II

THE SOCIETY, 1921–1938

The question of the incorporation of the Society was considered at various times, in order that the Society might secure a more substantial legal status as a protection to its property already on hand, and especially with a view to attracting gifts and bequests. The first reference to incorporation in the records of the Society is in the minutes of the Council for Dec. 1892 when Prof. Van Amringe and Dr. Fiske were appointed a committee "to consider changes in the number of the Council, and the subject of incorporation." The next references to incorporation appear in the minutes for 1917, 1919, and 1920, when incorporation in New York seemed desirable, but nothing definitive developed from the discussion and investigation. At the meeting of the Council in Feb. 1921 Profs. H. W. Tyler, W. F. Osgood and D. E. Smith were appointed a committee with instructions to incorporate the Society, and to procure a national charter if that were feasible. An attempt to obtain a national charter was fruitless. But incorporation was finally effected under the code of the District of Columbia. A copy of the certificate is as follows:—

CERTIFICATE OF INCORPORATION
OF THE
AMERICAN MATHEMATICAL SOCIETY

This is to certify that the undersigned persons, all of whom are citizens of the United States and of full age, and a majority of whom are citizens of the District of Columbia, do hereby associate themselves into a corporation pursuant to, and in conformity with, the provisions of subchapter III of "An Act to Establish a Code of Law for the District of Columbia" approved March 3, 1901, and of the several Acts amendatory thereof, and for these purposes do make, sign and acknowledge this certificate of incorporation.

I. The name or title by which this Society shall be known in law is the AMERICAN MATHEMATICAL SOCIETY.

II. The term for which it is organized shall be perpetual.

III. The particular business and objects of the Society are the furtherance of the interests of mathematical scholarship and research.

In furtherance of and not in limitation of the general objects of the Society and the powers conferred by the laws of the District of Columbia, it is hereby expressly provided that the following persons shall be eligible for membership in this corporation, to wit: the members now forming the unincorporated association of the same name and such other persons as may from time to time be elected to membership under the by-laws to be hereafter enacted. The corporation hereby constituted shall have power to fill all vacancies created by death, resignation, or otherwise, to provide for the election of foreign, domestic, or honorary associate members, and the division of such members into classes, and to make all needed rules and regulations for the purpose of carrying out its proper corporate objects.

IV. The number of its trustees, directors or managers for the first year of this corporation's existence shall be thirty-one (31).

IN WITNESS WHEREOF we have made, signed, and acknowledged this certificate this third day of May, A.D. 1923.

HARRY W. TYLER
HOWARD L. HODGKINS
HARRY ENGLISH
OSCAR S. ADAMS
JOHN T. ERWIN

On 22 October 1923 this corporation met in the office of Dean Hodgkins in Washington, D. C., for the purpose of arranging all preliminaries necessary to a final transfer of authority to the corporation, at the October meeting of the Society. Prof. O. Veblen, the president of the Society, was present by invitation. A set of By-Laws was adopted, the only essential change in earlier forms for the Society being the addition of a Board of Trustees to take charge of the financial affairs of the Society. As before, the Council was to have entire charge of scientific activities.

All members of the unincorporated body were elected to membership in the corporation. To fulfil the requirements of the Certificate of Incorporation, the following Board of Trustees was appointed by the incorporators, the list of thirty-one being made up with a view to ensuring the necessary quorum of a majority at the session on 27 October, and at the annual meeting for 1923: J. W. Alexander, R. C. Archibald, B. A. Bernstein, G. D. Birkhoff, E. W. Brown, F. N. Cole, L. P. Eisenhart, H. B. Fine, W. B. Fite, T. C. Fry, H. E. Hawkes, R. Henderson, H. L. Hodgkins, E. V. Huntington, S. A. Joffe, O. D. Kellogg, E. H. Moore, W. F. Osgood, Anna J. Pell, M. I. Pupin, R. G. D. Richardson, J. F. Ritt, L. P. Siceloff, Clara E. Smith, D. E. Smith, W. M. Strong, H. W. Tyler, O. Veblen, H. S. White, J. K. Whittemore, J. W. Young. The incorporators authorized the Trustees to take over the assets of the unincorporated body and to assume its liabilities. At the meeting of the Trustees on 27 October 1923, 28 members were present. President Veblen was elected chm. of the Board and R. G. D. Richardson secy. An executive comm. consisting of O. Veblen, H. E. Hawkes, R. Henderson, R. G. D. Richardson and H. W. Tyler was appointed. The By-Laws of the incorporated body specified that after 3 May 1924, the Board of Trustees shall consist of five members. For the By-Laws approved on 27 Oct. 1923 and in Dec. 1924 see AMS *List of Officers and Members*, Dec. 1924. For fuller information about the Trustees, see chap. III. The sum of fifty dollars was "donated to aid in defraying the expenses of incorporation by a distinguished member of the Society who wished to remain unknown."

One of the happier developments of the World War for the Society was the establishment of its connection with the National Research Council. As a part of the national movement toward organization of research, the Council of the Society voted in Dec. 1916, to cooperate with the National Research Council, and to name representatives, if requested to do so. The National Research Council appointed Professor E. H. Moore

as chm. of a NRC comm. on mathematics. In this capacity, in Feb. 1917, he requested the Council of the Society to appoint advisers to assist him in the selection of his comm. It was, apparently, in association with this group of advisers that the scheme was evolved of three representatives from the AMS, and one from the MAA, in the Division of Physical Sciences of the NRC. The various nominees of the AMS to this Division have been as follows:

H. S. White 19–21	E. V. Huntington 23–26	E. R. Hedrick 31–34
L. E. Dickson 19–22	H. F. Blichfeldt Jan. 24–27	A. B. Coble 32–35
E. W. Brown July–Dec. 19	V. Snyder 26–29	R. G. D. Richardson 33–36
O. Veblen Jan. 20–July 23	G. C. Evans 27–30	H. C. M. Morse 34–37
E. B. Van Vleck 21–Dec. 23	J. L. Coolidge 28–31	J. H. Van Vleck 35–38
C. N. Haskins July 22–Apr. 23	J. Pierpont 29–32	T. C. Fry 36–38
L. P. Eisenhart May 23–28	D. R. Curtiss 30–33	S. Lefschetz 37–38

The National Research Council has been one of the most potent factors in the development of mathematics in America during the past seventeen years. As administrator of funds placed at its disposal, large amounts have been transferred to the Society, to assist in solving its difficult problems of publication. Details in this regard are to be found especially in chap. III.; see also chaps. V, VI. But the NRC established also the National Research Council Fellowships in Mathematics by which 96 among the élite of the mathematical intellectuals of this country have been able to carry on further research under ideal conditions. The method, whereby the NRC now contributes to the Society towards the cost of publications of its fellows, is described in chap. III. But further, in April 1920 the Division of Physical Sciences appointed a comm. "to consider in detail the project for securing a revolving fund to assist in the publication of important scientific books, monographs and translations which are so unprofitable from a commercial standpoint as not to appeal to regular publishing houses." This resulted in a sum of $1500 being set aside as a "Revolving Fund for publication of Mathematical Books." O. Veblen was chairman of the comm. on this Fund in 1921–22; G. D. Birkhoff, 1922–36; S. Lefschetz 1936– . The books published by means of this Fund include the following: L. P. Eisenhart, *Transformation of Surfaces*, Princeton, 1923; H. S. White, *Plane Curves of the Third Order*, Cambridge, Mass., 1925; P. M. Batchelder, *An Introduction to Linear Equations*, Cambridge, Mass., 1927; G. A. Bliss, *Algebraic Functions* (AMS *Colloq. Publs.*, v. 16), 1933.

One of the post-war problems was the reestablishment of foreign memberships. At a meeting of the Council in Apr. 1921, recommendations of a comm. (P. F. Smith, chm.) on conserving the interests of the Society in foreign countries, were adopted. These included the following: that for 1921, foreign members now in good standing be credited with payment of dues on the basis, (a) British Empire $5 (with certain privileges for members of the London Mathematical Society); (b) France, Italy, Germany,

Greece $3; members from other countries to be put in one of these two classes, as determined by the treasurer, or charged full rates.

A reciprocity agreement with the London Mathematical Society (LMS) was then evolved in 1922 and, roughly, it provided that annual dues for: (1) the AMS would be half of the regular rates for members of the LMS not residing in the United States and Canada; (2) the LMS would be half of the regular rates for members of the AMS not residing in Great Britain. In Sept. 1923 this agreement was extended to allow life members in the LMS to commute their annual dues by the payment of the proportional part of the life membership fee of the AMS. A similar general agreement with the Unione Matematica Italiana was authorized by the Trustees in May 1931; see AMS *Bull.*, v. 37, 1931, p. 661.

At a meeting of the Trustees in Oct. 1931 a reciprocity agreement with the Deutsche Mathematiker-Vereinigung was ratified. The arrangement affected people living in the United States and Canada on the one side and those living in Germany, Austria, and Danzig on the other. According to this agreement the members of the DMV residing in German countries will pay full initiation fee and one-half the annual dues ($4); or if they take the *Transactions* instead of the *Bulletin*, they will pay $6, and for both will pay $9. Members of the AMS residing in the United States and Canada, will pay 5 marks for ordinary membership as at present, but will pay 12 marks, approximately one-half the dues, for membership which includes the *Jahresbericht*. A similar agreement with the Greek Mathematical Society was approved in 1932.

At the meeting of the Trustees of the Society in Jan. 1937 the following revised rates were enacted for individuals in foreign countries under the reciprocity agreements: Dues for members of the LMS, the DMV, and the Unione Matematica Italiana, (a) receiving the *Bulletin* and programs $4; (b) receiving the *Transactions* and programs $8; (c) receiving the *Bulletin*, *Transactions*, and programs $11. At the present time in Great Britain and Ireland the Society has 31 members; in Germany and Austria, 6; in Italy, 6. Under the reciprocity agreement with LMS there are nine members of the Society in Australia, India and New Zealand.

The Society's connection with various journals and publication plans may now be described.

The *Annals of Mathematics* was started under this name at the U. Virginia by Ormond Stone in 1884. From 1899–1911 it was published under the auspices of Harvard U. It was then taken over by Princeton U., and after a decade or so, the Council of the Society learned that Princeton would like to know whether some other Institution would be willing to take over the publication of the *Annals*. Later, however, grants from the National Research Council changed the situation somewhat, and beginning with 1925–26 the annual v. has been enlarged. Since 1933 the *Annals* has been published under the joint auspices of Princeton U. and The Institute

for Advanced Study, and has been one of the leading mathematical journals of the country.

In Dec. 1926 the editors of the *Annals* requested the Society to appoint for a period of three years, three associate editors on the editorial board of the *Annals*. The request was granted. So also with later requests. The various representives of the Society have been as follows:

D. C. Gillespie 27–29	H. Bateman 30–38
W. L. Hart 27–29	G. D. Birkhoff 30–38
R. E. Langer 27–29	J. F. Ritt 30–38

The establishment of a mathematical journal at Duke U. was largely due to the encouragement and cooperation of the AMS. As early as Sept. 1927 the Council reported to Duke U. the following declarations by a representative group of mathematicians: (a) That there exists an insistent need for an additional mathematical periodical devoted to mathematical research and of the standards and scope of those already established. (b) That, as a necessary prerequisite to its receiving important papers from leading authors, such a periodical should have an assured financial support sufficient to guarantee its permanent existence. (c) That Duke U. is in a strategic position to serve the cause of mathematics by embarking on such a project.

