

THE FEBRUARY MEETING IN NEW YORK

The three hundred seventy-sixth meeting of the American Mathematical Society was held at Columbia University on Friday and Saturday, February 21–22, 1941. The attendance was approximately three hundred fifty including the following two hundred thirty-five members of the Society:

C. R. Adams, R. B. Adams, Leonidas Alaoglu, C. B. Allendoerfer, R. L. Anderson, T. W. Anderson, Lawrence Annenberg, L. A. Aroian, K. J. Arrow, F. E. Baker, S. F. Barber, Joshua Barlaz, P. T. Bateman, Felix Bernstein, E. E. Betz, Garrett Birkhoff, Archie Blake, Gertrude Blanch, R. P. Boas, Salomon Bochner, Frank Boehm, H. F. Bohnenblust, Samuel Borofsky, D. G. Bourgin, C. B. Boyer, A. T. Brauer, H. W. Brinkmann, H. C. Brodie, A. A. F. Brown, B. L. Brown, Jewell H. Bushey, J. H. Bushey, S. S. Cairns, A. D. Campbell, D. E. Christie, J. A. Clarkson, R. M. Cohn, T. F. Cope, Byron Cosby, Richard Courant, Ruth Crucet, H. B. Curry, M. D. Darkow, Norman Davids, D. R. Davis, Jesse Douglas, Arnold Dresden, R. F. Dressler, J. E. Eaton, M. L. Elveback, Paul Erdős, C. J. Everett, J. M. Feld, Aaron Fialkow, F. A. Ficken, M. I. Fields, N. J. Fine, W. B. Fite, D. A. Flanders, G. E. Forsythe, Tomlinson Fort, M. C. Foster, R. M. Foster, J. S. Frame, K. O. Friedrichs, T. C. Fry, H. P. Geiringer, Abe Gelbart, B. P. Gill, R. L. Gilman, J. W. Givens, A. M. Gleason, Michael Golomb, M. C. Graustein, C. H. Graves, M. C. Gray, S. L. Greitzer, H. M. Griffin, C. C. Grove, D. W. Hall, F. C. Hall, Marshall Hall, N. A. Hall, P. R. Halmos, Philip Hartman, C. M. Hebbert, M. H. Heins, Edward Helly, J. G. Herriot, Fritz Herzog, L. S. Hill, Einar Hille, Abraham Hillman, T. R. Hollcroft, G. M. Hopper, Harold Hotelling, S. E. Hotelling, E. A. Hoy, R. Y. Hoy, Chung-Tsi Hsu, E. M. Hull, Alexandra Illmer, R. P. Isaacs, Seymour Jablon, Nathan Jacobson, R. A. Johnson, H. A. Jordan, Mark Kac, I. N. Kagno, Shizuo Kakutani, E. R. van Kampen, Irving Kaplansky, Edward Kasner, L. S. Kennison, J. R. Kline, E. R. Kolchin, B. O. Koopman, Arthur Korn, H. N. Laden, Jack Laderman, H. G. Landau, A. W. Landers, M. K. Landers, G. A. Larew, Solomon Lefschetz, Joseph Lehner, B. A. Lengyel, Howard Levi, Madeline Levin, Marie Litzinger, E. R. Lorch, A. N. Lowan, J. C. C. McKinsey, L. A. MacColl, C. C. MacDuffee, G. R. MacLane, H. F. MacNeish, W. G. Madow, Dorothy Maharam, Dorothy Manning, W. P. Mason, Walther Mayer, A. E. Meder, F. H. Miller, H. L. Mintzer, Don Mittleman, E. C. Molina, Elizabeth Monroe, Richard Morris, Nathan Morrison, Marston Morse, Z. I. Mosesson, G. W. Mullins, F. J. Murray, C. A. Nelson, O. E. Neugebauer, C. O. Oakley, E. G. Olds, P. S. Olmstead, Oystein Ore, J. C. Oxtoby, N. G. Parke, Everett Pitcher, Harry Pollard, George Polya, E. L. Post, Walter Prenowitz, R. G. Putnam, H. A. Rademacher, C. F. Rehberg, H. J. Riblet, Moses Richardson, R. G. D. Richardson, J. S. Ripandelli, J. F. Ritt, I. F. Ritter, H. E. Robbins, S. L. Robinson, Benjamin Rosenbaum, Arthur Sard, S. A. Schelkunoff, Peter Scherk, I. J. Schoenberg, Abraham Schwartz, C. H. W. Sedgewick, L. W. Sheridan, Seymour Sherman, W. A. Shewhart, Max Shiffman, L. P. Sicheloff, James Singer, L. L. Smail, M. F. Smiley, P. A. Smith, Virgil Snyder, Abraham Spitzbart, Wolfgang Sternberg, F. M. Stewart, G. R. Stibitz, J. J. Stoker, W. C. Strodt, Alvin Sugar, M. M. Sullivan, J. D. Tamarkin, Alfred Tarski, A. H. Taub, J. H. Taylor, B. J. Tepping, J. M. Thomas, R. M. Thrall, E. W. Titt, W. R. Transue, W. J. Trjitzinsky, J. W. Tukey, Oswald Veblen, Abraham Wald,

