

NOTES.

THIS issue of the BULLETIN marks its official transfer to a new Committee of Publication. Since the material for the BULLETIN is prepared far in advance of publication, however, the actual transition will be gradual. Material for the February number, in fact, and some of the material for still later numbers, had been gathered and to some extent arranged by the preceding editors.

The new Committee of Publication, and their associated editors, enter upon their task with mixed feelings and with no better programme than to maintain the high record established in the past. To many it may seem surprising that no acknowledgment of the indebtedness of the Society to those who are now relinquishing control appears in the present number. This defect is explained essentially in the preceding paragraph.

The present editor and his associates bespeak for the BULLETIN under their management the cordial support of contributors and of members of the Society, and forbearance for faults that are inevitable in new and inexperienced direction.

THE seventy-third meeting of the American association for the advancement of science was held at Chicago, December 27 to January 1, under the presidency of Dr. L. O. HOWARD. Professor D. R. CURTISS was vice-president of section A (mathematics). On December 29, Professor O. D. KELLOGG delivered his address as retiring vice-president of the section on "A decade of American mathematics," before a joint session with the Mathematical Association of America and the Chicago section of the American Mathematical Society.

THE concluding (October) number of volume 21 of the *Transactions of the American Mathematical Society* contains the following papers: "Minima of functions of lines," by ELIZABETH LE^STOURGEON; "Invariants of infinite groups in the plane," by E. F. SIMONDS; "On triply orthogonal congruences," by J. B. SHAW; "A set of properties characteristic of a class of congruences connected with the theory of functions," by E. J. WILCZYNSKI; "On the equilibrium of a fluid

mass at rest," by J. W. ALEXANDER; "Concerning approachability of simple closed and open curves," by J. R. KLINE.

THE following mathematical papers have appeared in recent volumes of the *Journal of the United States Artillery*: volume 50 (1919): "A method of computing differential corrections for a trajectory," by G. A. BLISS; volume 51: "Numerical integration of differential equations," by F. R. MOULTON; "Equations of differential variations in exterior ballistics," by W. E. MILNE; "The use of adjoint systems in the problem of differential corrections," by G. A. BLISS; "Rotating bands," by OSWALD VEBLEN and P. L. ALGER; "A method of computing differential corrections for a trajectory," by G. A. BLISS; volume 53 (1920): "On weighting factor curves in flat fire," by J. F. RITT; "Mirror and window position finders," by W. C. GRAUSTEIN.

RECENT numbers of the *Proceedings of the National Academy of Sciences* contain: volume 5, number 9 (September, 1919): "Radiation from a moving magneton," by H. BATEMAN; number 12 (December): "Conditions necessary and sufficient for the existence of a Stieltjes integral," by R. D. CARMICHAEL; "Transformations of cyclic systems of circles," by L. P. EISENHART; volume 6, number 1 (January, 1920): "The commutativity of one-parameter transformations in real variables," by A. C. LUNN; number 2 (February): "Groups generated by two operators, s_1, s_2 , which satisfy the conditions $s_1^m = s_2^n$, $(s_1 s_2)^k = 1$, $s_1 s_2 = s_2 s_1$," by G. A. MILLER; number 3 (March): "A kinematical interpretation of electromagnetism," by LEIGH PAGE; "Note on geometrical products," by C. L. E. MOORE and H. B. PHILLIPS; number 4 (April): "The starting of a ship," by J. K. WHITTEMORE; "A thermodynamic study of electrolytic solutions," by F. L. HITCHCOCK; "Functionals invariant under one-parameter continuous groups of transformations in the space of continuous functions," by I. A. BARNETT; number 5 (May): "On Kummer's memoir of 1857 concerning Fermat's last theorem," by H. S. VANDIVER; number 6 (June): "On the distortion in conformal mapping when the second coefficient in the mapping function has an assigned value," by T. H. GRONWALL; "On the connection of the specific heats with the equation of state of a gas," by A. G. WEBSTER; "On the conformal mapping of a family of

conics on another," by T. H. GRONWALL; number 7 (July): "On the class number of the field $\Omega(e^{2\pi i/p^n})$ and the second case of Fermat's last theorem," by H. S. VANDIVER; number 9 (September): "On a differential equation occurring in Page's theory of electromagnetism," by H. BATEMAN; "A new proof of a theorem due to Schoenflies," by J. R. KLINE; "On the structure of finite continuous groups with exceptional transformations," by A. C. LUNN.