These declarations were reiterated at a meeting of the Council of the Society in Oct. 1931. It was further unanimously voted "that the Council would look with favor on the undertaking, it being convinced that such a periodical would form a desirable and important part of the scientific publication of the country. It was also unanimously agreed that, in the event of the founding of a journal by Duke U., the Society, in the development of its policy, should take into account this new accession to the ranks of publication and should consider it as an integral part of the broad development of mathematics in America."

In 1934 Duke U. decided to embark on the enterprise, and the first volume of the *Duke Mathematical Journal* was published in 1935. In response to the request of Duke U. that the Society appoint as its representatives two associate editors of the *Journal*, the Council named Profs. O. Ore and E. P. Lane for the period 1935–37; Profs. O. Ore and G. T. Whyburn were appointed for 1938–40.

After considerable discussion by the Council in 1929, a committee was appointed early in 1930 to investigate the need for a journal of applied mathematics. The committee consisted of the following seven members: P. L. Alger, T. Fort, C. L. Fortescue, T. C. Fry (chm.), S. Timoshenko, W. Weaver, and N. Wiener. At the meeting of the Council in Sept. 1930, Dr. Fry presented an elaborate report, after a comprehensive survey of the demand for such a journal and of the material for publication therein, and after consultation with a large number of representative men in universities, the professional societies, and the larger industrial organizations.

In brief, the committee recommended that a new "Journal of Applied Mathematics" be formed by reorganizing the existing MIT *Journal of Mathematics and Physics*, to be published under the auspices of the MIT, the AMS, the American Institute of Electrical Engineers, the American Society of Mechanical Engineers . . . ; a complete plan was set forth. The Council voted that the report of the committee be approved, and that the committee be instructed to carry on negotiations looking towards the inauguration of such a journal. But economic conditions in the country led to the withdrawal of the financial support which the committee had good reason to think would have been forthcoming from cooperating organizations. Hence the project had to be abandoned. The need for such a journal seems to be even greater today than it was eight years ago.

Immediately after the World War various suggestions were made, looking towards the preparation of aids to research in the English language. At a meeting of the AMS Council in Dec. 1919 the following resolutions presented by a Committee on Bibliography (E. W. Brown, E. V. Huntington, R. C. Archibald, chm.) were adopted:

I. The Council regards the preparation and publication in America of a dictionary of mathematical terms as not only most desirable but also entirely feasible, provided that financial aid for the preparation of the manuscript can be secured.

II. The Council records its conviction that there are undertakings whose active consideration would be highly desirable, if adequate financial assistance might be regarded as available. Among such undertakings are the preparation and publication of: (a) an Encyclopaedia of mathematics in English; (b) an annual critical survey, in English, of the mathematical literature of the world; (c) a biographical and bibliographical dictionary of mathematicians.

At its meeting in Apr. 1920 the Division of Physical Sciences of the NRC approved of the project for the publication of a journal of mathematical abstracts, and appointed a comm. to work out details and to take steps in consultation with the executive comm. of the Division, and the finance comm. of the Council, looking toward the securing of the necessary funds.

It now seems necessary to make more than passing mention of the political organization which attempted to control the international gatherings of mathematicians from 1920 up to 1932.

In the autumn of 1919, at a meeting of the International Research Council (IRC) at Brussels, statutes of an International Mathematical Union (IMU) were drawn up. They provided for the payment of dues by the governments of different countries, for the organization of Sections of the Union by national academies of the countries, for voting according to the population of each country, so that the United States, with more than twenty million inhabitants, had the maximum number of five votes. At Brussels a provisional Union was nominated and charged with circulat-

ing a draft of the statutes to mathematicians of different countries. The four secretaries of this provisional Union, representing Belgium, France, Roumania, and Italy, failed in their duty. Without consulting the United States or Great Britain, at least, they decided to hold at Strasbourg an International Congress of Mathematicians from which the central powers of Europe were excluded.

In 1920 an American Section of the IMU was organized by the Division of Physical Sciences of the NRC. The chairman of the Section was a member, ex-officio, of the Division of Foreign Relations of the NRC. The president and secy. of the AMS, its three representatives in the Division of Physical Sciences, and the representative of the Mathematical Association of America, were the permanent members, ex-officio, of the American Section. During the six months preceding a quadrennium meeting of the IMU and three months following it, the Section was temporarily enlarged by the addition of eleven members, four selected by the AMS, three by the MAA, one by the NAS, one by the Astron. So., one by the Physical So. and one by the AAAS. This plan had the approval of the Council of the Society in Apr. 1920.

Profs. L. E. Dickson and L. P. Eisenhart were the delegates from the American Section to the Congress at Strasbourg in Sept. 1920; Dickson was one of the six vice-presidents of the Congress. These delegates tendered an invitation for the Congress of 1924 to be held in the United States, without having consulted the AMS. By 1922 it was clear that financial backing was unobtainable in the United States, with the restrictions imposed by the IMU. Hence it was not a little fortunate that the Dominion of Canada, which (under the inspiration of J. C. Fields's enthusiasm) had done so much to promote research, should offer to arrange for an International Congress of Mathematicians in 1924. From the Congress held in Toronto the central European powers were again excluded from participation. The American Section[1] then made it clear that it would take no part in any future Congress where such exclusion occurred. The following announcement made by the delegates of the Section, received the endorsement of the delegations from Denmark, Great Britain, Holland, Italy, Norway and Sweden:

The American Section of the IMU has unanimously passed the following resolution and requests that it be transmitted to the IRC by the Executive Committee of the IMU:

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[1] The American Section at this time consisted of O. Veblen, P AMS; R. G. D. Richardson, secy. AMS; L. P. Eisenhart, E. V. Huntington, H. F. Blichfeldt, other representatives of AMS; H. L. Rietz from MAA; additional eleven members: A. B. Coble, A. Dresden, L. E. Dickson, V. Snyder from AMS; R. C. Archibald, E. H. Moore, J. W. Young from MAA; E. H. Moore from NAS; E. W. Brown from Amer. Astron. Soc.; L. Page from Amer. Phys. So.; G. A. Miller from AAAS. The Section elected as delegates to the meeting of the IMU in Toronto: Coble, Eisenhart, Huntington, Richardson, Rietz, Snyder. At this time Huntington was chm. and Rietz secy. of the Section.

