Policy Committees

There has been a succession of joint policy committees in the profession. The first was the War Policy Committee of WWII, which evolved into the Policy Committee. The subsequent developments were in two directions. One was to a more formal successor, the Conference Board. As it developed, it took care of only a fraction of the joint needs of the research community and a Joint Policy Committee was formed and evolved into the Joint Policy Board for Mathematics.

The War Policy Committee

World War II had a profound effect on American mathematics. One aspect dealt with in another chapter, was the increased prominence of various aspects of applied mathematics. Moreover, there were effects on organization. The immediate effect was the War Policy Committee but successor organizations lived on after the war was over.

The Council of 7 September 1939 empowered the president to appoint a committee, jointly with the Mathematical Association of America, "to advise regarding mathematics in preparedness measures, teaching, research, etc." The president was requested "to communicate with the Division of Physical Sciences of the National Research Council to express the willingness of the Society to cooperate and to request advice as to what further steps should be taken at this time." President G. C. Evans and President W. B. Carver of the MAA did appoint a Preparedness Committee. The general chairman was Marston Morse. There were two subcommittees:

> Research Subcommittee: Dunham Jackson, chairman, Harry Bateman, E. J. McShane, M. H. Stone, E. B. VanVleck, Norbert Wiener, S. S. Wilks
>
> Instruction Subcommittee: J. L. Coolidge, chairman, L. R. Ford, E. C. Goldsworthy, W. L. Hart, M. H. Ingraham, E. J. Moulton, D. V. Widder.

A study of the special function of mathematicians in World War I was undertaken and a census of available mathematicians was considered.

Professor Morse reported for the War Preparedness Committee at a joint meeting of the Council and the Board of Governors of the MAA on 9 September 1940. The text of the report is in the *Bulletin*, v. 46 (1940), pp. 711–714. The committee stated three objectives, quoted here:

1. The solution of mathematical problems essential for military or naval science or rearmament.
2. The preparation of mathematicians for research essential for objective (1).
3. The strengthening of undergraduate mathematical education in our colleges to the point where it affords adequate preparation in mathematics for military and naval services of any nature. A study by a large group of mathematicians of the current routine military texts and sources where mathematics is involved in order that mathematicians may exert their proper influence on the teaching of military and naval science in time of war.

The Research Committee already appointed was continued as the Subcommittee on Research. The Instruction Subcommittee was replaced by two committees as follows:

> Subcommittee on Preparation for Research: M. H. Stone, chairman, B. O. Koopman, R. E. Langer, Hans Lewy, F. D. Murnaghan, H. P. Robertson
>
> Subcommittee on Education for Service: W. L. Hart, chairman, R. S. Burington, J. L. Coolidge, H. B. Curry. E. C. Goldsworthy, F. L. Griffin, M. H. Ingraham, E. J. Moulton.
>
> The consultants were:
>
> Aeronautics: Harry Bateman, chief; Ballistics: John von Neumann, chief, W. T. Reid; Computation: Norbert Wiener, chief; Cryptanalysis: H. T. Engstrom, chief, A. A. Albert, W. A. Hurwitz, Solomon Kullback, Øystein Ore; Industry: T. C. Fry, chief; Probability and Statistics: S. S. Wilks, chief.
>
> Other subcommittees were appointed.

At a joint meeting of the Council of AMS and the Board of Governors of MAA on 27 December 1942, the War Preparedness Committee was discharged at the suggestion of its chairman. The reason is not immediately apparent in either the minutes of the Council or the files of Secretary J. R. Kline, though of course the name War Preparedness Committee was no longer appropriate. In its place, a joint War Policy Committee was appointed. The committee consisted of the following persons:

M. H. Stone, chairman, W. D. Cairns, G. C. Evans, L. H. Graves, Marston Morse, Warren Weaver, G. T. Whyburn.

Moreover, Stone was requested to represent mathematicians in Washington until the committee was functioning. He actually continued in that role for an extended period.

There were changes in personnel of the committee from time to time, some caused by wartime duties of members that conflicted with the committee service.

The report of C. C. MacDuffee, acting chairman of the War Policy Committee, dated 1 September 1943, shows that the Rockefeller Foundation supported the committee with a grant of $2500. There were subsequent grants of $2500 and $1000.

