

25. *The principal differential*, by Mr. Victor Elconin. (Abstract 43-3-244-t.)

26. *Additive number theory for the general cubic polynomial* (preliminary report), by Dr. Alvin Sugar. (Abstract 43-3-245-t.)

27. *Differential geometry of an abstract topological group with Banach coordinates*. II, by Professor A. D. Michal. (Abstract 43-3-231-t.)

28. *Arithmetical properties of sequences in rings*, by Professor Morgan Ward. (Abstract 43-3-224-t.)

T. M. PUTNAM,  
Associate Secretary

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### THE APRIL MEETING IN CHICAGO

The three hundred forty-second meeting of the American Mathematical Society was held at the University of Chicago on Friday and Saturday, April 9-10, 1937. This meeting was the largest spring meeting in Chicago in the history of the Society. There were about two hundred persons in attendance, among whom were the following one hundred fifty-five members of the Society:

A. A. Albert, G. E. Albert, C. B. Allendoerfer, J. V. Atanasoff, W. L. Ayres, R. W. Babcock, R. H. Bardell, I. A. Barnett, Walter Bartky, S. F. Bibb, M. T. Bird, K. E. Bisshopp, G. A. Bliss, Henry Blumberg, L. M. Blumenthal, C. P. Brady, H. R. Brahana, J. L. Brenner, F. L. Brooks, R. S. Burlington, L. E. Bush, F. A. Butter, W. D. Cairns, H. H. Campaigne, Harold Chatland, E. W. Chittenden, R. V. Churchill, A. B. Coble, L. W. Cohen, A. H. Copeland, Max Coral, J. J. Corliss, A. P. Cowgill, D. R. Curtiss, J. E. Davis, W. M. Davis, L. E. Dickson, J. L. Doob, P. L. Dressel, W. L. Duren, E. B. Escott, H. P. Evans, H. S. Everett, G. M. Ewing, Morris Friedman, A. S. Gale, H. L. Garabedian, H. H. Goldstine, G. D. Gore, Cornelius Gouwens, L. M. Graves, Louis Green, V. G. Grove, M. B. Haberzette, D. W. Hall, W. L. Hart, G. A. Herr, A. D. Hestenes, T. H. Hildebrandt, Ralph Hull, C. C. Hurd, M. H. Ingraham, Dunham Jackson, E. D. Jenkins, Fritz John, C. D. Jones, V. R. Jones, A. J. Kempner, J. H. Kenna, W. S. Kimball, Fred Kiokemeister, S. C. Kleene, W. C. Krathwohl, A. C. Ladner, E. P. Lane, R. E. Langer, Lincoln LaPaz, C. G. Latimer, Solomon Lefschetz, R. A. Leibler, M. I. Logsdon, Louis De La Salle, H. A. Luther, E. J. McShane, C. C. MacDuffee, M. L. MacQueen, Morris Marden, Mary C. Garvin, R. G. Mason, A. E. May, J. R. Mayor, C. W. Mendel, Karl Menger, E. W. Miller, W. E. Milne, W. B. Morgan, Marston Morse, E. J. Moulton, S. B. Myers, A. L. Nelson, I. M. Niven, E. A. Nordhaus, Rufus Oldenburger, A. C. Olshen, E. J. Olson, A. P. O'Mara,

E. D. Pepper, J. E. Powell, Tibor Radó, G. Y. Rainich, W. C. Randels, W. T. Reid, H. L. Rietz, R. F. Rinehart, W. H. Roever, A. E. Ross, W. E. Roth, O. K. Sagen, R. G. Sanger, A. C. Schaeffer, Henry Scheffé, M. E. Shanks, H. A. Simmons, R. G. Simond, M. F. Smiley, Burke Smith, E. R. Smith, F. C. Smith, W. N. Smith, R. C. Stephens, E. C. Stopher, E. B. Stouffer, Otto Szász, Gabriel Szegő, J. D. Tamarkin, H. P. Thielman, W. J. Trjitzinsky, P. L. Trump, Henry Van Engen, V. J. Varino, J. I. Vass, H. E. Vaughan, R. W. Wagner, H. S. Wall, L. E. Ward, G. C. Webber, K. W. Wegner, J. V. Wehausen, E. T. Welters, George Whaples, O. L. Wheeler, F. B. Wiley, L. A. Wolf, M. C. Wolf, F. E. Wood.

On Friday morning three sectional meetings were held. The first was devoted to Geometry, the second to Probability and Algebra, and the third to Analysis. On Friday afternoon Dr. W. T. Reid of the University of Chicago delivered a Symposium Lecture on *Boundary value problems in the calculus of variations*. A general session was held on Saturday morning.

The dinner, which was held at Judson Court on Friday, was attended by one hundred fifty-one persons. Professor E. P. Lane of the University of Chicago acted as toastmaster. Professor C. C. MacDuffee of the University of Wisconsin spoke as the new Managing Editor of the Transactions, Professor W. E. Milne of Oregon State Agricultural College spoke as a representative of the western group, and Professor J. D. Tamarkin of Brown University discussed the International Congress of Mathematicians which is to be held in 1940 at Harvard University.

