NOTES.

UNIVERSITY OF BERLIN. During the coming winter semester the following mathematical courses will be offered: By Professor FUCHS: Theory of the partial differential equations; Theory of hyperelliptic functions. By Professor SCHWARZ: Integral calculus; Selected chapters from theory of analytical functions; Theory of elliptic functions; Mathematical colloquium. Professor FROBENIUS: Analytical geometry; Theory of numbers. Professor HELMERT: Method of least squares. Professor HETTNER: Calculus of probabilities and theory of errors. Professor KNOBLAUCH: Differential calculus; Theory of partial differential equations with application to theory of surfaces and mechanics; Exercises in differential calculus. Professor HENSEL; Algebra; Theory of algebraic functions of one variable and Abelian integrals; Analytical introduction to the theory of Abelian integrals. Professor LEHMANN-FILHÉS: Problem of three bodies; Method of least squares. DR. HOPPE: Analytical geometry (by text-book); Differential calculus and series (by text-book).

AMONG B. G. Teubner's recent announcements of forthcoming books the most important is that of the "Encyclopädie der mathematischen Wissenschaften, mit Einschluss der Anwendungen" (see BULLETIN OF THE AMERICAN MATHEMATICAL SOCIETY, 2d Series, Vol. 3, p. 356), edited, with the aid of the academies of sciences of Munich, Vienna, and Göttingen, by Professors H. BURKHARDT and W. F. MEYER. The object of this work is to give, in a form at once concise and convenient for reference, but with the greatest possible completeness, a comprehensive presentation of the mathematical sciences in their present *results*, and at the same time, by means of careful references, an historical survey of the development of mathematical *methods* since the beginning of the 19th century. The applications to mechanics, physics, astronomy, geodesy, the engineering sciences will be included so that, on the one hand, the mathematician may readily see what questions are put to him by the applied sciences, while, on the other, the astronomer, the physicist, the engineer will be able to find the answer given by mathematics to his questions. The arrangement of the matter will be by subjects in the first five volumes; the sixth and last will provide an exhaustive alphabetical index. The editors will be assisted by a com-

mittee representing the three academies interested and con-
sisting of Professors W. Dyck (Munich), G. von Escherich
and L. Boltzmann (Vienna), F. Klein (Göttingen), and H.
Weber (Strassburg).

THE same firm has in preparation the second and last vol-
ume of M. Krause's "Theorie der doppelt-periodischen
Funktionen einer veränderlichen Grösse," and a German
translation, by A. Schepp, of E. J. Routh's "Rigid Dy-
namics," in two volumes, with a preface by Professor Klein;
finally two volumes entitled "Urkunden zur Geschichte
der nichteuklidischen Geometrie," by Professors Engel and
Stäckel. The last work is devoted to Lobachevsky and the
Bolyais, father and son; besides biographies of these men,
the work will contain translations from the Russian of Lo-
bachevsky's "On the foundations of geometry" and "New
elements of geometry with a complete theory of parallels,"
not hitherto translated, W. Bolyai's "Theoria parallelarum"
(1804), J. Bolyai's "Appendix" and parts of the "Tenta-
men."

LITHOGRAPHIC copies of Professor Felix Klein's lectures
at the University of Göttingen have been obtainable for
several years from Dr. Fr. Schilling, Karlsruhe, Baden.
Since our former note some additions have been made to
the set, which has also been revised by the substitution of
recent lectures for earlier ones on the same subjects, and
now consists of the following six volumes, covering the
period 1889–1896: I. Ausgewählte Kapitel aus der Zahlen-
theorie, two parts, 1895–6 (Mk. 12.00); II. Lineare Differ-
entialgleichungen der zweiten Ordnung, 1894 (Mk. 7.00);
III. Ueber die hypergeometrische Funktion, 1893–4
(Mk. 7.50); IV. Höhere Geometrie, two parts, 1892–3
(Mk. 12.50); V. Riemann'sche Flächen, two parts, 1891–2
(Mk. 10.00); VI. Nicht-Euklidische Geometrie, two parts,
1889–90 (Mk. 11.50). A summary of contents of the sev-
eral lectures is found in Professor Klein's notices in vols.
45, 46 and 48 of the *Mathematische Annalen.* The litho-
graphed volumes are still furnished by Dr. Schilling at the
prices annexed above. In a short time, however, the firm
of B. G. Teubner will take charge of their issue, and the
prices will be increased.

THE MACMILLAN COMPANY, of New York, have in press a
translation, by Professor Holgate, of Reye's "Geometrie
der Lage," part I.

MR. WILLIAM ESSON has been appointed Savilian professor of mathematics at Oxford, to succeed the late Professor J. J. Sylvester.

DR. LUDWIG SCHLESINGER, who was recently called from Berlin to an associate professorship at the University of Bonn, has been appointed professor of mathematics at the University of Klausenburg, in Transylvania, to succeed the late Professor Ludwig Martin.

DR. ARTEMAS MARTIN, of Washington, D. C., has been recently promoted to be chief of the Library and Archives Division in the office of the U. S. Coast and Geodetic Survey.

MR. P. A. LAMBERT has been promoted to an assistant professorship of mathematics at Lehigh University.

AMONG recent academic appointments are the following: —LEONARD E. DICKSON, Ph.D. (Chicago), to an instructorship in mathematics at the University of California; CHAS. EDWARD ST. JOHN, Ph.D. (Harvard), to an associate professorship of physics and mathematics at Oberlin College; MILTON BROCKETT PORTER, Ph.D. (Harvard), to an instructorship of mathematics at the University of Texas; EDWARD V. HUNTINGDON, Ph.D. (Harvard), to an instructorship in mathematics at Williams College.

MR. JOSEPH COTTIER, fellow in mechanics at Columbia University, died in Paris, France, August 17th, of typhoid fever.