The War Policy Committee was organized with three subcommittees.

Subcommittee on Available Teachers of Collegiate Mathematics: J. R. Kline, W. D. Cairns, Arnold Dresden

Subcommittee on War Training Programs: W. L. Hart, chairman, C. R. Adams, H. M. Bacon, Ralph Beatley, B. H. Brown, H. J. Ettlinger, C. V. Newsom, W. M. Whyburn

Subcommittee to Advise Examinations Staff of the United States Armed Forces Institute: W. T. Reid, chairman, Ralph Beatley, L. L. Dines, W. L. Hart, C. C. MacDuffee.

Some of the activities of the War Policy Committee can be found in its reports to the Society and the Association. One of the first actions, approved by the Council of 27 February 1943, was a recommendation that the Society and the Association "continue to hold mathematical meetings, emphasizing the importance of sectional meetings, and arranging national and sectional meetings at such times and places as will put the least burden on transportation facilities."

The sentence in Article VII, Section 1, of the bylaws requiring that the Annual Meeting be held between 15 December and 15 January was suspended for the duration. Thus the Annual Meeting of 1943 was held on 26–27 November in Chicago. Later in the war there were enforced cancellations of meetings because of restrictions on transportation. Papers contributed in person were handled by title.

A recurring issue, even from the days of the War Preparedness Committee, was draft deferment. The position adopted was to request occupational deferment for all teachers of mathematics in accredited colleges and universities and of graduate students of mathematics preparing for research or college teaching. Changing regulations required continuing examination of the situation. Dissemination of regulations was undertaken.

Dues for persons in the armed forces were set at $1.00.

There was great demand for teachers for programs of the armed forces in colleges and universities. As the draft brought personnel into the ranks faster than they could be deployed effectively, the training programs were used for the double purpose of improving the effectiveness of the draftees and as a "parking" place for them.

The advice to the Armed Forces Institute consisted in part of supplying examinations for accreditation purposes and transfer credit.

The committee was very much concerned with arranging that mathematicians in the armed forces were used in places where their expertise was of value. Thus they sought areas in the armed forces where mathematics was needed and tried to keep track of mathematicians in uniform to arrange to match persons with assignments.

The effective use of mathematics was also approached through the consultants and through the matching of senior mathematicians with tasks in their fields of expertise.

The report of MacDuffee already mentioned emphasized the desirability of preserving a record about the war activities of mathematicians. It notes the difficulty of preparing a current record both because some of the work was confidential and because no one was available to do it. So far as the writer is aware, the appeal that this record be assembled later has not been properly answered although some segments have been covered. The Research and Development Division of the War Department conducted a study. A questionnaire was distributed through the Institute for Mathematical Statistics and the Society asked individuals for a resumé of activities in the interval 1942–1946, particularly the degree to which their professional training was used by the armed services. Physicists and chemists were questioned similarly.

As soon as the war was over, the War Policy Committee was discharged. The formal action took place at the Council of 16 September 1945. The letter from M. H. Stone, the chairman, presented as a final report, recommending the discharge also recommended that a joint policy committee among mathematical organizations be established. The report was approved.

The Policy Committee

Following the recommendation of the War Policy Committee as it was discharged, the Council of 23 November 1945 considered a plan for a Policy Committee for Mathematics as prepared by President T. H. Hildebrandt and Secretary J. R. Kline. With slight modification by the Council it was approved in the following form:

1. There shall be established a Policy Committee for Mathematics, to be composed of four representatives from the American Mathematical Society, two from the Mathematical Association of America, one from the Institute of Mathematical Statistics, and one from the Association for Symbolic Logic. The committee shall elect its own chairman.
2. Representatives of each organization shall be selected in accordance with a plan approved by the governing body of that organization.
3. The Secretary of the American Mathematical Society shall be a nonvoting, ex officio member of the committee and shall act as secretary for the committee.
4. The Policy Committee shall study those problems affecting the mathematical profession which are the common concern of the constituent organizations. It shall be empowered to speak for the constituent organizations on matters which concern the position of mathematics in such matters as proposed or enacted legislation concerned with science, problems concerning the effective use of mathematicians or potential members of our profession, and other questions which tend to affect the dignity and the effective position of mathematics among related sciences, both nationally and internationally.
4. Nothing in the powers of this committee shall be construed to affect any commitments already made on a national or international basis by any of the constituent organizations (i.e., among these is the International Congress of Mathematicians for which an invitation was issued by the American Mathematical Society in 1936).
5. The work of this committee shall be financed by one of the following methods:

   (1) By means of funds requested from national foundations for this specific purpose;

   (2) By means of funds contributed by the constituent organizations, in proportion to their voting representation on the committee.
6. This Policy Committee shall be approved for a period of five years. At the end of that time the work of the committee shall be reviewed and a decision made concerning the continuation of the committee.

The Council agreed that a nominating committee selected by the president should name eight candidates for the four Society places on the Policy Committee. The nominating committee, consisting of M. H. Ingraham, chairman, J. R. Kline, and R. L. Wilder named A. A. Albert, G. C. Evans, T. H. Hildebrandt, R. E. Langer, E. J. McShane, Marston Morse, G. B. Price, and M. H. Stone. Those elected were Stone (term four years), Morse (three years), Hildebrandt (two years), Evans (one year) in order of number of votes received.

The Institute for Mathematical Statistics and the Association for Symbolic Logic were represented immediately by Will Feller and Alonzo Church respectively. However, the Mathematical Association tabled the matter of participation on initial consideration. In 1947 the number of MAA representatives was increased to three and the MAA did join. The National Council of Teachers of Mathematics became a member with one representative effective in 1951.

The Rockefeller Foundation supported the Policy committee by extending the period of the final grant for the War Policy Committee (more than $300 remained) and making an additional grant of $1500.

The Policy Committee initially concerned itself with various bills before Congress, atomic research as it affects freedom of investigation, selective service regulations, and problems of international cooperation as raised by the United Nations Educational, Scientific, and Cultural Organization, then in the process of formation. Chief among the legislative matters was the proposal for a National Science Foundation.

The Policy Committee supported the Office of Scientific Personnel, passing through grants from the Rockefeller Foundation of $1500 in 1945–1946 and $2000 in 1946–1947.

In the election of 1946, Langer was elected to the Policy Committee over McShane as the replacement for Evans. In 1947 Einar Hille was elected to replace Hildebrandt.

The Policy Committee concerned itself with the reestablishment of the International Mathematical Union, which had expired prior to the Congress of 1936. An initial attempt to get the International Council of Scientific Unions to sponsor a discussion meeting in 1947 failed. The Policy Committee accordingly set a time just prior to the Congress of 1950 for an organization meeting. Worldwide representation on the Union, which had been absent in the defunct predecessor, was thought desirable. The Policy Committee wished to establish the principle that Congresses are independent of a mathematical union and was prepared to insist on this point if necessary with respect to the Congress of 1950, which the Society had well in hand and which was based on the previously accepted invitation to conduct the deferred Congress of 1940. It developed that both the Policy Committee and the Organizing Committee for the Congress had made overtures toward reestablishing the Union. The Council clarified that the Policy Committee was the sole agent.

The stance of the Union with respect to International Congresses was subsequently formulated by the Policy Committee on 27 December 1948 in the following principle as a basis for negotiation by Stone:

> To cooperate with the four-year Congresses when requested and to assist in organizing other international meetings of limited size and scope.

The Kilgore-Magnuson bill, proposing a version of the National Science Foundation, was supported by the Policy Committee in 1946.

Concerns of the committee in 1949 included the following topics: the possibility of a foundation or a "super-structure" to secure support from industry; selective service regulations; liaison with the Department of the Army and the Department of the Air Force at their request; the structure of the International Mathematical Union; and again the proposal for the National Science Foundation. In particular, the Policy Committee formally supported the establishment of the Foundation. A subcommittee consisting of W. T. Martin, chairman, G. C. Evans, Saunders Mac Lane, and Mina Rees was studying the way in which the National Science Foundation, if established, could serve science and mathematics. The subcommittee posed eight questions about grants, conferences, publication, and how the Foundation should inform itself about performance of grant recipients. The subcommittee suggested that governing bodies, such as the Council, might discuss the nature and propriety of action about an amendment requiring an affidavit from scholarship recipients about "membership in organizations that believe or teach the overthrow of the United States Government by force or violence, etc."