On Friday morning Professors L. M. Graves and L. W. Cohen presided in the Section for Geometry, Professor A. A. Albert in the Section for Probability and Algebra, and Dean R. W. Babcock and Professor H. L. Rietz in the Section for Analysis. Professors Marston Morse and G. A. Bliss presided at the Symposium Lecture. The chairmen of the General Session on Saturday were Professors Dunham Jackson and T. H. Hildebrandt.

The titles of papers read at the meeting follow. Those whose abstract numbers are followed by  $t$  were read by title. Papers numbered 1 to 14 were read before the Section for Geometry, those numbered 15 to 28 before the Section for Probability and Algebra, those numbered 29 to 41 before the Section for Analysis, and those numbered 42 to 69 before the General Session. Dr. P. O. Bell was introduced by Dean E. B. Stouffer, Mr. R. M. Thrall by Professor H. R. Brahana, Dr. D. G. Fulton by Pro-

fessor G. Y. Rainich, Mr. Olaf Helmer by Professor L. M. Graves, Mr. W. A. Dwyer by Professor M. A. Basoco, and Reverend W. C. Doyle by Professor Francis Regan. Paper number 17 was read by Professor H. P. Evans, paper number 24 by Dr. M. C. Wolf, and paper number 45 by Professor M. L. MacQueen.

1. *Set functions and measurability conditions*, by Dr. E. T. Welmers. (Abstract 43-3-163.)

2. *Relations between certain continuous transformations of sets*, by Miss R. G. Simond. (Abstract 43-3-210.)

3. *Uniform continuity in non-metric spaces*, by Professor L. W. Cohen. (Abstract 43-3-217.)

4. *On the problem of imbedding two abstract spaces in a third*, by Dr. H. E. Vaughan. (Abstract 43-3-211.)

5. *Point set operators and their interrelations*, by Dr. E. C. Stopher, Jr. (Abstract 43-3-190.)

6. *Concerning biconnected sets*, by Professor E. W. Miller. (Abstract 43-3-203.)

7. *Space fillers in the plane*, by Professor R. P. Baker. (Abstract 43-3-175-t.)

8. *On a generalization of Bonnet's theorem*, by Mr. C. D. Jones. (Abstract 43-3-181.)

9. *Systems of quadrics associated with a point of a surface*, by Mr. Louis Green. (Abstract 43-3-186.)

10. *Geometric characterizations in projective differential geometry of curved surfaces*, by Dr. P. O. Bell. (Abstract 43-3-216.)

11. *Rectifiability of arcs in Finsler space*, by Dr. S. B. Myers. (Abstract 43-3-202-t.)

12. *The characteristic function in the history of optical problems*, by Dr. Max Herzberger. (Abstract 43-3-207-t.)

13. *Meaning and function of a picture*, by Professor W. H. Roever. (Abstract 43-5-253.)

14. *Note on the characterization of pseudo  $r$ -spheric ( $S_n$ ) sets* (preliminary report), by Professor L. M. Blumenthal. (Abstract 43-5-254.)

15. *Transformations of the Pearson type III distribution*, by Mr. A. C. Olshen. (Abstract 43-3-192.)

16. *Postulates for the theory of probability*, by Professor A. H. Copeland. (Abstract 43-3-188.)

17. *On the postulational basis of probability* (preliminary re-

port), by Professor H. P. Evans and Dr. S. C. Kleene. (Abstract 43-3-174.)

18. *Note on the ideals of cyclic algebras*, by Dr. Ralph Hull. (Abstract 43-3-185.)

19. *On certain rational transformations*, by Dr. A. E. Ross. (Abstract 43-3-198.)

20. *On certain matrices and their determinants*, by Professor W. E. Roth. (Abstract 43-1-93.)

21. *Note on determinants*, by Professor M. H. Ingraham. (Abstract 43-3-173.)

22. *Linear matrix functions*, by Mr. R. W. Wagner. (Abstract 43-3-187-t.)

23. *Multiple-valued functions in matrix space*, by Mr. R. W. Wagner. (Abstract 43-5-257.)

24. *Convergence of a sequence of linear transformations*, by Professor M. H. Ingraham and Dr. M. C. Wolf. (Abstract 43-3-172.)

25. *Metabelian groups and trilinear forms*, by Mr. R. M. Thrall. (Abstract 43-3-171.)

26. *Forms in  $n$  variables whose ranks equal  $n$* , by Professor Rufus Oldenburger. (Abstract 43-3-191.)

27. *Stochastic processes depending on a discrete-valued parameter*, by Dr. J. L. Doob. (Abstract 43-5-248.)

28. *The asymptotic Waring problem for homogeneous polynomial summands*, by Mr. Harold Chatland. (Abstract 43-5-247.)

29. *A generalization of trigonometry*, by Professor H. P. Thielman. (Abstract 43-3-197.)

30. *Generalizations of the Cauchy integral formula*, by Dr. D. G. Fulton. (Abstract 43-3-182.)

