

# THE HISTORY OF THE EUROPEAN MATHEMATICAL SOCIETY: 1990-98

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## **Introduction**

This brief history of the European Mathematical Society covers a period of slightly more than eight years, from the founding of the Society in 1990 to the end of 1998. The history was commissioned by the Society in order that an account could be composed before memories had faded, leaving only written records. Inevitably the many and changing participants in the activities to be described will have different views of these activities and their significance. The author has aimed to write an objective account - 'history' is really too grandiose a title - from the perspective of one who was present at, and involved in, all of the Council and Executive Committee meetings of the Society, with the exception of one meeting in Cracow. As is well known, proximity to events does not necessarily ensure freedom from prejudice in reporting - and so others must judge the degree of objectivity here achieved; notwithstanding the aim of impartiality, the author has allowed himself the liberty of an occasional subjective comment where it seemed to be particularly apposite.

## **Before Madralin\***

The genesis of the European Mathematical Society (EMS) lies in efforts (1976) by the European Science Foundation (ESF) to find ways of improving European co-operation in mathematics, possibly through the setting up of a federation of European mathematical societies. These efforts resulted, at the International Congress of Mathematicians (ICM78), in the creation of a European Mathematical Council. This Council began to function but political difficulties at the International Congress of Mathematicians in Warsaw (1983, postponed from 1982) inhibited the development; nevertheless, the Council, while initially drawn mainly from the West did evolve into a forum for delegates from both Eastern and Western Europe. At Prague (1986) the first steps were taken to draw up a constitution for a society along the lines of the European Physical Society. The draft Constitution was debated in Oberwolfach (1988) and subsequently, no doubt, by the various participating societies until its presentation to the assembly of delegates representing 28 mathematical societies at Madralin.

*(\* Note: Strict Polish spelling requires a special font for the first 'a').*

## **Madralin 27-28 October 1990**

Madralin, which is situated in a wooded area some 20 kilometres from Warsaw, is the location of an attractive country residence of the Polish Academy of Sciences. The delegates assembled in this residence with a strong sense of purpose and with the confident expectation of the eventual founding of the EMS.

The first part of the meeting took place under the auspices of the European Mathematical Council chaired by Sir Michael Atiyah. Strongly held differences of opinion as to how a European Mathematical Society should be organised emerged very quickly with an attempt by the French delegation to change the order of the Agenda so that the aims and activities could be discussed before any discussion of the Statutes of the draft Constitution. After an exchange of views, it was agreed that the order of the Agenda could be retained, as a discussion of the aims could lead naturally into a discussion of the draft Statutes. After a

fairly lengthy debate on the aims and structure of the projected Society, the assembly proceeded to debate the draft Statutes, which were actually the outcome of negotiations conducted by A. Lahtinen in Finland, following the meeting in Oberwolfach (1988). The assembly was perturbed by a very forthright statement from the President of the French Mathematical Society (SMF), J.-P. Bourguignon, to the effect that the SMF could not accept Statutes which in the opinion of the SMF implied a federation of societies and would only countenance a society composed of individual members. The possibility of a European Mathematical Society without French participation was unthinkable. Fortunately, the viewpoint of the SMF was regarded sympathetically and it was suggested that, for the greater good, the draft Statutes could be broadly accepted but that they should be reconsidered after a European Mathematical Society was up and running. It was agreed that the Statutes would be fundamentally reconsidered when the individual membership had reached 4000 (later amended to 3000). Several changes were made to the draft Statutes and By-laws. The requirement that the President had to be elected from among the members of the Council was changed from being part of a Statute to part of a By-law; even in this less stringent form, the requirement was to prove troublesome. The debate on the draft Statutes concluded amicably and with some relief on the part of the delegates.

Of the 28 mathematical societies represented at Madralin, 27 wished to join the European Mathematical Society (EMS) as full members. The remaining society was the Mathematical Society of the former German Democratic Republic (DDR) which, owing to political changes, was about to terminate its independent existence.

Sunday (28 October, 1990) was an exhilarating day, sunny of sky, and crisp of temperature. The omens were therefore propitious when the European Mathematical Council agreed unanimously to establish the EMS, constitutionally under Finnish Law with its legal seat at Helsinki. The gestation period having been protracted, the delegates were pleased to toast the birth of the EMS with liquid hospitality from their Polish hosts. In honour of the occasion, B. Bojarski, on behalf of the Polish Academy of Sciences, along with A. Pelczar, President of the Polish Mathematical Society (PMS), presented a medal, commemorating the 70th anniversary of the PMS, to the Chairman, Sir Michael Atiyah, for passing on to the incoming President of the nascent EMS.

The European Mathematical Council having been formally dissolved, the delegates reassembled after a cheerful lunch and reconstituted themselves as the Council of the newly-born EMS. The first act was to elect a President and Executive Committee (EC) in accordance with the Statutes as finally agreed. A small committee had been working over the lunch period to produce a balanced list of nominations. The Council quickly accepted the list and provision was made to stagger the initial lengths of period of office to ensure a sensible turnover of the membership of the EC. The first President, Fritz Hirzebruch, who was himself a very popular and inspired choice for the post of President, then took the chair of the Council and expressed its profound thanks to Sir Michael Atiyah for his tireless work for the European Mathematical Council. The other positions on the EC were agreed, namely:

Vice-Presidents: Alessandro Figà-Talamanca, Czeslaw Olech

Secretary: Chris Lance

Treasurer: Aatos Lahtinen

Committee Members: Eva Bayer, Alois Kufner, Pierre-Louis Lions

László Márki, Antonio St Aubyn

Various tasks faced the Council, tasks which were to continue to present problems and opportunities over the succeeding years. A discussion paper on publications was debated. While there was general agreement on the need for a newsletter, differences of opinion were evident as to whether the EMS should produce a journal; these differences were to dominate many subsequent discussions. A Publications Committee, under B. Teissier and Stewart Robertson, was set up. Education was felt to be a 'good thing' but just what should be undertaken to make an effective contribution to education was much less clear. T. Nemetz, who had been active in mathematical education, was asked to chair a Committee on Mathematics Education.

Among the aims of the EMS is the promotion of research in applied mathematics, and the delegates, who were probably mainly pure mathematicians, were concerned that this aim should be fully realised. The need

to liaise with other bodies, such as the European Consortium for Mathematics in Industry (ECMI), which had been very successful, was evident. The Council set up a Committee on Applied Mathematics under the chairmanship of J. Hunt.

By its very nature, the EMS had a responsibility to promote relations with the then European Community and also a responsibility to improve relations between Eastern and Western Europe. Both responsibilities were later to be tackled by the EC with significant results.

A separate body, the European Mathematical Trust (EMT), had set up a so-called EUROMATH project which was intended to produce software which would provide various services including an advanced mathematical document editor and access to a database. The EMS clearly had an interest in such an ambitious project and, accordingly, Antonio St. Aubyn was appointed to liaise with the EMT; the inherent difficulties of this project were to emerge over time.

The Council then turned its attention to the possibility of a Congress which would take place in Paris during the Summer of 1992. The driving force behind the concept of the Congress, M. Karoubi, had been invited to attend at Madralin in order to present specific proposals. It was envisaged that the Congress should foster European co-operation in mathematics. Apart from survey lectures and prizes for young mathematicians, there was to be a programme of 'tables rondes' which would consist of discussions on themes of European interest. The proposals led to a free-ranging discussion on the choice of dates, the funding of the Congress, likely accommodation and the scale of the Congress itself. The delegates naturally presumed that M. Karoubi was speaking on behalf of the French mathematical community and were somewhat alarmed by a further intervention from J.-P. Bourguignon to the effect that the concept of the Congress did not have the support of the SMF. In spite of the obvious difficulties that the position taken by the SMF would create and the shortness of the timescale in which to plan a Congress, the delegates were strongly influenced by the evident amount of preliminary work which had been done and by the significant fact that it was intended to be a European Congress. These difficulties would later be resolved but not without some heartache in the French mathematical establishment.

Other matters at Madralin were relatively routine. The delegates left Madralin justifiably pleased with what had been accomplished.

The foundation of the EMS was well reported in the European press. The reporting sometimes reflected local interests but overall there was a good understanding of what the EMS wished to achieve. The following comments from the reports are fairly typical:

**Le Figaro, 28 November, 1990**, "Le but de cette société européenne est d'intensifier les échanges entre les étudiants en mathématiques au sein de l'Europe",

**Frankfurter Allgemeine Zeitung, 28 November, 1990**, "Die Gesellschaft wird künftig auch die Arbeiten der Forschungsinstitute in Europa koordinieren, darunter des internationalen Euler-Instituts in Leningrad und des Banach-Zentrums in Warschau".

**Il Giornale, 23 November, 1990**, "Tra gli obiettivi dell' associazione quello di costituire uno spirito comune <<in senso europeo>>, promuovere la ricerca e la formazione nella matematica pura e applicata e di valorizzarla nel mondo moderno".

**Times Higher Education Supplement, 9 November, 1990**, "The new European Mathematical Society aims to promote mathematicians' involvement in research projects funded by the Community, and to allow mathematicians in eastern Europe to get help from colleagues in richer countries".

#### **Post-Council Madralin 1990 to Pre-Council Paris 1992**

The first and second meetings of the newly-elected Executive Committee (EC) were held at the Mathematisches Forschungsinstitut, Oberwolfach, and later the EC held its meeting in Prague, thereby sampling the charms of both Western and Eastern Europe. Over the next four years, the EC was to benefit greatly from the informed and wise counsel of its President, Fritz Hirzebruch, ably assisted by the Secretary, Chris Lance, who expertly arranged business, and by the thoughtful, imperturbable, Treasurer Aatos Lahtinen, who kept an eagle eye on the financial affairs. A very important administrative arrangement was made with the University

of Helsinki by which an office was set up and staffed on a part-time basis by Ms. Tuulikki Mäkeläinen. This arrangement was to prove very beneficial to the EMS - for Tuulikki Mäkeläinen was to give, unstintingly, superb administrative support over the years.

At the first meeting in Oberwolfach, the members of the EC came together with an eager sense of anticipation and perhaps with some awe in regard to the tasks with which they were faced. Clearly the wishes of the Council had to be turned into reality but the EC was faced with the problem of effective implementation of these, and other, wishes. The policy adopted, then and later, was to create sub-Committees whose membership would not solely be drawn from the EC but would draw upon appropriate expertise wherever it might exist. As was to be found, committees are easily set up; what is harder is to ensure they are effective. Certain issues were immediately obvious - budgets, publications, Paris Congress, etc. The budget of the Society then, and later, was never a problem. Apart, occasionally, from very minor changes, the budgets of Aatos Lahtinen were always to be accepted - a testament to careful financial management.

