

THE ANNUAL MEETING OF THE SOCIETY

The forty-eighth Annual Meeting of the American Mathematical Society was held at Lehigh University, Bethlehem, Pennsylvania, from Monday, December 29 to Wednesday, December 31, 1941, in conjunction with meetings of the Mathematical Association of America, the Association for Symbolic Logic, and the National Council of Teachers of Mathematics.

There were two general and seven sectional sessions of the Society at which three addresses and seventy-nine research papers (forty-four in person) were given. All sessions were held in Packard Laboratory.

Arrangements for the meetings were made by a committee of which Dean Tomlinson Fort was chairman and Professors Everett Pitcher, G. E. Raynor, and W. M. Smith were the local members. Through the generosity of Lehigh University, rooms were available in the University dormitories.

The attendance was about three hundred fifty including the following two hundred fifty-six members of the Society:

C. R. Adams, R. B. Adams, R. P. Agnew, Leon Alaoglu, C. B. Allendoerfer, H. A. Arnold, H. P. Atkins, Frank Ayres, H. M. Bacon, N. H. Ball, I. A. Barnett, F. S. Beale, A. A. Bennett, Stefan Bergman, A. H. Black, W. A. Blankinship, Salomon Bochner, H. F. Bohnenblust, J. W. Bower, C. B. Boyer, J. W. Bradshaw, C. C. Bramble, R. W. Brink, H. W. Brinkmann, F. L. Brooks, R. H. Bruck, N. R. Bryan, S. S. Cairns, W. D. Cairns, P. A. Caris, M. E. Carlen, I. S. Carroll, W. F. Cheney, Claude Chevalley, D. E. Christie, Alonzo Church, Randolph Church, R. F. Clippinger, I. S. Cohen, L. W. Cohen, Nancy Cole, J. B. Coleman, Esther Comegys, R. H. Cook, Richard Courant, A. P. Cowgill, H. B. Curry, E. H. Cutler, D. R. Davis, J. E. Davis, L. J. Deck, F. F. Decker, C. H. Denbow, R. P. Dilworth, L. L. Dines, Jesse Douglas, T. L. Downs, Arnold Dresden, J. C. Durand, J. J. Eachus, Samuel Eilenberg, W. E. Ferguson, F. A. Ficken, N. J. Fine, W. W. Flexner, M. M. Flood, L. R. Ford, Tomlinson Fort, R. M. Foster, J. S. Frame, R. E. Gaskell, H. M. Gehman, H. P. Geiringer, F. J. Gerst, B. P. Gill, A. M. Gleason, J. S. Gold, Michael Goldberg, H. H. Goldstine, Cornelius Gouwens, H. S. Grant, C. H. Graves, L. J. Green, Lewis Greenwald, F. L. Griffin, Theodore Hailperin, D. W. Hall, P. R. Halmos, H. H. Hartzler, G. E. Hay, Alan Hazeltine, E. R. Hedrick, A. E. Heins, M. H. Heins, Edward Helly, Erik Hemmingsen, Coleman Herpel, J. G. Herriot, H. C. Hicks, E. H. C. Hildebrandt, D. L. Holl, T. R. Hollcroft, Witold Hurewicz, W. A. Hurwitz, E. D. Jenkins, Fritz John, Evan Johnson, H. A. Jordan, Mark Kac, G. K. Kalisch, William Karush, J. L. Kelley, A. J. Kempner, R. B. Kershner, S. C. Kleene, R. B. Kleinschmidt, J. R. Kline, P. A. Knedler, T. L. Koehler, H. L. Krall, W. C. Krathwohl, H. N. Laden, K. W. Lamson, O. E. Lancaster, R. E. Langer, V. V. Latshaw, Solomon Lefschetz, Joseph Lehner, Norman Levinson, F. W. Light, M. I. Logsdon, E. N. Lorenz, C. I. Lubin, R. R. R. Luckey, J. J. McCarthy, N. H. McCoy, J. C. C. McKinsey, E. J. McShane, C. C. MacDuffee, G. W. Mackey, Saunders MacLane, H. M. MacNeille, H. F. MacNeish, P. T. Maker, V. S. Mallory, W. T. Martin, A. E. Meder, H. L. Meyer, E. R. C.

