

THE APRIL MEETING IN CHICAGO

The three hundred thirteenth regular meeting of the Society was held at the University of Chicago on Friday and Saturday, April 6-7, 1934. About one hundred fifty persons attended the meetings, among whom were the following one hundred eight members of the Society:

E. S. Akeley, F. L. Axen, R. P. Baker, F. R. Bamforth, R. W. Barnard, Walter Bartky, Leon Battig, H. R. Beveridge, S. F. Bibb, Solomon Bilinsky, G. A. Bliss, F. W. Boyce, H. R. Brahana, L. E. Bush, J. F. Butler, R. D. Carmichael, E. W. Chittenden, A. B. Coble, Max Coral, D. R. Curtiss, L. E. Dickson, E. B. Escott, H. P. Evans, H. S. Everett, K. W. Folley, H. L. Garabedian, B. C. Getchell, G. D. Gore, Cornelius Gouwens, W. C. Graustein, L. M. Graves, L. W. Griffiths, V. G. Grove, W. L. Hart, W. W. Hart, M. L. Hartung, O. C. Hazlett, G. A. Herr, E. H. C. Hildebrandt, T. H. Hildebrandt, T. F. Holgate, M. H. Ingraham, Dunham Jackson, Evan Johnson, Jr., M. M. Johnson, H. S. Kaltenborn, W. C. Krathwohl, A. W. Landers, Jr., Mrs. A. W. Landers, G. B. Lang, R. E. Langer, Lincoln LaPaz, M. I. Logsdon, A. C. Lunn, C. C. MacDuffee, W. D. MacMillan, Wilhelm Maier, H. W. March, Morris Marden, William Markowitz, J. R. Mayor, C. W. Mendel, H. J. Miles, C. N. Moore, T. W. Moore, D. C. Morrow, E. J. Moulton, F. R. Moulton, F. H. Murray, A. L. Nelson, Rufus Oldenburger, E. D. Pepper, L. C. Plant, J. E. Powell, Tibor Radó, R. B. Rasmusen, W. T. Reid, W. H. Roever, A. E. Ross, W. E. Roth, R. G. Sanger, Nathan Schwid, E. A. Shonka, H. A. Simmons, W. G. Simon, E. B. Skinner, H. E. Slaughter, Burke Smith, F. C. Smith, E. S. Sokolnikoff, I. S. Sokolnikoff, G. G. Specker, R. C. Stephens, A. H. Tappan, V. B. Teach, H. P. Thielman, E. W. Titt, W. J. Trjitzinsky, P. L. Trump, H. L. Turrittin, E. B. Van Vleck, J. I. Vass, H. S. Wall, L. E. Ward, K. W. Wegner, F. B. Wiley, Roscoe Woods, Kathryn Wyant.

The meeting opened on Friday morning with two sectional sessions, Algebra and Analysis. Friday afternoon was devoted to an address by Professor R. E. Langer on *The asymptotic solutions of ordinary linear differential equations of the second order, with special reference to the Stokes' phenomenon*. A business meeting and general session was held on Saturday morning.

Friday evening a dinner was held at Judson Court. One hundred four persons attended the dinner. Although this was not previously announced, the dinner was in honor of Dean T. C. Holgate and Professor H. E. Slaughter. President Coble was toastmaster. He called upon Professor Skinner who talked of the long and valuable service of Dean Holgate to mathematics, especially stressing his pioneer service in the founding of the Chicago section of the American Mathematical Society and acting as its first secretary. Dr. F. R. Moulton then spoke concerning

the work of Professor Slaughter as a teacher, as a leader in the Chicago section of the American Mathematical Society, and as the guiding spirit of the Mathematical Association of America. Short tributes to both of these men were added by Professors Curtiss, Dickson, Bliss, and Graustein. Dean Holgate and Professor Slaughter then responded to what had been said.

Two meetings of the Council were held on Friday afternoon and evening.