Two requests had been received, and more were to arrive over the years, for sponsorship of summer schools. It was never possible to offer financial help but evidently the organisers of some summer schools wished to have, at the least, the moral support of the EMS. A Committee on Summer Schools (Chair, László Márki) was at first set up to consider requests for EMS sponsorship for meetings which would emphasise European integration and offer support for younger research workers; later, the scope of the Committee would enlarge and it would actively promote summer schools.

Relations with the European Community were clearly important and a European Community Unity Liaison Committee (Chair, Alessandro Figà-Talamanca) was set up. It was essential for the authorities in Brussels to recognise the needs of mathematicians, for example, the Committee for the European Development of Science and Technology (CODEST), although playing an important role in the European Community's Science programme, did not at first have a mathematics panel. Subsequently, the EC was able to suggest names for the Mathematics and Computer Science panel of CODEST. Much successful work was put into establishing relations with Brussels. At the first meeting with the European Community (Brussels, 15 October, 1991), Alessandro Figà-Talamanca and Fritz Hirzebruch had a constructive meeting with F.M. Pandolfi who was then the Vice-President of the European Commission and Commissioner in charge of research; the discussion focused on the ways of stemming the brain drain of mathematicians from Russia and other parts of Eastern Europe, and of means for increasing mobility within the European Community.

The Council at Madralin had set up a Committee on the Applications of Mathematics. This Committee was to be a cause of concern since the intentions of the Council did not appear to be being carried out. The EC more than once revised the composition of this Committee.

Female mathematicians were conspicuous by their absence at the Madralin council but the EMS has since then always tried to encourage the advancement of women. Appropriately a Committee on Women and Mathematics (Chair, Eva Bayer) was formed. Among the objectives of this Committee was the collection of information on the number and proportion of women mathematicians at different professional levels.

Discussions on the publications policy of the EMS proved to be the most contentious. There had been divided views at Madralin and the divisions were to occur again whenever matters of publications were debated. A Publications Committee was set up under Stewart Robertson, the initial aim being to produce a newsletter. A lengthy discussion ensued as regards the newsletter, its potential editors and its general format. In the upshot, Newsletter No. 1 appeared, dated 1st September, 1991, with two editors, David Singerman (Southampton) and Ivan Netuka (Prague); the printing was done in Southampton. The first issue contained a message from Fritz Hirzebruch and an article by Chris Lance on the aims of the Society; the Paris Congress was also announced.

The Committee on Education struggled to find a role. Sadly, both T. Nemetz and his successor W. Dörfler had to relinquish the chair for health reasons.

The schedule of meetings of the EC, which became established, entailed two, and sometimes three, meetings per year. Since matters could not always wait during the period of six months intervening between most meetings, a General Purposes Committee (GPC), consisting of the President, Secretary and Treasurer, was formed. The GPC had a remit to act upon matters of urgency, subject of course to the authority of the EC;

in addition, the GPC was given the responsibility for the preparation of business for the EC. The GPC was to play a useful facilitating role in the workings of the EC.

A major concern of the EC was the Paris Congress for which announcements had been made and for which material was being printed. While not strictly part of the history of the EMS it is nevertheless necessary to digress in order to explain the concern and to outline events in France.

The 'Haut Comité du Congrès' met (12 April, 1991) and learned that a majority of the Council of the SMF was not in favour of the Congress and that cancellation of the Congress might be inevitable. Apart from financial uncertainty, there were conflicting views over the actual location of the Congress and over whether an upper limit should be imposed on the number of registrations. The EC was alarmed at this state of affairs and when the Haut Comité met again (13 May, 1991), Fritz Hirzebruch and Aatos Lahtinen were present. Fritz Hirzebruch stated that the EMS had not realised that the "Comité d'Organisation", for which M. Karoubi was the spokesman, did not have the support of the French mathematical community and that, in any case, he was in favour of a Congress located at the Sorbonne. Decisions were urgently needed. It was decided (24 May, 1991) that the Congress would take place, 6-10 July, 1992, on the site of the Panthéon-Sorbonne with a limitation of 1300 on the number of participants. While acknowledging the considerable work accomplished by M. Karoubi, it was decided to form a new organising committee. Unfortunately, he did not accept the limitation in numbers and wrote to various national societies to seek support for his point of view. Needless to say, his point of view had support. The EC also regretted the proposed limitation in numbers but accepted the limitation as inevitable.

After all the above-mentioned difficulties, it is a pleasure to record that the European Congress of Mathematicians, held at the Sorbonne and Panthéon-Sorbonne universities, was a resounding success. The responsibility for this happy outcome lay with those French mathematicians who had only a brief time to organise the Congress. It should be recorded that the Haut Comité, with some changes of personality, became the Steering Committee, both chaired by H. Cartan. The Organising Committee was chaired by F. Mignot, with F. Murat as Treasurer, and the Scientific Committee was chaired by H. Föllmer. M. Karoubi, for his stupendous efforts to promote the Congress, was recognised as 'Founder of the Congress' and chaired the Prize Committee. The City of Paris generously donated ten prizes for award to outstanding European mathematicians under the age of 32. The prize ceremony in the Hotel de Ville was graciously presided over by Jacques Chirac, then mayor of Paris and latterly President of France; a personal medal was also fittingly presented to Fritz Hirzebruch.

#### **Council Paris 4-5 July 1992**

One of the first acts of this Council was the admission of various Mathematical Societies to corporate membership. The EC had no authority to admit societies as corporate members but had, on grounds of practicality, instituted provisional membership of societies subject to ratification by the Council. One particular request, that of the Israel Mathematical Union, had caused some uncertainty because of Article 3.2 of the Statutes which apparently restricted membership to societies located 'within Europe'. However, partly on the analogy of the 'Eurovision Song Contest', a liberal interpretation of the Statutes prevailed, and the Israel Mathematical Union was easily admitted to membership - as indeed were the other applicants for membership.

The Council then came to the business of organising elections to the EC for the period 1993-96. Vacancies existed for a Vice-President, and for four other members of the Committee. Nominations had been sought, with a deadline of 30 June, 1992, but only five nominations had been received. Contrary to the recommendation of the EC, but legitimately in terms of the Statutes, the Council agreed that additional nominations could be proposed. However, there was then, and indeed there will always be, an inevitable difficulty in elections to the EC. It is surely desirable to secure a balanced mix of nationalities and subject interests among the ten members of the EC, but it is not obvious how this can be achieved, not least because it is unlikely that all nominees are known to all the delegates. For these reasons the first stage in the election process was the selection of a so-called Nominations Committee, disjoint from the EC, which, overnight, would make a suggested choice of nominees for election while leaving the actual election to be decided by the Council. The Nominations Committee made unanimous recommendations in respect of which László Márki would become Vice-President, and four nominees would join the EC. The first recommendation was quickly accepted but the second recommendation led into a confused discussion on the means by which votes on the, by then,

nine nominees could be counted, Rule 16 of the then By-laws not being particularly well devised for such an election. After a secret ballot the four nominees who had been recommended by the Nominations Committee, and who also achieved the highest votes, were elected; they were Eva Bayer, Isabel Labouriau, Andrzej Pelczar, and V.A. Solonnikov. This episode showed up the pitfalls in filling positions on the EC; on this occasion a new President did not have to be elected but as subsequent events would show his or her election would present, foreseeably, difficulties. It was also agreed that David Wallace should be Acting Secretary for the period September 1992 - September 1993 to replace the Secretary, Chris Lance, who would be on sabbatical leave.

Although the feeling surfaced that the EC should improve its lines of communication, there was general approval for the work of the EC and of its various Committees; in particular, there was gratification that the EMS had been able to recommend names for the Mathematics and Computer Science panel of CODEST.

In regard to education, the delegates seemed to wish to concentrate exclusively on university rather than school education. Some fears were voiced that the European Community might have been preparing proposals for the accreditation of Chartered Mathematicians and that discussions had taken place within the Committee of Vice-Chancellors and Rectors of European Universities in regard to the harmonisation of curricula. The interest of the EMS was self-evident.

The Council spent time discussing the location of the next Congress. There were two proposals, one from the Catalan Mathematical Society for a Congress in or near Barcelona and one from the János Bolyai Mathematical Society for a Congress in Budapest or elsewhere in Hungary. The lengthy discussion focused on funding, facilities and, in the light of the Paris experience, on the local enthusiasm for a Congress. Sentiment was in favour of the Hungarian proposal on the grounds that the second Congress ought, in equity, to be in Eastern Europe. The Council voted by 31 votes to 14, with 6 abstentions, in favour of the Hungarian proposal, the opinion being expressed that the location should be in Budapest. The Council instructed the EC to send a group of three, one of whom had been a member of the Organising Committee for the Paris Congress, to Hungary to investigate possible locations and to make recommendations to the EC.

#### **Post-Council Paris 1992 to Pre-Council Zürich 1994**

The meetings of the EC for the two years up to the Council meeting at Zürich following the International Congress of Mathematicians were to be dominated by certain themes. The examination of these themes gives an indication of the problems and successes of the EC during this particular period.

Negotiations were conducted with the ESF with the aim of establishing ESF conferences in mathematics which previously had not appeared among the scientific areas supported by the ESF. Apart from the obvious desire to have mathematics placed on a similar footing to the sciences, there was the convenient advantage that the ESF carried out the administrative and residential arrangements attendant on a conference of around 100 people. It was decided that there would be two series of conferences, covering the two areas of pure and applied mathematics, and taking place biennially. Pierre-Louis Lyons succeeded with a proposal to the ESF for a series of conferences in the "Mathematical Methods in Industrial Problems" of which the first took place in September, 1994, on "Multi-scale Analysis in Image Processing". L. Babai, who had been asked to formulate proposals, suggested that in pure mathematics there should be two series, one on "Algebra and Discrete Mathematics" and one on "Mathematical Analysis." The tentative schedule proposed by L. Babai was : 1995 Group Theory; 1997 Mathematical Logic; 1999 Combinatorics; 2001 Commutative Algebra; 2003 Algebraic Geometry. The second series was to be co-ordinated by B. Ziemian who had suggested: 1995 Local singularities of solutions to nonlinear and singular PDEs; 1997 Equations of geometric origin emphasising global aspects and connections with algebraic geometry; 1999 Ordinary differential equations focusing on recent advances by Yu S. Ilyashenko, B. Malgrange, J. Ecalle. Under the rules of the ESF the Chairman of a Euroconference arranged the conference in a country, not his or her own, to which the Vice-Chairman of the conference belonged. The Vice-Chairman then acted as the Chairman for the next conference in the series. L. Babai wished to nominate as a Vice-Chairman a person from outside the European Union with the consequence that a Euroconference would not have been in the European Union. The ESF would not accept this proposal and, in consequence, there was some acrimony, with L. Babai complaining strongly about the alleged discriminatory practices of the ESF. Although Babai's views received some support in the EC, an overriding consideration was that in order to have Euroconferences in mathematics, the rules of the ESF,

however irksome, had to be followed if mathematics was to receive any support for Euroconferences. (Other subjects did after all seem to be able to comply with the rules). Notwithstanding, the EC endeavoured to gain a dispensation from the strict application of the rules. Eva Bayer was to serve as Liaison Officer with the ESF and joined the general Steering Committee of the ESF.