Miles, F. H. Miller, H. C. Miller, Deane Montgomery, Richard Morris, Marston Morse, E. J. Moulton, F. D. Murnaghan, C. A. Nelson, C. O. Oakley, Oystein Ore, E. G. Olds, F. W. Owens, H. B. Owens, J. C. Oxtoby, S. T. Parker, B. C. Patterson, G. W. Patterson, E. K. Paxton, E. W. Pehrson, J. W. Peters, C. R. Phelps, H. B. Phillips, R. S. Phillips, Everett Pitcher, J. C. Polley, Willy Prager, G. B. Price, A. L. Putnam, H. A. Rademacher, Tibor Radó, G. Y. Rainich, J. F. Randolph, C. H. Rawlins, G. E. Raynor, Maxwell Reade, O. H. Rechar, Haim Reingold, Moses Richardson, R. G. D. Richardson, R. F. Rinehart, E. K. Ritter, M. S. Robertson, R. E. Root, J. T. Rorer, Barkley Rosser, S. G. Roth, Hans Samelson, S. T. Sanders, L. J. Savage, S. A. Schelkunoff, I. J. Schoenberg, Abraham Schwartz, C. H. W. Sedgewick, I. E. Segal, Abraham Seidenberg, R. W. Shephard, Seymour Sherman, C. A. Shook, M. E. Sinclair, C. H. Sisam, L. L. Smail, D. M. Smiley, M. F. Smiley, P. A. Smith, T. L. Smith, W. M. Smith, Virgil Snyder, I. S. Sokolnikoff, R. H. Sorgenfrey, V. E. Spencer, G. W. Starcher, E. P. Starke, C. N. Stokes, R. W. Stokes, R. R. Stoll, A. H. Stone, Alvin Sugar, J. L. Synge, Otto Szász, J. D. Tamarkin, Alfred Tarski, R. M. Thrall, J. I. Tracey, W. R. Transue, A. W. Tucker, J. W. Tukey, J. L. Vanderslice, Oswald Veblen, R. W. Wagner, T. C. G. Wagner, R. J. Walker, P. R. Wallace, Henry Wallman, J. L. Walsh, André Weil, Alexander Weinstein, B. A. Welch, M. E. Wells, G. W. Whitehead, A. L. Whiteman, E. A. Whitman, P. M. Whitman, Norbert Wiener, Audrey Wishard, W. D. Wray, Oscar Zariski.

The meetings of the Society opened Monday afternoon with two sections, Analysis and Algebra, at which Professor Tibor Radó and Dr. R. M. Thrall presided. Tuesday morning there were three sections, Analysis, Topology and Geometry, and Applied Mathematics, with Professors Norbert Wiener, L. W. Cohen, and L. R. Ford presiding.

Tuesday afternoon was devoted to a Symposium on Applied Mathematics, Professor F. D. Murnaghan presiding. Professor L. V. Bewley spoke on *The mathematical theory of traveling waves* and Professor I. S. Sokolnikoff on *Some new methods of solution of two-dimensional problems in elasticity*. The discussion leaders were Professors Alan Hazeltine, Ernst Weber, D. L. Holl, and J. L. Synge.

The annual business meeting and election of officers was held on Wednesday morning, President Marston Morse presiding. This was followed by the award of the Frank Nelson Cole Prize in the Theory of Numbers to Professor Claude Chevalley for his paper *La théorie du corps de classes*, published in *Annals of Mathematics*, (2), vol. 41 (1940), pp. 394–418. Professor Oscar Zariski then gave an address on *Normal varieties and birational correspondences*.

Wednesday afternoon there were two sections, Mathematical Logic, a joint session with the Association for Symbolic Logic, at which Professor A. A. Bennett presided; and Analysis and Algebra, at which Dr. Jesse Douglas presided.

Sessions of the Mathematical Association of America were held on Thursday morning and afternoon, those of the Association for Sym-

bolic Logic on Wednesday afternoon, and those of the National Council of Teachers of Mathematics on Wednesday and Thursday. There was a Pi Mu Epsilon luncheon on Thursday.

On Tuesday afternoon, the mathematicians and guests were entertained at a tea by the ladies of the Department of Mathematics of Lehigh University.

The attendance at the annual dinner held in the Hotel Bethlehem was two hundred sixty-two. The toastmaster, Professor W. H. Smith, introduced President C. C. Williams of Lehigh University who gave a brief address of welcome. This was followed by "In a Persian Garden" based on the Rubaiyat of Omar Khayyam sung by a quartet with piano accompaniment. Professor Virgil Snyder then read resolutions, prepared by a special committee appointed by the Council, in appreciation of the excellent services of Professor R. C. Archibald as Librarian of the Society for twenty-one years. These resolutions were adopted unanimously by a rising vote. They had been beautifully embossed on parchment for presentation to Professor Archibald. Professor J. R. Kline, Secretary of the Society, spoke of the work of the Society, its role in the present emergency and of plans for the future.

The program continued with a pleasing and well executed mathematical skit written by Dean Tomlinson Fort and presented by a cast of nineteen characters, revealing how Confusion has been dethroned by Mathematics. Following a cello solo by Professor K. W. Lamson, Professor I. S. Sokolnikoff presented resolutions expressing the appreciation of the mathematicians and guests to the President of Lehigh University, the members of the local committee and all who had assisted them for the excellent arrangements, pleasing entertainment, and cordial hospitality. At midnight, 1942 was welcomed with songs and New Year greetings.

Since the meeting, the local committee has reported that after all expenses of the meeting were paid, a small sum remained which was donated to the Red Cross.

At the meeting of the Board of Trustees at 6:00 P.M., December 29, 1941, in Lamberton Hall of Lehigh University, there was no quorum present. An adjourned meeting, therefore, was held on January 2, 1942, at 1:00 P.M. in the Faculty Club of Columbia University, New York City. There were two meetings of the Council, one being a joint session with the Board of Governors of the Mathematical Association of America. The joint session was held at 6:00 P.M. and the regular meeting of the Council at 8:20 P.M. on December 30, 1941 in Lamberton Hall.

