A NEW EUROPEAN SOCIETY AND ITS FIRST CONFERENCE

CERME1 was the first conference of the new Society ERME, i.e., the European Society for Research in Mathematics Education. At the time of publication of these proceedings (August 1999), this Society is going through a two-year constitutive process.

It is a very exciting time for mathematics education in Europe. To launch the new society, in May 1997, mathematics educators from 16 countries met to discuss what a European society in mathematics education research might look like. The meeting took place in Haus Ohrbeck, near Osnabrueck in Germany. Representatives from these countries formed the initial Constitutive Committee of ERME. After an energetic two days, with considerable argument and voluble exchange, it was agreed that the founding philosophy of the Society should be one involving Communication, Co-operation and Collaboration throughout Europe.

Fundamentally we need to know more about the research which has been done and is ongoing, and the research groups and research interests in different European countries. We need to provide opportunities for collaboration in research areas and for inter-European co-operation between researchers in joint research projects.

Thus we should endeavour to be informed about research in different countries, to acknowledge, respect and be in a position to build on research which has already been done and is ongoing. We should create an environment for sharing ideas, research outcomes, research methodologies, and developing knowledge across national boundaries. We should encourage collaborative projects where researchers from a number of countries work together overtly to promote knowledge through research. An outline manifesto was produced which has since been developed to form a part of the developing constitution.

The first conference of the new society was planned for August 1998 with its theme Communication, Co-operation and Collaboration in Mathematics Education Research in Europe. It seemed of fundamental importance that the style of this conference should fit with its general theme. Thus, the style of the conference deliberately and
distinctively moved away from research presentations by individuals towards collaborative group work. Haus Ohrbeck was chosen as venue, since it was felt its family atmosphere would support the desired style of conference.

The main feature of the conference was to be the Thematic Group whose members would work together in a common research area and through which they would share their individual work, think and talk together and develop a common ongoing programme of work. It was the intention that each group would engage in scientific debate with the purpose of deepening mutual knowledge about thematics, problematics and methods of research in the field. The Scientific Programme was developed relative to this basic group structure.

1. The development of the scientific programme of CERME1

1.1 Setting up the groups

The elected Programme Committee (PC) had first to consider the themes for the groups. Suggested themes were put to members of the Constitutive Committee for their comments in an email discussion with the PC. Eventually seven themes were agreed, and group leaders were sought for the seven groups. The PC strove to invite as group leaders recognised experts, each having research interest and expertise in the theme of the group. Each group had three or four leaders from different countries. One of these leaders was asked to co-ordinate the group and to be responsible for decisions and actions. In addition a balance of nations was sought in the group leadership. Of course not every person invited was able to accept, so some compromises on this balance had to be made.

The chosen groups and agreed group leaders are as follows:

1. *The Nature and Content of Mathematics and its Relationship to Teaching and Learning*
   - Ferdinando Arzarello (I);
   - Jean Luc Dorier (F); Lisa Hefendehl Hebeker (G); S. Turnau (Pol.).
2. **Tools and Technologies in Mathematical Didactics**
   Colette Laborde (F); Richard Noss (UK); Sergei Rakov (Ukr); Angel Gutierrez (S).

3. **From a Study of Teaching Practices to issues in Teacher Education**
   Konrad Krainer (A); Yves Chevallard (F); Erkki Pehkonen (Fi); Fred Goffree (NL).

4. **Social Interactions in Mathematical Learning Situations**
   Goetz Krummheuer (G); Joao Matos (P); Alain Mercier (F); Maria Bartolini Bussi (I).

5. **Cognitive Interactions in Mathematical Learning**
   Inge Schwank (G); Emmanuila Gelfman (R); Elena Nardi (Gr).

6. **School Algebra: Epistemological and Educational Issues**
   Paolo Boero (I); Christer Bergsten (Sw); Josep Gascon (S).

7. **Research Paradigms and Methodologies and their relation to questions in Mathematics Education**
   Milan Hejny (CR); Christine Shiu (UK); Juan Diaz Godino (S); Herman Maier (G).

When group leaders had agreed to act, a process for receiving and reviewing papers had to be put in place. It was agreed at the original May meeting that papers should be submitted to a group, and that, as far as possible, reviewers would be prospective members of a group. Each prospective participant could be asked to review up to three papers. In addition to participants, group leaders could identify other suitable reviewers within the topic of the group. The review process was to be based on scientific criteria and designed to be sympathetic and supportive. Thus a peer review process was set in place, with reviewers writing reviews directly to authors, and copies with recommendations for acceptance, modification or rejection to the group leaders. Group leaders would make the final decisions on accepted papers as a result of reading reviewers’ comments and recommendations. Group Leaders were encouraged to recommend to authors ways of modifying their paper: additions needed, references to
related papers etc. Papers not relevant to the area of the group would be rejected, or might be redirected to another group.