European Community matters occupied much of the attention of the EC. Information was required on the composition of the CODEST panel as it was the advisory board for the European Community's Human Capital and Mobility (HCM) programme whose panel on Mathematics embraced both mathematics and computer science. The President and Alessandro Figà-Talamanca were able to meet the new Commissioner for Science and Education, Antonio Roberti, in Brussels on 25 February, 1993, and to discuss the HCM and other programmes. It was important for the EMS to have its own representative in Brussels and, accordingly, Luc Lemaire was appointed representative with the title of European Mathematical Society Liaison Officer with the European Community.

Publishing generally was a source of much discussion. On the matter of increasing the size of the Newsletter, necessitated by pressure on publishing space, the voting was 3 for the status quo, 3 for an increased size, and 4 abstentions. Rather more easily the Newsletter took over the functions previously discharged by the Oberwolfach Newsletter, which ceased to appear. But, on the bigger question of 'to publish or not to publish' a journal, the discussions were, at times, quite energetic. Some opinion was against the involvement of a commercial publisher but, on the other hand, the inescapable reality was that publishing demanded financial capital and expertise in marketing. Fritz Hirzebruch, with Stewart Robertson and David Wallace, met representatives of Springer-Verlag on 18 March, 1994, and the two last were subsequently authorised to proceed to negotiate a contract with this publisher. Not all of the EC wished to proceed to a contract; Alessandro Figà-Talamanca in particular was vehemently opposed to the proposal for the publication of a journal.

During the period, various organisations wrote to ask for support. One of these was the Institute of Pure and Applied Mathematics (IMPA) in Rio de Janeiro. The EC decided that it ought to be quite selective in giving support, however IMPA was long established and it was felt that a letter of support could justifiably be sent without creating a precedent for other appeals for help. A more direct concern was the difficulty being experienced by the Banach Center in Warsaw whose building was under threat of being taken over by its previous private owners. The EC did not wish to be drawn into a political argument over ownership of a building but was very concerned that the institution of the Banach Center, which occupied a unique place in Eastern Europe and a significant place in Europe, should be strongly supported. Fortunately, the ownership then seemed to be resolved and the EC was pleased that an International Scientific Council for the Stefan Banach Mathematical Center was created, to which the EMS had the right to nominate three representatives. A very poignant letter came from the Bosnian Mathematical Society in Sarajevo. While there was every desire to respond helpfully, communication with a war-torn zone proved to be a problem. On a more cheerful note, the EC was pleased to be able to offer congratulations to the Institute at Oberwolfach on the Institute's attaining its 50th anniversary.

The position of the Zentralblatt für Mathematik und ihre Grenzgebiete (ZM) occasioned meetings and flurries of correspondence (neither necessarily involving the EMS). A reduction of 15% in the cost of the ZM which Springer-Verlag, as the publishers, had made to the membership of the Deutsche Mathematiker-Vereinigung (DMV) was extended to the membership of other societies. Part of the correspondence concerned relations between the ZM, Mathematical Reviews (MR) and Referativnyi Zhurnal Matematika (RZM) and of the extent to which there could be co-operation. (In 1998, owing to economic difficulties, RZM would merge with ZM). While a common database could be developed, the ZM and MR seemed likely to maintain their independence.

After the excitement arising before the Paris Congress, the EC wished to ensure that no problems would ensue with the 1996 Congress which the János Bolyai Society had decided would be in Budapest. The letter communicating this decision also expressed some scepticism in regard to the Round Tables and sought for a loan to facilitate the initial stages of the organisation of the Congress. The scepticism could be dispelled but in order to have any success with an application to Brussels for a loan a budget was needed for the Congress. The preliminary budget, when it first appeared, was criticised on the grounds that certain figures seemed to

be low. There was also a need to publish the proceedings of the Congress. In due course, 160,000 ecu was applied for; of this sum, 60,000 ecu was for immediate organisational expenses and 100,000 for fellowships to support East European mathematicians.

The first suggestion was made to inaugurate EMS Lectureships, and agreement in principle was reached. Worries over EUROMATH began to emerge, for example, the Italian Mathematical Union did not wish to have any relationship with EUROMATH.

The EC debated the question of replacements for the Officers and other members of the EC who were due to retire in 1994. There was general agreement that the President should be an outstanding mathematician who had 'political' experience. The EC was well aware that the President had first of all to be a member of the Council and that the election to the Presidency was a matter for the Council. Discreet soundings were made and Jean-Pierre Bourguignon was the choice for President, a choice reflecting the French contribution to the EMS and to the first Congress. Somewhat unexpectedly, Jean-Pierre Bourguignon wished to have the choice of the incoming Secretary; the EC acceded to this wish and Peter W Michor was duly the EC's choice for Secretary. For Vice-President, the EC wished to propose David Wallace, and was grateful that Aatos Lahtinen was prepared to serve a second term as Treasurer. For the remaining vacancy on the Council, the EC proposed three names.

#### **Council Zürich 12-13 August 1994**

Some changes to the By-laws were made. Rule 16 of the By-laws was changed to permit a simpler and more transparent method of elections to the EC. Rule 29 was changed to allow the EC to waive or to reduce the fees of a corporate member; this measure was mainly for the benefit of some financially hard-pressed Eastern European members.

The elections to the EC proceeded smoothly. Jean-Pierre Bourguignon, Peter Michor and Aatos Lahtinen, President, Secretary and Treasurer respectively, were elected unopposed. There were two candidates for Vice-President but David Wallace was elected by a majority of 31 to 21. There were eventually five candidates for the single vacancy for an ordinary member of the EC, Alberto Conte receiving the greatest number of votes. Following his own election, Jean-Pierre Bourguignon identified to the Council three major areas in which he hoped for achievement during his Presidency. Under 'Restructuring of the ZM' he wished that, as the long-term academic and financial health of the ZM was then being secured, the EMS might take scientific responsibility for the ZM. By placing 'Europe on equal terms with other continents' he believed Europe should encourage the provision of post-doctoral fellowships and promote summer schools and instructional institutes. Thirdly, he saw a need to redress the 'balance between pure and applied mathematics'. Furthermore, he wished the Society to take a lead in the use of new communications technology which might take the form of Europe-wide meetings held simultaneously in different cities; these meetings would incorporate presentations of fundamental mathematics and genuine applications of mathematics (e.g. in finance) together with discussions in the responsibilities of any scientists involved. Jean-Pierre Bourguignon was to succeed remarkably well in achieving these aims.

The accounts and projected budgets were accepted quite happily. It was noted that the Spanish Mathematical Society had never paid any subscription. Some discussion took place on the means by which the individual membership could be increased.

The establishment of good contacts with the European Union was important. The chairman of the EU Liaison Committee, Alessandro Figà-Talamanca, emphasised to the Council the valuable work of the Society's EU Liaison Officer, Luc Lemaire, in circulating news to members and maintaining contacts with the bureaucracy (mainly DG XII, Director F. Fasella) and the politicians (especially Commissioner A. Ruberti). At a meeting in Rome, Alessandro Figà-Talamanca and A. Ruberti had discussed the Assembly of Scientists which was to replace CODEST, the financing of mathematics, and the need to avoid discrimination between East and West Europe.

The question of whether or not to publish a journal was as vexed an issue in the Council as it had been on the EC. A questionnaire on whether or not to publish a journal had been circulated in the Newsletter without much response. The delegates to the Council were pleased to have a further chance to complete the questionnaire. As might have been anticipated, the result was inconclusive but strong views, for and



against, emerged. Similar views emerged in the debate in which it was clear that the delegates wished to differentiate between the academic service provided by a journal and the financial return which the Society might eventually expect to make. There was support for the production of an electronic journal although, as was observed, this was not itself free of costs. The outcome of the lengthy debate was possibly predictable in that the EC was instructed to proceed with negotiations for a journal, bearing in mind the substance of the debate.

An aim of the EMS had been to channel support to East European mathematicians. It was therefore surprising when Jean-Marc Deshouillers, Chairman of the Committee on Support of East European Mathematicians announced that there had been a disappointingly low application rate to his Committee for funds.

Finally, the President-Elect, Jean-Pierre Bourguignon, thanked Fritz Hirzebruch for all the work he had done for the EMS.

### **Post-Council Zürich 1994 to Pre-Council Budapest 1996**

The EC met somewhat informally in Zürich over a dinner table at which minutes were taken but the main interest was to share in the pleasure of one of its members, Pierre-Louis Lions, who had just been awarded a Fields Medal at the ICM94.

The first full EC meeting after the Zürich meeting was held in Cortona at the Palazzone Passerini. This property of the Scuola Normale Superiore di Pisa had a tower from which the scenic beauty of the Tuscan landscape could be delightfully enjoyed. Alas, as ever, the EC had work to do!

Various requests for EMS support had been received but the EC was in an uncomfortable dilemma. If it supported every request then the significance of EMS support would be devalued; on the other hand, the EC did not wish to discourage what might be worthwhile ventures. A cautious approach to granting support was deemed to be wise. It was agreed, following an encouraging letter from Commissioner Roberti of the EU, that an application should be made for funding under an ERASMUS programme for an initiative to compare and to evaluate curricula in mathematics. The EC endeavoured to take proper account of the variety of views expressed at the Council meeting in Zürich. Evidently a need was felt for better communications between the EC and the individual members of the EMS; importantly, candidates for positions on the EC should be required to supply biographical information. That there was less than enthusiastic support for an EMS journal was also noted. There was continuing concern in regard to the non-payment of fees by certain corporate members. Correspondence was erratic with many of these societies, some of which could have asked for a waiving of fees but had failed to do so.

A long discussion took place concerning the preparation of a Letter of Intent to be sent to Springer-Verlag with the intention of founding a new mathematical journal (finalised as Letter of Intent on 12 December, 1994). This journal was to be called the Journal of the European Mathematical Society (JEMS) which was an appropriate title but which was also chosen because JEMS, in English, is pronounced as 'gems' in the expectation that the new journal would contain many rich nuggets of mathematics. The EC agreed after 6 votes to 2, with 1 abstention, to prepare such a letter which, after minor alterations, was duly sent. The attention of the EC was drawn by Peter Michor, the incoming Secretary, to the need to consider the impact of electronic means of transmitting mathematical results on conventional methods of publication. Clearly electronic means would be increasingly important but there was uncertainty, and perhaps even anxiety, amongst publishers as to the ultimate consequence of the impact. The EC took steps to establish a Committee on Electronic Publishing in order that expert advice might be available on the opportunities for, and difficulties of, electronic publishing.

The plans for ECM96 in Budapest had moved ahead and there was relief that the registration fees were expected to be sufficient to fund the Congress even if no other funds were available. EUROMATH was a continuing source of concern and the EC intended to communicate formally its misgivings to the EMT. The role of EMT Liaison Officer was to continue pending any further developments.