31. *The derivative of a rational function*, by Dr. J. L. Brenner. (Abstract 43-3-199.)

32. *On continued fractions representing constants*, by Professor H. S. Wall. (Abstract 43-3-170.)

33. *Discontinuous solutions for the problem of Bolza in parametric form*, by Mr. M. F. Smiley. (Abstract 43-3-176.)

34. *Sufficient conditions for a discontinuous solution in the calculus of variations*, by Dr. G. M. Ewing. (Abstract 43-3-201.)

35. *A third order irregular boundary value problem*, by Mr. H. A. Luther. (Abstract 43-3-195.)

36. *The solution of boundary value problems in physics by*

*means of the Laplace transformation. Part I. A theory for establishing a solution for problems with vanishing initial conditions,* by Professor R. V. Churchill. (Abstract 43-3-184.)

37. *Questions of continuity of functions in infinitely many variables,* by Mr. Olaf Helmer. (Abstract 43-3-179.)

38. *On conformal mapping,* by Dr. M. E. Shanks. (Abstract 43-3-212.)

39. *On extensions of linear and bilinear transformations,* by Dr. H. H. Goldstine. (Abstract 43-3-169.)

40. *Applications of derivatives of line integrals,* by Professor W. S. Kimball. (Abstract 43-3-193.)

41. *Representation of Stieltjes integrals by infinite series. II,* by Professor Fritz John. (Abstract 43-5-249.)

42. *Symmetric matrices in a modular field,* by Professor A. A. Albert. (Abstract 43-3-196.)

43. *Quaternion rings,* by Professor C. G. Latimer. (Abstract 43-3-183.)

44. *The algebraic determination of the class of a Riemann space,* by Dr. C. B. Allendoerfer. (Abstract 43-3-208.)

45. *Asymptotic curves on a surface,* by Professors E. P. Lane and M. L. MacQueen. (Abstract 42-11-391.)

46. *Geometry of a surface in the neighborhood of a spine,* by Professor V. G. Grove. (Abstract 43-3-206.)

47. *Note on properties of invariance of orthogonal polynomials in a complex variable,* by Professor Dunham Jackson. (Abstract 43-3-177.)

48. *Conditional invariants,* by Professor G. Y. Rainich. (Abstract 43-3-180.)

49. *On the connection formulas and the solutions of the wave equation,* by Professor R. E. Langer. (Abstract 43-3-189.)

50. *Asymptotic theory of linear differential equations containing two parameters,* by Dr. C. C. Hurd. (Abstract 43-3-178.)

51. *Note concerning Jordan metrics,* by Professor L. M. Blumenthal. (Abstract 43-3-194-t.)

52. *First theory of homogeneous diophantine equations of degree two,* by Professor L. E. Dickson. (Abstract 43-5-246.)

53. *On the partial sums of Fourier series,* by Professor Otto Szász. (Abstract 43-3-200.)

54. *On the order of the partial sums of Fourier series,* by Dr. W. C. Randels. (Abstract 43-3-164.)

55. *Existence theorems for single integral problems in the calculus of variations*, by Professor E. J. McShane. (Abstract 43-5-251.)

56. *A note on non-associative algebras*, by Dr. Nathan Jacobson (National Research Fellow). (Abstract 43-3-167-t.)

57.  *$p$ -algebras of exponent  $p$* , by Dr. Nathan Jacobson (National Research Fellow). (Abstract 43-3-168-t.)

58. *Cyclic relations in point set theory*, by Dr. E. C. Stopher, Jr. (Abstract 43-3-205-t.)

59. *On a theorem due to A. Mullikin*, by Professor E. W. Miller. (Abstract 43-3-204-t.)

60. *On certain fundamental identities due to Uspensky*, by Mr. W. A. Dwyer. (Abstract 43-3-165-t.)

61. *On certain pseudo-periodic functions* (preliminary report), by Mr. W. A. Dwyer. (Abstract 43-3-166-t.)

62. *On Garvin's  $R(n)$  function*, by Reverend W. C. Doyle. (Abstract 43-3-214-t.)

63. *Note on harmonic functions represented by a Daniell integral*, by Dr. R. S. Martin. (Abstract 43-3-215-t.)

64. *A direct expansion proof of sufficient conditions for the non-parametric problem of Bolza*, by Dr. W. T. Reid. (Abstract 43-3-213-t.)

65. *Some self-adjoint boundary value problems* (preliminary report), by Mr. J. W. Calkin. (Abstract 43-3-209-t.)

66. *A significance test for component analysis*, by Professor P. G. Hoel. (Abstract 43-5-252-t.)

67. *Normal forms of convex regions under affine transformations*, by Professor Fritz John. (Abstract 43-5-250-t.)

68. *On Klein's oscillation theorem for boundary problems of the calculus of variations*, by Dr. W. T. Reid. (Abstract 43-5-256-t.)

69. *The theorem of Hildebrandt*, by Dr. H. H. Goldstine. (Abstract 43-5-255-t.)

M. H. INGRAHAM,  
*Associate Secretary*