At the same time that the Council supported the establishment of the National Science Foundation, it "deplores the amendment inserting a new section ... which introduces non-scientific objectives."

The Policy Committee encouraged the formation of the Division of Mathematics in the National Research Council. This was done in 1951 with M. Morse as chairman and M. H. Stone as vice chairman. At the same time the Policy Committee was able to announce that the United States would be represented in the newly reorganized International Mathematical Union by a United States National Committee for Mathematics with five members named by the Policy Committee and four by the new Division of the NRC.

In 1951 the Council and the Board of Governors of the MAA jointly urged that the Congress appropriate funds to the National Science Foundation for the support of both basic scientific research and students taking scientific training.

In 1953 it was noted that a committee had been appointed to evaluate the functions and operations of the Bureau of Standards and that the Policy Committee would be asked to name a member.

The manner of selecting Society representatives to the Policy Committee was considered in April 1955. It was observed that although the Policy

Committee met rarely it considered items of extreme importance. Thus the Society representatives should be well-informed. It was agreed that the representatives should be the president, the president elect or ex-president, the secretary, and one of the vice-presidents named by the president.

The Conference Board

Whereas the War Policy Committee had been a loose ad hoc confederation, the Policy Committee had taken on a structured existence. In the next step, a formal framework with a constitution, bylaws, and a staff came into being. At its meeting of 27 August 1957, the Council received the proposed plan for the successor organization called the Mathematics Conference Organization. Initially its membership was the same as that of the Policy Committee. Its objectives were as follows:

> The object of the Mathematics Conference Organization shall be the coordination of the activities of its member organizations in the advancement of mathematics and its applications; in raising funds for the support of their activities; in giving advice and counsel on mathematical matters; in the promotion of research, the betterment of instruction, the training of mathematicians, and the designing of programs to support their activities; and in acting in any capacity in which the member organizations can function more efficiently as a group than separately.

The new organization was to be managed by a Mathematics Conference Board of representatives and members-at-large. It was to be financed by dues levied on the member organizations in proportion to their own total dues of individual members.

It was just as this change was under consideration that in 1957 the Society for Industrial and Applied Mathematics became a member of the Policy Committee and, of course, of the successor.

The Society ratified the constitution of the Mathematics Conference Organization at its meeting of 28 January 1958. That constitution differed from the preliminary version that the Council had seen earlier principally in that the dues were set on a less ambitious scale. The plan was to collect in stated proportions the amount necessary each year to bring a standing fund up to a total of $1250. The total and the proportions were subject to periodic adjustment.

It was not intended to trace the history of the Conference Board in detail here. Its name changed to the Conference Board of Mathematics and then to the Conference Board of the Mathematical Sciences as the number and diversity of its membership increased. The number of organizations that adhered

increased to a dozen. Initially G. Baley Price was the executive secretary. He was followed in that capacity by Leon W. Cohen. In 1965, Thomas L. Saaty was employed almost full time as executive secretary. By 1968 he had been replaced by Truman A. Botts as full-time executive director. He held the position until his retirement in 1982. At this point the organization was finding it difficult to finance its operations at the scale that grants had once made possible. The level of activity and the staff were cut back. Marcia P. Sward, associate director of the MAA, held the post of administrative officer as a small fraction of her work load until she took the position of executive director of the Mathematical Sciences Education Board in 1985. Then the position was held by Louise Raphael of Howard University, followed by Peter L. Renz, associate director of MAA.

The merits of belonging to the Conference Board were examined in 1979. They included the sponsorship of the Joint Projects Committee, the Congressional Fellow program, the Washington contact through its executive director, the naming through CBMS of members of the U.S. National Committee for Mathematics, and the CBMS Newsletter.

One influential activity of the Conference Board deserves special mention. This is the CBMS Regional Conferences. These were one-week conferences, several each year, with a principal lecturer who gave usually ten expository lectures on a field of research. The lecturer was encouraged (in particular by a manuscript fee) to prepare the lectures for publication. By 1987 the Society had published 68 of these sets of lectures.