The EC meeting, held in Cracow, was highly significant as, for the first time, the Presidentship and the Secretaryship had, as new incumbents, Jean-Pierre Bourguignon and Peter Michor respectively. Gallic enthusiasm, particularly for matters European, and Viennese flair, particularly for matters electronic, were to

replace the more sober characteristics of their predecessors. The running of the EC over the next four years was to reflect the different styles of the new officers of the Society; the involvement of Tuulikki Mäkeläinen was to increase in importance. Much more reliance was, sensibly, to be placed on e-mail in order to keep the members of the EC better and more quickly informed of any developments. The meeting began by agreeing to appoint three EMS representatives to the Board of the Tbilisi International Centre in Georgia.

The EMS was a new society and owing to its form as a pan-European society its presence and its functions were not always very evident, and so, as it would be expressed, the EMS lacked visibility. While the impending initiative of JEMS would become an obvious manifestation of the activities of the EMS there was a need to increase the visibility of the EMS. The EC had given, and was to give, much thought to this awkward aspect of the EMS. Further discussions had taken place with the EMT, which was an associate member of the Society; in view of this associateship the post of Liaison Officer was discontinued.

On a much more positive note the electronic server of the Society was to be located at FachInformationsZentrum (FIZ) Karlsruhe. After earlier consultations, FIZ-Karlsruhe, together with Springer-Verlag and the Heidelberg Academy, had taken over the ZM as a joint venture. The EMS was later to be involved in this venture. It was also reported that discussions involving the ZM and the MR had taken place but without tangible results.

The multi-site conferences, later to be named the "Diderot Mathematical Forums" were then first considered and arrangements for summer schools were made. For the two projects, it was hoped that support would be obtained from the EU and ESF respectively. Worthwhile in themselves, these projects would, in due course, enhance the visibility of the EMS.

Arrangements for ECM96 in Budapest were progressing. It was agreed that there should be 10 prizes for young European mathematicians, resident in Europe, who would normally be at most 32 years of age at the time of the Congress. The finance for these prizes was to come from local sources. Bids had also been submitted for the holding of 3ECM in the year 2000, the bidders being from Barcelona, Brighton, Copenhagen and Turin. As a first stage in resolving the bids, a committee of inspection was set up to investigate the facilities etc. at each of the potential locations.

The EC received a report listing various projects of World Mathematical Year 2000 (WMY2000). This had arisen from a declaration, in the name of the International Mathematical Union (IMU), issued on 6 May 1992 in Rio de Janeiro, during the 40th anniversary of IMPA, by J.-L. Lions, then President of the IMU. The declaration had set out three aims which fitted well with the EMS's own aspirations, namely, (1) the great challenges of the 21st century, (2) mathematics, a key for development, and (3) the image of mathematics. Sponsorship of the declaration had come from UNESCO, the Third World Academy of Sciences, the French Ministry of Research and Space, the Brazilian Academy of Sciences, and the Swiss Federal Council, anticipating ICM94. (It later transpired that the sponsorship of UNESCO had to be reaffirmed). The EC considered what contribution the EMS could make to WMY2000.

The EC meeting in Hamburg had a very full programme of items. Jean-Pierre Bourguignon had been very active in contacts with outside bodies. He had discussed (May 1995) with D. Mumford, the President of the IMU, the possibility that the EMS could have observer status in the IMU. Meetings had also taken place with the General Secretary of the ESF and with a member of the relevant Commissioner's staff of the EU. A new letterhead (in English and French) was presented by Jean-Pierre Bourguignon and approved by the EC. All of these manifold activities were important and would, as a bonus, lead to an increase in the EMS's visibility.

The server of the EMS, called the European Mathematical Information Server (EMIS), had begun to function at <http://www.emis.de>. The intention was to exploit the potentiality of the server by ensuring that mathematical information as regards journals, activities, Congress news, etc. was fully provided. It was essential to disseminate an awareness of the server and its benefits amongst the European mathematical community.

The name 'Diderot Mathematical Forum' was bestowed on a series of conferences each of which was to take place simultaneously in three different locations; the name 'Diderot' was chosen to commemorate the French philosopher who had directed the famous 'Encyclopédie', one aim of which was the popularisation of science. In each location an audience of 100-200 was anticipated, the general scheme involving a plenary session, several parallel sessions, round tables and a lecture for a general audience. The project of the Diderot

Forums began in 1996 and was to be successful in covering the applications of mathematics and the relation of mathematics with society.

Changes were being made to the Newsletter and it was intimated that the Southampton team wished to retire from editorial duties. It was necessary to have a new team but one which, for obvious reasons, should contain a native English speaker.

The first announcement of the Budapest Congress, ECM96, had appeared. There was concern that the initial publicity of the Congress had not been as extensive as might have been expected. The EC agreed to send two persons to Budapest to liaise with organisers of the Congress and also to gain information on the selection of the site of ECM2000.

As part of the drive to promote a greater visibility for the EMS it was felt that the EMS should participate in a joint committee with the ESF and the European Science and Technology Assembly (ESTA). The proposal was that the EMS, ESF and ESTA would appoint two, one and three members respectively of this joint committee to present definite programme proposals in mathematics to the ESF.

The search committee for an editor-in-chief of JEMS had been active. This committee, which consisted of the President, past-President, Pierre-Louis Lions and G. Faltings, proposed the name of J. Jost, who subsequently accepted.

Co-operation with European mathematical societies in applied areas was sought but some difficulties had been encountered since these societies did not want to approach the EU in combination with the EMS, believing that a joint approach would not be to their advantage. The EC was keen to give tangible evidence of interest in applied mathematical areas and was disappointed, but not discouraged, by the responses.

The EMS was perceived to have an obligation to take direct action in regard to WMY2000, but just what action could be taken, apart from some co-ordinating role, was not too clear. It was certainly important to show that mathematics was the key to scientific development and to improve the public image of mathematics. The EC was interested in knowing what projects were being planned generally in Europe. Certain European countries were preparing to issue in the year 2000 stamps with portraits of famous mathematicians; the development of mathematics 1950-2000 was being written up by a group under J.-P. Pier (Luxembourg), so continuing a definitive monograph for 1900-1950.

The first EMS lectures had taken place very successfully at Besançon on 12-15 June 1995, and had been given by H.W. Lenstra, jr. Seven other speakers also gave talks of which three to four had been presented, each day, to the 90 or so people who had attended.

The meeting of the EC at Besançon had much to consider; the topics for discussion ranged from the Fifth Framework Programme to the plans for the Congress in Budapest.

The EMS-ESF-ESTA group was to make representations to the EU concerning the Fifth Framework Programme. It was important for the EU to realise that the production of new mathematics was unabated and to appreciate the impact of mathematics on society.

The EC was concerned by a report from J.-M. Deshouillers on behalf of the Committee on Eastern Europe. The difficulty of obtaining support for travel by East European mathematicians and the problems of East European libraries were well known. A programme of support for travel to specialised meetings had been expected to produce a deluge of applications but had, perplexingly, produced only a trickle. Since the need for the support had not disappeared, it appeared that the funding was not being accurately targeted. It was resolved to direct the funding towards support for the satellite conferences expected to take place around the time of the Budapest Congress.

The EC wished to co-operate in the establishment of appropriate European databases, to this end an agreement with FIZ concerning EMIS was signed. Adequate consideration had always to be given to the right of an individual not to have his or her name on any database; measures were to be taken to protect any individual's desired anonymity.

Arrangements for the Council meeting in Budapest were considered. The need for statements by, or on behalf of, candidates for positions on the EC was essential. Possible future membership of the EC was discussed.

The problems of developing countries received considerable attention. Problems of access to journals and textbooks were many and it was thought that publishers could alleviate the problems by offering journals and textbooks at reduced prices to such countries. Sometimes there was also a shortage of qualified teachers but, on the other hand, in some of these countries a high level of mathematical teaching existed. Groups in Africa had indicated wishes for closer connections with the EMS.

Policy decisions in Brussels frequently had implications for European mathematics. The Human Capital and Mobility Programme had been cancelled to be replaced by a Programme on the Training and Mobility of Researchers. It was important to emphasise to the EU that mathematics had needs which were different from the other sciences, for which large-scale facilities might be an advantage. Evidently the EU favoured large networks but smaller networks would be more appropriate for mathematics. Rather than seek an exception from the EU for mathematics, a more productive approach was thought to be for mathematicians to merge applications to create large networks. The need to lobby in Brussels was evident.

The EC received the reports on the four potential sites for 3ECM, as ECM2000 was also called. All sites were considered to be suitable, but, after much agonising, the EC eventually voted narrowly to recommend Brighton to the Budapest meeting of the Council.

A report was given to the EC of a visit which had been made to Budapest on 28-30 September, 1995. It was learned that Malev Air Travel would be the official travel agent and would be responsible for all organisation including the distribution of the lecture halls. The EC was perturbed to learn that finance was still a problem although assurances had been given that the Congress could be run without a hoped-for subvention from Brussels. No plans had been formulated for publishing the proceedings of the Congress and other matters, including money for prizes, were unresolved. In spite of the difficulties the Congress was nevertheless expected to run.

The EC met at Bures-sur-Yvette in the pleasant surroundings of the Institut des Hautes Etudes Scientifiques for its last meeting before the Budapest Congress. The impending meeting of the Council occasioned much deliberation. The EC debated whether there was a need for strict adherence to the By-law which obliged any President to be a delegate to the Council. The question was posed as to whether a person could be elected to the Presidency and then become a delegate albeit in an *ex officio* position. Unfortunately, the opinion of the Registration office in Finland (where the Society has its legal seat) was subsequently entirely negative; the President, as Chairman of the EC, could not legally be an *ex officio* member of the Council on the grounds that the Council was the supreme authority of the Society. The only way out of this impasse would be an amendment to the By-law which would require careful drafting and a notification to the delegates.

Certain corporate members had either sought waivers or had failed to pay fees, a notable example being the Spanish Mathematical Society which had never paid fees. The Gesellschaft für Mathematische Forschung, the controlling body of 'Oberwolfach', had its fees waived for a further five years. Not perhaps too surprisingly the Gesellschaft für Informatik intimated that it wished to discontinue its membership.

A key and perennial matter was the promotion of awareness of the EMS. It was proposed that there should be a 'club' for academic institutions, European research agencies and business corporations with an interest in mathematics. The club would have, amongst its aims, the promotion of contacts between mathematical bodies, the enhancing of the image of mathematics in the European media and, in particular, the making of representations on themes of common interest such as the Fifth Framework Programme of the EU.

The arrangements for the Budapest Congress were of concern. While the plenary and section speakers had been determined, uncertainty remained in regard to the round tables and the financing of the prizes. Several mathematical societies had generously given substantial contributions in support of the Congress and further support was promised from the EU, UNESCO and the IMU.