At the joint meeting of the Council and Board of Governors, Presi-

dent Marston Morse presented the report of a subcommittee of the War Preparedness Committee (T. Y. Thomas, Chairman) which has been studying the problem of the Supply and Demand for Mathematicians in those institutions which confer the doctorate in mathematics. This study showed that in these institutions during the past year there has been a decrease of 23% in the number of graduate students and an increase of about 2% in the number of teachers of mathematics. It was reported also that there were indications of an increased demand for mathematical instruction of undergraduates. On the basis of this report, the Board of Governors and Council voted that steps should be taken with the proper authorities to have mathematicians employed as teachers in accredited colleges and universities and certain qualified graduate students recommended for individual occupational deferment.

The Secretary announced the election of the following thirty-nine persons to membership in the Society:

Mr. Gaynor Jefferson Adams, State Highway Department, Linden, Ala.;
Mr. Neal Russell Amundson, University of Minnesota;
Mr. Charles Cornelius Andersen, Jr., Chicago, Ill.;
Mr. Henry John Barten, Baltimore, Md.;
Mr. John Keppler Baumgart, Cumberland College, Williamsburg, Ky.;
Dr. Stefan Bergman, Brown University;
Mr. Robert George Blake, Hernando High School, Brooksville, Fla.;
Professor Harold E. Bowie, American International College, Springfield, Mass.;
Professor Mary L. Brady, College of Mount St. Vincent, New York, N. Y.;
Mr. Joseph Francis Brennan, Pacific Gas and Electric Company, San Francisco, Calif.;
Professor Myrtle Cyrena Brown, North Texas State Teachers College, Denton, Tex.;
Professor Irving Wingate Burr, Purdue University;
Mr. Edward Caleb Coker, Jr., Clemson College, Clemson, S.C.;
Mr. Douglas Richard Crosby, Royal Canadian Air Force, Rivers, Manitoba, Canada;
Dr. John A. Daum, Agricultural and Mechanical College of Texas;
Professor James E. Davis, Central Y.M.C.A. College, Chicago, Ill.;
Mr. James Riley Ellis, Booker T. Washington High School, Tulsa, Okla.;
Mr. Sidney Fernbach, Frankford Arsenal, Philadelphia, Pa.;
Mr. Marvin George Harrison, Curtiss Propeller, Caldwell, N.J.;
Mr. William R. Harvey, Bell Telephone Laboratories, New York, N.Y.;
Professor John Henry Hett, Manhattan College;
Mr. Franklin Ferguson Hopper, New York Public Library;
Mr. Walbert C. Kalinowski, St. John's University, Collegeville, Minn.;
Professor John Joseph McCarthy, St. John's University, Brooklyn, N.Y.;
Professor Russle Hindman MacCullough, Defiance College, Defiance, Ohio;
Mr. Joshua Matz, Yeshiva College, New York, N.Y.;
Dr. Harlan C. Miller, Winthrop College, Rock Hill, S.C.;
Mr. Hugh Jordan Miser, Ohio State University;

Professor Ernest Nagel, Department of Philosophy, Columbia University;
 Mr. George R. Rich, Tennessee Valley Authority, Knoxville, Tenn.;
 Sister Mary De Pazzi Rochford, Briar Cliff College, Sioux City, Iowa;
 Professor Paul Anthony Samuelson, Massachusetts Institute of Technology;
 Mr. Harry J. Sternberg, Stuyvesant High School, Brooklyn, N.Y.;
 Miss Helen Farnam Story, St. Petersburg Junior College, St. Petersburg, Fla.;
 Sister Mary Placide Thomas, Mt. Saint Agnes Junior College, Baltimore, Md.;
 Dr. Peter Thullen, Departamento Actuarial del Instituto N. de Previsiòn, Quito,
 Ecuador;
 Mr. Marvin Lewis Vest, West Virginia University;
 Mr. Thomas Charles Gordon Wagner, University of Maryland;
 Dr. Alexander Weinstein, University of Toronto.

It was reported that the following had been elected as nominees on the Institutional Memberships of the institutions indicated:

Brown University: Mr. Marshall Evans Munroe, Professor Willy Prager.
 Bryn Mawr College: Miss Josephine Margaret Mitchell.
 University of California at Los Angeles: Messrs. Paul Arnold Clement and Bill C. Moore.
 University of Chicago: Mr. Roy Dubisch, Miss Anne Louise Lewis, Mr. J. Ernest Wilkins, Jr.
 College of the City of New York: Mr. Harvey Cohn.
 Columbia University: Miss Louise Comer, Mr. Leonard Gillman, Professor Jacques Hadamard, Messrs. Meyer Karlin and Ernst Gabor Straus.
 Cornell University: Messrs. W. H. Durfee and R. R. R. Luckey.
 Duke University: Mr. Bruce Elwyn Meserve.
 Equitable Life Insurance Company of Iowa: Mr. Alton O. Groth.
 Harvard University: Messrs. Edwin Hewitt, E. N. Lorenz, and A. L. Putnam.
 University of Illinois: Mr. J. C. Bell, Miss Frances E. Ewing, Messrs. W. A. Ferguson, H. F. Gingerich, and N. M. Ginsberg, Miss Corinne Hattan, Mr. F. F. Helton, Misses Janie C. Lapsley and Naomi M. Livesay, Messrs. G. S. Mapes, E. B. Shanks, M. D. Springer, O. P. Staderman, and J. C. Stewart.
 Indiana University: Miss Barbara Howe.
 Institute for Advanced Study: Dr. Felix Adler, Professors Subrahmanyam Chandrasekhar and Kenneth Stewart Cole, Drs. Hans Samelson and Arthur Harold Stone.
 Iowa State College: Mr. Ralph H. Tripp.
 The State University of Iowa: Messrs. Louis Garfin and Edwin Halfar.
 The Johns Hopkins University: Messrs. Richard Bellman, Seymore Abraham Fenichel, and Leslie G. Peck.
 University of Kentucky: Mr. Paul W. Derthick.
 Lehigh University: Mr. John Alden Pond.
 Massachusetts Institute of Technology: Messrs. B. G. Farley, W. S. Loud, and O. G. Owens.
 University of Michigan: Messrs. Wade Ellis, Albert A. Grau, and Jack Irwin Northam.
 University of Minnesota: Messrs. William S. H. Crawford and William D. Munro.
 Northwestern University: Mr. Herbert J. Greenberg.
 University of Pennsylvania: Mr. Erik Hemmingsen.

