

## THE APRIL MEETING IN NEW YORK

The three hundred twenty-second meeting of the American Mathematical Society was held at Columbia University on Friday and Saturday, April 19–20, 1935. The attendance included the following one hundred fifty-two members of the Society:

C. R. Adams, R. P. Agnew, E. B. Allen, R. C. Archibald, N. H. Ball, J. L. Barnes, M. F. Becker, Garrett Birkhoff, G. D. Birkhoff, H. L. Black, H. F. Blichfeldt, Salomon Bochner, H. F. Bohnenblust, J. W. Bower, C. B. Boyer, Richard Brauer, H. W. Brinkmann, A. B. Brown, E. W. Brown, S. S. Cairns, Alonzo Church, W. R. Church, J. A. Clarkson, W. S. Claytor, George Comenetz, Byron Cosby, II, Richard Courant, E. H. Cutler, J. L. Doob, H. L. Dewart, Jesse Douglas, F. G. Dressel, L. P. Eisenhart, W. W. Elliott, T. S. Fiske, W. B. Fite, M. M. Flood, R. M. Foster, J. S. Frame, Orrin Frink, T. C. Fry, C. A. Garabedian, H. M. Gehman, B. P. Gill, D. C. Gillespie, W. O. Gordon, P. H. Graham, M. C. Gray, J. A. Greenwood, C. C. Grove, N. L. Haight, Marshall Hall, G. A. Hedlund, M. R. Hestenes, E. H. C. Hildebrandt, Einar Hille, Lulu Hofmann, Charles Hopkins, G. M. Hopper, Harold Hotelling, E. M. Hull, W. H. Ingram, Nathan Jacobson, S. A. Joffe, R. A. Johnson, F. E. Johnston, I. N. Kagno, E. R. van Kampen, Edward Kasner, L. S. Kennison, S. C. Kleene, J. R. Kline, H. L. Krall, Harry Langman, V. V. Latshaw, Solomon Lefschetz, Jack Levine, D. C. Lewis, Jr., Hans Lewy, I. C. McLaughlin, E. J. McShane, L. A. MacColl, Saunders MacLane, N. B. MacLean, H. M. MacNeille, H. F. MacNeish, R. J. Marcou, W. T. Martin, A. K. Mitchell, C. N. Moore, T. W. Moore, G. W. Mullins, S. B. Myers, D. S. Nathan, E. P. Northrop, C. O. Oakley, Alta Odoms, F. W. Owens, H. B. Owens, H. B. Phillips, R. S. Pieters, G. B. Price, R. G. Putnam, H. A. Rademacher, J. F. Randolph, H. W. Raudenbush, Jr., G. E. Raynor, H. W. Reddick, M. S. Rees, R. G. D. Richardson, J. F. Ritt, J. H. Roberts, L. B. Robinson, S. L. Robinson, J. B. Rosenbach, J. B. Rosser, S. G. Roth, O. K. Sagen, M. F. Schmeiser, I. J. Schoenberg, I. M. Sheffer, Max Shiffman, C. G. Shover, L. G. Simons, M. E. Sinclair, Abraham Sinkov, A. A. Stafford, J. D. Tamarkin, J. M. Thomas, J. E. Thompson, J. L. Vanderslice, Oswald Veblen, Henry Wallman, J. L. Walsh, R. M. Walter, J. F. Wardwell, G. C. Webber, M. S. Webster, H. S. White, E. A. Whitman, Hassler Whitney, D. V. Widder, Norbert Wiener, S. S. Wilks, A. H. Wilson, Aurel Wintner, H. P. Wirth, D. W. Woodard, E. W. Woolard, Oscar Zariski, Leo Zippin, Max Zorn.

The meeting opened on Friday morning with two sectional sessions, Algebra and Number Theory, and Geometry and Foundations. Friday afternoon was devoted to a Symposium on *The problem of three bodies and allied problems*, at which the following addresses were presented: *The present status of the restricted problem of three bodies*, by Professor G. D. Birkhoff;

*Problems suggested by the general theories of planetary and satellite motions*, by Professor E. W. Brown; *Periodic lunar orbits and gaps of commensurability*, by Dr. Aurel Wintner. A general session was held on Saturday morning.

At the opening of the session on Friday afternoon President Lefschetz spoke of the death of Professor Emmy Noether on Sunday, April 14th, at Bryn Mawr. The Society stood in silence for a minute in honor of the memory of this great mathematician.