THE following doctorates in mathematics were conferred by the University of Paris in 1920: B. GLOBA-MIKHAÏLENKO: "I. Contribution à l'étude des formes d'une masse fluide en équilibre. II. Méthode de Ritz pour l'équilibre, sous l'action d'une charge verticale donnée, d'une lame rectangulaire horizontale encastrée sur tout son contour,"; M. JANET: "I. Sur les systèmes d'équations aux dérivées partielles. II. Sur les congruences de droites."

IN acknowledging the gift to the American Mathematical Society's library of the thirteenth volume of the complete edition of Huygen's works, published by the Dutch Society of Sciences, it was referred to as the final volume of the set (see BULLETIN, volume 27, page 94). This is far from being correct, as several others are expected to appear; in fact, volume 14, published in 1920, has already reached us. This contains his work on the calculus of probabilities, "Van rekeningh in spelen van geluck," 1656-1657, with several appendixes of later date, and various papers on pure mathematics that appeared from 1655 to 1666.

THE Royal society of London has conferred a Royal medal on Professor G. H. HARDY, for his researches in pure mathematics, especially in the analytic theory of numbers.

PROFESSOR A. SOMMERFELD, of the University of Munich, has been awarded the Vahlbruch prize of the Academy of sciences of Göttingen. He has also been elected corresponding member of the Berlin Academy of sciences, and foreign member of the Royal Swedish academy at Upsala.

PROFESSORS A. EINSTEIN and M. PLANCK have been elected corresponding members of the Danish Society of sciences.

PROFESSOR H. WILSKI, of the technical school at Aix, has been elected a member of the Leopoldinisch-Carolinische Akademie at Halle, and Professor E. MÜLLER, of the Vienna technical school, an associate of the Austrian section of that academy.

THE philosophical faculty of the University of Giessen has conferred the honorary degree of doctor of philosophy on Professor C. KOSTKA, of Insterburg.

PROFESSOR E. COHN, formerly of the University of Strassburg, has been appointed honorary professor of theoretical physics at the University of Freiburg.

PROFESSOR C. CRANZ has been appointed professor of theoretical physics at the Charlottenburg technical school.

PROFESSOR E. FISCHER, of the University of Erlangen, has been appointed professor of mathematics at the University of Cologne.

AT the Dresden technical school, Professor G. KOWALEWSKI, of the German University at Prague, has been appointed professor of mathematics, Dr. M. LAGALLY, of Munich, professor of applied mathematics, and Dr. L. FÖPPL, of the University of Würzburg, professor of the theory of stability, hydrodynamics, and aerodynamics.

DR. R. GRAMMEL, of the University of Halle, has been appointed to a professorship at the Stuttgart technical school.

DR. W. LIETZMANN has been appointed professor of the teaching of the exact sciences at the University of Göttingen.

PROFESSOR H. LIEBMANN has been appointed professor of mathematics at the University of Heidelberg.

ASSOCIATE professor H. ROTHE, of the Vienna technical school, has been promoted to a full professorship of mathematics.

PROFESSOR E. STEINITZ, of the Breslau technical school, has been appointed professor of mathematics at the University of Kiel.

PROFESSOR R. WEITZENBÖCK, of the German technical school at Prague, has been appointed professor of mathematics at the technical school at Graz.

PROFESSOR A. FÖPPL, of the Munich technical school, has retired from active teaching.

THE following persons have been admitted as privat-docents: Dr. J. NIELSEN, for pure and applied mathematics, at the University of Hamburg; Dr. O. v. GRUBER, for applied mathematics, at the Munich technical school; Dr. G. WIARDA, for mathematics, at the University of Marburg.

PROFESSOR J. HADAMARD has been appointed professor of mathematical analysis at the Ecole centrale des arts et manufactures at Paris.

M. CERF has been appointed associate professor of mathematics at the University of Dijon.

DR. C. G. KNOTT has been appointed to the newly instituted office of reader in applied mathematics at the University of Edinburgh.

MR. F. J. HARLOW, head of the department of mathematics and physics at the Sir John Cass Technical Institute, Aldgate, has been appointed principal of the Municipal Technical College, Blackburn.