Stanford University: Mr. Paul Charles Rosenbloom.

Swarthmore College: Professor André Weil.

Syracuse University: Mr. Robert C. Simpson, Jr.

University of Toronto: Mr. Wallace Charles Gordon Fraser.

University of Virginia: Messrs. Richard R. Bernard, William Aubrey Blankinship, and Mariano Garcia, Jr.

University of Washington: Mr. Arthur Henry Jerbert, Miss Dorothy Jeanne Morrow.

Wellesley College: Miss Alberta Schuettler.

Wesleyan University: Mr. Myron Edward White.

Yale University: Miss Martina Elizabeth Doyle, Mr. David McCray Merriell, Miss Mary Kent Peabody.

The following appointments by President Marston Morse were reported: as representative of the Society at the inauguration of Henry Elisha Allen as President of Keuka College (Keuka Park, N.Y.) on November 7, 1941, Professor W. B. Carver; as tellers for the election at the 1941 Annual Meeting, Professors E. R. Lorch and L. L. Smail; as new members of the Committees to Select Hour Speakers: for Annual and Summer Meetings, Professor M. H. Stone (committee now consists of Professors J. R. Kline, chairman, M. H. Ingraham, and M. H. Stone); for Eastern Sectional Meetings, Professor Salomon Bochner (committee now consists of Professors T. R. Hollcroft, chairman, C. R. Adams, and Salomon Bochner); for Western Sectional Meetings, Professor T. H. Hildebrandt (committee now consists of Professors W. L. Ayres, chairman, T. H. Hildebrandt, and W. J. Trjitzinsky); for Far Western Sectional Meetings, Professor G. C. Evans (committee now consists of Dean T. M. Putnam, chairman, Professors G. C. Evans, and T. Y. Thomas); as representative of the Society on the American Year Book for a period of three years, 1942–1944, Professor J. F. Ritt; as a new member of the Committee on Places of Meetings for a period of three years, 1942–1944, Professor P. R. Rider.

The Secretary reported that the ordinary membership in the Society is now 2,453, including 228 nominees of institutional members and 76 life members. There are also 87 institutional members. The total attendance of members at all meetings in 1941 was 1,574; the number of papers read was 474; the number of invited addresses was 38; the number of members attending at least one meeting was 949.

At the annual election which closed on December 31, and at which 492 votes were cast, the following officers were elected:

Vice Presidents, Professors C. C. MacDuffee and J. D. Tamarkin.

Associate Secretaries, Professors W. L. Ayres and M. H. Ingraham, Dean T. M. Putnam.

Librarian, Professor Arnold Dresden.

Members of the Editorial Committee of the Bulletin, Professor A. A. Albert, Dean Tomlinson Fort.

Member of the Editorial Committee of the Transactions, Professor Oscar Zariski.

Member of the Editorial Committee of the Colloquium Publications, Professor M. H. Stone.

Members of the Editorial Committee of Mathematical Reviews, Professors O. E. Neugebauer, J. D. Tamarkin, and Oswald Veblen.

Members-at-large of the Council, Professors G. A. Bliss, Nelson Dunford, W. T. Martin, Gabor Szegö, and S. S. Wilks.

The Council adopted the following resolutions concerning the work of Professor R. C. Archibald as Librarian of the Society:

The members of the American Mathematical Society take this opportunity to express their appreciation of the services of Raymond Clare Archibald on the occasion of his retirement from the post of its librarian.

During the twenty-one years in which he held this office he has greatly increased the size and usefulness of the library until it has become an important source of reference to all mathematicians. His conduct of this work has been marked by wholehearted devotion, extraordinary ability, and laudable economy.

The Society presents this memorial, attested by the signatures of its officers with assurances of the gratitude and affection of its members, with the hope that the Society may continue to receive the benefit of his advice and of his scholarly work for many years to come.

In an appendix to this report are excerpts from the Report of the Treasurer for the fiscal year 1941 as verified by the Auditors. A copy of the complete report will be sent, on request, to any member of the Society. The Board of Trustees adopted a budget for 1942 showing authorized expenditures of \$49,050. This includes an appropriation of \$1,000 for Mathematical Reviews from the Marion Reilly Fund.

The Librarian reported that the Library of the Society now contains 9,983 volumes of which 7,159 are bound volumes. Twenty-one years ago when Professor Archibald assumed the librarianship the corresponding numbers were 5,862 and 4,360. There are now over 150 periodicals on our exchange list corresponding to the earlier 123.