A meeting of the Council was held at 5:00 p.m. on Friday in the Faculty Club of Columbia University. The election of the following persons to membership in the Society was announced by the Secretary:

Professor Mae Ruth Anderson, Concordia College, Moorhead, Minn.;  
 Dr. William Martin Borgman, Jr., Wayne University;  
 Dr. Foster Lindsey Brooks, Carrollton High School, Carrollton, Ohio;  
 Dr. Byron Cosby, II, Rensselaer Polytechnic Institute;  
 Mr. Carleton Craig, McGill University;  
 Dr. George Graham Harvey, Massachusetts Institute of Technology;  
 Mr. Emerson D. Jenkins, Columbus, Ohio;  
 Dr. Gertrude Stith (Mrs. P. W.) Ketchum, Urbana, Ill.;  
 Professor John Franklin Locke, State Teachers College, Memphis, Tenn.;  
 Mr. John Charles Chenoweth McKinsey, University of California;  
 Professor René Joseph Marcou, Boston College;  
 Sister Marie Gertrude McNeil, Seton Hill College, Greensburg, Pa.;  
 Dr. William Ted Martin, Princeton University;  
 Sister Mary Cleophas Garvin, Notre Dame College, South Euclid, Ohio;  
 Mr. Arthur Everett Pitcher, Harvard University;  
 Dr. Oswald Karl Sagen, Institute for Advanced Study;  
 Mr. E. Dillon Smith, Columbia University;  
 Professor James Johnston Stoker, Jr., Carnegie Institute of Technology;  
 Professor William Timothy Stratton, Kansas State College;  
 Sister Thomas Marie Maloney, Trinity College, Washington, D.C.;  
 Professor Julian Leroy Thompson, Emmanuel Missionary College, Berrien Springs, Mich.;  
 Professor Blanche Hall Tolar, Fenn College, Cleveland, Ohio;  
 Mr. Thirukkannapuram Vijayaraghavan, University of Dacca;  
 Professor Thomas Leonard Wade, Mercer University;  
 Mr. Henry Wallman, Princeton University;  
 Mr. Everett Thomas Welmers, Ann Arbor, Mich.

As nominee of the Members of the Department of Mathematics at the College of the City of New York:

Mr. Max Shiffman, Long Island, N. Y.

As nominee of the Massachusetts Institute of Technology:

Mr. Arra Steve Avakian, Massachusetts Institute of Technology.

As nominees of the University of Pennsylvania:  
Dr. Harold M. Lufkin, University of Pennsylvania;  
Mr. Robert Reed Lyle, University of Pennsylvania;  
Dr. Adam J. Smith, University of Pennsylvania;  
Miss Vivian Eberle Spencer, University of Pennsylvania.

As nominees of Wesleyan University:  
Mr. Frank Hackett Byron, Wesleyan University;  
Mr. Winthrop Thatcher Lewis, Harvard University.

As nominees of the Department of Mathematics of Yale University:  
Mr. Melvin Dresher, Yale University;  
Miss Jeanette Fox, New Haven, Conn.

As nominees of Indiana University:  
Mr. Walter George Gingery, George Washington High School, Indianapolis,  
Ind.;  
Dr. Sidney Guy Hacker, Indiana University.

In accordance with a reciprocity agreement:  
Professor K. S. K. Iyengar, Central College, Bangalore, India.

The following twelve institutions of learning and mathematical groups were elected to institutional membership in the Society:

California Institute of Technology;  
Carnegie Institute of Technology;  
Catholic University of America;  
Haverford College;  
Indiana University;  
Iowa State College;  
State University of Iowa;  
University of North Carolina;  
Library of Purdue University;  
Departments of Mathematics and Applied Mathematics of the University of  
Toronto;  
Department of Mathematics of Williams College;  
Department of Mathematics of the University of New Mexico.

It was reported that Professor H. L. Smith had been appointed as the representative of the Society at the Conference on Education in connection with the celebration of the seventy-fifth anniversary of the founding of the Louisiana State University, April 9-12, 1935.

It was announced that Mr. Thirukkannapuram Vijayarag-havan of the University of Dacca, India, had accepted the invitation to be the Society Visiting Lecturer for the year 1936.

The time of the October, 1935, meeting in New York was set for October 26. Announcement was made that the invitation from the George Washington University to hold the Annual Meeting of 1936 at that institution in connection with the meetings of the American Association for the Advancement of Science had been accepted.

As Committee on Arrangements for the 1936 Summer Meeting to be held at Harvard University in connection with the Tercentenary Celebration, the Council appointed Professor G. D. Birkhoff (chairman), Mrs. M. C. Graustein, Professors H. B. Phillips, R. G. D. Richardson, and M. H. Stone.

Professor C. N. Moore was appointed as the representative of the Society on the Editorial Board of the American Yearbook for a period of three years beginning with 1935.

The conditions for eligibility for the Society's prizes were modified so as to include memoirs published in any journal printed in the United States or Canada.