Electronic means whether in publishing or in constructing databases occupied the EC. A draft charter for electronic publishing was under consideration. It was noted that the ZM had improved its CD-access and its interface. The contents of ZM from its inception in 1931 until the present had recently become electronically available. The ZM was also involved in a project with the MR to make a database from the Jahrbuch über Fortschritte der Mathematik. This project, which had the blessing of the EC and the American Mathematical

Society (AMS) had, as its goal, the production of a database covering the mathematical literature from 1868 to 1942.

The future of the Newsletter had become problematic since a new UK editorial team had to be found. The Secretary suggested that a way forward was to inaugurate a multilingual newsletter which would draw upon, among others, the DMV Mitteilungen and the SMF Gazette de Mathématiques. The variety of languages in which the mathematical societies in Europe published items of, mainly, national interest and the dubious interest of readers in a combined publication, however skilfully contrived, posed obvious problems. The upshot, after a meeting in Strasbourg of representatives from several of the journals, was that it was decided not to pursue this somewhat idealistic proposal. However, this meeting did secure the goodwill of the representatives with a view to collaboration of the editors of the national newsletters and journals in articles of suitably wide interest.

J.-P. Boudine and W. Palli made a presentation of a scheme to test adults in their level of knowledge of mathematics. The scheme, which was in response to an initiative of the EU, was later to be presented at the Budapest Congress under the title 'A European Knowledge Certification Network System'. The EC agreed to take part in the refereeing of the tests.

### **Council Budapest 1996**

The activities of the EC, over the previous two years, had increased considerably and so the Council Meeting had much information to digest. In his Presidential address, Jean-Pierre Bourguignon drew attention, first of all, to the creation of the EMIS server (<http://www.emis.de>) and to proposals for its further development. He highlighted three other areas of activity. The EC had been working towards an extension of the ZM into a European database which would come under the scientific responsibility of the EMS; the first step in this extension had already been taken with co-operation between the ZM and the Cellule de Documentation Mathématique, 'MathDocCell', (Université Joseph Fourier, Grenoble) which was supported by the French Ministry of Education and the Centre Nationale de la Recherche Scientifique (CNRS). He drew attention to the 'club' for European mathematical organisations which could exert influence on the Fifth Framework Programme of the EU. He remarked upon the obvious need for publicity for mathematics and for the EMS; partly to achieve the publicity, a Press Agency was being formed which, it was hoped, would collect material from, and provide material for, national newspapers.

Elections to the EC passed off more easily than on previous occasions. The only electoral excitement was whether the two newly-elected institutional members, which were both actually presented, could have a vote and, if so, who could be their delegate. With some hesitation, it was overwhelmingly agreed that the representative of the Institut Non-Linéaire de Nice could act as delegate and vote. Andrzej Pelczar was elected unanimously as Vice-President. There were seven nominations for four positions as ordinary members of the EC. A nominating committee, meeting overnight, made a selection of five nominations. In the ensuing vote on the seven nominations, the four persons elected as members were amongst the five selected. They were Bodil Branner, Rolf Jeltsch, Marta Sanz-Solé and Anatoly Vershik.

The financial statements and budget projections were welcomed. Aatos Lahtinen was able to report that by 1995 there were 47 corporate members of which 33 had fully paid fees, two had partly paid fees and one had been granted a waiver of the fees; the remaining 11 corporate members had neither paid, nor asked for a waiver of, the fees. With great reluctance the Council decided unanimously to declare that the Spanish Mathematical Society, which in fact had never officially accepted membership of the EMS and which had not paid any fees, was not to be considered a member of the EMS.

Some disappointment was expressed concerning the somewhat low individual membership of around 1600. Various ways and means were suggested by which the EMS could become better known to European mathematicians. The low figure of the individual membership had an implication for a decision of a previous Council that a comprehensive review of the Statutes should be undertaken when the individual membership reached 3000, a number whose achievement was beginning to seem unlikely. Apart from the difficulty that the President of the EMS could only be chosen from the delegates to a Council meeting, the Statutes and By-laws did appear to be fairly satisfactory and consequently no action was proposed.

The reports from the Committees were carefully digested and commented upon. EUROMATH was commented

upon. A new project by the EMT and the European Mathematical Centre in Denmark and directed at Eastern Europe received favourable commendation. The Committees on Developing Countries and on Education had not been very effective.

Much work had been done on publicity and a new, attractive brochure for the Society had been produced by the Publicity Officer, Mireille Chaleyat-Maurel. Luc Lemaire, as Liaison Officer with the EU, gave an informative account of relations with the EU; he remarked that the Server of the EU at <http://www.cordis.lu> gave useful information on EU Programmes. The fourth Framework Programme was about to close but the EMS had been able to make representations in regard to the Fifth which was then being planned. He commented, however, that the EU moved very slowly, an example of slowness being the length of time from the submission of an application for funding for the Budapest Congress to the granting of the funding which, on the very eve of the Congress, was still only promised for some date after the actual Congress. He stressed the need for effective lobbying in Brussels.

Good news was forthcoming in regard to the Committee on Eastern Europe. Travel expenses for many mathematicians from Eastern Europe had been satisfactorily arranged although a project to aid East European libraries had not been successful.

The Council was pleased at progress in matters pertaining to electronic publishing and to the construction of a European database. A so-called 'current awareness programme' was being developed by which the contents of journals together with the abstracts of papers would be available as early as possible. The material from publishers was intended to go to the office of the ZM from which it would be sent to the database MATH and to EMIS.

The Council was informed of the progress with JEMS, J. Jost having been appointed Editor-in-Chief. The Newsletter itself was to have a change of editorial team from Southampton University to Glasgow Caledonian University.

Brief comments were made in relation to the Committee on Women in Mathematics. The pertinent point was that women and men were likely to have different career patterns to which due consideration should be given.

A pleasing feature of the Council was the attendance of observers from three mathematical societies from continents other than Europe. The President of the Chinese Mathematical Society, K. C. Chang, spoke of a desire to have common projects with the EMS and drew attention to the bid to have the ICM in 2002 in Beijing. The President of the African Mathematical Union, A. Kerkour, outlined the work of the Union in organising symposia and other events. Finally a short presentation was made by the Executive Director of the AMS, J. Ewing, in which a wish for co-operation was expressed. He observed that there was overlap between the ZM and MR and that, between these journals, there was scope for joint ventures, one of which, involving the *Jahrbuch der Mathematik*, was working well.

Discussion of the site for 3ECM in 2000 was, as expected, a prolonged affair. As earlier described, there were four potential sites, namely Barcelona, Brighton, Copenhagen and Turin; of these, the EC had recommended Brighton. The bid for Turin was withdrawn and so the Council was left to adjudicate amongst three possible sites. Presentations were made on behalf of each of these three sites and questions were asked by the Council. In the ballot that followed, Barcelona, Brighton and Copenhagen received 36, 13 and 7 votes respectively, rejecting the EC's recommendation and selecting Barcelona. The timetable for 4ECM in 2004 was agreed, any bids having to reach the Secretariat in Helsinki by 31 December 1998.

As the date of this particular Council meeting happened to coincide with the President's birthday, cakes with candles were brought to the meeting room, thus permitting the delegates to round off the meeting with an agreeable but modest consumption of cake and wine.

The opening ceremony of ECM96 took place on the next day after the Council meeting. Apart from a protracted registration procedure, the Congress went very well and the Janos Bolyai Mathematical Society could be congratulated on the final outcome of many hours of anxious deliberations. In his opening address the President opined that mathematics had become a key for the harmonious development of modern societies. G.O.H. Katona, Chairman of the Organising Committee, responded by describing the Congress as a demonstration of the vital unity of the mathematical life in Europe.

## Post-Council Budapest 1996 to Pre-Council Berlin 1998

The first EC meeting after Budapest took place in Cambridge where the EC were entertained to dinner by the Edinburgh and London Mathematical Societies and had the pleasure of a reception hosted by Sir Michael Atiyah. The Budapest Congress was considered to be a great success. In financial terms, the EMS had covered the expenses of the Scientific Committee of the Congress (about 10,000 ecu) and was pleased that the EU had finally made a positive decision to give a retrospective grant of 40,000 ecu; furthermore UNESCO had given a grant of 20,000 US dollars. A junior Congress, which had been held in Miskolc (Hungary), had been successful and a repeat was warranted, possibly also in Miskolc.

The First Diderot Mathematical Forum had taken place in September 1996. Good audiences had been attracted to a very interesting programme of simultaneous events but the telecommunication connections had proved to be a disappointment; the discussions between London and Zürich had actually had to be videotaped in advance before release to the three sites.

Relations with the EU were again an important part of the EC's deliberations. The plans for a European database required that lobbying should be undertaken in Brussels so that it could be accepted as a large-scale facility under the Fifth Framework Programme. It had been observed with concern that the philosophy underlying the known documents for the Fifth Framework Programme did not acknowledge differences between disciplines but was very much directed towards industrial mathematics. A document summarising the concerns of the EC was accordingly to be prepared for sending to Brussels.

Various proposals were mooted in regard to extending the scope of the Newsletter. The discussion was opportune since a new editorial team was in place and the new editor, Roy Bradley, was present. Suggestions included the formation of an editorial board and the publication in the Newsletter of an opinion column.

A convenient arrangement for paying EMS membership fees, particularly designed for Eastern European mathematicians, was to be introduced by the ZM. The ZM and the EC agreed that the reviewers for the ZM could put their fees for reviewing towards payment of individual membership fees.

The EC, at its meeting in Vienna, received news of progress in the arrangements of 3ECM in Barcelona. The committees charged with organising the several aspects of the Congress were being set up. The EC expressed the view that a connection with WMY2000 should be promoted and that, perhaps, during the opening ceremony a non-technical lecture could be given on the impact of mathematics on modern society. Generally, however, there was both relief and pleasure that arrangements were on schedule.

J. Jost, Editor-in-Chief of JEMS, presented his plans for the journal to be published by Springer-Verlag. It was planned that the first issue would appear in Berlin during ICM98. An electronic version was intended to be freely available after three years. The EC was reminded of the intention that, as envisaged in the Letter of Intent, there should be survey papers in JEMS.

EMIS was extending its coverage and the number of mirrors was growing rapidly. It was reported that the AMS mirror was, unfortunately, mostly offline and that no mirror for Japan had been found.

Problems of the visibility of the EMS and of mathematics generally continued to exercise the EC. Clearly the press and its journalists had to be better informed of the contribution of mathematics to society. A Mathematical Press Agency, under the acronym EMPRESSA, was being set up in Strasbourg and aimed at mathematicians and journalists. Mireille Chaleyat-Maurel was to represent the EMS on this enterprise.