The American Journal of Mathematics, which is published jointly by The Johns Hopkins University and the Society, and to which the Society contributes an annual subvention of \$2,500, printed 888 pages during 1941.

It was reported that a temporary editorial board consisting of Professors J. L. Walsh (chairman), A. A. Albert, and F. D. Mur-naghan had been appointed in connection with the new series of books entitled *Mathematical Surveys*.

It was announced that copies of the recent report of Professor W. L. Hart (Chairman, Subcommittee on Education for Service) entitled *Mathematical Education for Defense* had been distributed in October to approximately 3,700 superintendents of schools throughout the country.

Times and places of meetings during 1942 were set as follows: Fall Far Western Meeting at the University of California at Los Angeles on November 28 and the 1942 Annual Meeting in New York City on December 28–30.

Certain invitations to give hour addresses were announced: Dr. R. P. Boas and Professor George Pólya for the April, 1942, meeting in New York City; Professor Salomon Bochner for the October, 1942, meeting in New York City.

Professor A. D. Michal was appointed Acting Associate Secretary for the far west during the period of Dean Putnam's illness.

Two books were accepted for publication in the Colloquium Series: *Algebraic Topology* by Professor Solomon Lefschetz and *Analytic Topology* by Professor G. T. Whyburn.

The Secretary announced that the Board of Trustees, upon recommendation of the Council, had adopted temporary regulations concerning the dues of those who are serving as enlisted men in the armed forces of the United States or Canada. The following provisions are included: (1) enlisted men who were members in good standing at the time of their induction may have their dues fixed at \$1.00 per year during the period of their enlistment; (2) if they were subscribers to the Transactions or Mathematical Reviews at the time of their induction, they may continue to subscribe at the rate of \$1.00 per year for the Transactions and \$1.00 per year for Mathematical Reviews during the period of their enlistment. It is hoped that these men may thus be enabled to continue their contacts with mathematics while in the service. Full details of these regulations were mailed to members of the Society on January 1.

The Secretary announced that February 15 had been set as the final date for the receipt of orders for microfilm reading machines in connection with three-year subscriptions to Mathematical Reviews.

The Executive Committee of Mathematical Reviews reported that the subscription list of that journal, as of December 1, 1941, was 1,400.

Dean G. D. Birkhoff was elected Chairman of the Emergency Committee for the International Congress of Mathematicians, to replace Professor W. C. Graustein, deceased. It was announced that the Rockefeller Foundation had extended its appropriation for the International Congress to December 31, 1946..

President Marston Morse appointed as the Committee on Nomination of Officers and Members of the Council for 1943, Professors F. D. Murnaghan (chairman), A. A. Albert, H. A. Rademacher, W. M. Whyburn, and R. L. Wilder.

Titles and cross references to the abstracts of papers read at the regular sessions follow below. The papers were read as follows: Papers 1–5 in the section for Analysis on Monday afternoon; papers 6–12 in the section for Algebra on Monday afternoon; papers 13–18 in the section for Analysis on Tuesday morning; papers 19–25 in the section for Topology and Geometry on Tuesday morning; papers 26–33 in the section for Applied Mathematics on Tuesday morning; papers 34–39 in the section for Mathematical Logic on Wednesday afternoon; papers 40–44 in the section for Analysis and Algebra on Wednesday afternoon; and papers 45–79, whose abstract numbers are followed by the letter *t*, were read by title. Dr. Mickle was introduced by Professor Tibor Radó, Dr. Bergman by Professor T. R. Hollcroft, Dr. Miller by Professor R. L. Moore, Dr. Theilheimer by Professor R. E. von Mises, Professor Prager by Dean R. G. D. Richardson, Dr. Weinstein by Professor J. L. Synge. Paper 3 was presented by Professor W. T. Martin, paper 4 by Dr. G. E. Reves, paper 7 by Professor Smiley, paper 8 by Dr. Dilworth, paper 11 by Professor Barnett, paper 12 by Professor MacLane, paper 18 by Dr. Reade, paper 21 by Professor Weil, paper 41 by Professor MacLane, paper 43 by Dr. Phillips, and paper 44 by Dr. Thrall.

1. E. J. Mickle: *Associated double integral variation problems*. (Abstract 48-1-44.)

2. P. T. Maker: *The Cauchy theorem for functions on closed sets*. (Abstracts 48-1-43.)

3. Salomon Bochner and W. T. Martin: *A class of removable singularities in several complex variables*. (Abstract 48-1-32.)

4. G. E. Reves and Otto Szász: *Some theorems on double trigonometric series*. (Abstract 48-1-53.)

5. Stefan Bergman: *On operators in the theory of partial differential equations and their application*. (Abstract 48-1-31.)

