

BULLETIN
OF THE
AMERICAN MATHEMATICAL SOCIETY

THE SEMICENTENNIAL CELEBRATION

SEPTEMBER 6-9, 1938*

The Golden Jubilee of the American Mathematical Society was celebrated at its birthplace, Columbia University, New York City, September 6-9, 1938. In its scientific features as well as in regard to other festivities, the Semicentennial Celebration stands unsurpassed among the meetings of the Society. From the time of the opening of the Celebration on Tuesday evening until the last lecture on Friday at noon, the Society's program proceeded on a very high level. Columbia University possesses admirable facilities for such gatherings and these were put at the disposal of the Society. Its hospitality on this, as on so many previous occasions, was genuine and gracious.

The attendance was large and representative geographically. The only other meeting of the Society which rivaled it in attendance was the Summer Meeting of 1936 held in connection with the Harvard Tercentenary. There were 418 members of the Society who registered and many other members were present. In all, including families, 600 persons registered, and there were probably 100 others who attended one or more sessions. In members registering from 39 states, New York State led with 133, Pennsylvania was second with 38, followed by Massachusetts with 34, New Jersey and Ohio each with 22, Wisconsin with 16. Regions were represented as follows:

New England	65	Pacific and Rocky Mountain	13
North Atlantic	204	Canada	16
Middle Western	78	Foreign	3
Southern	39		

It was interesting to note the array by age groups, there being a considerable number present who attended meetings in the earliest days, as well as numbers of those who joined the Society decade by

* Those phases of the gathering which pertain to a usual meeting of the Society have been recorded in the report by Associate Secretary Hollcroft in the November, 1938, issue of this Bulletin. The present report concerns the Semicentennial Celebration only.

decade, and down to the young instructor and graduate student. Of those members who registered, 7 joined the Society during the first decade of its life, 1888–97; 36 in the decade 1898–1907; 45 in the decade 1908–17; 117 in the decade 1918–27; and 213 in the last decade.

Secretary Ingraham has collected some interesting figures concerning attendance at meetings during the period since 1891, when attendance began to be recorded. Seven members of the Society are listed as each having attended one hundred meetings or more: T. S. Fiske, 164; E. R. Hedrick, 132; Edward Kasner, 118; R. G. D. Richardson, 118; H. S. White, 115; S. A. Joffe, 111; Oswald Veblen, 109. Fifty have attended fifty meetings or more, so that the average attendance of each of these is at least one meeting a year over the whole half-century.

The weather proved to be ideal and the arrangements which had been so carefully worked out in advance were carried out unobtrusively but with perfect precision and with due regard for the well-being of the visiting mathematicians.

A resolution of thanks to those who participated in the preparation for the meeting (given in Appendix L) was drawn up by Professors Tomlinson Fort and Richard Morris; it was enthusiastically adopted by the Society and ordered spread on the records.

ORGANIZATION

It was ten years ago (April, 1927) that the Committee on the Semicentennial was established, and during these years the plans have been gradually taking shape. The original committee consisted of Professors T. S. Fiske (chairman), R. C. Archibald, J. L. Coolidge, L. E. Dickson, E. R. Hedrick, Dunham Jackson, James Pierpont, M. I. Pupin, R. G. D. Richardson, and Oswald Veblen. But, from time to time, it has been changed to care for new situations; the complete membership of this committee and the subcommittees is given in Appendix M. During the past two years the Committee has been especially active, this activity mounting in a crescendo up to and during the time of the meeting. At one time there was a suggestion that this Celebration be merged with the International Congress of Mathematicians, but the final decision was against such action. Finally, in February, 1937, the Council voted to fix the time of the Celebration as September, 1938.

A sinking fund had been accumulated to carry the expense of the Celebration, but only a portion of this was used. The registration fees of \$2.00 (and \$1.00 for members of families) brought in more than

one thousand dollars, which aided in the expenses of the meeting. The cost of special features in connection with the recognition of the services of the Founder of the Society were met by a fund raised by special subscription among friends who delighted so to honor him.

A sum of \$5600 was voted by the Council and Board of Trustees for printing the two volumes of the Semicentennial Publications; but here again the fund was not all used.

One of the activities of the Semicentennial Committees has been to bring into order and completeness the records of the past fifty years. There are approximately 1700 persons who have been members at some time and are no longer on the rolls. To be more exact, there were, in 1936, 1681 persons who had been members, whose names occur in neither the 1936 nor the 1938 List of Members. Of these, 467 are known to be dead. At the request of the Council and with the help of a large group of the older members, the prolonged efforts of the Secretary have resulted in the preparation of brief biographies of most of these persons as well as of present members. These biographies are to go into the Society's files.

Various subcommittees had been appointed to take care of special parts of the projected program. The first of these was a Subcommittee on Program, with Professor R. C. Archibald as chairman, who drafted the plan for the meeting; to implement this plan a Subcommittee on Invited Speakers, consisting of five ex-presidents, was chosen to make recommendations of personnel. They prepared a list of speakers and alternates which was adopted by the Council. The local Subcommittee on Arrangements, with Professor W. B. Fite as chairman, then took up with conspicuous success the arduous task of putting into effect recommendations of the various committees. Professor A. E. Meder undertook the publicity for the meeting and his work is an auspicious beginning of activities which the Council hopes to continue. Professor D. E. Smith, as chairman of a Subcommittee on Exhibits, put all the facilities of his splendid collection of books and instruments at the disposal of the meeting. The Subcommittee on Publication undertook to edit and publish two volumes of Semicentennial Publications. That these volumes appeared in time for the meeting is due to the untiring efforts of the chairman, Professor Snyder, who, even with the cooperation of the authors, was faced with a serious limitation of time in getting out these volumes between the receipt of the manuscripts and the meeting. The Society acknowledges, too, the splendid cooperation of the George Banta Publishing Company which printed the volumes. Special mention should be made of the able and unstinted services of the Executive Secretary,

Dr. Thornton C. Fry, appointed in July, 1935, who was responsible for coordinating the activities of the various subcommittees and who devised some of the admirable features of the program. He was fortunate enough to be able to call also on the facilities of the Bell Telephone Laboratories, and on his colleagues there for advice about some of the more important parts of the program.

THE OPENING SESSION OF THE CELEBRATION. TRIBUTE TO
COLUMBIA UNIVERSITY

The first activity of the Semicentennial Celebration as such was a reception tendered by Columbia University to the visiting mathematicians. It was held in Johnson Hall on Tuesday at 7:30 P.M., and was attended by four hundred persons. In the receiving line were President and Mrs. Butler of Columbia University, Professor and Mrs. W. B. Fite, President Moore of the Society, and Professor Fiske.

At 9:00 P.M., immediately following this reception, there was a convocation in McMillin Theater at which President R. L. Moore presided. After some remarks regarding the place in mathematical research to which America has risen in the past fifty years, he called the roll of delegates who had been appointed by sister organizations to represent them at the Celebration. Each delegate arose as his name was called and received the greeting of the members of the Society present; a few of them handed to President Moore scrolls containing messages. A list of all delegates appointed is given in Appendix J.

There were many congratulatory letters, some of which are quoted in Appendix K. In addition to these, there were briefer messages from the following societies and individuals: Amsterdam Mathematical Society, Samuel Dickstein, A. J. Kempner (as president of the Mathematical Association of America), Casimir Kuratowski, and Pomeroy Ladue.

It had been recognized, from the time when the Semicentennial Celebration was first conceived, that the Society would have a compelling obligation as well as a welcome opportunity to voice its gratitude to Columbia University as its patron for over half a century. From the beginning, Columbia University has been a most generous and courteous host. Of the 352 regular meetings held, 221 have been in its halls; and in many other ways Columbia has stood in a unique relationship to the Society. This obligation was acknowledged on behalf of the Society by Vice President Langer in a laudatory address, the text of which is reproduced in Appendix G. He then handed to Nicholas Murray Butler, President of Columbia University, a copy

of this address, beautifully printed on French handmade paper; and also, as a slight token of the appreciation of the Society, a copy of each of the two volumes of Semicentennial Publications, with beautiful special bindings and bearing suitable dedicatory inscriptions. President Butler responded with a noteworthy address, of which a summary appears in Appendix H.