The appropriate response to WMY2000 presented the EC with some difficulties. The millennium aim of better informing the general public about the contribution of mathematics to society was highly estimable but the EC was faced with the practical task of implementing this aim. A committee had been set up under V. L. Hansen to propose ideas and to co-ordinate efforts. Members of this committee met the EC to discuss what was under consideration. Since 3ECM would take place in Barcelona and a survey might be made in 2000 of the development of mathematics from its earliest beginnings, it seemed appropriate to review Arabic and European mathematical interactions by means of a conference in Granada, the city of the famous Alhambra. The idea was clearly worth exploring but local interest in the conference was essential. A proposal to have a symposium in relation to Hilbert's problem, at the time of EXPO 2000, in Hanover, met with favourable

approval. Among other possibilities considered was the placing of mathematical posters in certain European cities and the printing of postage stamps commemorating WMY2000 by various European countries.

The EMS had been asked by the EU Commission to set up reference levels for young people at three different ages and levels with 16 being a priority for age consideration. It was agreed that the Education Committee would, after possible enlargement, undertake the task which was to be completed, with recommendations, by June 1998.

The EC met in October 1997 on the romantic island of Capri in a hotel directly across the bay from Mount Vesuvius. Perhaps the surroundings were mildly prophetic since the meeting was to proceed smoothly except for one minor eruption. This eruption centred on ERCOM which was a committee consisting of the Scientific Directors (or their representatives) of European Research Centres in Mathematics. Discussions about ERCOM, in which both the retiring and newly-appointed members of the EC were involved, had taken place by e-mail at the end of 1996. From these somewhat confused discussions, it was concluded that a majority of the EC was in favour of establishing ERCOM as a committee of the EMS. Following a meeting in Luminy in 1997 ERCOM prepared draft terms of reference for the EC for its Vienna meeting in April, 1997. This led to further confusion within the EC with the consequence that the minute of April 1997 relating to ERCOM was not agreed until a revised version was agreed in Capri. Under the finally-agreed minute, ERCOM became a committee of the EMS; only research centres for which the number of visiting staff substantially exceeded the number of permanent and long-term staff were eligible for membership of ERCOM, the chair and secretary of which were to be appointed by the EC. This eventual outcome, achieved about a year after the initial suggestion, illustrated the perils of trying to use e-mail to resolve complicated issues. After the excitement of ERCOM subsided, the meeting in Capri proceeded with its more accustomed smoothness.

The Secretary was able to report the good news that EMIS had extended its operations to involve 27 mirrors and one further mirror was expected shortly in Japan. This extension increased the visibility of the EMS which, regrettably, did not have all of its activities given proper account in EMIS. This situation required to be remedied. Continuity of operations was also very important and it was therefore very satisfactory that the Schrödinger Institute (Vienna) would acquire a computer in order to provide a back-up of the central server of the EMIS.

A matter of some concern related to contracts into which the EMS might enter with other bodies, particularly the EU. Contracts had already been entered into but in a rather informal fashion; it was, of course, a responsibility of the EMS to satisfy the conditions of any contract. Since some of these contracts had seemingly to be decided fairly quickly, the GPC had made the decisions. It was agreed that the GPC could enter into contracts on behalf of the EMS without any financial limits. This last, possibly unwise, provision imposed considerable responsibility on the members of the GPC. It was also agreed that for contracts to hold mathematical conferences no, or at most low, overheads should accrue to the EMS.

The Committees for 3ECM were nearly set up, the Scientific Committee was complete and the Prize and Round Tables Committee were soon to be set up. The EC agreed to provide a loan to support the expenses of the Scientific Committee.

Considerations of the language or languages in which articles could be accepted for JEMS prompted an interesting debate. On the one hand, there was the view that English had become the scientific lingua franca (to revert to an Italianate phrase) and so all articles should be in English; on the other hand, it was felt that a European journal ought to reflect cultural diversity and allow some of the more widely spoken European languages. On a narrow vote of 4 votes for, 3 against and 1 abstention, the EC upheld the view of the Editor-in-Chief that only English would be acceptable.

Proposals were presented for improvement in the appearance and content of the Newsletter. These were duly implemented in the new style Newsletter No. 27 of 1998, the cover of which was transformed from a uniform blue colour to a polychromatic splendour, carrying photographs of Jean-Pierre Bourguignon and Sir Michael Atiyah.

A problem had arisen in regard to the EMS lectures. Originally it had been intended that they should be published in JEMS but an alternative means of publication was required. It was agreed that there should be



an EMS Lecture Note Series which could publish these lectures as well as the proceedings of the Summer Schools, activities of both sorts being worthy of wider dissemination.

Negotiations, not directly involving the EC, had culminated in a very significant Memorandum of Understanding which, if agreed, the President would be required to sign on behalf of the EMS. The other parties to the Memorandum, which was on The European Extension of the Mathematics Information Services (MATH database, CompactMATH, ZM), were the Editorial and Co-operational Partners of the ZM/Mathematics Abstract comprising the Heidelberg Academy of Science, FachInformationsZentrum Karlsruhe and Springer-Verlag. The objectives embodied in the Memorandum were quite far-reaching. The Memorandum had originated in a strongly held feeling that there was a need for a comprehensive electronic database, centred in Europe, of all mathematical publications which would thereby form an invaluable and indispensable research tool for working mathematicians; such a tool would naturally complement other similar tools from North America. The aims were to expand the database of the ZM into a European Mathematical database. The EMS would be able to promote the worldwide distribution of the MATHdatabase as part of EMIS through its mirror sites. The EMS would undertake to set up a Current Awareness Programme (CAP-EMS) to which publishers would provide basic data for transmission by EMIS and for storage by the MATH database. Finally, the EMS would promote projects on a European level concerning the development of new technology in regard to MATH; the EMS had already contributed to this promotion by asking the EU that the MATHdatabase should be recognised as a 'Large Facility' under the Fifth Framework Programme. As a stage in the implementation of basic objectives the French Ministry of Education had already approved a project group 'MathDocCell' to support French-German co-operation in regard to the ZM. The EC was in full agreement in taking the fairly momentous step of empowering Jean-Pierre Bourguignon to sign the Memorandum by which the EMS would be committed to the grand endeavour and would become a full member of the Editorial and Co-operational Contract for the ZM.

During a visit to Estonia, Jean-Pierre Bourguignon had been given by the Estonian Mathematical Society a multi-lingual mathematical dictionary (naturally including Estonian). It was remarked that a Catalan-English and other multi-lingual dictionaries existed. The EC was interested to determine whether, using the resources of the EU, enlargement into other languages of the dictionary from Estonia could be produced.

The EC returned to Helsinki for its March 1998 meeting. The weather was sunny and cold (-10oC overnight) but the accommodation was warm and comfortable.

The need for pan-European contacts was clear to the EC. Jean-Pierre Bourguignon and Luc Lemaire had been very assiduous in promoting relations with the European Commission so that the EMS was recognised as the point of contact for mathematics by the Commission. Several EU/EC contracts concerning EMS activities had been secured. However, problems had occasionally arisen on the part of the EC since the outcomes of the contracts had not always been properly reported to the EU but action was being taken to tighten procedures.

A presentation of the database MATH-ZM was made by J. Coates, on behalf of the EMS, to a meeting of ESTA. Another contact which it was intended to follow up was with the International Association for the Promotion of Co-operation with Scientists from the New Independent States of the Former Soviet Union (mercifully abbreviated as INTAS).

The increase in the number of mirrors of EMIS was encouraging; there were around 33 including ones in Bogota and Japan, and the AMS mirror was functioning well. In addition, there were 25 journals on the server with agreements covering 45 journals, including Documenta Mathematica, from which it could be expected that the proceedings of ICM98 would appear in EMIS. The activities of the EMS were apparently still not adequately presented on the server and action was therefore called for. It was expected that the user and interface of EMIS would be improved through the European Libraries and Electronic Resources in the Mathematical Sciences (EULER). EULER was a project which was partly funded by the EU in the Telematics for Libraries sector and which would provide a user-oriented integrated network-based access to mathematical publications. Activities to be covered included the provision of bibliographic databases, library online public access catalogues, electronic journals from publishers, online archives of preprints and indexes of mathematical internet resources. The EMS was an institutional partner but without financial obligation in the project.

Means of further increasing the publicity for the EMS were considered. Additional copies of the Newsletter, which was being revamped, were to be printed in order to be available at ICM98 in Berlin.

The saga of ERCOM finally ended happily with a small, but not entirely insignificant, change to its remit, under which the eligibility of Research Centres to join ERCOM was to be decided by the EC after consultation with ERCOM.

In August 1998, conveniently for the EMS schedule of meetings, ICM98 was held in Berlin. A display booth was taken at the Congress and an informal reception was organised for members of the Society in the Lichthof of the Technical University. At the reception, the new publication JEMS was officially announced with accompanying speeches from the President, F. Hirzebruch (past-President), J. Heinze (Springer-Verlag) and H. Hofer (an editor of JEMS).

At its Berlin meeting, held during ICM98, the EC received a report of the Diderot Mathematical Forum of June 1998 and of plans for new Forums. The Forum in June had had difficulty with its telecommunication links but the fascinating diversity and high level of the lectures could not fail to have been very successful. Interest had been expressed in having a Diderot Mathematical Forum to include an American city but due account would have to be taken of obvious time differences.

Problems of publication were considered. A design for the front cover of JEMS was agreed. A more fundamental issue was whether the EMS should become a publisher like a number of other mathematical societies. The pros and cons of this issue were debated without definite conclusions.

Opinions were more sharply divided on whether the Newsletter should publish a particular article which had arisen from a questionnaire sent to three Russian mathematicians, D.V. Anosov, V.I. Arnold and A. Vershik, the last being a member of the EC. There was considerable disquiet over the reply received from Arnold as to its suitability for publication. After an animated debate the EC voted decisively for publication. This action by the EC contained within itself the seed of potential difficulty as it set a precedent for the removal from the editor of the Newsletter of the discretion as to whether to accept or reject any future article.

### **Council Berlin 28-29 August 1998**

The Council met in the Senatssaal of the Humboldt University in the Eastern part of Berlin. The delegates to the Council numbered 57 which was rather fewer than might have been expected from a possible number of around 80. The meeting was uncontentious but problems of communication during the meeting were often trying, since it early became apparent that the acoustics of the room could easily render speeches partially inaudible.

Jean-Pierre Bourguignon, as President, reviewed the work of the EMS. He had much to report, what with the developments of JEMS, Diderot Mathematical Forums, EMS copyright of ZM-MATH, etc., items which had much occupied the EC. He stated that the EMS existed to promote the development of a European identity, while preserving diversity, amongst mathematicians in Europe. He drew attention to the many European countries facing financial difficulties and to the declines in the enrolments of students. He stressed that, although unemployment among young mathematicians was low because of the demand for their services, students needed to be prepared adequately for work in industry and business. He felt that the EMS could actively tackle the ensuing problems of preparation and could relate mathematics to society in general.

In his report as Secretary, Peter Michor briefly gave an account of the EULER project and of the intention of devising a better interface for EMIS, a better search machine and a better preprint server. The Council was advised that a grant of one million ecu had been assigned to the project by the EU but that the EMS had no responsibility for the grant.