G. L. Walker, R. J. Walker, R. M. Walter, Louis Weisner, B. A. Welch, M. E. Wells, O. L. Wheeler, A. L. Whiteman, P. M. Whitman, Hassler Whitney, E. P. Wiggin, S. S. Wilks, W. H. Wise, Audrey Wishard, Jacob Wolfowitz, H. A. Wood, Leo Zippin, O. J. Zobel, Antoni Zygmund.

The opening session on Friday afternoon was a symposium on applied mathematics at which Mr. R. M. Foster presided. The symposium consisted chiefly of two addresses, one by Professor J. J. Stoker entitled *Mathematical problems connected with the bending and buckling of elastic plates* and one by Dr. W. A. Shewhart entitled *Mathematical statistics in mass production*. Discussion of the first address was led by Professor K. O. Friedrichs. Dr. Stewart Way was unable to attend and his remarks were read by the presiding officer. The discussion leaders of the second address were Professors Harold Hotelling and S. S. Wilks. Informal discussions of both addresses followed the prepared discussions.

On Saturday morning there was a session for papers in Analysis, Professor J. D. Tamarkin presiding, and another for Algebra, Topology, and Statistics, Professor Jewell Hughes Bushey presiding.

At a general session Saturday afternoon, at which President Marston Morse presided, the members of the Society voted to amend the By-Laws in accordance with the recommendation of the Council. For the convenience of members the By-Laws in revised form are published in full below.

ARTICLE I. OFFICERS

Section 1. There shall be a President, three Vice Presidents, a Secretary, four Associate Secretaries, a Treasurer, and a Librarian.

Section 2. It shall be a duty of the President to deliver an address before the Society at the close of his term of office or within one year thereafter.

Section 3. The Librarian shall have charge of arrangements for the exchange of the Society's publications.

ARTICLE II. BOARD OF TRUSTEES

Section 1. There shall be a Board of Trustees consisting of five trustees elected by the Society, in accordance with Article V.

Section 2. The function of the Board of Trustees shall be to receive and administer the funds of the Society, to have full legal control of its investments and properties, to make contracts and, in general, to conduct all business affairs of the Society.

Section 3. The Board of Trustees shall have the power to appoint a manager and such assistants and agents as may be necessary or convenient to facilitate the conduct of the affairs of the Society, and to fix the terms and conditions of their employment. The Board may delegate to the officers of the Society duties and powers normally inhering in their respective corporate offices, subject to supervision by the Board. The Board of Trustees may appoint committees to facilitate the conduct of the business of the Society and delegate to such committees such powers as may be necessary or convenient for the proper exercise of those powers. Agents appointed, or members

of committees designated, by the Board of Trustees need not be members of the Board.

Nothing herein contained shall be construed to empower the Board of Trustees to divest itself of responsibility for, or legal control of, the investments, properties and contracts of the Society.

ARTICLE III. EDITORIAL COMMITTEES

Section 1. There shall be five Editorial Committees—one of four members for the *Bulletin*, one of three members for the *Transactions*, one of three members for the *Mathematical Reviews*, one of three members for the *Colloquium Publications*, and one consisting of three representatives of the Society on the Board of Editors of the *American Journal of Mathematics*.

ARTICLE IV. COUNCIL

Section 1. The Council shall consist of fifteen members at large, and the following *ex officio* members: the officers of the Society specified in Article I, the members of the Editorial Committees, ex-secretaries who have served as secretaries for ten years or more, and ex-presidents for a period of six years after the completion of their respective presidential terms.

Section 2. The Council shall formulate and administer the scientific policies of the Society and shall act in an advisory capacity to the Board of Trustees.