SCIENTIFIC ADDRESSES

The main feature of the meeting was a series of ten invited hour-addresses given in McMillin Theater. The illustrated address of Professor Archibald was on the history of the Society, and that of Dean Birkhoff was a review of fifty years of American mathematics. The other eight reviewed various aspects of special fields and pointed out some of the important directions which future developments of research are likely to take. Lantern slides exclusively were used for formulas and this innovation proved successful. A list of these addresses with the names of authors, presiding officers, and the times of delivery is given below.

- I. R. C. Archibald. *History of the American Mathematical Society, 1888–1938.*
T. S. Fiske presiding, Wednesday, 9:30 A.M.
- II. G. D. Birkhoff. *Fifty years of American mathematics.*
Solomon Lefschetz presiding, Wednesday, 10:30 A.M.
- III. E. T. Bell. *Fifty years of algebra in America, 1888–1938.*
H. S. White presiding, Wednesday, 2:00 P.M.
- IV. G. C. Evans. *Dirichlet problems.*
G. D. Birkhoff presiding, Wednesday, 3:15 P.M.
- V. E. J. McShane. *Recent developments in the calculus of variations.*
G. A. Bliss presiding, Thursday, 9:00 A.M.
- VI. J. F. Ritt. *Algebraic aspects of the theory of differential equations.*
D. R. Curtiss presiding, Thursday, 10:00 A.M.
- VII. J. L. Synge. *Hydrodynamical stability.*
L. P. Eisenhart presiding, Thursday, 11:00 A.M.
- VIII. T. Y. Thomas. *Recent trends in geometry.*
(Read by J. F. Daly, of Princeton University.)
Virgil Snyder presiding, Friday, 9:00 A.M.
- IX. Norbert Wiener. *The historical background of harmonic analysis.*
E. R. Hedrick presiding, Friday, 10:15 A.M.
- X. R. L. Wilder. *The sphere in topology.*
R. L. Moore presiding, Friday, 11:30 A.M.

PUBLICATIONS

The Society was fortunate enough to be able to issue in time for distribution at the meeting two volumes under the general heading *Semicentennial Publications*. A history of the Society, written by Professor Archibald and containing in greatly amplified form the material covered by his lecture, with thirty illustrations, was published as Volume I. The other nine lectures were published as Volume II under the title *Semicentennial Addresses*. These publications were available for inspection in the registration room, and more than two hundred volumes were purchased by members during the meeting.

EXHIBITS

Through the kindness of Columbia University and members of the faculty, several exhibits of absorbing interest were prepared.

The valuable collections of mathematical manuscripts, rare editions, and instruments of David Eugene Smith, George Arthur Plimpton, and S. S. Dale, as housed permanently in Room 210 of Low Library, were open to members of the Society and their guests. These combined libraries, representing the history of mathematics from earliest times to the nineteenth century, contain more than 25,000 items. During the period of the meeting a special exhibit was arranged, containing many of the rarest and most important volumes, and also many letters and photographs relating particularly to the history of the Society. The testimonial to Professor Fiske, Vice President Langer's address, the volumes dedicated to Columbia University, and the plaque and portrait of Professor Fiske were also displayed in this library during the latter days of the Celebration.

The Mathematics Department of Teachers College of Columbia University arranged an interesting and extensive exhibit of models, instruments, charts, books, posters, and other objects, relating to the teaching of mathematics and to its applications. This included a model mathematics classroom for secondary schools and a display of computing machines, tracing the development from the model first constructed in this country down to the latest commercial machines.

Professor W. J. Eckert, of the Department of Astronomy, opened for inspection a remarkably complete set of modern computing machines for performing astronomical calculations by the Hollerith punched-card method.

THE MATHEMATICAL ASSOCIATION OF AMERICA

The Association, so closely affiliated with the Society for the twenty-three years of its existence, was guest at this Birthday

Celebration and shared in the festivities. In order to give the right of way to the Society's activities on this occasion, it paid the Society the compliment of omitting a meeting of its own. Members of the Association were accorded all the privileges available to members of the Society.

GALA DINNER. RECOGNITION OF THE SERVICES OF THE FOUNDER

It must be almost unique in the annals of scientific organizations for a society to be able to honor its founder at its semicentennial anniversary. Professor Thomas Scott Fiske was rightly the center of attention at the gala dinner, and his place in the hearts of his colleagues was attested in no uncertain manner when, upon his presentation by the toastmaster, the entire group of 375 rose spontaneously to their feet in tribute to this splendid leader.

The dinner was held in the beautiful banquet room of the Hotel Astor. Not only was there a charming background for the dinner, but all the arrangements were of exceptional quality. As fitted the anniversary, the menu cover was in gold; it was decorated with a photograph of a bas-relief of Professor Fiske executed by the young sculptor, George John Sklaar. As an innovation for the dinner, all persons were assigned to tables of their own choosing, in groups of ten; and lists of names were printed to accompany the menu.

The Society could not have chosen a more able and delightful toastmaster than Dr. Warren Weaver, who in a most happy fashion combined wit and wisdom. On the one side of the toastmaster sat Thomas Scott Fiske and on the other side Edward Lincoln Stabler, the only survivors of the six charter members. Others seated at the dais table were Eric Temple Bell, George David Birkhoff, Garrett Birkhoff and Mrs. Birkhoff, Gilbert Ames Bliss and Mrs. Bliss, David Raymond Curtiss and Miss Alice Judson Curtiss, Luther Pfahler Eisenhart, Frederick Carlos Ferry, Miss Natalie Page Fiske, Earle Raymond Hedrick, Dunham Jackson, Solomon Lefschetz and Mrs. Lefschetz, Robert Lee Moore, Virgil Snyder and Mrs. Snyder, Mrs. Stabler, Mrs. Weaver, Henry Seely White and Mrs. Robert Fridenberg Perez.

The first feature of the evening was a letter from the London Mathematical Society which may in some respects be considered to be the parent organization and which is certainly the model after which the Society was patterned (Appendix F).

Next, the toastmaster presented to Professor Fiske a beautifully illuminated testimonial, containing a greeting of appreciation and affection, prepared by order of the Council and signed by the President and the Secretary. The text appears in Appendix C.

The main speaker was Professor Fiske, who gave some delightful reminiscences of the early days of the Society (Appendix B). The other after-dinner speakers, so chosen as to represent at the same time various geographical regions and various age groups, were Professors Bell, Jackson, and Garrett Birkhoff.

Mathematicians who have been readers and examiners of the College Entrance Examination Board, which Professor Fiske served so long and well, presented to the Society his portrait painted by Mrs. H. E. Ogden Campbell (Appendix D). Dr. Ferry, ex-president of Hamilton College, made the presentation speech (Appendix E), and President Moore accepted the portrait on behalf of the Society.

Bronze replicas of the sculptured bas-relief of Professor Fiske were presented to the daughter of Professor Fiske and to the Society. A photograph is given in Appendix D.

As a fitting climax to the dinner, letters of felicitation and good wishes for the future of the Society were presented from President Franklin D. Roosevelt and Premier Mackenzie King. The texts are given in Appendix A.

EXCURSION TO WEST POINT

The steamer Alexander Hamilton was chartered for a trip to West Point and sailed from the Hudson River Day Line Pier at 125th Street on Thursday at 1:30 P.M., returning at 10:00 P.M. At West Point provision was afforded to see the grounds and buildings of the United States Military Academy as well as to observe the regimental parade given in honor of the Society's visit. About sixteen hundred cadets took part in this impressive drill, which was the spectacular feature of the visit. The officers were most cordial to the visitors, acting as guides and giving information regarding the work of the Academy.

The Hudson was seen at its best; the weather was ideal. On the return trip, under the light of the full moon, the steamer sailed down the river to the Battery, affording a superb view of the New York skyline at night. A small orchestra provided music for dancing throughout the trip. This excursion will long be remembered as one of the most delightful features of the meeting, affording, as it did, the 275 people who took part an especially favorable opportunity to become better acquainted.

