

may appear in Germany. From some points of view, placing exercises in a book like Dr. Schaefer's might appear uncalled for, and he can hardly be blamed for omitting them, but it is not difficult to believe that even in Germany students would appreciate their presence.

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NOTES.

THE second summer meeting of the Mathematical Association of America was held at Western Reserve University and the Case School of Applied Science, Cleveland, Ohio, on Thursday and Friday, September 6-7, 1917, immediately following the summer meeting of the American Mathematical Society. The joint dinner of the two organizations took place on Wednesday evening, and a joint session was held on Thursday morning at which Professor L. P. EISENHART, of Princeton University, delivered by invitation an address on "Darboux's contribution to geometry." The further programme included papers by H. E. HAWKES: "Undergraduate mathematical clubs," with discussion led by R. C. ARCHIBALD and D. A. ROTHROCK; E. R. HEDRICK, retiring presidential address: "The significance of mathematics"; E. B. STOFFER: "Geometry for juniors and seniors," with discussion led by ARNOLD EMCH and L. W. DOWLING; L. C. PLANT: "The treatment of the applications in college courses in mathematics," with discussion led by W. A. HURWITZ and A. M. KENYON. An informal report on the activities of the national committee on mathematical requirements was presented by the chairman, J. W. YOUNG; this report will be published in an early number of the *American Mathematical Monthly*. Ninety persons, representing fifty-one institutions, attended the various sessions. The Council elected nine individuals and two institutions to membership.

THE American association for the advancement of science will hold its seventieth meeting at Pittsburgh from December 28 to January 2 under the presidency of T. W. RICHARDS, of Harvard University. The retiring presidential address will

be by C. R. VAN HISE, president of the University of Wisconsin. H. N. RUSSELL, of Princeton University, is vice-president and F. R. MOULTON, of the University of Chicago, is secretary of Section A.

THE September number (volume 19, number 1) of the *Annals of Mathematics* contains the following papers: "Minimal surfaces applicable to surfaces of revolution," by J. K. WHITTEMORE; "A reduction of certain differential equations of the first order," by W. D. MACMILLAN; "The function $W = L(\tau)$ defined as the inverse of the function $\tau = W - \log W$," by W. D. MACMILLAN; "Solution of the matrix equation $X^{-1}AX = N$," by H. T. BURGESS; "Linear functionals of N -spreads," by C. A. FISCHER; "Correction," by L. I. HEWES; "Substitution groups and possible arrangements of the players at card tournaments," by G. A. MILLER; "Problems of the calculus of variations invariant under a continuous group," by I. A. BARNETT; "A proof of Petersen's theorem," by H. R. BRAHANA; "Complete existential theory of Bernstein's set of four postulates for Boolean algebras," by J. S. TAYLOR; "Ratio, proportion and measurement in the elements of Euclid," by H. B. FINE.

THE English quarterly *Science Progress* has for the last two years published regularly a set of reviews, with full references to current scientific literature, of recent advances in science. With the first number of the twelfth volume (July, 1917) these reports have been given a more prominent place and increased in number and length. Those which are of the greatest interest to mathematicians are on philosophy, by H. ELLIOT; mathematics, by P. E. B. JOURDAIN; astronomy, by H. S. JONES; physics, by JAMES RICE; physical chemistry, by W. C. M. LEWIS; and crystallography, by ALEXANDER SCOTT. Of these the article on mathematics is the longest, and it is of interest to see accounts of recent work appearing much more promptly than is the case with the *Fortschritte* and the *Revue Semestrielle*. The reports are necessarily very short, but there is a welcome attempt at selection and criticism of important papers which marks a certain advance over the procedure of the older journals. It is especially interesting to observe the increasing part taken by America in the mathematical work of the world.

In *Notes and Queries*, London, for August, 1917, J. H. RIVETT-CARNAC has the following note on "Magic squares in India": "In the annual report for 1916 of the Archaeological superintendent of Hindu and Buddhist remains in northern India it is stated that amid the ruins of a temple at Dudhai, Jhansi, was to be seen a stone on which was engraved a magic square: (1) the sum of each row, each column, and each diagonal is 34; (2) the sum of all the numbers in each subsquare is 34. Such squares probably are well known, but to find one in a Hindu temple assigned to the eleventh century A. D. is unusual, perhaps. The figures are 1 to 16."

