ERRATA.

The following errors in recent numbers of the BULLETIN have come to the attention of the editors :

(1) Mr. J. K. Whittemore advises us that the statement made in his review of Bianchi's Differential Geometry in the BULLETIN for July, 1901, page 438, lines 7–10, is incorrect and should be omitted from the review.

(2) In the present volume, on page 22, line 8, for $x + py = x_1$ read $x + p(y) = x_1$.

NOTES.

THE Annual Meeting of the AMERICAN MATHEMATICAL SOCIETY will this year be extended to cover two days, Friday and Saturday, December 27–28. The Council will meet on Friday morning, and the annual election of officers and other members of the Council will be held on Saturday morning. Under a recent amendment of the By-Laws, the presidential address will be postponed to the annual meeting of 1902, the end of the presidential term.

THE date of the tenth regular meeting of the Chicago Section of the AMERICAN MATHEMATICAL SOCIETY has been changed to Thursday and Friday, January 2–3, 1902. The meeting will be held at Evanston, as previously announced.

A NEW edition of the Annual Register of the Society will be issued in January next. Forms for furnishing necessary information have been sent to each member. Those who have not already responded to the circular are requested to do so as early as possible.

AT the recent annual meeting of the London mathematical society the following officers were elected for the ensuing year : President, Dr. E. W. HOBSON ; vice-presidents, Professor W. BURNSIDE and Major MACMAHON ; treasurer, Dr. J. LARMOR ; honorary secretaries, Mr. R. TUCKER and Professor A. E. H. LOVE ; also the following members of the council : Mr. J. E. Campbell ; Lieut.-Col. A. J. C. Cunningham, Professor E. B. Elliott, Dr. J. W. L. Glaisher, Professor M. J. M. Hill, Mr. H. M. Macdonald, Professor L. J. Rogers, Mr. A. E. Western, Mr. E. T. Whittaker, and Mr. A. Young.

AT a meeting of the Cambridge philosophical society on October 28, the following papers were read : Dr. E. W. HOBSON : " Some remarks on the notion of number " ; Mr. G. T. WALKER : " On some problems in electric convection." At the meeting of November 25 the following papers were read : Major P. A. MACMAHON : " On the seminvariants of systems of binary quantics, the order of each quantic being infinite "; Mr. J. H. GRACE : " On the zeros of polynomials."

THE German society of naturalists and physicians will hold its next annual meeting at Carlsbad.

THE eleventh Congress of Russian naturalists and physicians will be held in St. Petersburg January 2–12, 1902. Of the thirteen sections of the congress three will be devoted to the mathematical sciences, namely, mathematics and mechanics, astronomy and geodesy, physics.

AT the last annual meeting of the British association for the advancement of science a committee, with Professor A. R. FORSYTH as president and Professor JOHN PERRY as secretary, was appointed to prepare a report on improvements that might be effected in the teaching of mathematics.

THE National society of the natural and mathematical sciences of Cherbourg completes with the current year the fiftieth year of its existence.

THE international association for promoting the study of quaternions and allied systems of mathematics has recently issued its annual bulletin. The president of the association for the year 1902 is Professor C. J. JOLY, of the University of Dublin ; the general secretary and treasurer is Dr. ALEX-ANDER MACFARLANE, of Lehigh University. There are also ten national secretaries. The association has at present about seventy members.

BEGINNING with its eleventh volume (1902), the *Jahres-bericht* of the German Mathematical Society will enter upon a greatly enlarged sphere of activity under the continued editorship, now made permanent, of Professor Dr. A. GUTZ-MER, of Jena. In the future the *Jahresbericht* will appear in the form of a monthly periodical, containing as at present, reports of the annual meetings of the Society with abstracts of the papers, list of members and an administrative record. More elaborate papers and reports will be issued in special volumes. In addition, the enlarged plans include the pub-

lication of academic addresses, notices of proposed mathematical undertakings, the discussion of university systems of instruction, reports of meetings of national or international societies and associations, lists of courses of lectures, notices of the work of academies and societies, lists of publications, reviews and personal news. A full representation of foreign mathematical interests is greatly desired and to this end the editor asks the assistance and coöperation of mathematicians throughout the world. Communications should be addressed to Professor Dr. A. Gutzmer, 4 Schaefferstrasse, Jena, Germany.