ENTERTAINMENT AND OTHER EXCURSIONS

On Monday afternoon at 4:00 P.M., preceding the opening of the meeting, a tea was tendered in Johnson Hall to the mathematicians

and their friends by the Departments of Mathematics of Columbia University, New York University, Brooklyn College, College of the City of New York, and Queens College. More than two hundred availed themselves of the opportunity to meet the hosts and hostesses and to renew acquaintance with friends.

As one record of the meeting, a panoramic group picture was taken on the steps of Low Library; this is reproduced in this issue.

Many members were able to inspect the capacious offices and the library of the Society so spaciously housed by Columbia University.

Late Wednesday afternoon, the Hayden Planetarium, adjoining the Museum of Natural History, put on a special program for the mathematicians.

On Friday afternoon there were two excursions to places on Long Island. The first was to Jones Beach, the famous state-operated park on the south shore, which has remarkable facilities for swimming and other sports. The second was a trip to the grounds of the New York World's Fair. Although this will not officially open until 1939, many of the buildings, which will represent nearly every country, are already erected and are built around the common theme, The World of Tomorrow.

There were other guided tours to the Metropolitan Museum of Art, the Long Distance Telephone Building, the Museum of Modern Art, the Bronx Zoological Gardens, the Hispanic Museum, the Cloisters, the Museum of Natural History, and the Frick Collection. For each tour there was a leader chosen under the direction of Professor P. A. Smith; the competence and courtesy of these leaders were thoroughly appreciated by those who participated.

W. L. AYRES
T. R. HOLLICROFT
M. H. INGRAHAM
T. M. PUTNAM
R. G. D. RICHARDSON
Secretaries

APPENDIX A**LETTERS OF CONGRATULATION FROM PRESIDENT
ROOSEVELT AND PREMIER MACKENZIE KING**

THE WHITE HOUSE
WASHINGTON

August 17, 1938

My dear Mr. Richardson:

Please extend my greetings to the American Mathematical Society on the occasion of the celebration of its fiftieth anniversary. I trust that genuine satisfaction will come to its members as they contemplate the contribution which the Society has made during the half century of its existence.

It is sometimes difficult to comprehend the values accruing to society from mathematics. It is deeply rooted in social progress as a large part of the technological advance made in recent centuries would have been impossible had it not been for the constant refinement of the essential tool of technology—mathematics. Social sciences also owe a large debt to mathematics. Future advances in the social sciences will be largely dependent upon mathematical treatment of their data.

I congratulate the members of the American Mathematical Society on the important contributions which mathematics has already made. I trust that the years ahead will find mathematicians making significant contributions, as in the past.

Very sincerely yours,
(signed) FRANKLIN D. ROOSEVELT

Mr. R. G. D. Richardson,
Secretary,
American Mathematical Society,
501 West 116th Street,
New York, N. Y.

OFFICE OF THE PRIME MINISTER
CANADA

Ottawa, August 30, 1938.

R. G. D. Richardson, Esq., M. A., Ph.D., D.C.L.,
Secretary,
American Mathematical Society,
501 West 116th Street,
New York, N. Y.

Dear Professor Richardson:

I shall be pleased if you will extend to the American Mathematical Society, on the celebration of the fiftieth anniversary of its inception, my greetings and warm congratulations upon attaining this significant anniversary.

It is well that we should reflect, on occasions such as this, on the extent to which the learned societies of this continent have contributed to the strength and substance of our national and international life. The work of the American Mathematical Society fills a distinguished place among those academic fellowships which have done so much to keep alive, in our institutions of learning, that integrity of thought which is one of the proudest of our common traditions.

It is my hope that the deliberations of the Society's Jubilee Meeting will be attended by much good fellowship and a lively appreciation of the binding character of the academic fraternity which has so long and so happily prevailed between our two countries.

Yours very sincerely,
(signed) W. L. MACKENZIE KING

APPENDIX B

THE BEGINNINGS OF THE AMERICAN MATHEMATICAL SOCIETY. REMINISCENCES OF THOMAS SCOTT FISKE

In the spring of 1887, when I was a graduate student in the Department of Mathematics of Columbia University, my teacher and friend, Professor J. H. Van Amringe, suggested that I visit Cambridge University, England.

One of the Columbia trustees, George L. Rives, afterwards Assistant Secretary of State under President Cleveland, had been fifth wrangler at the mathematical tripos in 1872 and had declined the offer of a fellowship at Trinity College. Rives gave me letters to Cayley, Glaisher, Forsyth, and Sir George Darwin; and on my arrival at Cambridge I was treated as a guest and was invited to attend any mathematical lectures whatsoever in which I might be interested.

Scientifically I benefitted most from my contacts with Forsyth and from my reading with Dr. H. W. Richmond, who consented to give me private lessons. However, from Dr. J. W. L. Glaisher, who made of me an intimate friend, who spent many an evening with me in heart to heart talks, who took me with him to meetings of the London Mathematical Society and the Royal Astronomical Society, and entertained me with gossip about scores of contemporary and earlier mathematicians, I gained more in a general way than from anyone else. As for Cayley, I had attended only a few of his lectures on the "Calculus of Extraordinaries" when one day he slipped on the icy pavement and suffered a fracture of the leg which brought the lectures to an end. Before the end of my stay, however, I had the pleasure of dining with Mr. and Mrs. Cayley in their home.

On my return to New York I was filled with the thought that there should be a stronger feeling of comradeship among Americans who were interested in mathematics, and I proposed to two fellow students, Jacoby and Stabler, that we should try to organize a local mathematical society.

On November 24, 1888, we three, together with Professors Van Amringe and Rees and a graduate student, Maclay, met for the purpose of organizing a New York Mathematical Society. We agreed upon the desirability of joining to our group all mathematicians resident in New York and the neighborhood. However, at the end of the first year our society had only eleven members. In December, 1889, five new members were admitted including McClintock and Pupin. Five members were admitted during 1890; one in January, 1891; and one in February, 1891.

The member elected in January, 1891, was Charles P. Steinmetz. Born in Breslau, April 9, 1865, of Protestant parents, a hunchback with a squeaky voice, as a student at the University of Breslau he had been the ablest pupil of Professor Heinrich Schroeter. In the spring of 1888 he was about to receive the degree of Ph.D., but in order to escape arrest as a socialist he was compelled to flee to Switzerland. Thence he made his way to America, arriving in New York June 1, 1889. About a year later my attention was attracted to an article of sixty pages or more in the "Zeitschrift für Mathematik und Physik" on involuntary correspondences defined by a three-dimensional linear system of surfaces of the n th order by Charles Steinmetz of New York. This was his doctor's dissertation. I soon learned that Steinmetz was an employee of the Eickemeyer Dynamo Machine Company of Yonkers, N.Y., and I invited him to come to see me at Columbia University. I told him that his future articles ought to be written in English and published in the United States. I offered to help

him if he should desire my assistance in connection with the English of his papers. At the same time I invited him to become a member of the New York Mathematical Society. His membership in the Society continued until his death, October 26, 1923. He presented a number of papers to the Society, two of which were published in the American Journal of Mathematics.

Steinmetz told me that it had always been his wish to devote his life to mathematics but that the necessity of earning a living had forced him to become an electrical engineer. After the organization of the General Electric Company in 1892 he was compelled to give practically all of his time to electrical engineering. Eventually he became chief consulting engineer of the Company and was authorized to draw a salary far higher than that paid to any professor of mathematics in the world.

I had many long conversations with Steinmetz. I remember one in which he insisted that science had flourished in Germany not because of, but in spite of the influence of the government. Somehow I joined this to the thought that Steinmetz, not because of, but in spite of his natural inclinations, had become the most distinguished and most highly paid electrical engineer in the world.

At the beginning of 1891, in preparation for the publication of the Bulletin we obtained from several publishing houses, notably the Macmillan Company and Ginn and Company, lists of college teachers and others interested in mathematical publications. The names and addresses of suitable persons were culled from these lists, and to them were mailed prospectuses of the Bulletin and invitations to join the Society. Those who joined were requested to suggest other suitable persons for membership.