MISS NORA I. CALDERWOOD and Mr. T. A. LUMSDEN have been appointed assistant lecturers in mathematics at the University of Birmingham.

AT the University of Nebraska, Dr. T. A. PIERCE has been promoted to an assistant professorship of mathematics, Mr. W. M. BOND, Mr. O. C. COLLINS, of Oxford University, and Mr. C. R. SHERER have been appointed instructors, and Miss C. RUMMONS assistant instructor.

IN the department of mathematics at the University of Illinois, associate professor R. D. CARMICHAEL has been promoted to a full professorship; Dr. C. F. GREEN, Dr. L. L. STEIMLEY, and Dr. B. MARGARET TURNER have been appointed instructors; Professor E. R. SMITH, on leave of absence from Pennsylvania State College, has been appointed associate.

DR. LUDWIK SILBERSTEIN, author of works on mathematical physics, and formerly lecturer at the University of Rome, has accepted a research position with the Eastman Kodak Company at Rochester.

PROFESSOR HARRIET GLAZIER, on leave of absence from the Western College for Women, has been appointed professor of mathematics at the Southern Branch of the University of California for the current academic year, during the absence of Professor MYRTIE COLLIER.

At the University of Pennsylvania, assistant professor F. H. SAFFORD has been promoted to a full professorship of mathematics, and Mr. H. M. GEHMAN and Mr. R. W. HARTLEY have been appointed instructors. Dr. R. A. ARMS has resigned, to accept a professorship at Pennsylvania College, Gettysburg.

In the department of mathematics at the United States Naval Academy, assistant professors J. A. BULLARD, A. DILLINGHAM, and J. N. GALLOWAY have been promoted to associate professorships, and Mr. M. A. EASON, Mr. H. H. GAVER, Mr. H. M. ROBERT, Jr., and Dr. W. F. SHENTON to assistant professorships; Mr. E. A. BAILEY, Mr. A. J. BARRETT, Mr. E. R. C. MILES, and Mr. A. A. ROBINSON have been appointed instructors.

MR. OSCAR SCHMIEDEL has been appointed professor of mathematics at Nebraska Wesleyan University.

DR. O. J. RAMLER has been promoted to an associate professorship of mathematics at the Catholic University of America.

PROFESSOR H. S. MYERS, of Huron College, has been appointed professor of mathematics at Southwestern College, Winfield, Kansas.

PROFESSOR R. A. WELLS, of Park College, has been appointed associate professor of mathematics at the Michigan State Normal College.

MR. CORNELIUS GOUWENS, of the University of Kansas, has been appointed assistant professor of mathematics at Iowa State College.

PROFESSOR C. E. HORNE, of the University of Porto Rico, has been appointed dean of the college of agriculture and mechanic arts at the university of Mayagüez, P. R.

ASSISTANT professor F. C. KENT has been promoted to an associate professorship of mathematics at the Oregon Agricultural College.

MR. H. L. OLSON, of the University of Wisconsin, and Mr. H. A. SIMMONS have been appointed instructors in mathematics at the University of Michigan.

AT the University of Alberta, Mr. T. H. MILNE, of the University of Toronto, has been appointed lecturer, and Mrs. E. T. MITCHELL instructor in mathematics; Mr. GEORGE ROBINSON has resigned, to become assistant to Professor E. T. WHITTAKER in his mathematical laboratory at the University of Edinburgh.

MISS ANNA M. MULLIKIN and Miss HELMA HOLMES have been appointed instructors in mathematics at the University of Texas.

MR. C. E. HARRINGTON has been appointed instructor in mathematics at the University of Buffalo.

MR. L. M. GRAVES has been appointed instructor in mathematics at Washington University.

DR. A. R. WILLIAMS and Dr. C. D. SHANE have been appointed instructors in mathematics at the University of California.

PROFESSOR M. KRAUSE, of the Dresden technical school, died March 2, 1920, at the age of sixty-eight.

PROFESSOR L. POCHHAMMER, of the University of Kiel, died March 24, 1920, at the age of seventy-eight.

THE death is announced of the distinguished geometer Professor K. F. W. ROHN, of the University of Leipzig, on August 4, 1920, at the age of sixty-five.

THE death is announced of Professor E. SELLING, formerly of the University of Würzburg.

ASSISTANT professor T. R. DAVIES, of McGill University, died August 12, 1920, at the age of fifty-six.