last ten years, the reviewer has been frequently struck with the
lucidity and ease shown by the writers in explaining even the
most technical parts of mathematical and physical problems.
Is it impossible to do this in the English language? And if
not, why are such summaries so rarely seen? Or, if pub-
lished, why do they seem to be heavy and unattractive?
Surely it cannot be the fault of the language when we have
before our eyes such a master of scientific style as Huxley.
Perhaps there is something to be learned from France amongst
the methods which she uses in teaching her sons to write their
mother tongue.   ERNEST W. BROWN.

Astronomical and Historical Chronology. By W. L. JORDAN.
    London, Longmans, Green & Co. 8vo. 70 pp.

THE object of this little book will be sufficiently gathered
from the author's statement on page 9 : " My argument shows
that through a misunderstanding on the part of comparatively
modern historians they treated as 1 B. C. the year which, when
the era was first established, was called 1 A. D. by those who
used ordinal, and the year 0 by those who used cardinal num-
bers ; and that the manner in which the centuries are consid-
ered to be divided is therefore erroneous." The question is
discussed historically and much space is given to an examina-
tion of the authorities. Mr. Jordan comes to the conclusion
that if the year 0 be inserted, January 1, 1900 is the beginning
of the new century as decreed by the English Prayer Book and
the German emperor ; but that with the ' vulgar' chronology,
which makes 1 B. C. immediately precede 1 A. D., the new
century began a year later. The author's physical ideas seem
somewhat vague : he alludes (page 33) " to the absence of any
common measure between days and years as being due to the
fact that the motions which they respectively measure are due
to the action of two independent forces — the sun's and the
earth's revolving force — etc." But perhaps this is unfair : he
has written an essay on the action of astral gravitation in
natural phenomena.   ERNEST W. BROWN.

NOTES.

AT the meeting of the London mathematical society held on
January 11 the following papers were read : By Mr. J. W. NICH-
OLSON "On the diffraction of sound by large cylinders"; by

Dr. H. F. BAKER, "On the monogeneity of an algebraic function"; by Mr. M. J. BRILL, "On the expression of the so-called biquaternions and triquaternions with the aid of quaternary matrices"; by Dr. E. W. HOBSON, "On the representation of functions of real variables."

THE second meeting of the Missouri society of teachers of mathematics was held at Jefferson City in conjunction with the state teachers' association, December 27 and 28. Two afternoon sessions were held, at which the following papers were presented: "Maxima and minima," by G. R. DEAN; "Laboratory methods in algebra teaching," by O. E. GLENN; "The treatment of limits in elementary geometry," by A. M. WILSON. The second session was devoted to a general discussion of the question: "What should be taught in arithmetic"? Arrangements were made to enlarge the scope of the society so as to include the natural science teachers of the state.

THE association of the teachers of mathematics of the middle schools of Switzerland met at Zürich, December 9, under the presidency of Dr. E. GUBLER. The following papers were read: "Instruction in descriptive geometry," by C. EGLI; "Tendencies in the instruction of elementary geometry," by H. FEHR; "Advantages of the decimal division of angles with logarithms to four places," by M. OTTI. Professor H. FEHR was re-elected president. The next meeting will be held in October, 1906.

THE next meeting of the French association for the advancement of science will be held at Lyons, beginning August 2, under the presidency of Professor M. Lippmann, of the University of Paris.

DURING the year 1905 doctorates in mathematics were conferred by the University of Paris on the following candidates (the title of the dissertation is appended in each case): L. ZORETTI, On uniform analytic functions which possess a perfect discontinuous set of singular points; P. STOENESCO, On the propagation and extinction of plane waves in a homogeneous and translucent medium having a plane of symmetry; D. POMPEIU, On the continuity of functions of a complex variable; R. B. DE M. DE BALLORE, On continuous algebraic fractions; A. HUSSON, Application of algebraic integrals in the movement of a heavy solid around a fixed point; J. REVEILLE, Synthetic and an-

alytic study of the displacement of a system which remains similar to itself; C. MONTEIL, Contribution to the study of currents of heat convection.

THE Paris academy of sciences announces the following prizes in mathematical sciences for 1907 and 1908. Competing memoirs should be in the hands of the secretary before the end of the year preceding that in which the respective prizes are awarded. For further details regarding those to be awarded next December, see BULLETIN, volume 11, page 337. The Poncelet prize of 2000 francs will be awarded in 1908 in pure mathematics; Grand prize of 3000 francs in 1908 for important progress in the study of the deformation of quadric surfaces; Montyon prize of 700 francs (annual) for discoveries and inventions in mechanics; Poncelet prize of 2000 francs in 1907 in applied mathematics; Fourneyron prize of 1000 francs will be awarded in 1908 for the most important advances in the theory and use of the steam turbine; Vaillant prize of 4000 francs in 1908 for perfecting the application of the principles of dynamics of fluids to the theory of the helix; Lalande prize of 540 francs (annual) for general progress in astronomy; Guzman prize of 100,000 francs for communication with any star or any planet other than Mars. As this prize will probably not be soon awarded, the capital has been invested and the accrued interest will be given as a prize every five years for important progress in astronomy. Valz prize of 460 francs (annual) for general progress in astronomy; Pontécoulant prize of 700 francs (biennial) will be awarded in 1907 for progress in celestial mechanics; Damoiseau prize of 2000 francs (triennial) will be awarded in 1908 for the consistent theory of a planet, based upon all known observations; Hébert prize of 1000 francs (annual) for discoveries or advances in the theory of electricity; Hughes prize of 2500 franc (annual) for general physics; Gaston Planté prize of 3000 francs (biennial, open only to Frenchmen) will be awarded in 1907 for electricity; La Caze prize of 10,000 francs (biennial) will be awarded in 1907 for general physics; Kastner Boursalt prize of 2000 francs (biennial) will be awarded in 1907 for progress in the application of electricity; Binoux prize of 2000 francs (1907) for the best contribution to the history of the sciences. Besides the general prizes mentioned before, a new prize known as the Leconte prize of 50,000 francs is to be awarded in 1907 and every

