

sidering the idea of applying steam power to boats, but in the description of a boat under construction, given in a letter to Leibniz (March 13, 1704), Papin says: "Je n'ay point préparé celui ci pour y employer la force du feu : parceque ce n'est pas à moi d'entreprendre trop des choses à la fois." In Robert H. Thurston's *History of the growth of the steam engine* (New York, 1893), we read (pages 224, 225) that Papin propelled his boat by his "steam engine" and that "an account of his experiments is to be found in manuscript in the correspondence between Leibniz and Papin, preserved in the Royal Library at Hanover." As Thurston does not give the date of the letter, nor quote from it, while Hering supports his contention also by quoting E. Gerland, who for thirty years has been engaged in editing the correspondence between Leibniz, Papin, and Huygens and the Leibnizian manuscripts on mechanics, and who stoutly combats the conclusion that Papin ever built himself a boat driven by steam, it would seem that Thurston must be in error. Were there any real support to the story of Papin's steamboat, then surely the Germans would be the last to deny it.

The pamphlet closes with a chapter embodying statistics and charts to show the effect of the introduction of the steam engine upon industrial life, particularly in Germany.

FLORIAN CAJORI.

NOTES.

AT the April meeting of the Council of the AMERICAN MATHEMATICAL SOCIETY, Professor E. B. VAN VLECK was re-elected a member of the Editorial Committee of the *Transactions*.

THE April number (volume 9, number 3) of the *Annals of Mathematics* contains the following papers: "A necessary condition that all the roots of an algebraic equation be real," by O. D. KELLOGG; "The equilibrium of a heavy homogeneous chain in a uniformly rotating plane," by E. B. WILSON; "The continuity of the roots of an algebraic equation," by J. L. COOLIDGE; "On the differentiation of definite integrals," by W. F. OSGOOD; "Note on the convergence of a sequence of functions of a certain type," by H. S. BUCHANAN and T. H. HILDEBRANDT; "On the inverse problem of the calculus of

variations," by G. A. BLISS; "A geometrical interpretation of the generalized law of the mean," by C. N. HASKINS; "On the torsion of a curve," by P. L. SAUREL.

AT the meeting of the London mathematical society held on April 30 the following papers were read: By E. W. HOBSON, "On a general convergence theorem and the theory of the representation of a function by series of normal functions"; by G. H. HARDY, "On the multiplication of series"; by F. H. JACKSON, "On q integration and differential equations."

THE Guccia medal was awarded Monday, April 6, at the first session of the fourth international congress of mathematicians. No one of the competing memoirs was deemed worthy of the prize, and according to the conditions (BULLETIN, volume 11, page 167) it was to be given to the author of the most important memoirs in algebraic geometry during the interval from November, 1904, to July, 1907. The medal was consequently unanimously awarded to FRANCESCO SEVERI, professor of mathematics at the University of Padua.

AT the Rome meeting of the fourth international congress of mathematicians a committee of organization was appointed to investigate the teaching of mathematics in various countries and report at the next congress in 1912. This committee, consisting of Professor F. KLEIN, of the University of Göttingen, Professor A. G. GREENHILL, of the Ordinance College, Woolwich and Professor H. FEHR, of the University of Geneva, was charged with the duty of selecting the members of the general committee after consulting with the councils of the leading mathematical societies of the various countries.

THE Deutsche Mathematiker Vereinigung will hold its annual meeting in affiliation with the eightieth convention of the society of German naturalists and physicians at Cologne during the week beginning September 20. While papers on mechanics will form the chief subject for discussion, memoirs on other subjects are welcome, and should be reported to the secretary, Professor A. KRAZER, of Karlsruhe, at once. Professor F. KLEIN, of Göttingen, is president during the present year.

THE fourth volume (1759–1799) of Cantor's *Geschichte der Mathematik* has recently appeared, the first copy having been laid before the international congress at Rome.

THE complete report of the investigation made by the *Enseignement Mathématique* and the department of psychology of the University of Geneva regarding the methods of work of various mathematicians has been republished in a pamphlet of 126 pages by the firm of Gauthier-Villars in Paris under the title *Enquête de l'Enseignement Mathématique sur la méthode de travail des mathématiciens*.

FROM a pamphlet recently issued by the departments of mathematics and mathematical astronomy of the University of Chicago it appears that from the opening of the University in 1892 to October, 1907, 1194 students pursued in these departments studies above and including the calculus. Of these 689 were registered in the graduate school. The number of major courses offered from the calculus upward was 624. The master's degree was conferred on 50 candidates, the doctor's degree on 33.

A NUMBER of mathematical books from the library of the late Professor Heinrich Maschke are offered for sale at advantageous prices. A list of the books can be obtained from Professor Oskar Bolza, University of Chicago, to whom correspondence should be addressed.

DR. A. TAUBER, of the University of Vienna, has been promoted to an assistant professorship of mathematics.

DR. R. ROTHE, of the technical school at Charlottenburg, has been appointed professor of mathematics at the academy of mines at Clausthal.

PROFESSOR J. WEINGARTEN, of the University of Freiburg, has been declared professor emeritus, with the rank of full professor.

PROFESSOR M. CANTOR, of the University of Heidelberg, has retired from active teaching with the title of honorary professor.

PROFESSOR K. HENSEL, of the University of Marburg, has been elected a member of the academy of sciences of Halle.

PROFESSORS JOSEPH LARMOR and W. E. STORY have been elected members of the National Academy of Sciences.

PROFESSOR MAX MASON, of Yale University, has been appointed associate professor of mathematics at the University of Wisconsin.

AT the University of Michigan, Mr. W. H. BUTTS has been appointed to a junior professorship of mathematics.

AT the Michigan Agricultural College Dr. CARL GUNDERSEN has been promoted to an assistant professorship of mathematics.

DR. A. G. HALL, of Miami University, has been appointed to a professorship of mathematics at the University of Michigan.

MR. H. F. HART has resigned his instructorship in Syracuse University to accept the position of teacher of mathematics in the Montclair, New Jersey, high school.

PROFESSOR PETER FIELD, of the University of Michigan, has been granted a leave of absence for next year, to study in Europe.

PROFESSOR G. N. BAUER, of the University of Minnesota, has received leave of absence until autumn of 1909, and will study at the University of Göttingen.

DR. G. PICCIATI, who had just been appointed professor of theoretical mechanics at the University of Bologna, died March 11 at the age of 39 years.

PROFESSOR S. M. KEPINSKI, of the technical school at Lemberg, died March 28 at the age of 40 years.

PROFESSOR W. SCHEIBNER, of the University of Leipzig, died April 8, at the age of 82 years.

PROFESSOR A. MAYER of the University of Leipzig, editor of the *Mathematische Annalen*, died April 11, at the age of 69 years.

RECENT catalogues of second-hand mathematical books : Henry Sotheran and Co., 140 Strand, London, catalogue No. 682, about 4,600 titles in mathematics and sciences. — C. Lang and Co., Via Bocca di Leone, 13, Rome, catalogue No. 3, about 800 titles in general science. — Buchhandlung Gustav Fock, Schlossgasse 7-9, Leipzig, catalogue No. 331, journals and collections, mathematics, physics, and astronomy, 22 pp.