Section 3. All members of the Council shall be entitled to be present at any meeting of the Council and to take part in the discussion at that meeting.

Section 4. In the absence of the Secretary from any meeting of the Council, one of the Associate Secretaries present may be designated as Acting Secretary for the meeting, either by written authorization of the Secretary, or, failing that, by majority agreement among the Associate Secretaries present.

Section 5. The voting members at any meeting of the Council shall be the following: the members at large of the Council; the President; the Vice Presidents; the Secretary; the Acting Secretary for the meeting, if one is designated in the absence of the Secretary; the Treasurer; and a member of each Editorial Committee chosen annually by the committee, provided that if such voting member is absent at any meeting of the Council an alternate designated by him from among the membership of the committee shall have the power to vote.

Section 6. The method for settling matters before the Council at any meeting shall be by majority vote of the voting members present. If the result of such a vote is challenged at the time by any member of the Council, it shall be the duty of the Secretary—or of the Acting Secretary for the meeting—or of a member present who shall be designated by the Council for that purpose—to prepare a list of the voting members present, on the basis of which the presiding officer shall determine the true vote by a roll call.

Section 7. A quorum for the transaction of business at any meeting of the Council shall consist of five voting members as defined in Section 5 of this Article.

Section 8. Between meetings of the Council, business may be transacted by a mail vote. Voting members for this purpose shall be the members at large of the Council, the President, the Vice Presidents, the Secretary, the Treasurer, and the voting member of each Editorial Committee as designated in Section 5. An affirmative vote on any proposal by mail shall require at least a majority of the voting members, and at least three-quarters of the total number of votes transmitted to the Secretary before the time announced for the closing of the polls. If two or more voting members request

postponement at the time of voting, action on the matter at issue shall be postponed until the next meeting of the Council, unless at the discretion of the Secretary the question is made the subject of a second vote by mail, in connection with which brief statements of reasons, for and against, are circulated.

ARTICLE V. ELECTIONS AND TERMS OF OFFICERS

Section 1. The term of office shall be two years in the case of the trustees, the President, the Vice Presidents, the Secretary, the Associate Secretaries, and the Treasurer; three years in the case of the Librarian and the members of the Editorial Committees. The term of office for members at large of the Council shall be three years, five of the members at large retiring annually. In every case, however, the officials specified in Articles I, II, III, and IV shall continue to serve until their successors have been duly elected and qualified.

Section 2. The President and Vice Presidents shall not be eligible for immediate re-election to their respective offices. A member at large or an *ex officio* member of the Council shall not be eligible for immediate election (or re-election) as a member at large of the Council.

Section 3. Election of officers specified in Article I, trustees, members of Editorial Committees, and members at large of the Council shall be by ballot at the Annual Meeting. An official ballot shall be sent to each member by the Secretary at least one month before the Annual Meeting, and such ballots, if returned to the Secretary in envelopes bearing the name of the voter and received prior to the closing of the polls, shall be counted at the Annual Meeting. Each ballot shall contain one or more names proposed by the Council for each office to be filled, with blank spaces in which the voter may substitute other names. A plurality of all votes cast, whether cast in person or by mail, shall be necessary for election. In case of failure to secure a plurality for any office, the members present at the Annual Meeting shall choose by ballot between the two having the highest number of votes.

Section 4. If the President of the Society die or resign before the expiration of his term of office, the Council, may, with the approval of the trustees, designate one of the Vice Presidents to serve as President until the next Annual Meeting, when the Society shall elect a President for a two-year term. Such vacancies as may occur at any time in the group consisting of the Vice Presidents, the Secretary, the Associate Secretaries, the Treasurer, the Librarian, and the members of the Editorial Committees may be filled by the Council with the approval of the trustees.

Section 5. If any trustee die or resign during his tenure of office, the vacancy thus created shall be filled for his unexpired term by the Board of Trustees.

Section 6. If any member at large of the Council die or resign more than one year before the expiration of his term, the vacancy for the unexpired term shall be filled by the Society at the next Annual Meeting.

ARTICLE VI. ELECTION OF MEMBERS

Section 1. Election of members shall be by vote of the Council.

Section 2. There shall be four classes of members, ordinary, contributing, institutional contributing, and sustaining.

Section 3. A firm, corporation, institution, association or individual interested in the support of mathematics, may be elected to sustaining membership. A sustaining member shall receive the *Bulletin*, the *Transactions*, and *Mathematical Reviews* (see Article IX), and shall have the privilege of nominating one or more persons for election by the Council to ordinary membership in the Society, the number to be determined

by the Council. Such nominations shall not be acted upon until at least thirty days after their presentation to the Council (at a meeting or by mail).