Professor William Woolsey Johnson, of the United States Naval Academy, was an intimate friend of Dr. Glaisher. They spent many of their vacations together and were in constant correspondence. Glaisher had spoken of me in his letters to Johnson and, as a result, Johnson and I met at his publishers, John Wiley and Sons, in New York. Johnson became greatly interested in the proposal to enlarge the New York Mathematical Society and to publish a historical and critical review of mathematical science. At that moment the total membership of the Society was only twenty-three. Johnson became the twenty-fourth member. He was the first person from outside the New York circle to join the Society. He contributed the leading article to the first number of the Bulletin.

The external appearance of the Bulletin, the size of its page, and the color of its cover were copied from Glaisher's journal, "The Messenger of Mathematics," in which parts of my dissertation for the doctorate had been published. The Bulletin's character, however, was influenced chiefly by Darboux's "Bulletin des Sciences Mathématiques" and the "Zeitschrift für Mathematik und Physik."

When only two or three numbers of the Bulletin had appeared I began to receive from Professor Alexander Ziwet, of the University of Michigan, a series of friendly letters containing many helpful and constructive suggestions. I invited his editorial cooperation without delay, and he proved a most valuable editorial associate, serving continuously from 1892 until 1920.

When through the generosity of President Seth Low, of Columbia University, a new professorship of mathematics was created at Barnard College, it was Professor Ziwet who suggested the appointment of Frank Nelson Cole. To Professor Ziwet's inspiration, therefore, may be traced the good fortune of both Columbia University and the American Mathematical Society in securing the never to be forgotten services of the late Professor Cole.

It should be mentioned also that it was through the influence of Professor Ziwet that our distinguished fellow member Earle Raymond Hedrick established his first

contact with the Bulletin. While a student at the University of Michigan, Hedrick at the request of Ziwt prepared several Lists of New Publications for the Bulletin.

Conspicuous among those who in the early nineties attended the monthly meetings in Professor Van Amringe's lecture room was the famous logician, Charles S. Peirce. His dramatic manner, his reckless disregard of accuracy in what he termed "unimportant details," his clever newspaper articles describing the meetings of our young Society interested and amused us all. He was advisor of the New York Public Library for the purchase of scientific books and writer of the mathematical definitions in the Century Dictionary. He was always hard up, living partly on what he could borrow from friends, and partly on what he got from odd jobs such as writing book reviews for the Nation and the Evening Post. He was equally brilliant, whether under the influence of liquor or otherwise, and his company was prized by the various organizations to which he belonged; and so he was never dropped from any of them even though he was unable to pay his dues. He infuriated Charlotte Angas Scott by contributing to the New York Evening Post an unsigned obituary of Arthur Cayley in which he stated upon no grounds, except that Cayley's father had for a time resided in Russia, that Cayley had inherited his genius from a Russian whom his father had married in St. Petersburg. Shortly afterwards Miss Scott contributed to the Bulletin a more factual, sober article upon Cayley's life and work, in which she remarked that the last of Cayley's more than nine hundred scientific papers had been published in the Bulletin of our Mathematical Society.

At one meeting of the Society, in an eloquent outburst on the nature of mathematics C. S. Peirce proclaimed that the intellectual powers essential to the mathematician were "concentration, imagination, and generalization." Then, after a dramatic pause, he cried: "Did I hear some one say demonstration? Why, my friends," he continued, "demonstration is merely the pavement upon which the chariot of the mathematician rolls."

The year 1894 was the culminating year in the history of the New York Mathematical Society. A number of circumstances combined to awaken the Society to a full consciousness of the fact that it had become national both in character and in influence.

The local committee in charge of the International Congress of Mathematicians in Chicago in 1893 applied to the New York Mathematical Society for financial assistance in the publication of the Congress papers; and the Council of the Society voted to undertake their publication and also to solicit personal contributions in support of the undertaking from those members of the Society who were willing and able to furnish such assistance. This enterprise, transcending considerations and sentiments of a purely local character, seemed to justify the Society in its desire for a name indicating that its character was national, or rather continental.

And at the same time, the meeting of the American Association for the Advancement of Science in Brooklyn in 1894 seemed to present to the Society a most favorable occasion for its debut as a national organization. It appeared likely that the influence of the American Association would bring to New York from remote parts of the country many members of the Society who would welcome the opportunity of attending one of its meetings. Accordingly, plans were made for a meeting to be held in Brooklyn in affiliation with the American Association. This was the first summer meeting and at the same time the first meeting of the Society under its new name, "The American Mathematical Society."

At the first annual meeting after the change in the name, Dr. George William Hill was elected president. During his presidency two summer meetings were held in

affiliation with the American Association for the Advancement of Science, in 1895 at Springfield, Mass., and in 1896 at Buffalo, N. Y.

At the annual meeting in December, 1895, Professor Cole was elected secretary of the Society, in which capacity he was to serve for twenty-five years.

The summer meeting at Buffalo in 1896 is memorable for the first colloquium of the Society. The colloquium was the idea of Professor H. S. White, then at Northwestern University, who had been one of the leading spirits in the organization of the colloquium held at Evanston in connection with the World's Fair at Chicago.

Dr. G. W. Hill was succeeded in the presidency by Professor Simon Newcomb, under whom in the summer of 1897 the Society met at Toronto in affiliation with the British Association for the Advancement of Science.

During the presidency of Professor Newcomb the Society felt acutely the need of better facilities for the publication of original papers, and at the meeting in Cambridge in the summer of 1898 a committee was appointed to consider the possibility of improving such facilities through an arrangement with the American Journal of Mathematics or otherwise.

As representatives of this committee, Professor Pierpont and I went to Baltimore for a conference with President Gilman and Professor Newcomb, but we found them unwilling to give the Mathematical Society a share in the editorial control of the American Journal.

Finally, in the spring of 1899 a meeting was held at the home of Dr. McClintock in New York. Besides Dr. McClintock those present were Bôcher, Moore, Osgood, Pierpont, and I. We agreed to recommend that the Society undertake the publication of a journal of research to be known as the Transactions of the American Mathematical Society, a name suggested by Bôcher.

The recommendation was adopted; Moore, Brown, and I were appointed editors of the new journal; and the first number made its appearance in January, 1900, with Professor Moore acting as editor-in-chief, Professor Brown as editor for applied mathematics, and myself as editor in charge of the arrangements with the printer.

For a number of years Moore, Brown, and I met three or four times a year at the Murray Hill Hotel in New York and discussed various problems connected with the Transactions. Never have I been associated with men more unselfish, more considerate, or more devoted to high ideals than Moore and Brown.

APPENDIX E

REMARKS OF PRESIDENT EMERITUS FREDERICK C. FERRY ON THE PRESENTATION OF A PORTRAIT OF PROFESSOR THOMAS SCOTT FISKE TO THE AMERICAN MATHEMATICAL SOCIETY, SEPTEMBER 7, 1938

Mr. Toastmaster, Ladies, and Gentlemen:

The task which the committee has assigned to me for this occasion is both brief and happy. It has to do with the bestowal of honor on a most worthy individual and with the donation to the Society of a gift that is bound to be treasured through the long future.

In an informal address of a recent year, the speaker of that occasion talked of the "great satisfactions" of life. "They are not to be found," he said, "in wealth. No definite relation whatever exists between money and happiness. Of this fact most people become aware before they have lived very long. Many people believe throughout their

lives," he continued, "that it is fame that brings the great satisfactions. But they too are in error. For what does it matter whether our names are spoken for a month or a year or even for a score of years when we are dead and gone? We are bound in any case to be soon forgotten. But the great satisfactions of life," he concluded, "are gained by so contributing of one's energy and activity to the welfare of some permanent and beneficent institution that it, going on forever, shall forever be the better by reason of what one has done."

The man who is honored in the gift about to be made needs not our tribute, for he has abundantly earned life's great satisfactions. He, as we all know, was the moving spirit in the founding of this Society, and has been an important factor in maintaining it through all the half century of its life. He has been its president and for many years the editor-in-chief of its Bulletin. Most appropriately he was made the chairman of its Committee on the Semicentennial. This Society is conspicuously a permanent and beneficent institution.