The election of the following persons to membership in the Society was announced by Associate Secretary M. H. Ingraham:

Professor Edward Stowe Akeley, Purdue University;
Mr. Donald Henry Ballou, Harvard University;
Dr. Sherburne F. Barber, Johns Hopkins University;
Mr. Solomon Bilinsky, St. Louis, Mo.;
Professor Salomon Bochner, Princeton University;
Professor Richard Brauer, University of Kentucky;
Professor Wilmer H. Gaver, Newberry College;
Dr. Roberta Frances Johnson, Wilson College;
Mr. Stephen Cole Kleene, Hartford, Conn.;
Miss Caroline Avery Lester, New York State College for Teachers;
Mr. Arthur Norton Milgram, University of Pennsylvania;
Mr. Zehman Irving Mosesson, Harvard University;
Dr. D. S. Nathan, Harvard University;
Miss Elizabeth Cutting Pousland, Winsor School, Boston, Mass.;
Mr. Sidney Goldwater Roth, Washington Square College, New York University;
Professor Paul Martin Singer, New Mexico State Teachers College;
Mr. Herbert Edward Vaughan, University of Michigan.

It was also announced that the following person has entered the Society under a reciprocity agreement:

Professor Bertram Martin Wilson, University of St. Andrews, at University College, Dundee.

At the meeting of the Council the following dates of meetings were set: November 30–December 1, 1934, University of Nebraska; February 23, 1935, New York City; April 19–20, 1935, New York City; April 19–20, 1935, Chicago.

President Coble announced the committee for the Williams meeting as follows: Professors J. G. Hardy (chairman), J. R. Kline, H. L. Agard, T. C. Esty, and E. I. Shepard.

On Saturday morning there was a business meeting of the Society. At this meeting on recommendation of the Council the by-laws were changed so as to establish an institutional contributing membership with minimum dues of \$25 per annum, the institution having the right to receive the Bulletin or to

nominate one regular member for each twenty-five dollars contributed. There was also established an individual contributing membership with the same rights and privileges as ordinary membership but with minimum dues of \$15 per annum. At this meeting Professor Graustein, chairman of the Committee on Financial Policy, outlined the plans for stabilizing the finances of the Society which had been worked out by the Committee on Financial Policy and authorized by the Trustees, Council, and Society. Details of these plans will be sent to the members in a circular letter from President Coble.

Professors C. C. MacDuffee and M. I. Logsdon presided at the Friday morning sessions, and President A. B. Coble presided on Friday afternoon and Saturday morning.

Titles and cross references to the papers (other than invited addresses) read at this meeting follow below; papers whose abstract numbers are followed by the letter *t* were read by title. Mr. Suckau was introduced by Professor Tibor Radó, Mr. Smith by Professor W. B. Ford, Mr. Webber and Mr. Huston by Professor L. E. Dickson, Mr. Sagen by Professor A. A. Albert, and Mr. Hildner by Professor Lincoln LaPez.

1. *An analogue in Hilbert space of a theorem of Arzela for function space*, by Dr. H. P. Thielman. (Abstract No. 40-3-185.)
2. *An extension of Riesz's theorem on linear functional operations*, by Mr. H. S. Kaltenborn. (Abstract No. 40-3-186.)
3. *Integration of interval functions*, by Mr. B. C. Getchell. (Abstract No. 40-3-181.)
4. *Variation of product integrals*, by Professor G. Y. Rainich and Mr. H. E. Vaughan, Jr. (Abstract No. 40-3-187-*t*.)
5. *Concerning cubic theta functions*, by Professor Wilhelm Maier. (Abstract No. 40-3-175.)
6. *The solutions of the Mathieu equation with a complex variable and at least one parameter large*, by Professor R. E. Langer. (Abstract No. 40-3-177.)
7. *A class of boundary problems of highly irregular type*, by Dr. J. I. Vass. (Abstract No. 40-3-161.)
8. *The asymptotic forms of the Hermite and Weber functions*, by Mr. Nathan Schwid. (Abstract No. 40-3-178.)
9. *On the asymptotic developments of analytic functions*, by Mr. F. C. Smith. (Abstract No. 40-3-160.)
10. *On uniform convergence* (preliminary report), by Mr. J. W. T. Suckau. (Abstract No. 40-3-182.)