The financial statement of Aatos Lahtinen passed without comment. The proposal to increase the corporate fee by 8% and to leave the individual member's fee unchanged was accepted.

Efforts to improve the visibility of the EMS had led to the production of new and colourful leaflets and to a new format for the Newsletter. Mireille Chaleyat-Maurel, Publicity Officer, did remark however that EMPRESSA of Strasbourg had not attained the expected level of activity.

The (tabled) report of the EU Liaison Officer, Luc Lemaire, drew attention to success in influencing the Fifth Framework Programme for Research and Development and for getting the ZM recognised as a large facility. Funding, after many efforts, had been achieved for ECM96 in Budapest, but a request by the EU to the EMS for a description of the contents of school programmes in mathematics in the different EU countries had, temporarily, been thwarted by the EU's own bureaucracy.

Concern was palpable at the number of societies with unpaid dues. It was agreed that these societies should be warned of the possibility of expulsion from the EMS. More joyfully, the Royal Spanish Society of Mathematics and the Spanish Society of Applied Mathematics were elected as corporate members. The European Consortium for Industrial Mathematics (ECMI) was also elected as a corporate member. The Mathematical Institute of the Serbian Academy of Sciences was elected as an institutional member by 34 votes with none against, but the unusually large number, 18, of abstentions seemed to indicate unarticulated reservations.

The elections to the official positions on the EC proceeded without problem, the recommendations of the EC being wholly followed, namely Rolf Jeltsch for President, Luc Lemaire for Vice-President, David Brannan for Secretary, and Olli Martio for Treasurer. A straightforward secret ballot resolved the election for the two ordinary members of the EC, Doina Cioranescu and Renzo Piccinini being elected.

Peter Michor, by dint of his enthusiasm and dedication, had done much to establish and to improve EMIS. He was able to give the Council a full report of the achievements; EMIS had a direct link to ZM-MATH and it contained an electronic library with well-defined guidelines under which only properly refereed journals were accepted. At the time of reporting, there were 31 such journals. He reported that EMIS had 20 mirrors in Europe and announced gleefully that there were mirrors in all continents - except Antarctica. The Council indicated its especial approval of the activities in regard to ZM-MATH.

One of the Committees reporting to the Council was that on Women and Mathematics. An objective of this Committee was a redressing of the disproportion in the representation of the sexes in the mathematical profession. Information, which had been collected about the proportion of female mathematicians in the mathematical community of the countries of Europe, showed that the proportion varied between 2% and 50%, Germany and Switzerland being particularly unfavourable to women. It could only be hoped that, in Councils to come, rather more evenly-balanced statistics would emerge.

S. Xambo Deschamps, chair of the Organising Committee of 3ECM, presented the plans for the Barcelona Congress. Much effort had clearly been put into the planning of the Congress but the item which aroused the Council was the list of plenary speakers as chosen by the Scientific Committee. It was not evident that the Council had sufficient knowledge with which to comment upon the list; furthermore the propriety of even launching into a discussion of the list was, at best, questionable. However, the Council was not deterred by such considerations and after debate voted by majorities to express its concern on the perceived imbalance in the list of plenary speakers and to recommend that every possible effort should be made to add two further plenary lectures to the programme. After further extensive debate, the Council eventually voted unanimously that the Scientific Committee should prepare a list of invited speakers and themes of mini-symposia representing a broad spectrum of mathematics including applications in the real world.

The Council concluded its formal business by passing a motion, proposed by V. Villani, that the EC should continue its good work and continue to promote a European perspective. Informally the incoming President, R. Jeltsch, expressed gratitude for the energy and caring commitment of the retiring President.

### **Post-Council Berlin 1998 to 31 December 1998**

The final EC meeting of 1998 was in Copenhagen. The EC was about to have a substantial change in membership so that the meeting was quite large as the incoming EC members had been invited to attend.

Jean-Pierre Bourguignon was able to report on several satisfactory outcomes in respect of certain international bodies. He had had a meeting with Edith Cresson, then EU Commissioner in charge of Science, and he and Luc Lemaire had had several subsequent meetings with members of her staff. The main issues had been the Fifth Framework Programme and the possibility of having ZM-MATH recognised as a large infrastructure.

A contract to produce a report for the Organisation for Economical Co-operation and Development (OECD)

had resulted in almost 11,000 ecu for the EMS. It was expected that UNESCO in Venice would provide a grant of 50,000 US dollars towards various projects, including, as part of WMY2000, a Joint Mathematical European-Arabic Conference in Granada (to be entitled 'Alhambra 2000'). The ESF had also been asked to consider support for the ZM-MATH database and for the Diderot Mathematical Forums.

Various East European societies had, quite understandably, sought fee waivers for their corporate memberships. The actual individual membership of the EMS at 1 November, 1998, was 1782, not large by comparison with the size of the mathematical community in Europe but a satisfactory number none the less. The finances of the Society were generally in good shape and with the modest income from contracts, the EC was able to set up a fund for the financing of special projects.

A re-evaluation of the Council meeting in Berlin was carried out. There was support for limiting the meeting to one day but, on the other hand, it was very important that delegates should feel that they had had full opportunity to express their views. Careful thought would have to be given to the Council meeting in 2002 since it would be the first Council meeting, apart from the inaugural meeting in Madralin, which would not be attached to either a European or an International Congress.

The editorial policy and contents of the Newsletter were discussed since from 1999 the Newsletter would have an editorial team from the Open University (U.K.). R. Wilson, who subsequently accepted the post of Editor-in-Chief, outlined his ideas for the Newsletter; these included a division of responsibilities and the forming of a network of representatives from member societies of the EMS. It was anticipated that an improvement in the quality of the paper used for printing would permit the appearance of photographs; it was acknowledged that a major upgrading would require increased advertising revenue. On a more optimistic note, a draft Letter of Agreement for Publications of the EMS with Springer-Verlag was discussed and agreed with some minor modifications.

The plans for ECM2000 were well under way but unfortunately there was a snag in that the organisers in Barcelona were unwilling to accept an Agreement which had been sent to them from the EC. After some initial consternation, it was decided that a re-drafting of the Agreement could be done after the meeting. (The re-draft was later accepted happily by the Organisers). This episode demonstrated a requirement for the EC to be sensitive to feelings and aspirations of societies and other bodies.

Discussion took place in regard to two entities having the somewhat confusing acronyms of MPRESS and EMPRESSA, European Mathematical Preprint Server System and Mathematical Press Agency respectively, the first being an on-going project to develop a European system to facilitate the search for, and worldwide access to, electronic preprints in mathematics and the second being a press agency in Strasbourg!

Later, at dinner in Copenhagen, presentations of attractive mementos were made to the retiring members of the EC. It was a memorable and touching occasion.

## **Coda**

The EMS has grown from embryonic beginnings at Madralin into a fully-fledged pan-European Society which is consulted by the Commission of the European Union. From the outset, a Newsletter was issued and now a research journal, JEMS, has appeared; Congresses, courses, lectures, seminars etc. have been successfully promoted; a European perspective has been developed, not least in the burgeoning area of electronic means of communication and data storage.

The Executive Committee can legitimately claim much credit for what has been achieved. The contributions of the officials and of the Secretariat has been acknowledged above. They could not have succeeded, however, without the good work and dedication of the members of the EC and of others appointed by the EC, many of whom are listed in the Appendix..

The business of the EC was always conducted considerately and courteously; naturally, national traits were sometimes in evidence but all participants worked as a team for the common good, thus affording an exemplary model of European co-operation.

It was a rare privilege, cherished by the author of this account, to have been a participant in the EC, and also in the Council, throughout the eight years and, as a result, to have met and to have become friends with

so many engaging people.

## References

Minutes of the EC and of the Council.

Documents of the EC.

Proceedings of European Congresses.

Personal recollections.

- **Appendix**

**1. Founding Members of the EMS** (*In some cases membership was subject to ratification by each Society's ruling body*)

Austrian Mathematical Society

Belgium Mathematical Society

Bulgarian Mathematical Society

Union of Czech Mathematicians & Physicists

Union of Slovak Mathematicians & Physicists

Danish Mathematical Society

London Mathematical Society

Finnish Mathematical Society

French Mathematical Society

Deutsche Mathematiker-Vereinigung

Georgian Mathematical Union

Greek Mathematical Society

Janos Bolyai Mathematical Society, Hungary

Iceland Mathematical Society

Irish Mathematical Society

Italian Mathematical Society

Luxembourg Mathematical Society

Wiskundig Genootschap, The Netherlands

Norwegian Mathematical Society

Polish Mathematical Society

Portuguese Mathematical Society

Romanian Mathematical Society

Edinburgh Mathematical Society

Swedish Mathematical Society

Swiss Mathematical Society

Spanish Mathematical Society

Moscow Mathematical Society

Union of the Societies of Mathematicians, Physicists & Astronomers of Yugoslavia

Estonian Mathematical Society

Lithuanian Mathematical Society

S.M.A.I.

G.A.M.M.

I.M.A.

## **2.Meetings of Council and Executive Committee**

### **European Math Council (before EMS):**

Madralin, 27-28 October 1990.

**Council:**Madralin, 28-30 October 1990

Paris, 4-5 July 1992

Zürich, 12-13 August 1994

Budapest, 20-21 July 1996

Berlin, 28-29 August 1998

### **Executive Committee:**

Oberwolfach, 19-20 January 1991

Oberwolfach, 19-20 October 1991

Prague, 28-29 March 1992

Paris, 7 July 1992

Helsinki, 24-25 October 1992

Erdotarca 26-28 March 1993

Lisbon 8-10 October 1993

Oberwolfach 19-20 March 1994

Cortona 7-9 October 1994

Cracow 10-12 March 1995

Hamburg 1-2 July 1995

Besaçon 20-21 October 1995

Bures-sur-Yvette 8-10 March 1996

Budapest 19 July 1996

Cambridge 11-13 October 1996

Vienna 4-7 April 1997

Capri 10-11 October 1997

Helsinki 21-22 March 1998

Berlin 25 August 1998

Copenhagen 28-29 November 1998

## **3.Membership of Executive Committee**

**Presidents:** 1990-94 Fritz Hirzebruch (Bonn, Germany)  
1995-98 Jean-Pierre Bourguignon (Bures-sur-Yvettes, France).

**Vice-Presidents:**

1990-92 Czeslaw Olech (Warsaw, Poland)  
1990-94 Alessandro Figà-Talamanca (Rome, Italy)  
1993-96 László Márki (Budapest, Hungary)  
1995-98 David Wallace (Glasgow, U.K.)  
1997-2000 Andrzej Pelczar (Cracow, Poland).

**Secretaries:**

1990-94 Chris Lance (Leeds, U.K.)  
1995-98 Peter Michor (Vienna, Austria)

**Acting Secretary:**

September 1992-September 1993 David Wallace (Glasgow, U.K.)