Resolved that the American Section of the IMU requests the IRC to consider whether the time is ripe for the removal of the restrictions on membership now imposed by the rules of the Council.

The American Section also wishes to announce that it intends to present to the NRC of the United States resolutions requesting action in this direction.

The Council of the Society unanimously adopted the following resolution on 1 Jan. 1926: "Resolved that the Council of the American Mathematical Society hereby inform the National Research Council that the Society desires to have no official representation on the American Section of the International Mathematical Union after July 1, 1926, unless the International Research Council at its meeting in June amends its rules so that membership in the Union may be entirely international." All countries freely participated in the International Congress held at Bologna in 1928, mainly in spite of the IMU, which was thus partially wrecked. The officers of the IMU had refused to recognize the committee of organization, whereupon Professor S. Pincherle, the president of this committee, asked whether the AMS would be willing to participate in a Congress without the support of the IMU, explaining that if so, he would proceed with the organization. Such participation was guaranteed. At the Congress which occurred at Zürich in 1932 the IMU received so many wounds, most of them from vigorous opponents, but some self inflicted, that the death of the organization seemed near. This caused rather general rejoicing. No political taint marred the delights of the Congress at Oslo. The IMU swansong was faintly heard at the last session.

To the International Congress of Mathematicians at Oslo in 1936 the following delegates from the Society were appointed by the Council: G. D. Birkhoff, H. F. Blichfeldt, L. P. Eisenhart (chm.), S. Lefschetz, H. C. M. Morse, V. Snyder, O. Veblen, N. Wiener. Pledges totalling $15,000, towards the expenses of a possible International Congress of Mathematicians in America having been secured, the delegates of the Society to the Congress at Oslo were empowered "to issue an invitation to the Congress to convene in America in 1940, provided it appears . . . that no other nation has a prior right to hold this Congress." The invitation was presented, and accepted. Plans are well advanced for holding the Congress 4–12 Sept. 1940 in Cambridge, Mass., at Harvard U. and Mass. Institute of Technology. In addition to contributions from these institutions, generous subventions for the Congress have also been underwritten by the Carnegie Corporation, the Institute for Advanced Study, the National Research Council, and the Rockefeller Foundation.

Already in 1928 a Committee on the Semicentennial Celebration of the Society was appointed. The final memberships of this Committee and of the various sub-committees are as follows:

Committee on the Semicentennial Celebration: T. S. Fiske, chairman; R. C. Archibald, vice-chairman; T. C. Fry, executive secretary; W. L. Ayres, J. L. Coolidge, L. E. Dickson, E. R. Hedrick, T. R. Hollcroft, M. H. Ingraham, D. Jackson, J. R. Kline, S. Lefschetz, R. L. Moore, G. W. Mullins, J. Pierpont, T. M. Putnam, R. G. D. Richardson, V. Snyder, H. S. White.

Subcommittee on Program: R. C. Archibald, chairman; M. H. Ingraham, J. R. Kline.

Subcommittee on Invited Speakers: L. P. Eisenhart, chairman; G. D. Birkhoff, G. A. Bliss, A. B. Coble, E. R. Hedrick.

Subcommittee on Arrangements: W. B. Fite, chairman; R. L. Dietzold, B. P. Gill, E. R. Lorch, R. G. Putnam, Mina S. Rees, P. A. Smith.

Subcommittee on Publicity: A. E. Meder.

Subcommittee on Exhibits: D. E. Smith, chairman; Instruments and Models: Aaron Bakst, W. B. Fite, W. D. Reeve; Books and Manuscripts: Bertha M. Frick, D. E. Smith; History of the Society: R. C. Archibald, T. S. Fiske.

Subcommittee on Publication: V. Snyder, chairman; W. H. Bussey, A. Dresden, T. R. Hollcroft, Clara E. Smith.

The Society was indirectly involved in the celebration of a much earlier event. At the meeting of the Council in Mar. 1937 the secy. presented a request, from the U. S. Department of State, for advice with regard to the appointment of a delegate to the celebration of the three-hundredth anniversary of the publication of Descartes's *Discours de la Méthode*, to be held in connection with the Paris Exposition of 1937. The delegation consisted of G. D. Birkhoff (chm.), A. Dresden, and L. C. Karpinski.

Visiting Lecturers

On President Birkhoff's suggestion the Council approved (1926) of the plan for creating a Visiting Lectureship of the Society. The primary purpose of the plan was to make available every year lectures by a distinguished mathematician at the mathematical centers which are actively interested. The financial responsibility was to rest upon the colleges and universities concerned, and to be binding from year to year only. A committee consisting of G. D. Birkhoff (chm.), G. A. Bliss, E. R. Hedrick was appointed for nominating the lecturer to the Council, for the issuing of the invitation to the Visiting Lecturer after he has been appointed by the Council, and for the supervision of the general arrangements. The committee has remained unchanged to the present. There have been the following six Visiting Lecturers:

1927–28—C. Carathéodory, U. Munich
1928–29—H. Weyl, Technische Hochschule, Zürich
1929–30—E. Bompiani, U. Rome
1930–31—W. Blaschke, U. Hamburg
1931–32—R. L. Moore, U. Texas
1936–37—T. Vijayaraghavan, U. Dacca

Invited Addresses

The following list of addresses delivered before the AMS by invitation, from Apr. 1921–Apr. 1938, is suggestive of active mathematicians,

and of mathematical fields of interest in this country, during the period in question. Stars (*) have been placed before a few names of individuals invited to speak by other organizations holding joint sessions with the AMS.