Titles and cross references to the abstracts of the papers (other than symposium addresses) read at this meeting follow below; papers whose abstract numbers are followed by the letter  $t$  were read by title. The papers numbered 1 to 11 were read before the section of Algebra and Number Theory, Professor J. F. Ritt presiding; those numbered 12 to 22 before the section of Geometry and Foundations, Professors D. C. Gillespie and J. D. Tamarkin presiding; those numbered 23 to 63 at the general session, Professors Norbert Wiener and Edward Kasner presiding. Professor Solomon Lefschetz presided at the Symposium. Mr. Dunford was introduced by Professor Tamarkin, Mr. Fox by Professor Kline, Mr. Hill by Professor Adams, Professor Mayer by Professor Tamarkin, Dr. Quine by Mr. Birkhoff, Dr. MacGregor by Professor Kline, Professor Kogbetliantz by Professor Tamarkin.

1. *Generalization of Lucas'  $u_n, v_n$  for recurrences of third and higher order* (preliminary report), by Professor B. P. Gill. (Abstract No. 41-5-184.)

2. *On a certain function connected with polynomials in a Galois field*, by Professor Leonard Carlitz. (Abstract No. 41-5-185- $t$ .)

3. *The automorphisms of Cayley's non-associative algebra* (preliminary report), by Dr. Max Zorn. (Abstract No. 41-5-186.)

4. *Indices in cubic fields*, by Mr. Marshall Hall. (Abstract No. 41-5-187.)
5. *An unsolvable problem of elementary number theory* (preliminary report), by Professor Alonzo Church. (Abstract No. 41-5-205.)
6. *Concerning transcendental numbers*, by Dr. G. C. Webber (National Research Fellow). (Abstract No. 41-5-188.)
7. *The groups determined by the relations  $S^l = T^m = (S^{-1}T^{-1}ST)^p = 1$* , by Dr. H. S. M. Coxeter and Dr. Abraham Sinkov. (Abstract No. 41-5-189.)
8. *Locally compact totally disconnected rings*, by Dr. Nathan Jacobson. (Abstract No. 41-5-190.)
9. *Theory of finite distributive free structures*, by Mr. W. R. Church. (Abstract No. 41-5-191.)
10. *Continuous transformations preserving all topological properties*, by Mr. J. F. Wardwell. (Abstract No. 41-5-253.)
11. *Homogeneous sets which are disconnected by the removal of a finite number of points*, by Dr. S. L. Robinson. (Abstract No. 41-5-220.)
12. *Postulate systems for Lie groups*, by Mr. Garrett Birkhoff. (Abstract No. 41-5-192.)
13. *Some density properties of point sets*, by Dr. J. F. Randolph. (Abstract No. 41-3-176.)
14. *Extensions of partially ordered sets* (preliminary report), by Mr. H. M. MacNeille. (Abstract No. 41-3-142.)
15. *The duals of velocity families and natural families*, by Professor Edward Kasner. (Abstract No. 41-5-193.)
16. *Connections between differential geometry and topology. II: Closed surfaces*, by Dr. S. B. Myers (National Research Fellow). (Abstract No. 41-5-194.)
17. *Systems of curves and surfaces related under cyclic involutions*, by Professor H. L. Black. (Abstract No. 41-5-195.)
18. *Collections filling a plane*, by Professor J. H. Roberts. (Abstract No. 41-5-196.)
19. *The formal theory of conservative transformations in 2n-dimensional space*, by Dr. D. C. Lewis (National Research Fellow). (Abstract No. 41-5-197.)
20. *Irreducible non-toral graphs*, by Mr. I. N. Kagno. (Abstract No. 41-5-198.)
21. *Sphere-spaces, with applications*, by Professor Hassler Whitney. (Abstract No. 41-5-222.)