6. R. H. Bruck: *Isotopy of algebras with a principal unit*. (Abstract 48-1-8.)

7. M. F. Smiley and W. R. Transue: *Metric lattices as singular metric spaces* (Abstract 48-1-20.)

8. Marshall Hall and R. P. Dilworth: *The imbedding problem for modular lattices*. (Abstract 48-1-12.)

9. C. C. MacDuffee: *On the composition of algebraic forms*. (Abstract 48-1-15.)

10. Tomlinson Fort: *Generalizations of the Bernoulli polynomials and numbers and corresponding summation formulas.* (Abstract 47-11-456.)
11. I. A. Barnett and C. W. Mendel: *A property of the traces of a square matrix.* (Abstract 48-1-5.)
12. Saunders MacLane and O. F. G. Schilling: *Groups of algebras over an algebraic number field.* (Abstract 48-1-16.)
13. R. B. Kershner: *The continuity of functions of many variables.* (Abstract 48-1-39.)
14. Mark Kac: *On convergence of certain series of functions.* (Abstract 48-1-38.)
15. W. R. Transue: *Contributions to the theory of subharmonic functions.* (Abstract 48-1-59.)
16. J. W. Bradshaw: *On a certain class of continued fractions.* (Abstract 48-1-33.)
17. Otto Szász: *On a theorem of Hardy and Littlewood.* (Abstract 48-1-56.)
18. E. F. Beckenbach and Maxwell Reade: *Mean-values and harmonic polynomials.* (Abstract 48-1-30.)
19. J. L. Vanderslice: *Invariant theory of vector pencil fields.* (Abstract 48-1-79.)
20. J. W. Peters: *The euclidean geometry of the n -dimensional simplex.* (Abstract 48-1-78.)
21. André Weil and C. B. Allendoerfer: *A general proof of the Gauss-Bonnet theorem.* (Abstract 48-1-80.)
22. W. W. Flexner: *Noncommutative chains. II.* Preliminary report. (Abstract 48-1-90.)
23. G. W. Whitehead: *Homotopy groups of spheres and their rotation groups.* (Abstract 48-1-101.)
24. Harlan C. Miller: *On irreducible continua.* (Abstract 48-1-95.)
25. J. L. Kelley: *Symmetric product spaces.* Preliminary report. (Abstract 48-3-139.)
26. P. M. Whitman: *Note on a certain representation of lattice elements.* Preliminary report. (Abstract 48-1-24.)
27. Feodor Theilheimer: *The potential of curvilinear distributions.* (Abstract 48-1-72.)
28. J. L. Synge: *On the theory of the airfoil of finite span.* (Abstract 48-1-71.)
29. A. E. Heins: *On the transformation theory of the solution of partial differential equations. II.* Preliminary report. (Abstract 48-1-65.)
30. Willy Prager: *Fundamental theorems of a new mathematical theory of plasticity.* (Abstract 48-1-70.)

31. Alexander Weinstein: *On the flexural center and the center of twist.* (Abstract 48-1-74.)
32. R. E. Gaskell: *On longitudinal vibrations of a bar.* (Abstract 48-1-64.)
33. Henry Wallman: *On the reduction in harmonic distortion due to high frequency pre-emphasis.* Preliminary report. (Abstract 48-3-123.)
34. Alonzo Church: *On sense and denotation.* (Abstract 48-1-83.)
35. S. C. Kleene: *On the interpretation of intuitionistic number theory.* (Abstract 48-1-85.)
36. G. D. W. Berry: *On formalizing semantics.* (Abstract 48-1-82.)
37. Nelson Goodman: *Sequences.* (Abstract 48-1-84.)
38. Barkley Rosser: *The Burali-Forti paradox.* (Abstract 48-1-86.)
39. E. C. Berkeley: *Application of symbolic logic to punch card operations.* (Abstract 48-1-81-t.)
40. I. S. Cohen: *A generalization of Macauley's theorem on unmixed ideals.* (Abstract 48-1-9.)
41. Saunders MacLane and Samuel Eilenberg: *A theorem on group extensions.* (Abstract 48-1-94.)
42. G. Y. Rainich: *Factorization of polynomials, in a ring, with application to partial differential equations.* Preliminary report. (Abstract 48-1-51.)
43. Salomon Bochner and R. S. Phillips: *Absolutely convergent Fourier series in noncommutative normed rings.* (Abstract 48-1-6.)
44. R. M. Thrall and C. J. Nesbitt: *On the modular representations of the symmetric group.* (Abstract 48-1-21.)
45. Reinhold Baer: *Inverses and zero-divisors.* (Abstract 48-1-4-t.)
46. E. F. Beckenbach: *Painlevé's theorem and the analytic prolongation of a minimal surface.* (Abstract 48-1-29-t.)
47. R. H. Bruck: *Certain numerical invariants of polyadics.* (Abstract 48-1-7-t.)
48. Leonard Carlitz: *q -Bernoulli numbers and polynomials.* (Abstract 48-1-26-t.)
49. N. A. Court: *On the theory of the tetrahedron.* (Abstract 48-1-77-t.)
50. L. L. Dines: *On the mapping of n quadratic forms.* (Abstract 48-3-104-t.)
51. J. L. Doob: *Topics in the theory of Markoff chains.* (Abstract 48-1-34-t.)
52. H. J. Ettliger: *The theory of the Riesz integral.* (Abstract 48-1-35-t.)
53. Abe Gelbart: *On functions of two complex variables with bounded real parts.* (Abstract 48-1-36-t.)