Section 4. A firm, corporation, institution, or association interested in the support of mathematics may be elected to institutional contributing membership. An institutional contributing member shall receive the *Bulletin* or have the privilege, for each twenty-five dollars contributed, of nominating one person to ordinary membership in the Society. Such nominations shall not be acted upon until at least thirty days after their presentation to the Council (at a meeting or by mail).

Section 5. Except in the case of nominees of sustaining members and of institutional contributing members, application for admission to ordinary membership shall be made by the applicant, on a blank provided by the Secretary, and shall be approved by two members of the Society. Such applications shall not be acted upon until at least thirty days after their presentation to the Council (at a meeting or by mail), except in the case of members of other societies entering under special action of the Council.

Section 6. An ordinary member may become a contributing member by paying the dues for such membership. (See Article VII, Section 4.)

Section 7. An ordinary member or a contributing member shall receive the *Bulletin*, except in the case of members whose dues are remitted under Article VII, Section 10.

ARTICLE VII. DUES

Section 1. Persons elected to ordinary membership in the Society by the Council, under the provisions of Article VI, Section 5, shall be admitted to membership upon the payment, within sixty days of the date of their election, of an initiation fee of five dollars.

Section 2. The annual dues of persons elected by the Council to ordinary membership under the provisions of Article VI, Section 5, shall be eight dollars, with the following exceptions: (1) during the first three years of membership, the annual dues shall be six dollars; a person shall be considered to have completed his first year of membership on January 1 following his election; (2) the amount of dues may be altered by reciprocity agreements with other societies; (3) the Council may make special rulings in exceptional cases, with the approval of the Board of Trustees. Each new member shall pay in proportion to the unexpired fraction of the year at the time of his election.

Section 3. Four dollars and fifty cents of the annual dues of those members who receive the *Bulletin* under the provisions of Article VI shall be allocated in payment therefor.

Section 4. The minimum dues for a contributing member shall be fifteen dollars per year. Members may, upon their own initiative, pay larger dues.

Section 5. The dues for an institutional contributing member for any year shall not be less than twenty-five dollars. Institutions may pay larger dues.

Section 6. The dues of a sustaining member for any year shall not be less than one hundred dollars. A sustaining member who contributes annually at least five hundred dollars shall be designated as a Patron of the Society.

Section 7. Persons elected to ordinary membership as nominees of sustaining members or institutional contributing members under the provisions of Article VI, Sections 3-4, shall not be required to pay an initiation fee. They shall not be required to pay dues, so long as it is agreed that they are designated by the sustaining member or institutional contributing member under these provisions. If a nominee of a sustaining

member or an institutional contributing member later becomes a dues-paying member, he shall pay dues at the rate of six dollars a year for the remainder (if any) of his first three years of membership, and eight dollars a year thereafter.

Section 8. If the annual dues of any member remain unpaid beyond a reasonable time, the Board of Trustees shall remove his name from the list of members, after due notice.

Section 9. Any member not in arrears of dues may become a life member on the payment of a sum to be determined in accordance with actuarial principles. A life member shall have for life the status and privileges of an ordinary member, without further payment of dues.

Section 10. After retirement from active service on account of age, any member who is not in arrears of dues and with membership extending over at least twenty years may—by giving proper notification to the Secretary—have his dues remitted, on the understanding that he will thereafter receive the programs of the meetings, but not the *Bulletin*.

ARTICLE VIII. MEETINGS

Section 1. The Annual Meeting of the Society shall be held between the fifteenth of December and the fifteenth of January next following. Notice of the time and place of this meeting shall be mailed by the Secretary or an Associate Secretary to the last known post office address of each member of the Society. The times and places of the Annual and other meetings of the Society shall be designated by the Council. No matter of general business shall be considered at any meeting of the Society except the Annual Meeting, without the recommendation of the Council.

Section 2. The President may call a meeting of the Council whenever the affairs of the Society make it desirable; he shall call a meeting of the Council on written request of five of its members.

Section 3. The Board of Trustees shall have its regular Annual Meeting on the first day of the Annual Meeting of the Society. Special meetings of the Board of Trustees may be called by the Chairman of the Board upon three days' notice of such meeting mailed to the last known post office address of each trustee. He shall call a meeting upon the receipt of a written request of two of the trustees. Meetings for the transaction of business may also be held by common consent of all the trustees.