Again, he earned title to the great satisfactions of life by his long term as Professor of Mathematics in Columbia University, that permanent and most beneficent institution.

But this is not nearly all of his high achievement. For he followed President Butler in the secretaryship of the College Entrance Examination Board. In this office he continued for nearly two scores of years, performing a service of value past all reckoning to colleges and universities everywhere. Here, too, it is a permanent and beneficent institution to which his rare administrative ability has been applied with great effectiveness.

It was said of a certain prime minister of England that he cherished two ambitions: the first was that England might prosper under his administration; the second was that England might prosper. Only of the second sort have been the ambitions of the man of whom I am speaking. All his work has been done modestly, quietly, and efficiently, with the welfare of the institution his sole concern.

Those of us who have been closely associated with him through the years would say much concerning the warmth of his heart as well as the strength of his mind. We would make known our deep affection for him if we could. But that we Anglo-Saxons know not how to do. We live in a somewhat awkward state of self-consciousness which permits no full expression of our more intimate feelings for anyone.

We must be content to say that the purchase of this portrait, the work of Mrs. Ogden Campbell, by a group of his friends and the presentation of it on this occasion to the American Mathematical Society only suggest in slight measure the regard in which we hold him.

May this painting renew his memory among the members of this Society through countless generations! And may you, Professor Fiske, through many happy years permit us to continue our association with you! *Vivas, floreas annos multos!*

President Moore, on behalf of the donors, I present to the American Mathematical Society this portrait of Professor Thomas Scott Fiske.

APPENDIX F**LETTER OF CONGRATULATION FROM THE LONDON
MATHEMATICAL SOCIETY****THE LONDON MATHEMATICAL SOCIETY**

BURLINGTON HOUSE, LONDON, W.

August 13th, 1938.

Dr. Thornton C. Fry,
Executive Secretary, Committee on the Semicentennial,
American Mathematical Society.

Dear Dr. Fry,

The Officers of the London Mathematical Society have great pleasure in responding to your friendly invitation to send a message to the American Mathematical Society on the occasion of the Jubilee of its inauguration as the New York Mathematical Society.

The London Mathematical Society warmly congratulates the American Mathematical Society on the completion of 50 years' prosperous activity. The London Mathematical Society has no claim to be in any sense a parent of your society, or even a godparent. Yet it recalls that by the accident of its earlier foundation it indicated the possibility of the existence of a society devoted to the advancement of mathematics, and the example of the London Mathematical Society was apparently in the minds of your founders. Thus in his presidential address of Dec. 28th, 1894, Dr. E. McClintock, your then President, drew attention to the fact that the American and London Mathematical Societies resembled one another in being each connected with the largest city in their respective countries, and in being formally unconnected with any "institution of learning." He then paid the London Mathematical Society the compliment of saying that he concluded, from the history of the London Mathematical Society, that "proficiency in the science of mathematics is distinct evidence of a well-balanced mind." Whether the world at large holds the same view is perhaps open to doubt; but the London Society trusts that it has not yet forfeited the good opinion which your Society at least at one time held of it.

Your Society came into existence through a circular signed by three young men. Its first meeting, as the New York Mathematical Society, was attended by six members. Your membership is now reckoned in many hundreds. Like our society, you publish two journals, one devoted to severer memoirs, the other to lighter topics. Our two societies have arrangements for the joint affiliation of such members as desire it. We are proud to be represented at your celebrations by our member Professor J. L. Synge, of Dublin and Toronto, and through him we send you all good wishes on this occasion.

F. PURVER WHITE,
(signed) P. HALL, }
E. A. MILNE }
Hon. Secs.
President

APPENDIX G

LAUDATORY ADDRESS OF VICE PRESIDENT LANGER

Mr. President; distinguished guests; members of the American Mathematical Society; guests:

It is a universal and an altogether human conceit which makes us crave settings of an appropriate stateliness for events which appear to us significant. We prize in thought and elevate in fact the beauty of the sites of our proud achievements, and, though they be incidental, we glory in the natural appeals and cultivated adornments of the spots where history has been made. The event without a background worthy of it seems to us much like a jewel unset, or like a hymn unhallowed by a fitting mood of veneration.

We are here today to celebrate an event, the founding of our Society, and our imaginations are stirred and gratified that we may do so in an environment so appropriate, that we may do so within the precincts of a preeminently great seat of learning—in short, within the halls and upon the terraces of Columbia University, situated delightfully and with its own peculiar charm of aspect, and surrounded by a great and magnificent city.

The American Mathematical Society was founded as the New York Mathematical Society fifty years ago. It is not for me to review here the course it has taken, the objectives it has set itself, or the vantage grounds it has surmounted in the half century of its existence, nor yet am I to contemplate the unbounded and shining prospect which in the future lies before it. My task is a more special one. It is a pleasant and grateful task withal, for it falls to me to speak our collective acknowledgment for inspirations and favors received, our thanks for help and support without which the light of some of our cherished achievements might well have failed to shine, and some would surely have been of an inferior lustre.

Our Society was founded by men of Columbia University. Farsighted and enthusiastic, they were men who carried to this country the inspiration they had found at the great universities of Europe. They had entered into the realm of mathematical learning and research, and having done so they had recognized in mathematical truth a sacred flame endowed with unique and peculiar potencies for the broadest of services in the general interests of human thought and progress. This flame they had not only wished to shield from extinction, but had thought to nourish and to fan it toward an ever steady and increasing brightness. This was the vision in which they brought forth and nurtured the organization to which we now proudly belong. To Professor Thomas Scott Fiske, whom we especially honor in this connection, and to his colleagues, we owe the founding of our Society. To Professor Frank Nelson Cole, who nurtured it, we owe for unselfish service given over a quarter of a century. To Professor David Eugene Smith we owe for the genius of a long and devoted custodianship under which an initial handful of volumes was metamorphosed into the Society's Library, and to other Columbia men, in numbers far too many for me to detail here, we stand in debt. Their names adorn our rosters of the past, or they themselves are a living force among us. There is no office and no useful capacity in which men of this University past and present have not served, and that with a generosity disproportionately large relative to their numbers. Their counsels have been wise and their work has abundantly borne fruit.

While we owe these many contributions to respective individuals, we neverthe-

less, and in a very true sense, owe them collectively to Columbia University herself. For her men are and have been rightly hers, their strength and their time and their genius are and have been hers, and only by her sanction have they given to us and we received from them. If, as an organization, we are worthy to stand among the great learned societies of the nation and of the world, that must in no small measure be ascribed to the intellectual and inspirational contributions of Columbia. We have received from Columbia the worthiest and sublimest of gifts, we have received from her a portion of herself.

Our Society has completed a half century of existence. It has been a half century of growth in numbers and in emprise, in which the initial membership of six has been swelled to one of two thousand, while even figures such as these do not properly measure the expansion of our activities. In the presence of a truly phenomenal development of activity and interest in mathematical research throughout the country, there has been an almost continual urge upon the Society to extend the field of its services by entering upon new ventures and by extending others already in hand. We take pride in the extent and measure to which our organization has proved itself equal to its opportunities, but we must acknowledge that to the mastery of the difficulties which have had to be faced we have not always been sufficient unto ourselves. We have had to sue for help and support. There are many friends who have responded to us generously, and among these is Columbia University. Together with others she has subsidized our publications, and has assisted us through such media as the sustaining and institutional memberships. More than any other she has hospitably extended to us the freedom of her house, the use of her academic halls and facilities, to the extent that half the meetings of our Society have been held upon her domain.

It is not my intention, and it would be an unworthy effort for me, to attempt here any catalogue of the beneficences at the hands of Columbia for which we are indebted. Yet these words of appreciation would be altogether inadequate and fragmentary were I to say nothing of those particular benefactions which have in every sense made Columbia University the outstanding patron of our Society. I have reference here to two items, namely, to the donation over a period of many decades of the shelving and the care and the administration of our library, and to the continued donation during the lifetime of our organization of the premises for the housing of its activities. It would be difficult for anyone to overrate the importance of these gifts. They have been of the most vital moment in fact, for they have relieved our Society of what would have been heavy and hampering burdens, and so have freed it to devote its resources immediately and almost exclusively to the scholarly and scientific purposes for which it exists.