22. *A topological proof of the Riemann-Roch theorem*, by Professor Oscar Zariski. (Abstract No. 41-5-252.)
23. *Integration in general analysis*, by Mr. Nelson Dunford. (Abstract No. 41-5-199.)
24. *Natural isoperimetric conditions for variable end point problems in the calculus of variations*, by Professor G. D. Birkhoff and Dr. M. R. Hestenes. (Abstract No. 41-3-173.)
25. *On the multiplication of series summable by Nörlund means*, by Professor C. N. Moore. (Abstract No. 41-5-200.)
26. *Summation of double Fourier series by circles*, by Professor Salomon Bochner. (Abstract No. 41-5-201.)
27. *Distribution functions and the Riemann zeta function*, by Dr. Borge Jessen and Dr. Aurel Wintner. (Abstract No. 41-3-174.)
28. *A differential equation for Appell polynomials*, by Professor I. M. Sheffer. (Abstract No. 41-5-202.)
29. *The zeros of Jacobi polynomials*, by Mr. M. S. Webster. (Abstract No. 41-3-139.)
30. *Abstract absolute values and polygonal irreducibility criteria*, by Dr. Saunders MacLane. (Abstract No. 41-5-221.)
31. *Concerning an intrinsic property of plane continua*, by Dr. R. E. Basye. (Abstract No. 41-3-171-t.)
32. *On subharmonic functions*, by Dr. E. F. Beckenbach. (Abstract No. 41-3-183-t.)
33. *On the lattice theory of linear dependence*, by Mr. Garrett Birkhoff. (Abstract No. 41-5-203-t.)
34. *Oscillation, separation, and comparison theorems in the calculus of variations*, by Professor G. D. Birkhoff and Dr. M. R. Hestenes. (Abstract No. 41-3-143-t.)
35. *Boundary value problems and the calculus of variations*, by Professor G. D. Birkhoff and Dr. M. R. Hestenes. (Abstract No. 41-3-180-t.)
36. *Concerning metric transforms of metric spaces*, by Dr. L. M. Blumenthal (National Research Fellow). (Abstract No. 41-3-175-t.)
37. *Some properties of conversion*, by Professor Alonzo Church and Dr. J. B. Rosser. (Abstract No. 41-5-204-t.)
38. *Green's theorem for generalized harmonic functionals*, by Dr. F. G. Dressel. (Abstract No. 41-5-206-t.)

39. *On a theorem of Plessner*, by Mr. Nelson Dunford. (Abstract No. 41-5-207-t.)
40. *Differential equations with continuous spectra*, by Mr. A. H. Fox. (Abstract No. 41-5-208-t.)
41. *Prime divisors of second order sequences*, by Mr. Marshall Hall. (Abstract No. 41-5-209-t.)
42. *A metrically transitive group defined by the modular group*, by Professor G. A. Hedlund. (Abstract No. 41-5-210-t.)
43. *Some theorems on double limits*, by Mr. J. D. Hill. (Abstract No. 41-5-211-t.)
44. *Inter-relations among the four principal types of order*, by Professor E. V. Huntington. (Abstract No. 41-5-212-t.)
45. *The mathematical structure of Lewis's theory of strict implication*, by Professor E. V. Huntington. (Abstract No. 41-5-213-t.)
46. *The inversion of approximate derivatives*, by Professor R. L. Jeffery. (Abstract No. 41-5-214-t.)
47. *Characterization of the equilog group and a larger group*, by Professor Edward Kasner. (Abstract No. 41-5-215-t.)
48. *On distributions admitting a sufficient statistic*, by Professor B. O. Koopman. (Abstract No. 41-5-216-t.)
49. *A note on the multiple correlation coefficient*, by Dr. Solomon Kullback. (Abstract No. 41-3-141-t.)
50. *On the distribution problem of statistics*, by Dr. Solomon Kullback. (Abstract No. 41-3-170-t.)
51. *Functions of self-adjoint transformations in Hilbert space*, by Dr. E. R. Lorch. (Abstract No. 41-5-217-t.)
52. *The differential geometry of the submanifolds of the  $R_n$  of constant curvature*, by Professor Walther Mayer. (Abstract No. 41-3-182-t.)
53. *The relation of the classical orthogonal polynomials to the polynomials of Appell*, by Professor J. A. Shohat. (Abstract No. 41-5-218-t.)
54. *On criteria for rejection of observations and the distribution of the ratio of deviation to sample standard deviation*, by Dr. W. R. Thompson. (Abstract No. 41-3-172-t.)
55. *Concerning sequences and limiting sets*, by Professor G. T. Whyburn. (Abstract No. 41-5-219-t.)
56. *On free subsets of  $E_n$* , by Professor R. L. Wilder. (Abstract No. 41-3-181-t.)

57. *An application of Laguerre polynomials*, by Professor D. V. Widder. (Abstract No. 41-5-224-t.)

58. *Postulates for effective equality and effective implication in formal logic*, by Professor E. V. Huntington. (Abstract No. 41-5-227-t.)

59. *Sets of independent axioms for complete Moore space and complete metric space*, by Dr. C. W. Vickery. (Abstract No. 41-5-226-t.)

60. *A unified calculus of propositions, classes, and relations*, by Dr. W. V. Quine. (Abstract No. 41-5-223-t.)

61. *Notes on linear transformations. I*, by Professor Einar Hille. (Abstract No. 41-5-250-t.)

62. *The potential function method for the solution of two-dimensional stress problems*, by Dr. C. W. MacGregor. (Abstract No. 41-5-225-t.)

63. *Linear functionals in the theory of quasi-analytic and  $D$ -analytic classes*, by Professor W. J. Trjitzinsky. (Abstract No. 41-5-251-t.)

64. *On the jump of a function determined by its Hermite or Laguerre series*, by Professor Ervand Kogbetliantz. (Abstract No. 41-5-254-t.)

J. R. KLINE,  
*Associate Secretary*