three years thereafter for important discoveries in mathematical or natural sciences ; it is open to all competitors.

A MEMORIAL to the late Dr. George Salmon, Provost of Trinity College, Dublin, was unveiled Friday, January 5, in the national cathedral of St. Patricks, Dublin. It consists of two windows in one of the chapels, a portrait of Dr. Salmon, and a Latin inscription bearing testimony to his mathematical and theological work.

PROFESSOR P. STÄCKEL, of the technical school at Hanover, has received the order of the iron cross of the third class from the Emperor of Austria.

PROFESSOR J. THOMAE, of the University of Jena, has been decorated with the order of the cross of Saxe-Weimar by the King of Saxony.

PROFESSOR W. V. DYCK, of the technical school at Munich, has been awarded the Bavarian silver medal by Prince Luit-pold.

DR. H. BRUNN has been promoted to an honorary associate professorship of mathematics at the University of Munich.

PROFESSOR L. SAALSCHÜTZ, of the University of Königs-berg, celebrated his seventieth birthday December 1, 1905.

DR. G. FUBINI has been promoted to an associate professorship of higher analysis at the University of Catania.

DR. G. BISCONCINI has been appointed docent of rational mechanics at the University of Rome.

PROFESSOR A. FAVARO, of the University of Padua, will henceforth give a regular annual course of lectures on the history of mathematics.

PROFESSOR G. BAGNERA has been promoted to a full professorship of higher analysis at the University of Messina.

PROFESSOR E. BORTOLOTTI, of the University of Modena, has been appointed to a full professorship of the calculus at the same institution.

PROFESSOR SIMON NEWCOMB has been decorated with the Prussian order Pour le Mérite by the German emperor.

PROFESSOR O. S. STETSON has been promoted to an assistant professorship of mathematics in Syracuse University.

MR. GEORGE BRETT has been elected tutor in mathematics in the College of the City of New York.

PROFESSOR C. A. VAN VELZER, head professor of mathematics at the University of Wisconsin, has resigned, the resignation to go into effect July 1, 1906. He expects to retire altogether from teaching.

WE are informed by Professor FLORIAN CAJORI that the John Crerar Library in Chicago, has a complete set of the *Maandelykse Mathematische Liefhebbery*, 1754–1769, published in 17 volumes at Purmerende in the Netherlands. This is probably the oldest journal devoted to *elementary* mathematics. It devotes itself mainly to arithmetic and algebra, and contains several oddities in notation.

RECENT second-hand catalogue: List und Francke, Talstrasse 2, Leipzig, catalogue No. 377, 1,121 titles.

NEW PUBLICATIONS.

I. HIGHER MATHEMATICS.

ADHÉMAR (R. D'). Trois maîtres: Ampère, Cauchy, Hermite. (Extrait de *La Quinzaine*.) 1905. 8vo. 15 pp.

BIRCHBY (W. N.). Euler's summation of series of reciprocal powers and related series. (*Colorado College Publications*, Vol. 11, pp. 191–208.) Colorado Springs, 1905. 8vo.

BRUNS (H.). Wahrscheinlichkeitsrechnung und Kollektivmasslehre. (B. G. Teubner's Sammlung von Lehrbüchern auf dem Gebiete der mathematischen Wissenschaften.) Leipzig, Teubner, 1906. 8vo. 8 + 310 + 18 pp. Cloth.   M. 8.40

CAUCHY (A.). Oeuvres complètes, publiées sous la direction scientifique de l'Académie des sciences et sous les auspices de M. le ministre de l'instruction publique. 2e série. Tome I. Paris, Gauthier-Villars, 1905. 4to. 574 pp.   Fr. 25.00

DOEHLEMANN (K.). Projektive Geometrie in synthetischer Behandlung. 3te, vermehrte und verbesserte Auflage. (Sammlung Göschen, 72.) Leipzig, Göschen, 1905. 16mo. 181 pp. Cloth.   M. 0.80

GULDBERG (A.). Sur une classification des problèmes du calcul des variations. (*Rendiconti del Circolo Matematico di Palermo*, Tomo XXI.) 8vo. 9 pp.

GUTZMER (A.). See VIVANTI (G.).

LAGRANGE (J. L.). Ueber die Lösung der unbestimmten Probleme 2. Grades. Uebersetzt und herausgegeben von E. Netto. Leipzig, 1904. 8vo. 131 pp. Cloth.   M. 2.20