54. D. W. Hall: *On a theorem of E. E. Betz.* (Abstract 48-1-91-t.)
55. F. B. Hildebrand: *Note on the integro-differential equation of a problem in the theory of plane stress.* (Abstract 48-1-66-t.)
56. F. B. Jones: *A certain non-metric Moore space.* (Abstract 48-3-138-t.)
57. Irving Kaplansky and O. F. G. Schilling: *Some remarks on relatively complete fields.* (Abstract 48-1-14-t.)
58. H. N. Laden: *An interpolation polynomial involving derivatives of a prescribed function.* (Abstract 48-1-40-t.)
59. Joseph Lehner: *The Ramanujan identities and congruences for powers of eleven.* Preliminary report. (Abstract 48-1-27-t.)
60. E. J. McShane: *On Perron integration.* (Abstract 48-1-41-t.)
61. E. J. McShane: *The derivative of the indefinite Lebesgue integral.* (Abstract 48-1-42-t.)
62. S. B. Myers: *An existence theorem for a self-adjoint system of second-order, linear, homogeneous differential equations.* (Abstract 48-1-46-t.)
63. N. M. Oboukhoff: *The historical development of total differential as the principal part of the increment of a function of several variables.* (Abstract 48-1-47-t.)
64. J. F. Paydon and H. S. Wall: *An extension of the Stieltjes continued fraction theory.* (Abstract 48-1-49-t.)
65. Samuel Perlis: *Normal bases of cyclic fields of prime-power degree.* (Abstract 48-1-18-t.)
66. Maxwell Reade: *Some remarks on subharmonic functions.* Preliminary report. (Abstract 48-1-52-t.)
67. W. H. Roever: *Geometric statement of a fundamental theorem for four-dimensional orthographic axonometry.* (Abstract 48-3-133-t.)
68. O. F. G. Schilling: *Normal extensions of relatively complete fields.* (Abstract 48-1-19-t.)
69. H. M. Schwartz: *On sequences of Stieltjes integrals.* (Abstract 48-1-55-t.)
70. A. R. Schweitzer: *On the genesis of the algebra of logic in the foundations of geometry.* (Abstract 48-1-87-t.)
71. M. F. Smiley: *Elementary similarity transformations and the rational canonical form of a matrix.* (Abstract 48-3-107-t.)
72. R. H. Sorgenfrey: *Some theorems on co-terminal arcs.* (Abstract 48-1-98-t.)
73. E. W. Titt: *A method for integrating the linear hyperbolic equation in three independent variables.* (Abstract 48-1-58-t.)
74. W. J. Trjitzinsky: *Analytic theory of parametric linear partial differential equations.* (Abstract 48-1-60-t.)

75. S. M. Ulam: *A geometrical approach to the theory of representations of topological groups*. Preliminary report. (Abstract 48-1-61-t.)
76. A. D. Wallace: *Chains and structure of continua*. (Abstract 48-3-140-t.)
77. T. L. Wade and R. H. Bruck: *The characteristic function of a $2p$ -tensor*. (Abstract 48-1-22-t.)
78. P. A. White: *R-regular convergence spaces*. (Abstract 48-1-100-t.)
79. L. R. Wilcox: *Extensions of semi-modular lattices*. III. (Abstract 48-1-25-t.)

T. R. HOLLCROFT,
Associate Secretary

APPENDIX

EXCERPTS FROM REPORT OF TREASURER¹

December 15, 1941

TO THE BOARD OF TRUSTEES OF THE
AMERICAN MATHEMATICAL SOCIETY
Gentlemen:

I have the honor to submit herewith the report of the Treasurer for the fiscal year ended November 30, 1941.

Surplus account shows a balance of \$9,048.08 as compared with \$6,966.39 at the beginning of the year. Two of the facts which contributed to this unanticipated increase may be mentioned here: (1) A considerable gain in the membership of the Society resulted in additional revenue from Initiation Fees and Dues; (2) Income from Investments exceeded the estimate by more than \$1,000.

The market value on November 29, 1941 of the securities in the Pool was \$7,613.09 less than book value. This is to be compared with the total amount, \$4,201.96, held in accounts Reserve for Investment Losses and Profit and Loss on Sale of Securities. The market value on November 29, 1941 of securities in General and Restricted Funds was \$963.00 less than book value. Profit on the sale of securities for General and Restricted Funds amounting to \$295.73 is being carried as a reserve against losses to these funds.

Income earned by General and Restricted Fund Investments during the year amounted to \$1,547.08. This represents a return of $1\frac{5}{8}\%$ on amounts in savings banks, and approximately 4% on securities. Investment Income earned by the Pool amounted to \$7,317.85, representing a return of approximately $4\frac{3}{4}\%$. Total Investment Income from all sources was thus \$8,864.93, corresponding to a yield of approximately $4\frac{3}{8}\%$. This income and yield may be compared with \$6,909.41 and approximately 4% for the fiscal year 1940.

The operating account for Mathematical Reviews continues to show receipts in excess of disbursements. However, this excess is due principally to advance subscriptions.

The Endowment Fund Principal, unchanged during the year, remains on the books at \$60,110.68, representing a depreciation of \$10,395.39 from a former value of \$70,506.07.

During the year final settlement of the Estate of Marion Reilly brought the Society an additional sum of \$6,738.78. A gift of \$1,000 from Dr. Robert Henderson was also received. As directed by the Trustees, the gifts have been added to the Principal Funds in the Pool.

Respectfully submitted,
BENNINGTON P. GILL, *Treasurer*

¹ The report of the Treasurer for fiscal 1940 will be published in September 1942 with the biennial list of members.