The Council of Scientific Society Presidents

The Council of Scientific Society Presidents (CSSP) was formed in 1973. The driving personality was Alan C. Nixon, who had been elected president of the American Chemical Society as an independent candidate. The organization is a "club" of presidents, not an umbrella organization of societies. The AMS has participated since the organization meeting in June 1973, when W. J. LeVeque attended in place of President S. Mac Lane.

The CSSP has been influential in Washington in making contacts with members of Congress and highly placed government administrators and in stating positions on pending legislation and appearing to defend them before Congress.

Mathematicians have been prominent in the organization. R. D. Anderson, A. M. Gleason, and Lynn Steen have served as chairman of the organization.

The Joint Policy Board

In 1973, the Executive Committee of the Council and the Executive and Finance Committees of MAA authorized a joint committee consisting of three

members of AMS, three of MAA, and two observers from SIAM to study the possibilities of establishing one overall organization in American mathematics. The members were Saunders Mac Lane (AMS), chairman, Dorothy L. Bernstein (MAA), Ralph P. Boas (MAA), Richard C. DiPrima (SIAM), C.-C. Lin (SIAM), Alex Rosenberg (MAA), P. Emery Thomas (AMS), and Gail S. Young (AMS). After considerable deliberation, the committee decided not to recommend an overall organization but to propose an explicit way of working on problems of common concern.

The report, presented to the Executive Committee of 1–2 December 1973, provided a structure and charge for the Joint Projects Committee in Mathematics. It went with ECBT approval to the Council of 14 January 1974, where it was approved with slight modification. Some of the provisions were as follows:

> JPCM will examine the relation of the development of mathematics, pure and applied, to the welfare of society and of the general scientific community, labor, industry, government, and other interested groups.
>
> ... the JPCM shall give due attention to the employment problem and keep abreast of new developments in the relationship between mathematics and society.
>
> ... JPCM may establish committees to work on specific problems and may solicit funds to support its projects.
>
> ... JPCM may employ an executive director and appropriate staff.
>
> The JPCM shall be established for a period of five years. After that it will go out of existence unless specifically renewed by the parent organization.

SIAM soon became a full member of the consortium. Each organization supplied a small set of appointed representatives.

The JPCM needed an entity to hold funds and contracts and for those purposes turned to the Conference Board of the Mathematical Sciences.

One substantial project of JPCM was the production of a volume of essays titled *Mathematics Today*. It was produced through a steering committee with J. T. Schwartz as chairman and with Lynn Steen as editor. Somewhat to the chagrin of some of the officers of the Society, it was published in 1978 by Springer Verlag rather than by the Society.

Other projects in which JPCM participated were studies of the economic status of the profession and the role of mathematics in government activities. The latter was the beginning of the idea of the "Washington presence." The JPCM participated in the entry of the AMS into the congressional science

fellowship program, of which more later. The JPCM instituted panel discussion on topics of interest to the profession at joint Annual and Summer Meetings.

The life of JPCM was extended for a second five years in 1980.

In 1982, the JPCM was reorganized as the Joint Concerns Committee for Mathematics, this time with no time limit. The change was coincident with a shrinking of the Conference Board, which no longer maintained a full-time executive director and was no longer in a good position to give service to JCCM. The AMS became the holder of funds. Each organization was now represented by its president, its executive director, and a third person.

In 1983, the JCCM established the "Washington presence." The intent was to have "a knowledgeable mathematician on a part-time salary who would gather information and espouse the cause of mathematics as liaison between the mathematical community and government. This person would represent the mathematical community by developing contacts with heads of mathematical science programs in government agencies, White House Administrators, and legislators and their aides in order to present a consistent picture of the needs, policies, priorities, and accomplishments of mathematical scientists."

The three constituent organizations approved the plan. However, there was opposition to it in the Council of the AMS on the grounds that a person remaining in the position for a long time might gather too much power or might be co-opted by the governmental establishment. This argument was denied by proponents who claimed that power would not accrue but rather that familiarity and channels of information were sought and that long service was required to develop them. Accordingly, the AMS approval carried the stipulation that no person serve longer than four years as head of the office.