Section 4. Papers intended for presentation at any meeting of the Society shall be passed upon in advance by a program committee appointed by or under the authority of the Council; and only such papers shall be presented as shall have been approved by such committee. Papers in form unsuitable for publication, if accepted for presentation, shall be referred to on the program as preliminary communications or reports.

ARTICLE IX. PUBLICATIONS

Section 1. The Society shall publish an official organ called the *Bulletin of the American Mathematical Society*. It shall publish a journal called the *Transactions of the American Mathematical Society*, the object of which shall be to make known important researches presented at meetings of the Society. It shall publish a periodical called *Mathematical Reviews* containing abstracts or reviews of current mathematical literature. It shall publish a series of volumes called *Colloquium Publications* which shall embody in book form new mathematical developments. It shall also cooperate in the conduct of the *American Journal of Mathematics*.

Section 2. The editorial management of the *Bulletin*, *Transactions*, *Mathematical Reviews*, and *Colloquium Publications*, and the participation of the Society in the

management of the *American Journal of Mathematics* shall be in charge of the respective Editorial Committees as provided in Article III, Section 1.

ARTICLE X. AMENDMENTS

These By-Laws may be amended or suspended at any meeting of the Society on recommendation of the Council and by a two-thirds vote of the members present, provided notice of such proposed action and of its general nature shall have been given in the call for such meeting.

Following the business meeting Professor H. F. Bohnenblust gave an address entitled *Partially ordered linear spaces*. During the latter part of the afternoon there were two sessions, one for Geometry, Professor Virgil Snyder presiding, and one for Algebra and Analysis at which Professor E. L. Post presided.

Titles and cross references to the abstracts of papers 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 9 were read before the section for Analysis; those numbered 10 to 18 before the section for Algebra, Topology, and Statistics; those numbered 19 to 22 in the section for Geometry; those numbered 23 to 27 in the section for Algebra and Analysis; papers numbered 28 to 54 were read by title. Paper 21 was read by Professor Kasner. Dr. Bers was introduced by Dr. Abe Gelbart, Dr. Weinstein by Dr. H. E. Robbins, Dr. Snapper by Professor J. H. M. Wedderburn, Mr. Rosenbloom by Professor J. R. Kline, Dr. Bergman by Dr. D. C. Spencer, Dr. Kober by Professor Einar Hille, and Dr. Wundheiler by Professor D. J. Struik.

1. R. P. Boas: *A note on functions of exponential type*. (Abstract 47-3-129.)
2. P. R. Halmos: *On the decomposition of measures*. (Abstract 47-3-133.)
3. Abe Gelbart: *On the behavior of a function of two complex variables in the neighborhood of an isolated essential singularity*. (Abstract 47-3-131.)
4. I. J. Schoenberg: *On absolutely convex functions*. (Abstract 47-5-245.)
5. George Polya: *On converse gap theorems*. (Abstract 47-3-139.)
6. Dorothy Maharam: *On measure in abstract sets*. (Abstract 47-3-136.)
7. Lipman Bers: *Analytic functions of two complex variables in domains bounded by two analytic hypersurfaces*. (Abstract 47-3-128.)
8. H. N. Laden: *On Kryloff-Stayermann interpolation*. (Abstract 47-3-135.)

