

feature of the *Annuaire* for 1916. This title is amply fulfilled in the text of the article with its full explanations and in the numerous diagrams. As with so many French writers, the author does not hesitate to start with a brief but clear explanation of the fundamental principles of meteorology, gradually carrying the reader towards the special line of thought which he is investigating, so that the whole constitutes an elementary treatise on the subject. There is also a sympathetic account of Commandant Guyou by M. Emile Picard. M. Guyou had long been connected with the naval activities of France and more particularly with various problems of navigation. He had taken an active part in the publication of the *Annuaire*.

The body of the publication is kept up to date in the usual manner. A useful novelty, and the only one noticed, is a supplement containing the chief astronomical events for the year 1917 compressed into eighteen pages.

ERNEST W. BROWN.

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#### NOTES.

AT the meeting of the London mathematical society held on April 27 the following papers were read: By H. S. CARSLAW: "The Green's function for the equation  $\nabla u^2 + k^2 u = 0$ , II"; by S. CHAPMAN: "On the uniformity of gaseous density, according to the kinetic theory"; by J. HODGKINSON: "The nodal points of a plane sextic"; by P. A. MACMAHON: "Some problems of combinatory analysis"; by S. POLLARD: "On the deduction of criteria for the convergence of Fourier's series from Fejér's theorem concerning their summability"; by Mrs. G. C. YOUNG: "On the derivatives of a function"; by W. H. YOUNG: "Note on functions of upper and lower type."

AT the meeting of the Edinburgh mathematical society on May 12 the following papers were read: By S. BRODETSKY: "The linear differential equation of the second order"; by D. M. Y. SOMMERVILLE: "A new nomogram for the cubic equation"; by G. PHILIP: "On a group of parabolas associated with the triangle"; by F. G. TAYLOR: "Birationally related cubics."

THE National bureau of the census has recently published a bulletin on the United States life tables prepared by Professor

J. W. GLOVER, of the University of Michigan. Copies can be obtained gratis from the Bureau.

THE final date for receiving memoirs in competition for the King Gustav V prize (see BULLETIN for October, 1913, page 40) has been extended to October 31, 1917.

A new mathematical periodical, the *Revista de Matematicas*, has been founded at Buenos Aires. It will appear monthly under the editorship of Professor MANUEL GUITARTE.

THE following advanced courses in mathematics are announced for the academic year 1916-1917:

MASSACHUSETTS INSTITUTE OF TECHNOLOGY (first half-year):—By Professor H. W. TYLER: Theory of functions of a complex variable, two hours.—By Professor F. S. WOODS: Advanced calculus and differential equations, four hours.—By Professor F. H. BAILEY: Fourier series, two hours.—By Professor E. B. WILSON: Rigid dynamics and hydrodynamics, two hours.—By Professor C. L. E. MOORE: Analytic mechanics, two hours.—By Dr. J. LIPKA: Mathematical laboratory, two hours.

YALE UNIVERSITY:—By Professor JAMES PIERPONT: Theory of functions of a complex variable, two hours; Modern analytic geometry, two hours; Elliptic functions, two hours.—By Professor E. W. BROWN: Advanced calculus, three hours; Advanced dynamics, two hours; Celestial mechanics, two hours.—By Professor P. F. SMITH: Differential equations, two hours.—By —————: Advanced algebra, two hours.—By Professor E. J. MILES and Dr. H. F. MACNEISH: Differential geometry, two hours.

MR. J. H. HILL has been appointed professor of mathematics at the Ohio Northern University.

PROFESSOR ELLEN HAYES, of Wellesley College, will retire from active service at the end of the present academic year.

MR. C. H. CURRIER, instructor in mathematics in Brown University, has been promoted to an assistant professorship.

MR. F. S. NOWLAN, of Columbia University, has been appointed instructor in mathematics at the Carnegie School of Technology at Pittsburgh.

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NEW PUBLICATIONS.

I. HIGHER MATHEMATICS.

- BLUTEL (E.). Leçons de mathématiques spéciales à l'usage des candidats à l'École Polytechnique et à l'École Normale Supérieure, etc. Tome 1: Algèbre, ligne droite et plan, trigonométrie, analyse, applications géométriques. Tome 2: Géométrie analytique des courbes et des surfaces. Paris, Hachette, 1914. 8vo. 7+635+4+430 pp.
- BRADGON (C.). Four dimensional vistas. New York, A. A. Knopf, 1916. \$1.25
- CHISINI (O.). See ENRIQUES (F.).
- DUMONT (E.). Théorie générale des nombres. Définitions fondamentales. (Collection Scientia.) Paris, Gauthier-Villars, 1915. 8vo. 194 pp. Fr. 2.00
- ENRIQUES (F.). Lezioni sulla teoria geometrica delle equazioni e delle funzioni algebriche, pubblicate per cura dell' O. Chisini. Bologna, Zanichelli, 1915. 8vo. 14+397 pp. L. 12.00
- GALDEANO (Z. G. DE). Razonamiento de mi curso elemental de calculo infinitesimal comprendiendo nociones de matemática fisico-química. Zaragoza, G. Casanal, 1915. 8vo. 244 pp. 5 Pes.
- GONSETH (F.). Etude synthétique et applications de l'apolarité. (Thèse, Zürich.) Genève, A. Kundig, 1915. 8vo. 60 pp.
- GRÖNFELDT (S.). Systematisk förteckning öfver G. Mittag-Lefflers matematiska bibliotek. Upsala, 1915. 4to. 6+345 pp. M. 31.50
- HADAMARD (J.). Four lectures on mathematics delivered at Columbia University in 1911. (Ernest Kempton Adams Fund Publication No. 5.) New York, Columbia University Press, 1915. 4to. 6+52 pp. \$0.75
- KUPPIS (J.). Die Beweisführung des grossen Satzes Fermats. Budapest, 1915. 8vo. 15 pp. M. 0.50
- LORIA (G.). Guida allo studio della storia delle matematiche. (Manuali Hoepli.) Milano, Hoepli, 1916. 16+228 pp. 12mo. L. 3.00
- SIBIRANI (F.). Riassunto-formulario di geometria analitica, algebra, calcolo infinitesimale, calcolo vettoriale e meccanica razionale. Roma, tip. Nazionale, di G. Bertero, 1915. 8vo. 64 pp.
- STØRMER (C.). Den tredje Skandinaviske Matematikerkongress i Kristiania, 1913. Kristiania, H. Aschehoug, 1915. 8vo. 175 pp.
- TEIXEIRA (F. G.). Sur les problèmes célèbres de la géométrie élémentaire non résolubles avec la règle et le compas. Coimbre, Imprimerie de l'Université, 1915. 4to. 132 pp.
- WAHLUND (A.). Sur quelques propriétés des fonctions entières de genre zéro. Upsala, 1915. 8vo. 75 pp. M. 3.00