Papers would be read by three reviewers who would be asked to comment on the following: Theoretical framework and related literature, methodology (if appropriate), statement and discussion of results, clarity, relevance to CERME-1 audience. Specific guidelines for review were provided by the Programme Committee, based on PME (The International Group for the Psychology of Mathematics Education) reviewing criteria which were adapted slightly to the specific aims of CERME1.

Thus the process of paper selection was as follows:

1. Author submits paper to a group.
2. Paper goes through the Group’s review process.
3. Comments are sent to the author, as is the review recommendation.
4. If the recommendation is accept, the paper is sent for reading in advance to all members of the group. This is its ‘presentation’.
5. If the recommendation is modify, the paper is returned to the author for resubmission to Group Leaders by a given date (possibly allowing 3 weeks for further work). Providing that it is received and is satisfactory by this date, it is then sent for reading to all members of the group. If it is not possible to meet this date, participants may bring papers for distribution, but the papers will then not be read before the Group meets.
6. If the recommendation is reject, the paper is not presented to the group, although the author may, nevertheless, take part in the work of the group.

It was asked that the review process be as friendly and helpful as possible. Once accepted papers were known, the group leaders could then plan the work of the group.

1.2 The organisation of group working

The Thematic Groups at CERME1 were designed to be working groups with time given to discussion of ideas and issues in a genuinely collaborative atmosphere. Group
Leaders were asked to aim at strengthening the process of dialogue between people, aiming to support communication, co-operation and collaboration, the main themes of the conference. For this reason, ‘presentation’ of papers took on a rather different meaning to that usually understood. Rather than authors presenting their papers orally at the conference, papers for presentation were to be ‘presented’ to group members in written form for reading before the conference. Participants would be asked to read presented papers thoroughly in anticipation of a discussion of issues. It was emphasised that there should be no ‘oral delivery’ of a paper within a group at the conference.

The idea was that Group Leaders would draw on the accepted papers to decide on areas of interest, theories, methodologies and special questions on which the group would work together. In other words, the leaders would identify themes and subthemes related to the accepted papers, but not limited to these papers. These themes were designed to be the basis of discussion and work within the group. In working on these themes, reference could be made to the presented papers which all group members would have read in advance.

Thus, Group leaders were asked to organise the work of their group in the following ways:

1. Receive papers from prospective members of the group.
2. Read the papers and organise a peer review process.
3. Receive reviewers’ comments, decide on papers for inclusion in the programme and possibly on subgroupings within the main group. Make a synthesis from accepted papers to act as a starting position for the Group. Decide on the broad themes and subthemes on which the group would work, of which the synthesis from papers is a part.
4. Organise a programme of work which would draw on papers, enlarge on themes in a progressive way, and gradually introduce new ideas and issues as appropriate to the Group’s work. Modes of working might include large and small group discussions, working sessions for developing common ideas and research programmes etc. The spirit of this work should be as democratic and inclusive as is possible. Papers which are not given presentation time, should be available for reading by group members.
5. Facilitate ongoing work, after the conference, by the group or subgroups formed during the working sessions.

6. Organise informal or formal collection(s) of papers for distribution and/or publication.

In the conference, groups were given 12 hours over three days in which to meet and progress their work. Participants were strongly recommended to stay with one group for the entire conference.

**Plenary Presentations from Groups**

On the last morning of the conference each group was given about 12 minutes to present their work to the conference. It was suggested that this should be a synthesis of the main themes and ideas arising from their work, as well as proposed ongoing work. They were asked to communicate the style in which the group’s work would be published.

**1.3 Other sessions at the conference**

**Keynote Addresses**

Two plenary keynote addresses were invited and presented by Professor Guy Brousseau of France, and Professor Jeremy Kilpatrick of the United States. We had wished also to invite Professor Vasilii Davidov of Russia, and were saddened to hear of his recent death.

**Posters**

To encourage new researchers, posters were invited for submission to the PC which reviewed all submissions. There was a one-hour session on in which posters were displayed and conference participants were able to talk to poster presenters. Where a poster was of direct relevance to a group, it was encouraged to be a part of that group’s work.
2. Constituting ERME

Three sessions at the conference were devoted to considering the new Society ERME, its ongoing work and constitution. The ERME Board, elected at the conference, will communicate the results of these sessions.