9. Alexander Weinstein: *On the decomposition of a Hilbert space by its harmonic subspace.* (Abstract 47-5-252.)
10. Ernst Snapper: *Structure of linear sets.* (Abstract 47-3-124.)
11. P. C. Rosenbloom: *Post algebras: I. Postulates and general properties.* (Abstract 47-3-123.)
12. Hassler Whitney: *Geometric methods in combinatorial topology.* Preliminary report. (Abstract 47-3-180.)
13. Oystein Ore: *Transformation of sets.* (Abstract 47-3-122.)
14. Shizuo Kakutani: *A generalization of Brouwer's fixed-point theorem.* (Abstract 47-3-177.)
15. Archie Blake: *The exploratory determination of statistical distributions.* (Abstract 47-3-169.)
16. Abraham Wald: *On testing statistical hypotheses concerning several unknown parameters.* (Abstract 47-5-275.)
17. W. G. Madow: *The distribution of the general quadratic form in normally distributed random variables.* (Abstract 47-3-170.)
18. Jacob Wolfowitz: *Tests of statistical hypotheses where the distribution forms are unknown.* (Abstract 47-3-172.)
19. Aaron Fialkow: *The foundations of the conformal differential geometry of a subspace.* (Abstract 47-3-156.)
20. Peter Scherk: *On real closed curves of order $n+1$ in projective n -space.* II. Preliminary report. (Abstract 47-3-165.)
21. Edward Kasner and J. J. DeCicco: *Lineal element transformations which preserve isothermal families.* (Abstract 47-3-161.)
22. J. M. Feld: *The geometry of whirls and whirl-motions in space.* (Abstract 47-3-155.)
23. Howard Levi: *On the ideal theory and structure of differential polynomials.* (Abstract 47-3-120.)
24. Marshall Hall: *A problem in partitions.* (Abstract 47-3-118.)
25. Irving Kaplansky: *Maximal fields with valuations.* (Abstract 47-1-5.)
26. Stefan Bergman: *Numerical methods for conformal mapping of polygonal domains.* (Abstract 47-3-148.)
27. E. R. Kolchin: *On the basis theorem for differential systems.* Preliminary report. (Abstract 47-3-119.)
28. E. F. Beckenbach: *On almost subharmonic functions.* (Abstract 47-3-126-t.)
29. Stefan Bergman: *On a class of linear operators applicable to functions of a complex variable.* (Abstract 47-3-127-t.)
30. L. M. Blumenthal and G. E. Wahlin: *On the spherical surface of smallest radius enclosing a bounded subset of n -dimensional euclidean space.* (Abstract 47-3-150-t.)

31. A. H. Clifford and Saunders MacLane: *Factor sets of a group in its abstract unit group.* (Abstract 47-3-117-t.)
32. A. H. Clifford: *Semigroups admitting relative inverses.* (Abstract 47-3-116-t.)
33. J. J. DeCicco: *Isodeviate systems of geodesic series.* (Abstract 47-3-152-t.)
34. M. C. Foster: *Note on autopolar surfaces.* (Abstract 47-3-157-t.)
35. Paul Erdős and Joseph Lehner: *On the distribution of the number of summands in the partitions of a positive integer.* (Abstract 47-3-173-t.)
36. H. L. Garabedian: *Hausdorff methods of summation which include all of the Cesàro methods.* (Abstract 47-3-130-t.)
37. H. H. Goldstine: *The prolongment and representation of multilinear functionals.* (Abstract 47-3-132-t.)
38. F. B. Jones: *Monotonic collections of peripherally-separable connected domains.* (Abstract 47-3-176-t.)
39. Edward Kasner and J. J. DeCicco: *Conformal geometry of differential equations of first order.* (Abstract 47-3-158-t.)
40. Edward Kasner and J. J. DeCicco: *Conformal geometry of velocity systems.* (Abstract 47-3-159-t.)
41. H. Kober: *On a theorem of Schur and on fractional integrals of purely imaginary order.* (Abstract 47-5-228-t.)
42. Don Middleman: *Theory of ortho-family: A generalization of natural family.* (Abstract 47-3-163-t.)
43. Oystein Ore: *Theory of monomial groups.* (Abstract 47-3-121-t.)
44. H. A. Rademacher: *Ramanujan's identities under modular transformations.* (Abstract 47-3-175-t.)
45. Raphaël Salem: *On absolute convergence of trigonometrical series. I.* (Abstract 47-3-141-t.)
46. Raphaël Salem: *On absolute convergence of trigonometrical series. II.* (Abstract 47-3-142-t.)
47. Henry Scheffé: *An inverse problem in correlation theory.* (Abstract 47-3-171-t.)
48. J. A. Shohat: *On Bernoulli numbers and polynomials.* (Abstract 47-3-145-t.)
49. M. F. Smiley: *Betweenness in general lattices.* Preliminary report. (Abstract 47-5-201-t.)
50. I. J. Schoenberg: *On integral representations of completely monotone and related functions.* (Abstract 47-3-143-t.)
51. R. C. Stephens: *On abstract mappings.* (Abstract 47-3-179-t.)
52. Alvin Sugar: *Postulates for the calculus of binary relations in terms of a single operation.* (Abstract 47-3-168-t.)

53. G. T. Whyburn: *On mappings into the circle*. (Abstract 47-3-181-*t*.)

54. Alexander Wundheiler: *Abstract algebraic definition of an affine vector space*. Preliminary report. (Abstract 47-3-166-*t*.)

T. R. HOLLCROFT,
Associate Secretary