NOTES.

THE January number (second series, volume 4, number 2) of the *Annals of Mathematics* contains the following papers: "The logarithm as a direct function," by J. W. BRADSHAW, with an introduction by W. F. OSGOOD; "On positive quadratic forms," by PAUL SAUREL; "Multiple points on Lissajous's curves in two and three dimensions," by E. A. HOOK; "A special quadri-quadric transformation of real points in a plane," by C. C. ENGBERG.

The editorial staff of the *Annals* have recently added Dr. E. V. HUNTINGTON to their number.

AT the recent meeting of Section A of the American association for the advancement of science, held at Washington, D. C., twenty-three papers were read, of which the following related to pure mathematics: By Professor L. G. WELD: "Saint Loup's linkage."—By Dr. PAUL CARUS: "The foundations of mathematics."—By Professor G. B. HALSTED: "The teaching of geometry"; "The Bolyai centenary."—By Professor E. O. LOVETT: "Special periodic solutions of the problem of n bodies"; "The problems of three or more bodies with prescribed orbits."—By Mr. J. J. QUINN: "A development of conic sections by kinematic methods."—By Professor J. S. MILLER: "Note on a geometrical analysis" (by title).—By Dr. C. J. KEYSER: "Concerning Bolzano's contributions to assemblage theory" (by title).

AT the meeting of the London mathematical society held on January 8, the following papers were read: By Professor A. LODGE: "A method of representing imaginary points by real points in a plane."—By Dr. J. LARMOR: "On the mathematical expression of the principle of Huygens."—By Professor A. E. H. LOVE: "Wave motion with discontinuities at wave points."—By Dr. H. F. BAKER: "Functions of several variables."—By Mr. W. H. YOUNG: "On non-uniform convergence and term-by-term integration of series."—By Professor L. E. DICKSON: "Generational relations for the abstract group simply isomorphic with the linear fractional group in the Galois field $[2^n]$."—By Rev. F. H. JACKSON: "Series connected with

the enumeration of partitions (second paper)."—By Mr. J. BRILL : "On the minors of a skew-symmetrical determinant." —By Professor W. S. BURNSIDE : "On the Jacobian of two binary quantics considered geometrically "; "On the resolution of some skew invariants of binary quantics into their factors in terms of their roots."

At the meeting of November 13, Professor HORACE LAMB was elected president, and Professors A. E. H. LOVE and W. BURNSIDE were elected secretaries of the Society.

HARVARD UNIVERSITY : At the summer school, held in July and August, there will be offered for the first time an advanced mathematical course, the subject being : The theory of functions of a complex variable. The course is given by Professors OSGOOD and BÔCHER. Like the other courses given in the summer school, it is intended to occupy the students' entire working time during the six weeks of its continuance.

THE Macmillan Company announce the early publication of the following mathematical works : Elements of the theory of integers, by JOSEPH BOWDEN ; The principles of mathematics, Volume 1, by BERTRAND RUSSELL ; A treatise on determinants, by R. F. SCOTT, new edition edited by G. B. MATHEWS ; The algebra of invariants, by J. H. GRACE and A. YOUNG ; A treatise on spherical astronomy, by R. S. BALL. Longmans, Green and Company have in press : A first course in the infinitesimal calculus, by D. A. MURRAY.

THE Hungarian academy of sciences announces two mathematical prizes of 2000 crowns each, the first being offered for a manual of absolute geometry, of about 25 folios, to be submitted before December 31, 1904 ; the second for a study of a class of differential invariants, to be submitted before December 31, 1903.

THE annual register of the German Mathematiker-Vereinigung, issued in January, shows that forty-nine Americans are members of the society, thirteen having been elected during the year 1902.

PROFESSOR H. POINCARÉ has been made a commander of the Legion of honor.

PROFESSOR A. R. FORSYTH has been elected president of the Mathematical association.

THE College entrance examination board has appointed as examiners in mathematics for 1903 Professor CHARLOTTE A. SCOTT, Professor W. H. METZLER and Mr. J. S. FRENCH.

DR. O. D. KELLOGG has been appointed instructor in mathematics at Princeton University.

SIR GEORGE GABRIEL STOKES, master of Pembroke college, Cambridge, Lucasian professor of mathematics since 1849, died on February 1. He was born at Skreen, Ireland, in 1819, and was educated at Pembroke, taking his degree in 1841, being senior wrangler. He was president of the Royal society from 1885 to 1890, and from 1887 to 1892 he represented Cambridge University in parliament.

JAMES GLAISHER, the meteorologist, aëronaut and mathematician, died at London on February 8. He was born at London April 7, 1809. In 1829 he was employed in the ordnance survey of Ireland, in 1833 he became assistant at the Cambridge observatory, in 1836 he was appointed assistant in the Greenwich observatory, and in 1840 he became superintendent of the magnetical and meteorological department. He was a fellow of the Royal society (1849) and president of the Meteorological society, and was connected with various other learned associations. In mathematics he is chiefly known for his work on factor tables.

REV. H. W. WATSON, D.Sc., F.R.S., at one time mathematical lecturer at King's College, London, and Trinity College, Cambridge, died on January 11, aged seventy-five years.

LAWRENCE SLUTER BENSON, for many years an ardent expounder of perverse mathematical doctrine, died at an advanced age at Newark, N. J., January 27.

A SIXTH edition of his catalogue of mathematical models for use in advanced mathematical instruction, has just been issued by Martin Schilling, Halle a. S.