BALANCE SHEET

Assets

	November 30, 1941	December 1, 1940
GENERAL AND RESTRICTED FUND ASSETS:		
Cash	\$ 19,380.05	\$ 14,624.30
Investments	28,814.24	21,393.87
	<u>\$ 48,194.29</u>	<u>\$ 36,018.17</u>
ENDOWMENT AND OTHER NONEXPENDABLE FUND ASSETS:		
Cash	\$ 1,156.70	\$ 659.28
Investments	160,395.09	152,549.20
	<u>\$161,551.79</u>	<u>\$153,208.48</u>
TOTAL ASSETS	<u>\$209,746.08</u>	<u>\$189,226.65</u>

Liabilities

GENERAL FUNDS:		
Sinking Fund	\$ 420.09	\$ 290.80
Profit on Sales of Securities	295.73	
Surplus	9,048.08	6,966.39
	<u>\$ 9,763.90</u>	<u>\$ 7,257.19</u>
RESTRICTED FUNDS:		
Böcher Fund Income	\$ 597.13	\$ 540.96
Brown Fund Income	101.76	54.47
Cole Fund Income	659.39	560.41
Henderson Fund Income	21.63	
Moore Fund Income	1,583.06	1,483.73
Reilly Fund Income	2,650.05	2,280.84
Reilly Fund Principal	3,968.13	4,280.16
Bulletin Reprinting Fund	685.23	457.61
Transactions Reprinting Fund	103.63	103.63
Colloquium	5,187.14	4,718.95
Mathematical Reviews	16,924.45	8,426.11
Congress	5,943.44	5,853.67
War Preparedness	5.35	
	<u>\$ 38,430.39</u>	<u>\$ 28,760.98</u>
	<u>\$ 48,194.29</u>	<u>\$ 36,018.17</u>
ENDOWMENT AND OTHER NONEXPENDABLE FUNDS (POOL):		
Endowment Fund Principal	\$ 60,110.68	\$ 60,110.68
Böcher Fund Principal	1,188.00	1,188.00
Brown Fund Principal	1,000.00	1,000.00
Cole Fund Principal	2,093.13	2,093.13
Henderson Fund Principal	1,000.00	
Moore Fund Principal	2,100.62	2,100.62
Reilly Fund Principal	19,553.32	12,502.07
Life Membership Reserve	5,191.30	5,507.90
Life Subscription Reserve	112.78	114.09
Colloquium	5,000.00	5,000.00
Mathematical Reviews	60,000.00	60,000.00
Reserve for Investment Losses	2,728.24	1,926.26
Profit on Sales of Securities	1,473.72	1,665.73
	<u>\$161,551.79</u>	<u>153,208.48</u>
TOTAL LIABILITIES	<u>\$209,746.08</u>	<u>\$189,226.65</u>

SUMMARY STATEMENT OF INCOME AND EXPENDITURES
1940-1941

	1941		1940	
	<i>Receipts</i>	<i>Disburse- ments</i>	<i>Receipts</i>	<i>Disburse- ments</i>
GENERAL RECEIPTS				
Dues	\$14,970.19		\$14,380.96	
Dues—Contributing Memberships	1,040.00		1,114.92	
Dues—Institutional Memberships	6,468.31		6,705.00	
Initiation Fees	515.25		584.75	
Investment Income	4,147.27		3,191.46	
Miscellaneous	343.15		695.95	
GENERAL DISBURSEMENTS				
Secretaries		\$ 6,091.29		\$ 5,800.00
Treasurer		750.00		650.00
Officers Traveling		888.93		749.54
Library		824.50		629.82
Committee Expenses		101.04		211.24
Office Furniture and Fixtures		51.70		31.00
Gibbs Lecture				19.88
Emergency		277.29		287.86
Total	\$27,484.17	\$ 8,984.75	\$26,673.04	\$ 8,379.34
Excess of General Receipts	\$18,499.42		\$18,293.70	
PUBLICATION				
Bulletin	\$ 1,755.47	\$11,037.14	\$ 1,631.65	\$12,405.21
Bulletin Reprinting	227.62		145.85	
Transactions	4,816.11	8,968.10	5,411.24	8,521.05
Transactions Reprinting				116.80
Colloquium	3,437.74	2,969.55	3,121.11	2,727.54
Mathematical Reviews	21,467.56 ¹	12,969.22	20,302.06 ²	14,356.77
Semicentennial Publications	129.29		141.30	
American Journal		2,500.00		2,500.00
Total	\$31,833.79	\$38,444.01	\$30,753.22	\$40,627.37
Excess of Cost of Publication		\$ 6,610.22		\$ 9,874.15
MISCELLANEOUS				
Profit on Sales of Securities	\$ 103.72		\$ 1,578.49	
Adjustment for Depreciation of Value of In- vestments			87.24	\$24,804.97
Special Funds	9,526.51 ³	\$ 1,000.00	1,366.89	487.10
Total	\$ 9,630.23	\$ 1,000.00	\$ 3,032.62	\$25,292.07
Difference	\$ 8,630.23			\$22,259.45
Net change in assets	\$20,519.43			\$13,839.90
ASSETS BEGINNING OF YEAR	\$189,226.65		\$203,066.55	
ASSETS END OF YEAR	\$209,746.08		\$189,226.65	

¹ Includes \$6,809.57 receipts for subscriptions for 1942-1944 and \$1,000 appropriation from Reilly Fund Income.

² Exclusive of \$1,000 appropriation from Surplus.

³ Includes \$7,738.78 principal of gifts.