These many things for which we are indebted to Columbia we may fittingly own on this anniversary occasion. They have been bestowed upon us freely, and ever in a spirit which we could meet with dignity and gratification. The deeds call for our thanks, and the motives deserve our homage. Can we doubt that Columbia shares with us an appreciation of the aims and purposes to which we as an organization are dedicated? Can we doubt that the well spring of her generosity to us is to be found in that exalted idealism—if I may use another's words—in which she has dedicated herself, to be no mere student of the past, no mere observer of the present, no mere critic at a safe distance from the struggles of the working world, but rather an active participant in the fundamental progressive work of modern society, promoting its forward movement and helping at all times to open its onward way? President Butler, in her dealings with us Columbia has proclaimed herself, as you have once proclaimed her, "devoted to the loftiest of human ideals, to wit, the service of mankind

through the pursuit of truth, and the holding on high of the flaming torch of intellectual endeavor and accomplishment."

President Butler, I have here a copy of the words I have just spoken, and I have also a history of our Society, and a volume of the scientific addresses which are to be delivered upon this anniversary occasion. I have been instructed to present these volumes to you, and to beg you to accept them as tokens of the gratitude which the American Mathematical Society acknowledges to Columbia University for favors of which it is deeply conscious, but which it can in no way ever repay.

APPENDIX H

AN ABSTRACT OF THE ADDRESS OF PRESIDENT BUTLER

President Butler expressed the University's most grateful appreciation of the very kind and generous words which had been spoken, and assured the members of the American Mathematical Society that the relationship which had now existed for a half-century between that Society and the University was a matter of constant pride and satisfaction.

President Butler pointed out that in the history of the faculty of old Columbia College it so happened that the professors of mathematics during the first century of the history of the college were outstanding scholars and teachers, probably taking precedence as a group over any other faculty group of that period. He referred to the personality, teaching skill, and publications of the five professors who in succession filled the chair of mathematics for the first one hundred years. They were Robert Harpur, John Kemp, Robert Adrain, Henry James Anderson, and Charles W. Hackley. Following these five scholars and teachers there came two unusually skilful textbook writers, Charles Davies and William Guy Peck. Professor Davies gained nationwide recognition through the publication of *Davies' Legendre*, the most important and the most widely used textbook of geometry three-quarters of a century ago. Professor Peck also gained fame as a textbook maker and his *Algebra* was well known in secondary schools and colleges of the period from about 1865 to about 1890. Then came John Howard Van Amringe, whose personality gave him a reputation and an influence which few academic teachers of his day and generation ever attained. After Van Amringe the growth of the College and the organization of the University brought about an entirely new situation. It was then that Professor Fiske and the splendid group of younger scholars who were his contemporaries and successors became the Department of Mathematics both in Columbia College and in Columbia University.

President Butler emphasized the fact that much remained to be done in the presentation of mathematics to secondary school and college students if that fundamental intellectual interest was to be given the importance and the influence which it should have. He emphasized the necessity of teaching the history, the origin, the development, and the general cultural and practical relations of mathematics to the progress of civilization. Who are the great names associated with its origin and early development, such as Euclid, Archimedes, Hipparchus, Ptolemy, and Boethius? What did each of these men do in the development of mathematics? What was his contribution—its character and its importance? Where did the names, *arithmetic*, *algebra*, *geometry*, *trigonometry*, and *calculus* come from? And who were those responsible for the first formulation of these divisions of mathematical knowledge? Who, in the Middle Ages and in modern times, have been the outstanding mathematicians? What were their personalities, their contacts, and their specific contributions to

knowledge? He would have the secondary school and college room in which mathematics is taught have upon its walls photographs or engravings of these great founders of mathematical knowledge, so that the 20th century student might get some fuller appreciation of their appearance, their personality, and their influence. He said that it was quite as important for the student to know about mathematics as it was to know something of mathematics itself.

President Butler called attention to some books written in recent years which he felt should be read by intelligent and ambitious students of mathematics, no matter how much they might know in detail of arithmetic, algebra, geometry, trigonometry, calculus, or any phase of the higher mathematics. He mentioned in particular Ball's *History of Mathematics*, published fifty years ago, and Whitehead's *Introduction to Mathematics*, published more than a quarter-century since. He called attention to the importance of Sir James Jeans' *New Background of Science*, which might well be read by the liberal arts student who did not expect to be a professional mathematician, in order to get some insight into what the mathematician, the physicist, and the chemist were thinking of, as well as of the terms in which they were expressing their thought. President Butler quoted Whitehead's statement that "It is an error to confine attention to technical processes excluding consideration of general ideas. Here lies the road to pedantry."

President Butler pointed out that from the time of the Middle Ages mathematics had been included among the liberal arts, and that the Quadrivium, which was the more advanced course then offered, included arithmetic, music, geometry, and astronomy. The Trivium, which preceded it, included grammar, logic, and rhetoric. It was plain, he said, therefore, that the position of mathematics in the field of liberal education had been well established for more than a thousand years, and Columbia University would be proud in the future, as it had been in the past, to contribute to the teaching of this subject as one of the liberal arts, as well as to promote scholarship and research in every part of its field by every means in its power.

APPENDIX J
LIST OF DELEGATES

SOCIETY	DELEGATE
Actuarial Society of America	Robert Henderson
American Academy of Arts and Sciences	{ H. B. Phillips Philip Franklin
American Astronomical Society	E. W. Brown†
American Institute of Actuaries	James S. Elston
American Institute of Electrical Engineers	Vladimir Karapetoff*
American Philosophical Society	L. P. Eisenhart
American Physical Society	G. B. Pegram
American Society of Civil Engineers	Leon S. Moisseiff
American Society of Mechanical Engineers	{ J. Ormondroyd R. P. Kroon
Amsterdam Mathematical Society	D. J. Struik*
Association for Symbolic Logic	Edmund C. Berkeley
Deutsche Mathematiker Vereinigung	G. D. Birkhoff
Econometric Society	G. C. Evans
Edinburgh Mathematical Society	John Williamson*
Institute of Mathematical Statistics	H. L. Rietz
John Simon Guggenheim Memorial Foundation	Norbert Wiener
London Mathematical Society	J. L. Synge
Mathematical Association of America	D. R. Curtiss
National Academy of Sciences	Oswald Veblen*
National Council of Teachers of Mathematics	W. D. Reeve
National Research Council	L. P. Eisenhart
National Research Council (Canada)	J. L. Synge
Polskie Towarzystwo Matematyczne	R. C. Archibald
Société Mathématique de France	G. D. Birkhoff
Société Mathématique de Grèce	{ A. D. Michal Marston Morse
Society for the Promotion of Engineering Education	T. C. Fry
Russian Society of Philosophy of Science in Paris	D. Riabouchinsky
Schweizerische Mathematische Gesellschaft	Arnold Emch*
Unione Matematica Italiana	{ D. E. Smith* Virgil Snyder*

* Unable to appear.

† Deceased on July 22, 1938.

APPENDIX K
MESSAGES OF CONGRATULATION

The President and Fellows of the
 AMERICAN ACADEMY OF ARTS AND SCIENCES,
 by their delegates, Henry Bayard Phillips and
 Philip Franklin, send to the
 AMERICAN MATHEMATICAL SOCIETY

their most cordial greetings on the occasion of the Semicentennial Celebration of the founding of the Society. They express confidence that the distinguished record of the American mathematicians during the past fifty years will become a tradition jealously guarded by your Society in the centuries of the future.

Dugald C. Jackson
 President
 Hudson Hoagland
 Recording Secretary
 Leigh Hoadley
 Corresponding Secretary

THE AMERICAN PHILOSOPHICAL SOCIETY
 HELD AT PHILADELPHIA FOR
 PROMOTING USEFUL KNOWLEDGE

sends cordial greetings and congratulations
 to the President and Officers of

THE AMERICAN MATHEMATICAL SOCIETY

on the occasion of the Semicentennial Celebration
 of the Founding of the Society
 on September sixth, seventh, eighth and ninth
 One thousand nine hundred and thirty-eight.

