented: "History of calculating machines," by A. GÉRARDIN; "On the periodic movement of a viscous fluid," by R. MESNY; "On Foucault's pendulum" and "The conic and sextic integrals of two homogeneous linear differential equations of the second order," by G. BRESSE; "Note in memory of Henri Poincaré," by E. LEBON; "Indeterminate

analysis and factorization," by A. GÉRARDIN; "On the cycle of singular algebraic points," by M. PELLET; "New method of graphic elimination of the unknowns in a system of linear equations," by F. BOULAD; "On minimal surfaces" and "Imaginary in the problems of infinitesimal geometry," by M. CLAPIER; "Some properties of the lemniscate of Bernoulli" and "Heronian triangles," by E. N. BARISIEN; "Tables of quotients to the base 300 constructed from progressions according to the last figure of the numbers," by C. BOULOGNE; "Integration and measure in abstract assemblages," by M. FRÉCHET; "The theorem of Dirichlet on the arithmetic progression," by L. AUBRY; "Elementary remarks on descriptive geometry and perspective," by C. HALPHEN; "Geometry in the teaching of mathematics," by J. RICHARD; "Developables of algebraic curves" and "Heronian triangles," by M. WELSCH.

A MEETING of the London mathematical society was held January 14. The following papers were read: By H. H. MACDONALD, "A class of diffraction problems"; by H. E. J. CURZON, "Halphen's transformation"; by A. YOUNG, "A Christmas problem in probabilities"; by E. H. BERWICK, "The condition that a quintic equation should be solvable by radicals"; by J. LARMOR, "The variation of the earth's angular velocity of rotation."

THE following parts of the *Encyklopädie der mathematischen Wissenschaft* are in the press, and may be expected in a few weeks: II C 2, Graphical and numerical quadrature and graphical and numerical integration of ordinary and partial differential equations, by C. RUNGE and F. A. WILLERS; II C 3, Recent investigations of functions of real variables, by E. BOREL, M. FRÉCHET, P. MONTEL, and L. ZORETTI. III 1, Elementary geometry and elementary non-euclidean geometry (conclusion), by M. ZACHARIAS; III 1, Geometry of the triangle, by G. BERKHAN (deceased); III 2, Special plane algebraic curves, by G. LORIA; III 3, Fundamental properties of algebraic surfaces, by G. CASTELNUOVO and F. ENRIQUES; III 3, Algebraic surfaces from the standpoint of birational transformations, by G. CASTELNUOVO and F. ENRIQUES; III 3, Contact transformations, by H. LIEBMANN; III 3, Geometric theory of differential equations, by H. LIEBMANN; V 3, Optics of waves, by M. v. LAUE; VI 1 B, Terres-

trial magnetism, by A. SCHMIDT; VI 2, Theory of the planets, by K. F. SUNDMAN; VI 2, Theory of the earth's moon, by E. W. BROWN.

The general editorship of volume II, analysis, will be conducted by Professor R. FRICKE.

Work on the publication of the French edition has been suspended.

THE mathematical society of Amsterdam has just published the first of the two volumes of the complete edition of the works of T. J. STIELTJES, containing the papers of the years 1876-1886.

THE second part of each volume of the second German edition of Pascal's *Repertorium der höheren Mathematik* has long been announced as in press. It is now expected to publish both parts during the next few months.

WILEY and Sons, of New York, announce that HENDERSON'S "Statistics and laws of mortality" will be published in June of this year.

THE United States Bureau of Education has just issued a new bulletin of the International commission on the teaching of mathematics. This is entitled *Curricula in Mathematics* and has been prepared by MR. J. C. BROWN, of the Horace Mann School, New York City. It sets forth the work done in each school year of the standard type of course in each of the leading countries of the world. Copies may be obtained by addressing the Bureau of Education at Washington.

MILAN TECHNICAL SCHOOL. The following courses in mathematics are being given during the present year (November 24, 1914-June 30, 1915):—By Professor A. JORINI: Analytic geometry, four hours —By Professor U. CISOTTI: Mathematical analysis, seven hours (for engineers).—By Professor G. TOMASELLI: Mathematical analysis, four hours (for architects).—By Professor C. CAPELLI: Projective and descriptive geometry, nine hours.—By Professor M. ABRAHAM: Rational mechanics, five hours.—By Professor G. FORNI: Rational mechanics, three hours (second term, for architects). All these subjects must have been completed before a student can register in the major three year course.

Professor G. JUNG has been made professor emeritus.

PROFESSORS A. SCHOENFLIES and L. BIEBERBACH have been appointed professors of mathematics in the University of Frankfurt.

PROFESSOR E. SALKOWSKI, of the technical school at Berlin, has been appointed professor of mathematics in the technical school of Hanover.

DR. O. DAUZER has been appointed docent in projective and descriptive geometry at the technical school of Vienna.

MR. L. G. OWEN has been appointed professor of mathematics in the Government College at Rangoon.

PROFESSOR A. D. PITCHER, of Dartmouth College, has been appointed professor and head of the department of mathematics in Adelbert College of Western University.

DRS. EDWARD KIRCHER and G. A. PFEIFFER have been appointed to the recently established Benjamin Peirce instructorships at Harvard University for the year 1915-16.

DR. W. DEIMLER, of the technical school at Munich, was killed in battle, at the age of 30 years.

PROFESSOR G. HOLZMÜLLER, of the industrial school at Hagen, died November 27, at the age of 70 years.

DR. A. LACKNER, of the technical school at Vienna, was killed in battle in November, at the age of 29 years.

PROFESSOR G. PIRONDINI, of the technical institute of Rome died January 17, at the age of 57 years.

PROFESSOR S. W. SHATTUCK, of the University of Illinois, died on February 13, at the age of 74 years. Professor Shattuck was connected with the mathematical department as professor and head of the department from 1868 to his retirement from active service in 1912. He had been a member of the American Mathematical Society since 1891.