Jacobian ellipsoids are reproduced, but the investigations of Darwin and Poincaré on other possible forms receive little more than a passing mention.

The author is to be congratulated on the completion of a task which will earn him the gratitude of all those who are now or may in the future be interested in hydrodynamics. The manner in which his materials are put together and the fact that he never loses sight of the practical applications make the book unusually interesting; the large number of references will enable anyone to find out all that has been done in any branch. In fact, although the volume is a bulky one, we cannot but regret that it has not been divided into two and extended by including the investigations noted above as omitted, and by giving a much fuller index of subjects.

Ernest W. Brown.

NOTES.

The Toronto Meeting of the British Association for the Advancement of Science, held August 18-25, like the Montreal meeting of 1884, proved a very gratifying success. The attendance was about 1,300 as against 1,700 at the Montreal Meeting. The papers presented were in number and value well up to the Association's standard. The meetings of the American Botanical Society, the American Society for the Promotion of Engineering Education, and the American Mathematical Society were held in Toronto immediately preceding the Association Meeting, and many members of these Societies remained to attend the session of the Association. Many members of the American Association were also in attendance, a large number coming directly from Detroit after the adjournment of the American Association in the preceding week. In all about 250 Americans were present, to whom a cordial reception was extended by the Association throughout the proceedings. They participated freely in the general and sectional meetings; a considerable number were placed on important committees; and several were appointed vice-presidents.

The officers of Section A,—Mathematical and Physical Science,—were: President, Professor A. R. Forsyth; Vice-Presidents, Professor W. E. Ayrton, Professor G. C. Foster, Professor O. Henrici, Dr. G. W. Hill, Professor A. John—
son, Lord Kelvin, Professor O. J. Lodge, President Loudon, Professor A. A. Michelson, Professor Simon Newcomb; Secretaries, Professor W. H. Heaton, J. C. Glashan, J. L. Howard, Professor J. C. McClellan, Professor J. G. McGregor. The Presidential Address, which has since been published in *Nature*, was an able and timely statement of the function of mathematical science, its place among sister sciences, and its claim to be studied and developed for its own sake. The meetings of the Section extended through five days, and over sixty papers were presented. The following are the titles of the mathematical papers: "Report of the Committee on tables of certain mathematical functions;" "On the solution of the cubic equation," by Professor Alexander Macfarlane; "The historical development of the Abelian functions," by Dr. Harris Hancock; "On a notation in vector analysis," by Professor O. Henrici; "New harmonic analyses," by Professor A. A. Michelson and Mr. S. W. Stratton; "The quinquisection of the cyclotomic equation," by Mr. J. C. Glashan. The next meeting of the British Association will be held at Bristol, England, in August, 1898, under the presidency of Sir William Crookes.

During the winter semester 1897-98, the several universities mentioned below offer the following mathematical courses:

**University of Göttingen.** Professor Schering: Riemann's functions; Mathematical-physical seminar.—Professor Voigt: Mathematical-physical seminar.—Professor Hilbert: Theory of numbers; Irrational numbers and quadrature of the circle; Focal properties of curves and surfaces of the second order; Mathematical-physical seminar.—Professor Schönflies: Projective geometry; Exercises in descriptive geometry; Proseminar.—Dr. Bohlmann: Theory of functions; The mathematics of life insurance; Mathematical exercises in the insurance seminar.—Dr. Sommerfeld: Integral calculus with exercises; Partial differential equations of the second order.

**University of Leipzig.** Professor Scheibner: Introduction to the analysis of the infinite; On curvilinear coordinates.—Professor Neumann: Mathematical seminar.—Professor Lie: Introduction to projective geometry; Introduction to the theory of continuous groups with various applications; Mathematical seminar.—Professor Mayer: General introduction to the theory of ordinary differential
equations; Mathematical seminar.—Professor Engel; Theory of algebraic equations and theory of substitutions; Mathematical seminar.

University of Munich. Professor Bauer: Analytical geometry of the plane; Theory of the algebraic plane curves; Mathematical seminar.—Professor Lindemann; Differential calculus with exercises; On the geometry of the line and of the sphere; Mathematical seminar.—Professor Pringsheim: Theory of functions; Elementary theory of differential equations with real variables.—Dr. Döhlemann; Descriptive geometry; Exercises in descriptive geometry; Synthetic (modern) geometry; Exercises in synthetic geometry.—Dr. v. Weber; Introduction to analysis; Application of differential calculus to geometry (Theory of curves and surfaces); Geometry of the circle and of the sphere.

University of Vienna. Professor v. Escherich; Definite integrals and differential geometry; Mathematical proseminar; Mathematical seminar.—Professor Gegenbauer; Number geometry; Exercises in the mathematical seminar; Exercises in the theory and application of determinants (in the mathematical proseminar)—Professor Mertens; Elements of the differential and integral calculus; Exercises in the mathematical seminar; Exercises in the mathematical proseminar.—Dr. Kohn; Analytical geometry; Theory of projection.—Dr. Sersawy; Lectures on the mathematics of insurance, with special reference to the needs of administrative and judicial officials.—Professor Tauber; Algebraic functions and their integrals; Introduction to the theory of Abelian functions; Mathematics of insurance; Exercises in insurance mathematics.—Dr. Zindler; Elementary theory of geometric properties, for beginners.—Dr. Blaschke; The application of the theory of probabilities to statistics and insurance.—Dr. Zsigmondy; Galois theory of equations.—Dr. Daublesky v. Sterneck; General theory of surfaces; Cyclotomy and Kummer's numbers.

University of Strassburg. Professor Reye; Analytical geometry of space (modern methods); Mathematical theory of elasticity of solid bodies; Exercises in the mathematical seminar.—Professor Weber; Theory of the Abelian functions; Introduction to higher algebra; Exercises in the mathematical seminar.—Professor Roth; Algebraic analysis and determinants; Analytical geometry of space; Ordinary differential equations.—Dr. Krazer; Differential and
integral calculus; Geometric applications of the differential and integral calculus; Analytical geometry of the plane.—Dr. Timerding: Determinants and their applications in geometry; On Euclidean and non-Euclidean geometry.

The Macmillan Company announce the publication of "A Brief Introduction to the Infinitesimal Calculus," by Professor Irving Fisher, of Yale University. This book is a companion volume to Cournot’s "Mathematical Principles" and is intended for readers of that work who feel the need of a mathematical key, and in general for those who wish to be able to read intelligently the rapidly growing literature in mathematical economics. Since as recent a date as 1890 no less than seventy-five books and articles on economics have appeared in which the Calculus is employed.

The publication and sale of the autographed volumes of Klein’s Göttingen lectures has now passed into the hands of B. G. Teubner.

NEW PUBLICATIONS.

I. HIGHER MATHEMATICS.


Picard (E.) et Simart (G.). Théorie des fonctions algébriques de deux variables indépendantes. (En 2 volumes.) Vol. I. Paris, Gauthier-Villars, 1897. 8vo. 6 and 246 pp. Fr. 9.00

Pinna (S.). Sulle curve piane razionali e sui fasci che con esse si possono fare. Torino, Bona, 1897. 8vo. 59 pp.

Püschel (C.). Eine Zusammenstellung von Aufgaben aus der analytischen Geometrie für die Prima des Gymnasiums. Teil I. Waldenburg, 1897. 8vo. 27 pp. Mk. 1.20


Rotte (R.). Untersuchungen über die Theorie der isothermen Flächen. [Diss.] Berlin, Mayer & Müller, 1897. 4to. 42 pp. Mk. 2.00