W. A. Hurwitz, "Topics in theory of divergent series," New York, Apr. 1921.

J. Pierpont, "Some mathematical aspects of the theory of relativity," Wellesley, Sept. 1921.

A. C. Lunn, "The place of the Einstein theory in theoretical physics," Wellesley, Sept. 1921.

H. B. Phillips, "Symposium on quantum theory," Toronto, Dec. 1921.

R. D. Carmichael, "Algebraic guides to transcendental problems," Toronto, Dec. 1921.

J. L. Coolidge, "The basis of mathematical probability," New York, Feb. 1922.

C. A. Fischer, "Functions of lines," Rochester, Sept. 1922.

G. D. Birkhoff, "The logic of space and time," Cambridge, Dec. 1922.

R. L. Moore, "Continuous curves from the view-point of analysis situs," Lawrence, Kan., Dec. 1922. Southwestern Section.

S. Lefschetz, "Curves traced on algebraic surfaces," Chicago symposium, Apr. 1923.

L. J. Mordell, "An introductory account of the arithmetical theory of algebraic numbers and its recent development," Poughkeepsie, Sept. 1923.

Anna J. Pell, "Bilinear and quadratic forms in infinitely many variables," New York, Oct. 1923.

V. Snyder, "Problems connected with involutorial transformations in space," New York, Dec. 1923.

A. B. Coble, "On the equation of the eighth degree," Cincinnati, Dec. 1923.

L. E. Dickson, "Algebras and their arithmetics," Cincinnati, Dec. 1923.

H. Blumberg, "Properties of unrestricted functions," Columbia, Mo., Dec. 1923. Southwestern Section.

H. L. Rietz, "Certain topics in mathematical theory of statistics," Chicago symposium, Apr. 1924.

J. F. Ritt, "Rational substitutions," New York, May 1924.

W. H. Roever, "Some phases of descriptive geometry," Ames, Ia., Nov. 1924. Southwestern Section.

J. W. Alexander, "Problems in the topographical theory of manifolds," New York, Feb. 1925.

W. D. Macmillan, "Some mathematical aspects of cosmology," Chicago symposium, Apr. 1925.

J. R. Carson and T. H. Gronwall, "The Heaviside operational calculus and its applications to electric circuit theory," New York, May 1925.

D. E. Smith, "Material for the study of the history of mathematics," New York, Jan. 1926.

O. D. Kellogg, "The Dirichlet problem," New York, Jan. 1926.

A. Dresden, "Some recent work in the calculus of variations," Chicago symposium, Apr. 1926.

H. H. Mitchell, "Asymptotic laws in the theory of numbers," New York, May 1926.

E. W. Chittenden, "The metrization problem and related problems in the theory of abstract sets," Columbus, Sept. 1926.

E. T. Bell, "Successive generalizations in the theory of numbers," Columbus, Sept. 1926.

G. C. Evans, "A survey of discontinuous boundary value problems for Laplace's equation in two-dimensional series," Lincoln, Neb., Nov. 1926. Southwestern Section.

D. J. Struik, "The geometry of linear displacement," New York, Feb. 1927.

E. W. Chittenden, "Some phases of general topology," Chicago symposium, Apr. 1927.

J. R. Kline, "Separation theorems and their relation to recent developments in analysis situs," New York, May 1927.

F. D. Murnaghan, "Modern hydrodynamical theory with special reference to aeronautics," New York, Oct. 1927.

E. B. Stouffer, "Some canonical forms and associated canonical expansions in projective differential geometry," St. Louis, Mo., Nov. 1927. Southwestern Section.

J. Pierpont, "Mathematical rigor, past and present," Nashville, Dec. 1927.

A. Dresden, "Some philosophical aspects of mathematics," Nashville, Dec. 1927.

J. W. Alexander, "Three-dimensional manifolds; generalized Riemann surfaces and knots," New York, Apr. 1928.

H. C. M. Morse, "The critical points of functions and the calculus of variations in the large," New York, Apr. 1928.

S. Lefschetz, "Applications of analysis situs to algebraic surfaces, and the classification of curves and surfaces," New York, Apr. 1928.

E. W. Chittenden, "Abstract sets from the point of view of analysis situs," New York, Apr. 1928.

J. R. Kline, "The notion of curve and the problems that it presents," New York, Apr. 1928.

P. S. Alexandroff, "Application of analysis situs to the general theory of topological spaces," New York, Apr. 1928.

E. B. Stouffer and E. B. Lane, "Recent developments in projective differential geometry," Chicago symposium, Apr. 1928.

E. T. Bell, "The theory of algebraic numbers in the light of Kronecker's program," Berkeley, Oct. 1928.

A. J. Kempner, "The development of the analytical theory of numbers in the present century," Lawrence, Kan., Dec. 1928.

E. R. Hedrick, "Recent developments regarding non-analytic functions," Cincinnati, Nov. 1928.

A. Henderson, "Relativity: Survey and outlook," Cincinnati, Nov. 1928.

G. D. Birkhoff, "The mathematical basis of art," Cincinnati, Nov. 1928.

T. C. Fry, "The use of continued fractions in the design of electrical networks," Cincinnati, Nov. 1928.

J. Pierpont, "On the motion of a rigid body in a space of constant curvature," New York, Dec. 1928.

J. L. Coolidge, "The heroic age of geometry," New York, Dec. 1928.

*J. C. Slater, "Physical meaning of wave mechanics," New York, Dec. 1928.