THE following is a partial list of university and college teachers of mathematics who have recently entered the military service:

Dr. J. W. ALEXANDER, Princeton University, second lieutenant, N. J. national guard. Professor A. A. BENNETT, University of Texas, captain, coast artillery. Professor A. D. BUTTERFIELD, Worcester Polytechnic Institute, captain, aviation branch of signal corps. Dr. J. F. CONNER, Catholic University of America, first lieutenant, bureau of supplies and accounts, navy. Dr. H. B. CURTIS, Columbia University, second lieutenant, aviation corps. Professor PETER FIELD, University of Michigan, captain, coast artillery. Dr. R. E. GILMAN, Cornell University, captain of artillery. Dr. W. L. HART, Harvard University, second lieutenant, field artillery. Mr. L. S. HILL, Princeton University, ensign, navy. Mr. J. W. HOPKINS, Harvard University, second lieutenant, heavy artillery. Professor S. D. KILLAM, University of Alberta, gunner, Canadian artillery. Dr. E. A. T. KIRCHER, Harvard University, captain, coast artillery. Dr. J. V. MCKELVEY, Cornell University, second lieutenant, national army. Dr. T. A. PIERCE, Harvard University, second lieutenant, national army. Professor A. L. UNDERHILL, University of Minnesota, captain, coast artillery. Professor OSWALD VEBLEN, captain, ordnance, reserve corps. Professor K. P. WILLIAMS, Indiana University, captain, field artillery.

PROFESSOR PAUL PAINLEVÉ, of the University of Paris and recently minister of war, has been made premier of the French Republic.

AT Washington University, associate professor W. H.

ROEVER has been promoted to a full professorship of mathematics and appointed acting head of the department.

PROFESSOR P. P. BOYD, of the University of Kentucky, has been appointed dean of the college of arts and sciences and acting president of the university.

At Pennsylvania State College, associate professors J. H. TUDOR and H. F. STECKER have been promoted to full professorships of mathematics.

DR. R. A. JOHNSON, of Western Reserve University, has been appointed professor and head of the department of mathematics in Hamline College.

DR. IDA BARNEY, of Smith College, has been appointed professor of mathematics at Lake Erie College, Painesville, Ohio.

PROFESSOR A. B. FRIZELL has resigned his professorship of mathematics in McPherson College.

PROFESSOR G. H. SCOTT, of Yankton College, has resigned to become principal of Benzonia Academy, Benzonia, Mich.

At the University of Chicago, assistant professor A. C. LUNN has been promoted to an associate professorship of mathematics.

At Northwestern University, assistant professor E. J. MOULTON has been promoted to an associate professorship of mathematics. Mr. F. L. KERR and Mr. A. D. CAMPBELL have been appointed instructors in mathematics.

DR. W. V. N. GARRETSON, of the University of Michigan, has been appointed associate professor of mathematics in Pennsylvania Military College.

PROFESSOR M. O. TRIPP, of Olivet College, has been appointed to an assistant professorship of mathematics in the University of Maine.

At the University of Toronto, Dr. SAMUEL BEATTY has been promoted to an assistant professorship of mathematics.

DR. C. C. CRUMP, of Carthage College, has been appointed assistant professor of astronomy at Ohio Wesleyan University.

MR. HERMAN BETZ, of Cornell University, has been appointed instructor in mathematics in the University of Michigan.

DR. W. W. DENTON, of the University of Illinois, has been appointed instructor in mathematics in the Worcester Polytechnic Institute.

PROFESSOR C. A. BARNHARDT, of Carthage College, will be a member of the mathematical faculty of Colorado College during the coming academic year.

DR. W. H. BESANT, fellow of St. John's College, Cambridge University, and university lecturer in mathematics, died June 2, 1917, at the age of eighty-eight years.

PROFESSOR S. B. KELLEHER, of the University of Dublin, died August 18, 1917.

BARON DAIROKU KIKUCHI, formerly professor of mathematics in the University of Tokyo and at one time president of that university, died August 20, 1917. Among other offices held by him was that of minister of education and privy councillor. Baron Kikuchi was one of the first Japanese scholars to be educated in England and to introduce modern mathematics into the universities of Japan. He was well known for his contributions to the history of Japanese mathematics.

MRS. E. B. DAVIS, of the Nautical Almanac Office, Washington, D. C., died in April, 1917. Mrs. Davis had been a member of the American Mathematical Society since 1910.

BOOK CATALOGUES:—Deighton, Bell and Company, Cambridge, England, catalogue 28, exact sciences, 1900 titles.—Dulau and Company, 37 Soho Square, London, catalogue 68, natural and mathematical sciences, 1286 titles.