

NOTES

On account of certain regulations of the United States Postoffice Department, the April-May number of this BULLETIN was given only one serial number, though it is in fact a double number. It is number 4 of volume 28, and number 304 in the total numbering. For this reason, the present volume will contain only nine numbers according to this serial numbering, but there will be issues for each of ten months, as usual, and the total number of pages in the volume will remain at approximately 500 pages, as usual. The only irregularity will be in the serial number of the April-May issue, as explained above.

On April 18, a celebration in honor of Professor Charlotte Angas Scott was held at Bryn Mawr College by her former students. (See this BULLETIN, vol. 28, p. 72.) In the afternoon, after an address of welcome by President M. Carey Thomas and an appreciation of Professor Scott as a teacher and an investigator by Miss Marion Reilly, Professor A. N. Whitehead gave an address on *Some principles of physical science*. The lecture was followed by a tea for all the guests at the Deanery, the home of President Thomas. At a dinner in the evening, there were present about seventy members of the American Mathematical Society, about seventy former students, and a number of members of the Faculty of the College. Representatives of each of these groups gave short talks testifying to Professor Scott's early brilliant record in England, to the inspiration and encouragement that her research and career have brought especially to women beginning graduate work in mathematics, and to the invaluable services that she renders to the College by her teaching, her committee work, and her council.

The October number (vol. 43, No. 4) of the AMERICAN JOURNAL OF MATHEMATICS contains the following papers: *On some properties of general manifolds relating to Einstein's theory of gravitation*, by J. A. Schouten and D. J. Struik; *Geometrical theorems on Einstein's cosmological equations*, by Edward Kasner; *On the Fermat and Hessian points for the non-euclidean triangle and their analogues for the tetrahedron*, by C. M. Sparrow; *The Cauchy-Lipschitz method for infinite systems of differential equations*, by W. L. Hart; *Boundary value and expansion problems; formulation of various transcendental problems*, by R. D. Carmichael; *Reciprocity in a problem of relative maxima and minima*, by J. K. Whittemore.

Professor Gino Loria announces that the BOLLETTINO DI BIBLIOGRAFIA E STORIA DELLE SCIENZE MATEMATICHE, which he founded and of which he has been editor for many years, will in future be published as an historical and bibliographical section of the BOLLETTINO DI MATEMATICA, of which Dr. A. Conti is editor. It is proposed to retain all the essential features of Professor Loria's BOLLETTINO under the new form.

At the meeting of the National Academy of Sciences held at Washington April 24–26, 1922, the following mathematical papers were read: *Some extensions in the mathematics of hydro-mechanics*, by R. S. Woodward; *Normal coordinates and Einstein space*, by G. D. Birkhoff; *Algebraic solutions of Einstein's cosmological equations*, by Edward Kasner; *The geometry of paths*, by Oswald Veblen. Professor H. A. Lorentz, of the University of Leiden, delivered the evening address on April 24, at the invitation of the Academy and the Carnegie Institution of Washington. Professor L. P. Eisenhart was elected a fellow of the Academy, and Professor Albert Einstein a foreign associate.

The following fourteen doctorates with mathematics as major subject were conferred by American universities in the academic year 1920–21; the title of the dissertation is added in each case: Nina M. Alderton, California, *Involutory quartic transformations in space of four dimensions*; Beulah M. Armstrong, Illinois, *Mathematical induction in group theory*; E. M. Berry, Iowa, *Diffuse reflection*, Rachel Blodgett, Radcliffe, *Determination of the coefficient in interpolation formulæ and a study of the approximate solution of integral equations*; P. H. Daus, California, *Normal ternary fraction expansions for the cube roots of integers*; W. E. Edington, Illinois, *Abstract group definitions and applications*; M. C. Foster, Yale, *Rectilinear congruences referred to special surfaces*; Philip Franklin, Princeton, *Four color problem*; Mayme I. Logsdon, Chicago, *Equivalence and reduction of pairs of hermitian forms*; Irwin Roman, Chicago, *Transformation of waves through a symmetrical optical instrument*; D. V. Steed, California, *Lines on the hypersurface of order $2n - 3$ in space of n dimensions*; Jung Sun, Syracuse, *Some determinant theorems*; Flora D. Sutton, Johns Hopkins, *Certain chains of theorems in reflective geometry*; F. E. Wood, Chicago, *Certain relations between the projective theory of surfaces and the projective theory of congruences*.

The Carl Zeiss Foundation of Jena announced, at the meeting of mathematicians and physicists held at Jena in September, 1921, the establishment of a prize in memory of Ernst Abbe, "for the advancement of the mathematical and physical sciences and their applications." The interest on a fund of 100,000 marks will be awarded every two years for important research in these fields. The prize will be awarded for work in mathematics in 1924, in physics in 1926, and in applied mathematics and physics in 1928.

Cambridge University has awarded a Smith's prize to E. A. Milne, of Trinity College, for an essay entitled *Studies in the theory of radiative equilibrium*.