The Officers and Council of
 The American Philosophical Society
 have appointed

LUTHER PFAHLER EISENHART, A.B., PH.D., SC.D., LL.D.

Professor of Mathematics, Dean Graduate School
 Princeton University

and an honored member of this Society
 to represent them on this occasion
 and to convey to you their cordial greetings and best
 wishes on this auspicious occasion.

Edwin G. Conklin
 Executive Officer

My dear Dean Richardson:

The AMERICAN PHYSICAL SOCIETY extends its congratulations to the American Mathematical Society on the occasion of its Semicentennial Celebration of the founding of the Society to be held at Columbia University. I have requested Dean G. B. Pegram to represent the American Physical Society on this occasion.

Sincerely yours,
Lyman J. Briggs, President

THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS

extends
cordial greetings and good wishes
to

THE AMERICAN MATHEMATICAL SOCIETY

on the occasion of its
SEMICENTENNIAL CELEBRATION

to be held at
Columbia University
September Sixth to Ninth
Nineteen Hundred Thirty-Eight

Harvey N. Davis
President
C. E. Davies
Secretary

CAMBRIDGE PHILOSOPHICAL SOCIETY,
NEW MUSEUMS,
CAMBRIDGE.

The CAMBRIDGE PHILOSOPHICAL SOCIETY offer their cordial congratulations to the American Mathematical Society on the completion of fifty years of activity. It appreciates highly the services which the American Society has rendered in fostering the love and pursuit of mathematics, and the value of the publications which have appeared in its records. The Cambridge Society trusts that the American Mathematical Society may flourish in the future as in the past, to a degree worthy of its long and distinguished history.

On behalf and under the authority of the Society.

F. Gowland Hopkins, President
A. H. Wilson, Mathematical Secretary

To the American Mathematical Society:

The DANISH MATHEMATICAL SOCIETY sends its heartiest congratulations to the Semicentennial Celebration of the founding of its great American sister organization.

Die
 DEUTSCHE MATHEMATIKER-VEREINIGUNG
 spricht der
 AMERICAN MATHEMATICAL SOCIETY

für die ehrenvolle Einladung zu der vom 7.-9. September 1938 stattfindenden Erinnerungsfeier an ihre vor 50 Jahren erfolgte Gründung die herzlichsten Glückwünsche aus.

Vielfache Beziehungen im Interesse des Fortschritts der mathematischen Wissenschaften haben beide Gesellschaften seit langer Zeit verbunden. Darüber hinaus haben auch immer wieder zahlreiche Mitglieder beider Vereinigungen untereinander enge persönliche Fühlung auf wissenschaftlichem Gebiete genommen.

Die Deutsche Mathematiker-Vereinigung begleitet die American Mathematical Society bei dem Uebertritt in das zweite Halbjahrhundert ihres Bestehens mit allen guten Wünschen für eine weitere glanzvolle Entwicklung.

Süss
 Der Vorsitzender:

C. Müller
 Der Schriftführer:

Dear Dean Richardson:

The Hungarian "EÖTVÖS LORÁND SOCIETY OF MATHEMATICS AND PHYSICS" ("Eötvös Loránd Matematikai és Fizikai Tarsulat") at its sitting of 21st May 1938 resolved unanimously and eagerly to send its warmest greetings to its great sister organization on the occasion of the latter's 50th anniversary. The development of mathematics in the United States during the last 50 years has in large part taken place under the auspices of this splendid institution, and the entire mathematical world stands in admiration of the rich fruits of this development. The Eötvös Loránd Society of Mathematics and Physics sends its respectful greeting to the American Mathematical Society on this happy occasion, and expresses its heart-felt wish that your Society shall be able to continue its highly important function of advancing the science of mathematics in the future with the same brilliant success.

In the name of the Eötvös Loránd Society, I remain

Most respectfully yours,
 Leopold Fejér
 Vice-president of the
 Eötvös Loránd Society of Mathematics and Physics

The MATHEMATICAL ASSOCIATION OF AMERICA, through its officers and trustees, felicitates the American Mathematical Society on fifty years of successful activity and guidance in the promotion of mathematical research in America. It has developed as a nucleus of an earnest and increasingly able group, respected and highly esteemed at home and abroad. It has exercised a strong influence not merely in pure mathematics but in the fields of secondary and collegiate mathematics.

The Mathematical Association of America is proud of the parent society and is grateful that the Society has uniformly given it a fine support and cooperation. May the next fifty years bring an even more notable advance in high and worthy scholarship.

W. D. Cairns
 Secretary-Treasurer

(By cable)

On behalf of the MITTAG LEFFLER INSTITUTE I have the honour to express our best wishes on the occasion of the Semicentennial Celebration of the founding of the American Mathematical Society.

Carleman

Dear Dr. Richardson:

The NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS wishes for the Society many more Semicentennial Celebrations. The Society has been a genuine stimulus to mathematicians to carry on research, and as such it has contributed greatly to society.

The Council congratulates you on your work and wishes for you continued success.

H. C. Cristofferson
President

My dear Dean Richardson:

The NATIONAL RESEARCH COUNCIL accepts with pleasure the invitation of the American Mathematical Society to be represented at the semicentennial celebration of the founding of the Society, which will be held at Columbia University September 6th to 9th, and appoints Doctor Luther P. Eisenhart, Professor of Mathematics and Dean of the Graduate School at Princeton University as its representative on this occasion. Dean Eisenhart is also Chairman of the Division of Physical Sciences of the National Research Council.

The Council values very highly its relationships with the American Mathematical Society, and extends its cordial congratulations to the Society upon the completion of a half century of service to the progress of mathematics in this country.

Sincerely yours,
Albert L. Barrows
Executive Secretary

Cher Monsieur et Collègue très honoré,

La SOCIÉTÉ PHYSICO-MATHÉMATIQUE À L'UNIVERSITÉ DE KAZAN vous prie de transmettre nos sincères gratitude pour l'aimable invitation adressée à nous avec la proposition de prendre part dans la célébration du cinquantenaire d'existence de l'illustre Société Mathématique d'Amérique.

A notre grand regret personne de nos membres n'a la possibilité de prendre part dans votre célèbre fête savante.

La Société Physico-Mathématique de Kazan vous bien prie, Cher Monsieur, de transmettre à la Société Mathématique d'Amérique les expressions respectueuses d'admiration et d'hommage en ayant en vue si fécond, si brillant et si remarquable travail de la Société Mathématique d'Amérique pendant un demisiecle.

Agreez, Cher Monsieur et Collègue, les expressions respectueuses de nos sentiments très distingués.

Président de la Société Physico-Mathématique
à l'Université de Kazan,
Prof. Dr. Nikolai Parfentieev
Vice-Président, Prof. Dr. N. Chebotarev

Professor R. C. Archibald

Brown University

Providence, R.I.

Dear Professor Archibald,

We thank you very much to have accepted to act as Delegate of the Polish Mathematical Society to the Semicentennial Celebration of the American Mathematical Society.

Our relations with the American Mathematical Society are numerous and cordial since the founding of our Society, in the Polish State resuscitated. Yourself, Ayres, J. R. Kline, Lefschetz, Lubben, J. von Neumann, Stone, G. T. Whyburn, Garrett Birkhoff and others were in Poland and had lectures at our universities and at the sessions of our Society. Reciprocally, Hurewicz, Kuratowski, Saks, Splawa-Neyman, Ulam and others have or had lectures at the universities of USA and took part in the Congresses of the American Mathematical Society. The number of papers of American authors, printed in our periodicals, and vice versa, as well as the contact and general collaboration between members of both the Societies, augment each year. I hope you have no difficulty to represent our affectionate wishes to the American Mathematical Society.

With kindest regards, and very sincerely yours,

Bronislaw Knaster

The Secretary

The RUSSIAN SOCIETY OF PHILOSOPHY OF SCIENCE IN PARIS conveys to the American Mathematical Society its greetings and congratulations on the occasion of the Semicentennial Anniversary of its highly productive activity.