*J. H. Van Vleck, "The statistical interpretation of various formulations of quantum mechanics," New York, Dec. 1928.

H. Weyl, "The problem of symmetry in quantum mechanics," New York, Dec. 1928.

N. Wiener, "Harmonic analysis and quantum mechanics," New York, Dec. 1928.

W. F. Osgood, "Maxime Bôcher," New York, Dec. 1928.

J. L. Walsh, "The approximation of harmonic functions by harmonic polynomials and by harmonic rational functions," New York, Feb. 1929.

G. H. Hardy, "Modern work in the theory of ordinary trigonometric series," New York, Mar. 1929.

H. Weyl, "Fourier series and almost periodic functions from the standpoint of the theory of groups," New York, Mar. 1929.

E. B. Van Vleck, "The location of roots of polynomials and entire functions," Chicago symposium, Mar. 1929.

J. Pierpont, "Non-euclidean geometry, a retrospect," Berkeley, June 1929.

T. Fort, "The general theory of factorial series," New York, Oct. 1929.

L. M. Graves, "Discontinuous solutions in the calculus of variations," Ann Arbor, Nov. 1929.

M. W. Haskell, "Autopolar configurations in the plane and in space," Berkeley, Nov. 1929.

H. W. March, "The problem of diffusion," Bethlehem, Pa., Dec. 1929.

*V. Bush, "Mechanical solution of differential equations," Bethlehem, Dec. 1929.

*A. Nadai, "Plasticity and related problems of non-rigid bodies," Bethlehem, Dec. 1929.

*R. H. Park, "Analytical determination of magnetic fields," Bethlehem, Dec. 1929.

*S. Timoshenko, "Problems in elasticity," Bethlehem, Dec. 1929.

O. D. Kellogg, "An unsolved problem in potential theory," Des Moines, Dec. 1929.

L. L. Dines, "Linear inequalities and some related properties of functions," Des Moines, Dec. 1929.

E. C. Molina, "The theory of probability; some comments on Laplace's *Théorie Analytique*," New York, Feb. 1930.

D. J. Struik, "Differential geometry in the large," New York, Apr. 1930.

W. C. Graustein, "Invariant methods in classical differential geometry," New York, Apr. 1930.

T. Y. Thomas, "Space structure as a boundary value problem," New York, Apr. 1930.

O. Veblen, "On the general concepts of differential geometry," New York, Apr. 1930.

H. Blumberg, "Methods in point sets and the theory of real functions," Chicago symposium, Apr. 1930.

T. H. Hildebrandt, "Linear functional transformations in general spaces," Providence, Sept. 1930.

J. D. Tamarkin, "Distribution of characteristic values of linear integral equations," Providence, Sept. 1930.

M. H. Stone, "Group representations in Hilbert space," New York, Oct. 1930.

H. F. Blichfeldt, "Geometry of numbers applied to a well-known problem in Diophantine approximation," Los Angeles, Nov. 1930.

H. Bohr, "The theory of Dirichlet series," Los Angeles, Nov. 1930.

C. N. Moore, "Types of series and types of summability," Columbia, Mo. Nov. 1930.

R. E. Langer, "Zeros of exponential sums and of certain related functions," Columbia, Nov. 1930.

G. D. Birkhoff, "Poincaré's last geometric theorem, its generalizations and dynamical applications," Cleveland, Dec. 1930.

O. Ore, "Recent developments in abstract algebra," Cleveland, Dec. 1930.

*K. Menger, "Axiomatic theory of dimension," Cleveland, Dec. 1930.

C. R. Adams, "Linear q-difference equations," New York, Feb. 1931.

G. Y. Rainich, "Some trends in mathematical physics," Chicago symposium, Apr. 1931.

J. A. Schouten, "A revision of the theory of curvature of V_m in V_n," New York, Apr. 1931.

H. Bohr, "On Dirichlet series and power series with infinitely many variables," New York, Apr. 1931.

W. F. Blichfeldt, "Linear groups," New York, Apr. 1931.

W. A. Manning, "The primitive permutation groups," New York, Apr. 1931.

W. Blaschke, "The Schreier theory of continuous groups," New York, Apr. 1931.

L. E. Dickson, "Proof of Waring's theorem on fifth powers," Chicago, Apr. 1931.

E. Landau, "Schnierelmann's theorem," Minneapolis, Sept. 1931.

C. C. MacDuffee, "Ideals in linear algebras," Minneapolis, Sept. 1931.

D. V. Widder, "Some recent developments in the theory of Laplace integrals," New York, Oct. 1931.

R. L. Moore, "A set of axioms for plane analysis situs," Pasadena, Nov. 1931.

H. M. Gehman, "Homeomorphic geometry," Columbus, Nov. 1931.

W. C. Graustein, "Parallelism of Levi-Civita in classical differential geometry," Columbus, Nov. 1931.

G. D. Birkhoff, "Stability and instability of physical systems," New Orleans, Dec. 1931.

*W. F. G. Swann, "The significance of the fundamental concepts of modern atomic theories," New Orleans, Dec. 1931.

*R. D. Carmichael, "Some researches in the theory of numbers," New Orleans, Dec. 1931.

W. A. Hurwitz, "General theorems on linear transformations of sequences," New York, Mar. 1932.

E. Hille, "Summation of Fourier series," New York, Mar. 1932.

R. Courant, "Functional methods and characteristic values in the calculus of probabilities," New York, Mar. 1932.

R. L. Wilder, "Point sets in three and higher dimensions, and their investigation by means of a uniform analysis situs," Chicago symposium, Apr. 1932.