The JCCM was fortunate in several respects in securing the services of Kenneth M. Hoffman as director of the operation. In addition to high quality of performance, he was already familiar with the ground in that he was the executive director of the Ad Hoc Committee of the National Research Committee that produced the David Report, formally titled *Renewing U.S. Mathematics: Critical Resource for the Future.* (See the *Notices*, v. 31 (1984), pp. 434–469 and 570–616.) Moreover, MIT allowed him full time to work on the project while continuing to pay a portion of a salary.

Several major projects occurred during his tenure in which his services were effective. These included ICM-86 and the planning for the Centennial of the AMS. He was able to make the latter part of an integrated year of celebration of 100 Years of American Mathematics.

The JPCM (and later the JPBM) participated in the support of a Congressional Science Fellow. This is a program in which scientific and professional organizations fund year-long appointments of a person to serve on the staff

of a member of Congress or of a congressional committee. It has advantages for the organization both in the current contact and in the accumulation of persons in the organization with knowledge of government operations. It is advantageous for the individual in broadening of background and training. It is more useful in sciences with immediate application and in areas subject to government regulation than in mathematics. The fellow in mathematics was supported through contributions by AMS, MAA, and SIAM through CBMS to AAAS, which handled orientation, placement, and payments. The mathematical community supported one fellow per year, with gaps when there were no well qualified applicants, from 1977 through 1986.

In 1984 the name of the organization was changed to the Joint Policy Board for Mathematics. The Washington Presence became known as the Office of Governmental and Public Affairs (OGPA).

The issue of the tenure of the head was raised in 1987 as the four years drew to a close. The Society suspended the four-year limit and called for a study by the members of JPBM of the appropriate length of term. The administrative supervision of JPBM had been lodged with a Directors' Committee consisting of the three executive directors, to whom JPBM assigned the task. The Directors' Committee opted for regular reexamination and reevaluation of performance and long service for one who is performing well and recommended that the head of OGPA serve at the pleasure of JPBM under a renewable term contract that gave both sides substantial notice of nonrenewal.

The relationship of the professional mathematical community with the funding of research by various arms of the government, particularly the Department of Defense, was a substantial issue, as has been noted in the chapter on political and social questions. The JPBM was involved in that the Head of OGPA, among other activities, dealt with these agencies both to find out what were their needs and their plans for financing them and to make such information available in the mathematical community. A focus of irritation for critics was the Strategic Defense Initiative (SDI). It appeared that, having learned of the interest of the agents of SDI in some areas of mathematical research, the Head of OGPA facilitated a briefing in October 1986 through the National Academy for a group of about fifty mathematicians. This was regarded unfavorably by critics. Some opposed SDI on political grounds. Others were skeptical of the technical feasibility of SDI. Some opposed any effort that facilitated work of the Department of Defense and some of the financing of research in mathematics by any government agency except the National Science Foundation. Throughout the discussion was the underlying difference in viewpoint of the discipline of mathematics by pure mathematicians and applied mathematicians.

A committee consisting of William A. Veech, chairman, M. Susan Montgomery, Hugo Rossi, David Vogan, and Robert Williams investigated the

structure and function of JPBM and considered the issue of a term for the Head of OGPA and reported to the Council of 5 January 1988. They recommended that a fixed term not be set immediately. They further recommended that a second committee report on changes in structure of such nature that the Council be better able to advise JPBM and through them the Head of OGPA on what sort of activity is appropriate.

The second committee, consisting of Jean Taylor, chairman, Robert M. Fossum, and Marc A. Rieffel, was duly appointed. It made three recommendations. First, that the Society representation should consist of the president, the executive director, and a third person elected by the Council. It was suggested that the third person be a vice-president or member-at-large, elected for a two year term not coextensive with a presidential term, with at most two terms, and serving also as an ex officio member of the Committee on Science Policy. The second recommendation was that the Committee of Executive Directors be a permanent committee concerned with details of management, particularly of OGPA, but that the executive directors be nonvoting members. JPBM should concern itself with overall direction and policy. The addition of another member from each organization concerned with financial matters is reasonable. For the Society this should be an elected Trustee. Finally, the Society through its Committee on Science Policy and otherwise should reexamine its own policy with respect to JPBM and OGPA. The reaction of the Executive Committee and Board of Trustees and of the Council to these proposals was awaited at the time of this writing.