The American Mathematical Society came into life at a time when the people of the United States were kindled by an irresistible impulse, characteristic of the genius of this country, towards creative and constructive work in all the domains of human activity.

In 1886, in a lecture upon multiple algebra, Josiah Willard Gibbs exalted this branch of mathematics in the following terms:

"It is but natural and proper that an age like our own, characterised by the multiplication of labor-saving machinery, should be distinguished by an unexampled development of the most refined and most beautiful of machines."

The American Mathematical Society was founded two years after these words were spoken, and has brilliantly justified them by its Semicentennial activity. The prominent American mathematicians and philosophers who join in this day's celebration are a living proof thereof. Their achievements, which range over the whole of mathematics, have won world-wide recognition and represent a glorious contribution to Universal Science.

D. Riabouchinsky

President

Herrn Prof. A. Emch, Urbana, U. S. A.
Hochgeehrter Herr Kollege!

Beiliegend übermittle ich Ihnen die Einladung der American Mathematical Society zu der vom 6.-9. September stattfindenden 50-Jahrfeier.

Im Namen der SCHWEIZERISCHEN MATHEMATISCHEN GESELLSCHAFT möchte ich Sie recht herzlich bitten, bei diesem Anlasse die Schweiz zu vertreten und die besten Glückwünsche zu überbringen. Die freundschaftliche Gesinnung der amerikanischen Gelehrten ist uns doppelt wertvoll in der heutigen Zeit, da sie ja denselben Idealen huldigen wie unser kleines Land.

In der Hoffnung, dass wir die Ehre haben werden durch Sie, hoch geehrten Kollegen, vertreten zu werden, grüßt Sie mit vorzüglicher Hochschätzung

Ihr ergebener

W. Scherrer,
zur Zeit Präsident der Schw. Math. Gesellschaft

Sr. Presidente de la "American Mathematical Society":

Me es muy grato comunicarle que en la última sesión celebrada por la "SOCIEDAD MATEMÁTICA ESPAÑOLA" se acordó, por unanimidad, adherirse a los actos de conmemoración del semicentenario de la fundación de la "AMERICAN MATHEMATICAL SOCIETY" que han de celebrarse en el mes de septiembre próximo, en la Universidad de Columbia.

Reciba, señor Presidente, además del testimonio colectivo que me ha sido encomendado trasmisitirle en nombre de nuestra Sociedad, el de mi admiración personal.

J. Barinaga
Presidente de la Sociedad Matemática Española

Mon cher collègue,

La SOCIÉTÉ MATHÉMATIQUE DE FRANCE vous demande de présenter ses remerciements pour l'invitation qui lui a été si aimablement faite de participer à la commémoration du cinquantenaire de la Fondation de l'American Mathematical Society. Le Conseil de la Société a demandé à Mr. G. D. Birkhoff de vouloir bien être le délégué de la Société Mathématique de France.

La Société Mathématique de France vous adresse à l'occasion de cette belle cérémonie tous ses voeux de prospérité.

Croyez, mon cher collègue, à mes sentiments les meilleurs et les plus dévoués.
G. Darmais
Secrétaire de la Société Mathématique de France

Monsieur le President,

Nous vous remercions chaleureusement de l'aimable invitation que vous avez eu la bonté d'adresser à la SOCIÉTÉ MATHÉMATIQUE DE GRÈCE pour la célébration de Semicentennial of the American Mathematical Society.

Nous nous empressons d'exprimer de la part des Mathématiciens Hellènes les plus chaleureuses et les plus sincères félicitations pour les progrès réalisés et l'oeuvre

sérieuse accomplie jusqu' à présent par votre honorable Société, ainsi que nos meilleurs voeux pour l'avenir.

Messieurs Marston Morse et Aristotle Michal ont été chargés par notre Société de la représenter à cette fête solennelle.

Veuillez agréer, Monsieur le Président, l'expression de notre haute considération.

Le Président
N. Sakellariou

Le secrétaire général
C. Lambiris

Chiarissimo Signor Professore,

Mi è gradito l'annunciarvi che il nostro presidente ha incaricato i prof.: David Eugene Smith, Columbia University, ed Virgil Snyder, Cornell University, di rappresentare l' UNIONE MATEMATICA ITALIANA, alla celebrazione del Semicentenario della Fondazione della American Mathematical Society, che avrà luogo nel prossimo Settembre.

Faccio i migliori auguri per la buona riuscita della pre annunciata celebrazione, e per l'avvenire della American Mathematical Society, insieme coi più cordiali saluti,
Ettore Bortolotti

Segretario della Unione Matematica Italiana

Al Chiarissimo Signor Professore Dean R. G. D. Richardson
Secretary of the American Mathematical Society

APPENDIX L

RESOLUTION OF THANKS

The members of the American Mathematical Society feel that the Semicentennial Celebration and Summer Meeting of 1938 have been superbly successful and memorialize in a permanent and fitting way the eminence of America in mathematics and the leading role that the American Mathematical Society has played in the advance of mathematics. They feel that the magnitude and the high plane of the program are a cause for satisfaction and congratulation and they recognize the immeasurable debt to the founders, officers, editors, and other members who by their united efforts through half a century have made the present meetings possible. The members of the Society are particularly conscious of the untiring and skillful work of those persons who have planned this Semicentennial Celebration and who, with their co-workers, have made it successful.

Therefore, Be it resolved: That the American Mathematical Society express its appreciation and thanks to all who have labored for the success of this Semicentennial. Be it further resolved: That particular thanks be extended to Dr. Thornton C. Fry, Executive Secretary of the Semicentennial Committee, for his able leadership and untiring labors; That particular thanks be extended to the officials of the Bell Telephone Laboratories for their generosity in permitting Dr. Fry to devote part of his time to this task and to draw upon the extensive resources of that organization in many ways; That particular thanks be extended to Professor W. B. Fite and members of his subcommittee who have handled the local arrangements in a masterly way for the convenience of all and for the success of the meetings; That particular thanks be extended to Professor Virgil Snyder and members of his subcommittee for their promptness and efficiency in publishing the proceedings of these meetings; That particular thanks be extended to Professor D. E. Smith and members of his subcommittee for arranging the mathematical exhibits; That particular thanks be extended to

Professor L. P. Eisenhart and members of his subcommittee for their care in selecting the speakers; That particular thanks be extended to Professor A. E. Meder, Jr. for work in handling publicity for the entire Celebration; That particular thanks be extended to Professor R. C. Archibald and other members of the Subcommittee on Program; That particular thanks be extended to Colonel Harris Jones and the members of his Department of Mathematics at West Point, for their courteous entertainment of the members of the Society.

And be it further resolved: That particular thanks be extended to the following non-members of the Society: The Commandant of the United States Military Academy of West Point, for his kindness in ordering a regimental dress parade of the cadets; Miss Bertha M. Frick, Curator of the Plimpton, Smith, and Dale Libraries, for her special efforts in connection with exhibits; Mr. Aaron Bakst, for his untiring efforts in arranging exhibits; Mr. G. J. Sklaar, instructor in Art at the New Jersey College for Women, for the bas-relief portrait study of Professor Fiske; Mr. A. R. Thompson, typographical expert of the Bell Telephone Laboratories, for his assistance in connection with many matters pertaining to the meetings; and Mrs. D. R. Eaton, secretary to Dr. Fry, for her effective work in connection with the commemorative banquet.

Be it further resolved: That a copy of these resolutions be spread on the minutes of the Society and that copies be sent to all persons mentioned therein and to all members of committees and to others as the Secretary may deem appropriate.

APPENDIX M

PERSONNEL OF COMMITTEES

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, Dunham Jackson, J. R. Kline, Solomon Lefschetz, R. L. Moore, G. W. Mullins, James Pierpont, T. M. Putnam, R. G. D. Richardson, Virgil 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, Jr.

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: Virgil Snyder, chairman; W. H. Bussey, Arnold Dresden, T. R. Hollcroft, Clara E. Smith.