E. P. Lane, "Surfaces and curvilinear congruences," Chicago, Apr. 1932.

D. N. Lehmer, "The continued fraction representing cubic and higher irrationalities," Los Angeles, Aug. 1932.

T. Radó, "Recent work in the problem of Plateau," Los Angeles, Aug. 1932.

J. Douglas, "The problem of Plateau," New York, Oct. 1932.

H. W. March, "Applications of the theory of elasticity to wood, a material of anisotropic structure," Ames, Ia., Nov. 1932.

E. B. Stouffer, "Some canonical forms and their associated geometries," Ames, Nov. 1932.

W. A. Shewhart, "Probability as a basis for action," Atlantic City and Princeton, Dec. 1932.

J. von Neumann, "Application of the operational calculus to mechanics," Atlantic City and Princeton, Dec. 1932.

F. R. Sharpe, "The algebraic theory of involutorial transformations," New York, Feb. 1933.

Pauline Sperry, "Ernest Julius Wilczynski," Stanford Univ., Mar. 1933.

C. C. MacDuffee, "Matrices with elements in a principal ideal ring," Chicago symposium, Apr. 1933.

O. Ore, "Abstract ideal theory and applications," New York, Apr. 1933.

J. V. Uspensky, "Application of number theory to some problems of integration of elementary functions," New York, Apr. 1933.

G. A. Bliss, "E. H. Moore—a biographical sketch," Chicago, Apr. 1933.

L. E. Dickson, "Professor Moore's work in theory of groups and algebra," Chicago, Apr. 1933.

O. Veblen, "Professor Moore's work on foundations," Chicago, Apr. 1933.

E. W. Chittenden, "The introduction to general analysis," Chicago, Apr. 1933.

T. H. Hildebrandt, "General analysis and integral equations," Chicago, Apr. 1933.

M. H. Ingraham, "The algebraic ground work for general analysis," Chicago, Apr. 1933.

R. W. Barnard, "The second general analysis theory of E. H. Moore," Chicago, Apr. 1933.

*T. Levi-Civita, "Some mathematical aspects of the new mechanics," Chicago, June 1933.

G. D. Birkhoff, "Quantum mechanics and asymptotic series," Chicago, June 1933.

*L. Fejér, "The infinite sequences arising in the theories of harmonic analysis, of interpolation, and of mechanical quadratures," Chicago, June 1933.

C. N. Moore, "On the Cesàro means in determining criteria for Fourier's constants," Chicago, June 1933.

D. Jackson, "Certain problems of closest approximation," Chicago, June 1933.

E. Bompiani, "Deformations of higher species of surfaces and manifolds," Chicago, June 1933.

W. C. Graustein, "Invariant methods in differential geometry," Chicago, June 1933.

T. Levi-Civita, "Nets on a surface and extension of trigonometry," Chicago, June 1933.

L. E. Dickson, "Recent progress in additive number theory," Chicago, June 1933.

T. F. Holgate, "Mathematical reminiscences of the World's Fair of 1893," Chicago, June 1933.

R. L. Jeffery, "Theories of integration," New York, Oct. 1933.

R. D. Carmichael, "Functions of exponential type," Cincinnati, Dec. 1933.

O. Veblen, "Spinor analysis," Cincinnati, Dec. 1933.

*O. Laporte, "Spinors and their significance in modern physics," Cincinnati, Dec. 1933.

E. Hopf, "Remarks on causality and probability," Cambridge, Mass., Dec. 1933.

F. Bernstein, "Foundations of probability in the natural sciences," Cambridge, Dec. 1933.

G. E. Uhlenbeck, "The probability of position in a canonical ensemble," Cambridge, Dec. 1933.

N. Wiener, "The Brownian motion," Cambridge, Dec. 1933.

G. Valiron, "Schwarz's lemma; its extensions and applications," Cambridge, Dec. 1933.

T. H. Hildebrandt, "On E. H. Moore's general analysis: the first theory," Cambridge, Dec. 1933.

R. W. Barnard, "On E. H. Moore's general analysis: the second theory," Cambridge, Dec. 1933.

M. H. Stone, "A comparative survey of modern theories of functional analysis," Cambridge, Dec. 1933.

*J. L. Coolidge, "The rise and fall of projective geometry," Cambridge, Dec. 1933.

O. Zariski, "Some new aspects of the theory of plane algebraic curves," New York, Mar. 1934.

A. A. Albert, "Riemann matrices," New York, Mar. 1934.

V. Snyder, "Some recent contributions to rational transformations," New York, Mar. 1934.

A. B. Coble, "Cremona Diophantine equations," New York, Mar. 1934.

R. E. Langer, "The asymptotic solutions of ordinary linear differential equations of the second order, with special reference to the Stokes' phenomenon," Chicago symposium, Apr. 1934.