**Treasurer:**

1990-94, 1995-98 Aatos Lahtinen (Helsinki, Finland)

**Ordinary Members:**

1990-92, 1993-96 Eva Bayer-Fluckiger (Geneva, Switzerland/Besançon, France)  
1990-92 Alois Kufner (Prague, Czechoslovakia)  
1990-92 Antonio St. Aubyn (Lisbon, Portugal)  
1990-94 Pierre-Louis Lions (Paris, France)  
1990-94 (VP 1993) László Márki (Budapest, Hungary)  
1993-96 Isabel Labouriau (Oporto, Portugal)  
1993-96 Andrzej Pelczar (Cracow, Poland)  
1993-96 Vsevolod Solonnikov (Moscow, Russia)  
1995-98 Alberto Conte (Turin, Italy)  
1997-2000 Bodil Branner (Copenhagen, Denmark)  
1997-2000 Rolf Jeltsch (Zürich, Switzerland)  
1997-2000 Marta Sanz-Solé (Barcelona, Spain)  
1997-2000 Anatoly Vershik (St. Petersburg, Russia)

**4. Secretariat**

1990 Tuulikki Mäkeläinen (Helsinki, Finland)

**5. Appointments by Executive Committee**

**Publicity Officers:**

1990-94 David Wallace (Glasgow, U.K.)  
1995-98 Mireille Chaleyat-Maurel (Paris, France)

**Chairman of Publications:**

Stewart Robertson (Southampton, U.K.)

Carlos Casacuberta (Barcelona, Spain)

**Liaison Officer with EU:**

Luc Lemaire (Brussels, Belgium)

**Liaison Officer with ESF:**

Eva Bayer-Fluckiger (Geneva, Switzerland/Besançon, France)

**Liaison Officer with EUROMATH:**

Isabel Labouriau (Oporto, Portugal)

**Newsletter Editor:**

D. Singerman & team (Southampton, U.K.)

R. Bradley & team (Glasgow, U.K.)

**Editors - Brief Reviews:**

I. Netuka & V. Soucek (Prague, latterly Czech Republic)

**6. Committees of the EMS**

At 31 December 1997 the EMS had the Committees shown below. The names of the Chairs of these Committees are shown in chronological order, the last name being that of the then Chair.

**Applications of Mathematics:**

J.C.R. Hunt, P.-L. Lions (acting), A. Jami.

**Developing Countries:**

P. Bérard, G. Schiffels.

**Education:**

N. Nemetz, W. Dörfler, V. Villani.

**Electronic Publishing:**

P.W. Michor

**ERCOM:**

O. Barndorff-Nielsen

**European Database**

J. Coates

**General Purposes**

F. Hirzebruch, J.-P. Bourguignon

**Publications:**

S.A. Robertson, M. Sanz-Solé (acting), C. Casacuberta.

**Special Events:**

A. Conte

**Summer Schools:**

L. Márki, G. Monegato.



### **Support of East European Mathematicians:**

J.-M. Deshouillers, H. Zieschang.

### **Women and Mathematics:**

E. Bayer-Fluckiger, C. Bessenrodt.

### **World Mathematical Year 2000**

V.L. Hansen

### **European Community (later EU) Liaison: renamed Relations with European Institutions (discontinued in 1997)**

A. Figà-Talamanca, J.-P. Bourguignon.

### **7.European Congresses of Mathematics**

Paris 6-10 July 1992

Budapest 22-26 July 1996

Barcelona 10-14 July 2000

### **8.Diderot Mathematical Forums**

#### **London, Moscow, Zürich**

24-25 September 1996 - "Mathematics and Finance"

#### **Amsterdam, Madrid, Venice**

19-20 December 1997 - "Mathematics and the Environment"

#### **Berlin, Cracow, Florence**

5-6 June 1998 - "Mathematics as a Force of Cultural Evolution".

#### **Lisbon, Paris, Vienna - forthcoming**

3-4 December 1999 - "Mathematics and Music".

### **9.Programme of the last Diderot Mathematical Forum of the period 1996-98 "Mathematics as a Force of Cultural Evolution"**

#### **Berlin**

A. Frisius (Karlsruhe): "Mathematisches Denken in der Neuen Musik"

G. Israel (Rome): "Mathematization of economics : historical and epistemological questions".

D. King (Frankfurt): "Mathematics in the service of religion : the case of Islam".

F. Kittler (Berlin): "Buchstaben - Zahlen - Codes".

D. Nordon (Bordeaux): "La mathématique et la langue".

I. Toth (Paris): "De Interpretatione : Die Nichteuklidische Geometrie - Ergebnis der Kommentare zu Euklid".

#### **Florence**

F. Brüggem (Amsterdam): "La musica ha buone ragioni".

E. Conti (Pisa): "Communicare la matematica".

W. Jäger (Heidelberg): "Mathematics and Biosciences : challenges and perspectives".

S. Mazzullo (Ferrara): "Matematica e industria : uno scambio culturale".

M. Mugnai (Florence): "Pensare e calcolare".

P. Odifreddi (Torino): "Matematica in fabula".

### **Cracow**

R. Duda (Wroclaw): "Mathematics in the history of thought".

M. Heller (Cracow): "Conquests of Mathematics : from the motion of projectiles to quantum vacuum".

G. and M. Klimek (Uppsala): "Mathematical visualisation".

A. Lasota (Katowice): "Geometry and applications of Fractals".

T. Luczak (Poznan): "Mathematics and Art".

A. Staruszkiewicz (Cracow): "Mathematics of the fine structure constant".

### **10. Summer Schools**

#### **Eger, Hungary, 29 July-9 August 1996**

"Algebraic Geometry".

#### **Zelegonorsk, Russia, 1-10 July 1996**

"Analysis and Synthesis of Nonlinear Oscillatory Systems".

#### **Monzaraz & Lisbon, Portugal, 1-10 September 1997**

"Noncommutative Geometry and Applications"

#### **Orsay, France, 7-18 July 1997**

"Shape Optimisation"

#### **Cluj-Napoca, Romania, 22 July-8 August 1998**

"Spaces with Singularities and Monopoles"

#### **Orsay, France, 29 June-10 July 1998**

"Wavelet Methods in Analysis and Simulation".

### **11. EMS Lectures**

#### **Besançon 1995, H.W. Lenstra Jr (Berkeley, US) -**

"Algorithms in algebraic theory of numbers".

#### **Helsinki 1997, N. Cutland (Hull, UK) -**

"Loeb measures in practice: Recent Advances".

#### **Barcelona, Copenhagen, St. Petersburg, 1999, M. Lyubich**

**(SUNY Stony Brook, US) -**

"Real and complex dynamics".

### **12. European Research Conferences in Mathematics**

#### **I. Mathematical Methods in Industrial Problems**

"Multi-scale Analysis in Image Processing", Lunteren, The Netherlands, 15-20 October 1994.

"Mathematical and Numerical Models for the Simulation of Turbulent and Reactive Flows", Mont St. Odile (near Strasbourg), France, February 1996.

#### **II. Algebra and Discrete Mathematics**

"Group Theory: Finite to Infinite", Castelvechio, Italy, 13-18 July 1996.

### **III.Mathematical Analysis**

"Local singularities of solutions to nonlinear and singular PDE's", San Feliu de Guixols, Spain, 19-24 September 1995.

### **IV.Number Theory and Arithmetical Geometry**

"Arithmetical Applications of Modular Forms", San Feliu de Guixols, Spain, 24-29 October 1997.

### **13.Relevant Extracts from Statutes**

#### **Name and Location**

##### **Article 1**

1.The European Mathematical Society, informally EMS, is an association established in accordance with the laws of Finland.

2.Its seat is in Helsinki, Finland.

#### **Purpose and nature of activities**

##### **Article 2**

1.The purpose of the Society is to promote the development of all aspects of mathematics in the countries of Europe, with particular emphasis on those which are best handled on an international level.

The Society will concentrate on those activities which transcend national frontiers and it will in no way seek to interfere with the national activities of the member societies.

In particular, the Society will, in the European context, aim to promote mathematical research (pure and applied), assist and advise on problems of mathematical education, concern itself with the broader relations of mathematics to society, foster the interaction between mathematicians of different countries, establish a sense of identity amongst European mathematicians, and represent the mathematical community in supra-national institutions.

2.To achieve its aims the Society may prepare proposals and motions, make statements, organise courses and seminars, arrange negotiations and meetings, operate as a publisher, award grants and represent its membership.

3.The society may, as occasion arises,

- (a) act directly,
- (b) act through national societies,
- (c) co-operate with other bodies having similar aims,
- (d) set up subordinate bodies for special tasks.

##### **Article 3**

1.Members of the Society may be either

- (a) corporate bodies with legal status, or
- (b) individuals.

The number of non-Finnish members may exceed one third of the total.

2.Corporate bodies with legal status may join the Society in one of the following categories:

- (a) Full members,
- (b) Associate members,
- (c) Institutional members.

Full membership is restricted to societies, or similar bodies, primarily devoted to promoting research in pure or applied mathematics within Europe. Associate membership is open to all societies in Europe having a significant interest in any aspect of mathematics. Institutional membership is open to commercial organizations, industrial laboratories or academic institutes.

3. Individuals may join the Society in one of the following categories:

- (a) Individuals belonging to a corporate member of the EMS,
- (b) Individuals not belonging to a corporate member of the EMS.

Individual membership is open to all individuals who make a contribution to European mathematics.

### **Duties of the Council**

#### **Article 6**

1. The Council is the supreme authority of the organisation.

2. A Council meeting will specifically

- (a) decide on the admission of corporate members;
- (b) determine the registration and membership dues;
- (c) receive the auditors' reports;
- (d) confirm the financial statements and discharge those concerned from liability;
- (e) elect the President, the Vice-Presidents and the other members of the Executive Committee;
- (f) elect the auditors and their deputies;
- (g) decide on the By-laws issued by the Council;
- (h) deal with any other matters prepared by the Executive Committee.

### **Duties of the Executive Committee**

#### **Article 8**

1. The Executive Committee represents the Society and shall have general charge of all matters concerning the Society. In particular it shall:

- (a) administer the assets and property of the Society;
- (b) appoint subordinate committees entrusted with special tasks within the general framework of the Society;
- (c) prepare the matters to be discussed by the Council meeting and convene the meeting;
- (d) implement the resolutions adopted by the Council meeting;
- (e) appoint representatives of the Society to scientific conferences or meetings.

2. The Executive Committee shall appoint and dismiss the staff of the Society, define their duties and confirm their remuneration.

### **14. Relevant Extract from By-Laws**

#### **III. The Executive Committee**

**Rule 16:** The President shall be elected from among the members of the council. When more than two candidates stand for election to a post on the Executive Committee the candidate with the least number of votes shall stand down, at each stage, and the ballot repeated until one candidate gets more than half of the votes cast