11. *Classes of maximum numbers associated with certain symmetric equations in n reciprocals*, by Miss Norma Stelford and Professor H. A. Simmons. (Abstract No. 40-3-158.)
12. *On Zehfuss matrices and applications*, by Professor W. E. Roth. (Abstract No. 40-1-102.)
13. *Non-singular multilinear forms*, by Mr. Rufus Oldenburger. (Abstract No. 40-3-165.)
14. *A substitute for the Euclid algorithm in algebraic fields*, by Professor C. C. MacDuffee and Mr. E. D. Jenkins. (Abstract No. 40-3-162.)
15. *Waring's problem for cubic functions*, by Mr. G. C. Weber. (Abstract No. 40-3-171.)
16. *Generalized asymptotic Waring theorems*, by Mr. R. E. Huston. (Abstract No. 40-3-180.)
17. *The integers represented by positive sets of ternary quadratic non-classic forms*, by Mr. O. K. Sagen. (Abstract No. 40-3-173.)
18. *Groups of transformations of continued fractions*, by Professor H. S. Wall. (Abstract No. 40-3-179.)
19. *Metabelian groups of order p^{n+m} with commutator subgroups of order p^m* , by Professor H. R. Brahana. (Abstract No. 40-3-183.)
20. *The moving trihedron*, by Professor E. P. Lane. (Abstract No. 40-3-109-t.)
21. *On generalized inscribed sequences of surfaces*, by Dr. G. D. Gore. (Abstract No. 40-1-101.)
22. *The summation of series of orthogonal polynomials*, by Professor Dunham Jackson. (Abstract No. 40-3-172.)
23. *On the relationship between the Abel-Poisson method and that of Cesàro for the summation of multiple series*, by Professor C. N. Moore. (Abstract No. 40-3-189.)
24. *A general expansion theorem with applications to certain linear integral equations of infinite order*, by Professor R. D. Carmichael. (Abstract No. 40-3-111.)
25. *New universal Waring theorems*, by Professor L. E. Dickson. (Abstract No. 40-3-168.)
26. *Equivalence of pairs of Hermitian matrices*, by Mr. K. W. Wegner. (Abstract No. 40-1-103.)
27. *On bounded linear functional operations*, by Professor T. H. Hildebrandt. (Abstract No. 40-3-188.)
28. *On a converse of the Kneser transversality theorem*, by Professors Tibor Radó and Lincoln LaPaz. (Abstract No. 40-3-112.)

29. *On a type of action integral in physics and a certain transformation*, by Dr. E. S. Akeley. (Abstract No. 40-3-176.)

30. *A reduction formula for the moments of a binomial distribution about the origin*, by Professor A. R. Crathorne. (Abstract No. 40-3-174-t.)

31. *An inverse problem associated with the Hamilton-Carathéodory function*, by Dr. R. C. Hildner. (Abstract No. 40-5-194-t.)

32. *Note on the use of fractional integration for obtaining expansions in squares of Bessel functions*, by Dr. H. P. Thielman. (Abstract No. 40-3-184-t.)

33. *Irreducible quartic congruences*, by Professor H. R. Brahana. (Abstract No. 40-3-110-t.)

34. *The Kellogg solution of a cyclo-symmetric equation; questions concerning extreme numbers relative to this solution*, by Professor H. A. Simmons. (Abstract No. 40-3-159-t.)

35. *Canonical triples of bilinear forms*, by Mr. Rufus Oldenburger. (Abstract No. 40-3-163-t.)

36. *Factorization of hyperspace matrices into a product of two-way matrices one of which is singular*, by Mr. Rufus Oldenburger. (Abstract No. 40-3-164-t.)

37. *Solution of a class of simultaneous matrix and integral equations*, by Mr. Rufus Oldenburger. (Abstract No. 40-3-166-t.)

38. *Space ranks of the multiple composite of hyperspace matrices*, by Mr. Rufus Oldenburger. (Abstract No. 40-3-167-t.)

39. *The representation of integers as sums of values of cubic polynomials*, by Dr. R. D. James (National Research Fellow). (Abstract No. 40-3-170-t.)

40. *A characteristic property of surfaces of negative curvature*, by Dr. E. F. Beckenbach. (Abstract No. 40-3-169-t.)

41. *The deflection of a rectangular strip of plywood under a load concentrated along a line through the center*, by Professor H. W. March. (Abstract No. 40-5-195.)

42. *On a certain correspondence between surfaces in hyperspace*, by Professor V. G. Grove. (Abstract No. 40-5-196.)

43. *Non-Riemannian manifolds in Riemannian space*, by Professor Harry Levy. (Abstract No. 40-5-197-t.)

44. *On convex functions*, by Professor Tibor Radó. (Abstract No. 40-5-198-t.)

M. H. INGRAHAM,
Associate Secretary