E. B. Wilson, "Boole's challenge problem," Berkeley, June 1934.

H. Hotelling, "Individual demand functions with a limited budget," Berkeley, June 1934.

D. Jackson, "Mathematical principles in the theory of small samples," Berkeley, June 1934.

J. M. Thompson, "A mathematical theory of production stages in economics," Berkeley, June 1934.

J. A. Shohat, "On the expansion of functions in series of orthogonal polynomials," Williamstown, Sept. 1934.

E. Noether, "Modern hypercomplex theories," New York, Oct. 1934.

A. J. Kempner, "On complex roots of algebraic equations," Lincoln, Nov.-Dec. 1934.

G. A. Bliss, "The problem of Bolza in the calculus of variations," Lincoln, Nov.-Dec. 1934.

E. P. Wigner, "Symmetry relations in various physical problems," Pittsburgh, Dec. 1934.

J. H. Van Vleck, "Some applications of group theory to non-relativistic problems," Pittsburgh, Dec. 1934.

G. Breit, "Some applications of group theory to Dirac's relativistic theory," Pittsburgh, Dec. 1934.

M. Ward, "Arithmetic theory of linear recurring series," New York, Feb. 1935.

G. D. Birkhoff, "The present status of the restricted problem of 3 bodies," New York, Apr. 1935.

E. W. Brown, "Problems suggested by the general theories of planetary and satellite motions," New York, Apr. 1935.

A. Wintner, "Periodic lunar orbits and gaps of commensurability," New York, Apr. 1935.

L. M. Graves, "Topics in functional calculus," Chicago symposium, Apr. 1935.

G. Y. Rainich, "Remarks on product integrals and their applications to geometry," Ann Arbor, Sept. 1935.

G. T. Whyburn, "On the structure of continua," Ann Arbor, Sept. 1935.

J. L. Walsh, "Interpolation by rational functions," New York, Oct. 1935

C. G. Latimer, "The arithmetic of generalized quaternions," Lexington, Nov. 1935.

L. L. Dines, "Convex domains and linear inequalities," Lexington, Nov. 1935.

J. L. Synge, "Tensorial methods in dynamics," St. Louis, Dec. 1935–Jan. 1936.

G. Szégö, "Some recent investigations concerning sections of trigonometric and related series," St. Louis, Dec. 1935–Jan. 1936.

E. Hopf, "On some metrically transitive systems," New York, Feb. 1936.

B. H. Camp, "Methods of obtaining probability distributions," New York, Apr. 1936.

J. A. Shohat, "The characterization of a distribution function through its moments," New York, Apr. 1936.

S. S. Wilks, "The structure and sampling theory of certain generalized likelihood test criteria," New York, Apr. 1936.

H. Hotelling, "The method of maximum likelihood," New York, Apr. 1936. (Not delivered on account of illness.)

C. Kuratowski, "On a topological method of proving existential theorems," New York, Apr. 1936.

T. Radó, "Some geometrical applications of conformal mapping," Chicago symposium, Apr. 1936.

H. P. Robertson, "Geometry and physical space-time," Seattle, June 1936.

E. T. Bell, "Highlights of mathematical biography," Seattle, June 1936.

H. Hotelling, "Correlated vectors," Seattle, June 1936.

R. A. Fisher, "Uncertain inference," Cambridge, Aug. 1936.

G. H. Hardy, "The Indian mathematician, Ramanujan," Cambridge, Aug. 1936.

R. Carnap, "Truth in mathematics and logic," Cambridge, Sept. 1936.

É. J. Cartan, "L'extension du calcul tensoriel aux géométries non-affines," Cambridge, Sept. 1936.

L. E. Dickson, "Waring's problem and its generalizations," Cambridge, Sept. 1936.

G. H. Hardy, "The mathematical work of Ramanujan," Cambridge, Sept. 1936.

T. Levi-Civita, "The relativistic problem of several bodies," Cambridge, Sept. 1936.

T. Levi-Civita, "Astronomical consequences of the relativistic two-body problem," Cambridge, Sept. 1936.

A. S. Eddington, "The cosmical constant and the recession of the nebulae," Cambridge, Sept. 1936.

G. C. Evans, "Methods of modern analysis in potential theory," Cambridge, Sept. 1936.

P. Franklin, "Transcendental numbers," New York, Oct. 1936.

H. L. Rietz, "Some topics in sampling theory," Lawrence, Nov. 1936.

C. Carathéodory, "Bounded analytic functions," Lawrence, Nov. 1936.

L. R. Ford, "Fractions," Lawrence, Nov. 1936.

J. M. Thomas, "Differential systems," Durham and Chapel Hill, Dec. 1936.

T. R. Hollcroft, "The existence of algebraic plane curves with given singularities," New York, Feb. 1937.

J. D. Tamarkin, "Functions analytic in a half plane and Laplace transforms," New York, Mar. 1937.

E. Hille, "Summability of Laplace integrals," New York, Mar. 1937.

D. V. Widder, "The iterated Laplace transforms," New York, Mar. 1937.

W. T. Reid, "Boundary value problems in the calculus of variations," Chicago symposium, Apr. 1937.

H. Whitney, "Topological properties of differentiable manifolds," State College, Pa., Sept. 1937.

D. J. Struik, "The application of tensor analysis to problems of electrical engineering," New York, Oct. 1937.

A. Church, "The constructive second number class," Indianapolis, Dec. 1937.

P. A. Smith, "The topology of groups of transformations," New York, Feb. 1938.

C. G. Latimer, "The arithmetics of generalized quaternions," Chicago symposium, Apr. 1938.

G. Birkhoff, "Applications of lattice theory," Charlottesville, Va., Apr. 1938.

O. Ore, "Structures and algebraic applications," Charlottesville, Apr. 1938.

M. H. Stone, "Representations of Boolean algebras," Charlottesville, Apr. 1938.

A. D. Michal, "General differential geometries and related topics," Berkeley, Apr. 1938.

The period of this chapter was one of tremendous development in the Society. The membership was increased from 770 at the beginning of 1920 to 2127 at the end of 1937. Even though the *Journal of Mathematics and Physics* of the Massachusetts Institute of Technology was founded in 1921, though the *American Journal of Mathematics* was more than doubled in size after the Society acquired editorial control in 1927, and though the *Duke University Journal* was started in 1935, the demands on all possible space in the Society's publications have been constant, and two financial campaigns, described in detail in chapter III, were necessary, before stability could be achieved. Several special funds have been established and the assets of the Society, in the period, have been increased by $120,000. Solid achievements for advancing mathematical research have been very great.