Each volume of the *Jahresbericht* contains about 450 pages. The first (double) number of volume 11 will appear in the present month. The subscription price is eleven marks to members of the Society and fourteen marks to non-members. The Society has about 520 members. The annual dues are two marks, life membership fee thirty marks.

UNIVERSITY OF OXFORD.—The following lectures in mathematics are announced for the Michaelmas term, 1901, each course consisting of two lectures per week unless otherwise indicated :—By Professor E. B. ELLIOTT : Theory of numbers ; substitutions and resolvents, one hour.—By Professor H. H. TURNER : Elementary mathematical astronomy.—By Professor W. ESSON : Analytic geometry of plane curves ; synthetic geometry of plane curves, one hour.—By Professor A. E. H. LOVE : Introduction to mathematical physics ; analytical dynamics, one hour. By Mr. C. E. HASELFOOT : Algebra.—By Mr. C. LEUDESDORF : Elementary projective geometry, three hours.—By Mr. C. H. SAMPSON.—Analytical geometry, one hour.—By Mr. J. W. RUSSELL : Differential calculus, one hour.—By Mr. P. J. KIRKBY : Introduction to higher algebra, one hour.—By Mr. A. L. PEDDER : Problems in pure mathematics.—By A. E. JOLLIFFE : Elementary solid geometry.—By Mr. J. E. CAMPBELL : Differential equations —By Mr. C. H. THOMPSON : Integral calculus.—By Mr. E. H. HAYES : Analytical statistics.—By Mr. A. L. DIXON : Hydrostatics, one hour. —By Mr. H. T. GERRANS : Advanced rigid dynamics.

THE examiners for Part II of the Cambridge mathematical tripos for 1902 are Mr. HORACE LAMB, Mr. J. LARMOR, Mr. H. W. RICHMOND and Mr. E. T. WHITTAKER.

DURING his recent visit to the United States on the occasion of the bicentennial celebration of Yale University,

Professor J. HADAMARD, of the University of Paris, delivered lectures before various organizations at Columbia, Princeton, and Yale Universities. The lecture " On the mathematics of physics" before the mathematical seminary at Princeton will be published in the Princeton *Bulletin*.

THE Royal society of London has awarded its Copley medal to Professor JOSIAH WILLARD GIBBS, of Yale University, for his contributions to mathematical physics.

DR. E. NEUMANN, docent in mathematics at the University of Halle, has been appointed assistant professor of physics at the University of Breslau.

DR. G. KOWALEWSKI, docent in mathematics at the University of Leipsic, has been appointed assistant professor of mathematics at the University of Greifswald, and member of the examining commission. Dr. J. SOMMER, of Göttingen, has been appointed professor of mathematics in the agricultural school at Bonn-Poppelsdorf.

MR. R. P. PARANJPYE, bracketed senior wrangler of Cambridge University in 1899, has been elected to a fellowship in St. John's College.

PROFESSOR C. B. WILLIAMS, of Kalamazoo College, has received leave of absence and is studying in Leipsic.

Dr. L. W. REID has been promoted to an assistant professorship of mathematics at Haverford College.

MR. W. D. LAMBERT has been appointed to an instructorship in mathematics at Purdue University.

DR. T. M. PUTNAM has been appointed to an instructorship in mathematics in the University of California.

DR. JOHN PURSER, for forty years professor of mathematics in Queen's College, Belfast, has retired.

A MEMORIAL meeting in honor of the late Professor HENRY AUGUSTUS ROWLAND was held at Johns Hopkins University on October 16th. The principal address, by Dr. T. C. MENDENHALL, is published in *Science*, volume 14, pages 865–877.

THE death is announced of Professor CHARLES A. BACON, professor of astronomy and director of the Smith observatory at Beloit College.