

Certain errata found in the fourth edition, all but one of which were noted by Professor Hoover of Ohio University, have been corrected, except that a superfluous 1 still remains in the answer to problem 12, art. 325. Other errors uncorrected in both editions are $W/2$ in place of W as the answer to problem 5, art. 205; and in art. 227 the variables should be connected by *three* equations if the body has three degrees of freedom.

It is evident that this edition is essentially a reprint, and that the reviser felt a commendable reluctance in changing in any way, except as sanctioned by the author, a text which holds such a high reputation among scholars.

F. H. SAFFORD.

NOTES.

AT the meeting of the Edinburgh mathematical society on November 10 the following papers were read: By E. T. WHITTAKER: "Some theorems on determinants"; by H. DATTA: "On the theory of continued fractions."

THE National academy of sciences held its autumn meeting at the Massachusetts Institute of Technology on November 13-15. The programme included the following mathematical papers: By F. R. MOULTON: "On analytic functions of infinitely many variables"; by H. S. WHITE, F. N. COLE, and LOUISE D. CUMMINGS: "Enumeration of all triad systems on fifteen elements"; by W. E. STORY: "Some variable three-term scales of relation." The list of scientific exhibits included graphic representations of triad systems, by H. S. WHITE.

THE Association of mathematics teachers of New Jersey held its fifth regular meeting at Newark on November 25th. The programme included the final report of the committee on trigonometry courses and papers by: A. W. BELCHER: "The first year high school course in mathematics"; W. D. REES: "Newton's analytical triangle"; C. R. MACINNES: "Some theorems on regular polygons described on the sides of a triangle"; WILLIAM STRADER: "Teaching first year algebra."

THE two Benjamin Peirce instructorships in mathematics at Harvard University (see BULLETIN, volume 21, page 315) are again open to general competition. Applications for the year 1917-1918, accompanied by the necessary papers, should be sent to Professor Bôcher, who will be glad to furnish further particulars. All applications must be filed by February 1, 1917.

A complete list of American doctorates conferred during the academic year 1915-1916 has been compiled for *School and Society*. From advanced proof sheets kindly furnished by Professor Cattell it appears that the total number during this period was 603, of which 327 may be assigned to the sciences. The list of mathematical doctorates, 34 in number, follows below, the title of the dissertation being given in each case.

J. W. ALEXANDER, II, Princeton, "Functions which map the interior of the unit circle upon simple regions"; P. M. BATCHELDER, Harvard, "The hypergeometric difference equation"; R. W. BRINK, Harvard, "Some integral tests for the convergence and divergence of infinite series"; A. F. CARPENTER, Chicago, "Ruled surfaces whose flecnode curves have plane branches"; L. C. COX, Cornell, "The finite groups of birational transformations of a net of cubics"; J. V. DEPORTE, Cornell, "Irrational involutions on algebraic curves"; W. VAN N. GARRETSON, Michigan, "On the asymptotic solution of the non-homogeneous linear differential equation of the n th order. A particular solution"; R. E. GILMAN, Princeton, "On the summability by the Cesaro method of partial derivatives of Laplace series"; A. M. HARDING, Chicago, "On certain loci projectively connected with a given plane curve"; W. L. HART, Chicago, "Differential equations and implicit functions in infinitely many variables"; M. G. HASEMAN, Bryn Mawr, "Knots with a census of the amphicheiral with twelve crossings"; J. O. HASSLER, Chicago, "Plane nets periodic of period three under the Laplace transformation"; ARCHIBALD HENDERSON, Chicago, "The twenty-seven lines upon the cubic surface"; J. R. KLINE, Pennsylvania, "Double elliptic geometry in terms of point and order"; PEYSAH LEYZERAH, Clark, "On the indeterminate linear inequality with irrational coefficients"; G. H. LIGHT, Yale, "The dependence of the topography of envelopes of systems of ex-

tremals on curvature"; P. H. LINEHAN, Columbia, "Contributions to equilog geometry"; F. J. McMACKIN, Columbia, "Some theorems in the theory of summable divergent series"; A. L. MILLER, Harvard, "Systems of pencils of lines in ordinary space"; NORMAN MILLER, Harvard, "Some problems connected with the linear connectivity of manifolds"; F. D. MURNAGHAN, Johns Hopkins, "The lines of electric force due to a moving electron"; J. R. MUSSELMAN, Johns Hopkins, "A set of eight self-associated points in space"; A. L. NELSON, Chicago, "Plane nets with equal Laplace-Darboux invariants"; T. A. PIERCE, California, "The numerical factors of the arithmetic forms"; C. H. RAWLINS, JR., Johns Hopkins, "Complete systems of concomitants of the three-point and the four-point in elementary geometry"; S. W. REAVES, Chicago, "Metric properties of flecnodes on ruled surfaces"; A. R. SCHWEITZER, Chicago, "Les idées directrices de la logique génétique des mathématiques"; T. M. SIMPSON, Wisconsin, "On a functional equation of Abel"; E. S. SMITH, Virginia, "Solution of the equation of secular variation by a method due to Hermite"; PAULINE SPERRY, Chicago, "Properties of a certain projectively defined two-parameter family of curves on a general surface"; J. H. WEAVER, Pennsylvania, "Some extensions of the work of Pappus and Steiner on tangent circles"; MARY E. WELLS, Chicago, "The determination of all inequalities of certain types in general linear integral equation theory"; A. R. WILLIAMS, California, "A birational transformation connected with a pencil of cubics"; C. H. YEATON, Chicago, "Surfaces characterized by certain properties of their directrix congruences."

THE Royal Society has awarded the Sylvester medal to Professor GASTON DARBOUX, of the University of Paris.

DR. A. SIGNORINI, of the University of Padua, has been appointed associate professor of rational mechanics at the University of Palermo.

AT the U. S. Naval Academy DR. R. E. ROOT has been promoted to a full professorship of mathematics and mechanics.

PROFESSOR J. F. REILLY, of the State University of Iowa, has been promoted to an associate professorship of mathematics.

At the University of Washington Dr. E. T. BELL has been promoted to an assistant professorship of mathematics.

At Indiana University Dr. CORA B. HENNEL has been promoted to an assistant professorship of mathematics.

MR. C. W. WESTER, of the State University of Iowa, has been appointed assistant professor of mathematics in the Iowa State Teachers College.

DR. D. F. BARROW, of the University of Georgia, has been appointed instructor in mathematics in the Sheffield Scientific School.

PROFESSOR R. M. BARTON, of Lombard College, has been appointed instructor in mathematics in the University of Minnesota.

DR. A. L. MILLER has been appointed instructor in mathematics in the University of Michigan.

PROFESSOR G. PENNACCHIETTI, of the University of Catania, died August 21 at the age of sixty-six years.

ASSISTANT professor J. C. RAYWORTH, of Washington University, died November 11 after an illness of several months.

DR. HENRY GUNDER, formerly professor of mathematics at Findlay College, died November 25 at the age of seventy-nine years.