Professor René Baire has been elected correspondent of the Paris Academy of Sciences in the section of geometry, as successor to the late Professor M. Noether.

Professor A. S. Eddington has been elected a foreign honorary member of the American Academy of Arts and Sciences.

The following advanced courses in mathematics are announced for the academic year 1922-23:

COLUMBIA UNIVERSITY.—By Professor T. S. Fiske: Differential equations (first term).—By Professor F. N. Cole: Algebra.—By Professor D. E. Smith: History of mathematics; Practicum in the history of mathematics.—By Professor C. J. Keyser: Introduction to mathematical philosophy (first term); Logical foundations of mathematics.—By Professor Edward Kasner: Einstein's theory of gravitation.—By Professor W. B. Fite: Theory of functions.—By Professor J. F. Ritt: Functions of several complex variables (first term); Algebraic numbers (second term).—By Dr. G. A. Pfeiffer: Isoperimetric problems (second term).—By Dr. Jesse Douglas: Differential geometry (first term).

CORNELL UNIVERSITY.—By Professor J. I. Hutchinson: Entire functions. By Professor Virgil Snyder: Algebraic geometry.—By Professor F. R. Sharpe: Vector analysis.—By Professor W. B. Carver: Advanced calculus.—By Professor Arthur Ranum: Differential geometry.—By Professor D. C. Gillespie: The definite integral.—By Professor W. A. Hurwitz: Infinite series.—By Professor C. F. Craig: Probabilities.—By Professor F. W. Owens: Projective geometry.—By Professor H. M. Morse: Einstein's theory (first term); Dynamical systems (second term).—By Professor W. L. G. Williams: Modern higher algebra.—By Dr. F. W. Reed: Elementary differential equations.—By Mr. H. S. Vandiver: Finite groups.—By Dr. G. M. Robison: Advanced analytic geometry.

HARVARD UNIVERSITY.—All courses meet throughout the year, except those marked with an asterisk, which meet for half a year.—By Professor W. F. Osgood: Differential and integral calculus (advanced course); Theory of functions (introductory course).—By Professor J. L. Coolidge: Probability*; Algebra*; Algebraic plane curves.—By Professor E. V. Huntington: The fundamental concepts of mathematics*.—By Professor O. D. Kellogg: Dynamics (second course); Introduction to the theory of potential functions and Laplace's equation*; Potential functions (advanced course)*.—By Professor G. D. Birkhoff: The analytic theory of heat and problems in elastic vibrations*; Linear differential equations of the second order, real variables*.—By Professor W. C. Graustein: Introduction to modern geometry; Differential geometry of curves and surfaces.—By Dr. J. L. Walsh: Infinite series and products*; Theory of numbers*; Entire functions*.—By Dr. Philip Franklin: Elementary theory of differential equations*; Analysis situs*.—Dr. Walsh and Dr. Franklin will conduct a fortnightly seminar in analysis. Courses of research are offered by Professor Osgood in the theory of functions, by Professor Coolidge in geometry, by Professor Kellogg in the theory of potential functions, by Professor Birkhoff in the theory of differential equations, and by Professor Graustein in geometry.

Professor Alexander Ziwet has presented his private library, consisting of more than five thousand books on mathematics and mechanics, to the University of Michigan. This important collection includes many rare works.

At the University of Strasbourg, Dr. E. Bauer, maître de conférences, has been promoted to a professorship of mathematics.

Mr. W. H. Durfee, of Harvard University, has been appointed assistant professor of mathematics at Hobart College.

Mr. J. A. Northcott, of Columbia University, has been promoted to an assistant professorship of mathematics, in charge of extension courses.

Dr. C. A. Nelson, of Western Reserve University, has been appointed associate in mathematics at Johns Hopkins University.

At the University of Minnesota, Professor A. L. Underhill has leave of absence for the year 1922-23; he expects to spend the year in France.

The following appointments to instructorships in mathematics are announced: Cornell University, Mr. W. W. Elliott; Harvard University, Dr. Philip Franklin (Pierce instructor), Mr. K. W. Holbert, Mr. H. C. Shaub, Mr. M. M. Slotnick, and Mr. D. V. Widder; University of Minnesota, Mr. H. W. Chandler.

Professor D. E. Smith, vice-president of the Society, and Mrs. Smith were seriously injured in an automobile accident on May 30 in Northern France. Both recovered after being in a hospital for over a month. They will return to America in September.

Sir A. B. Kempe, president of the London Mathematical Society in 1894, and for many years treasurer of the Royal Society, died April 27, 1922, at the age of seventy-three years.

Professor J. B. Coit, of Boston University, died July 26, 1921, at the age of seventy-two years.

Dr. G. B. Halsted, professor of mathematics at the University of Texas from 1882 to 1903, and later at St. John's College, Kenyon College, and the Colorado State Teachers' College, died in New York City March 19, 1922, at the age of sixty-nine years. Dr. Halsted had been a member of the American Mathematical Society from the time of its organization, in 1891, as the New York Mathematical Society. He was the author of several books and papers on non-euclidean geometry, and on the foundations of geometry.