3. Participation in CERME1

120 participants from 24 countries attended the conference. A generous grant of the “Deutsche Forschungsgemeinschaft” (German National Science Foundation) enabled 22 participants from Middle and East European Countries to attend the conference.

4. Publications from the conference

It was agreed to publish proceedings from the CERME1 electronically. They would include an account of the conference, its programme and philosophy, and the activities of groups, together with papers from the plenary speakers.

These conference proceedings have been designed to consist of one electronic book (launched on the Internet) for which the group leaders submit the individual “outcomes” of their group in a layout common to the whole book. We are extremely grateful to the group leaders for their fruitful collaboration and Inge Schwank for her outstanding editorial work.

Group leaders are responsible for publications from their group. Groups may also, individually, produce more/other publications of their own.

5. Evaluation of CERME1

During the conference, evaluation sheets were given to participants, asking for their views on and perceptions of aspects of CERME1. 46 evaluation sheets were handed in out of a conference of 120 people. The sheet’s wording was as follows:
The main organisational device for the academic/scientific work of CERME1 has been the Thematic Group which was designed to promote the main aims of ERME, *Communication, Cooperation and Collaboration* in Mathematics Education Research in Europe.

1. Was your group effective in promoting these aims? Please give some specific details of what you valued or otherwise.
2. What would you recommend which might have improved the work of your group?
3. Please comment on other aspects of the conference. Are there other features which you would recommend for future meetings?

Clarification was requested on the difference between *Cooperation* and *Collaboration*. One response to this is that Collaboration means actively working together - e.g. setting up joint research projects. Cooperation is about being supportive, sharing, respecting, listening – e.g. if research projects in different countries are addressing similar questions, researchers can gain from taking seriously each other’s methods and findings, sharing results, discussing outcomes etc. but without actively collaborating in the research.

What follows is a summary/overview of what was said in the sheets. It is not a statistical analysis! Numbers have largely been omitted. The sheets are available if anyone is interested in more explicit numbers.

The overwhelming response to the first question was YES. Communication was thought to be well promoted. In some cases, there were suggestions that Cooperation and Collaboration were less well promoted (more about this below). The work of the group leaders in coordinating, structuring and providing activities for the group was overwhelmingly praised. Many respondents indicated their appreciation for a firm structure which made sure that all group members were involved. Discussion rather than oral presentation was appreciated, but some felt that more space could have been given to authors of papers to elaborate on their work.
Some people said explicitly that they had valued this style of conference, and that future conferences should keep the same philosophy and style. There were far more people who said this than who said the reverse.

It was suggested that the size of the conference was important to its success, and that this style of conference depends on a relatively small number of participants (eg <200). Many said that the size of a group should be at most 15 people.

However, 4 people were not happy with the conference. Two of these were unhappy with their groups, suggesting that ideas were imposed by the group leaders and that there was no democracy in the group. The other two favoured a much different style of conference with a variety of types of sessions etc.

While valuing this style of conference there were some comments which suggested that a broader format might have been appreciated. These included suggestions for the following:

a) Possibility to attend two groups.
b) More posters or other types of presentation (although two people commented that having posters was not in the spirit of this conference!)
c) More opportunity for collective activity.

There was a strong feeling that the conference was too strict in its very tight programme and that more opportunity for meeting with and sharing with people from other groups would have been appreciated. Some people asked for longer and clearer breaks. Others wanted sessions built into the programme e.g. discussions of plenary talks; subplenaries; workshops. There was a suggestion however that 2 plenaries was “just right”.

The breadth of group interest was in some cases seen as a problem in that it sacrificed the depth which can be achieved by focusing more narrowly. Some people said it was hard to see into which group their paper fitted. It was indicated that for a first conference this breadth was probably necessary, but that for future conference, more focused groups would be better.
While the efforts of group leaders to encourage all members of a group to take an active part in its work was praised, there was recognition of the language difficulties involved. It is clear that, however well this conference did in trying to overcome language barriers, more thought needs to be given to what is required to allow all to participate fully despite the language problems.

There was considerable feeling that the conference could have provided more opportunity to learn about the research in other countries.

Regarding Cooperation and Collaboration, some people said that there were tentative beginnings where people in a group were suggesting ongoing work. However, it was felt by others that this conference had really only just started the process, and that much more effort would be required before true C&C could be seen to be happening.

One suggestion was that rather than starting with individual papers, groups might start with ideas for discussion from which collaborative papers might be written. A product from the work of groups was seen to be as important as the processes involved.

There was a suggestion that we might include work which bridged the divide with other disciplines.

The work of participants in reading papers in advance to prepare for work in groups was praised. This was felt to have contributed largely to the success of group work. One suggestion was for papers to include “meta-level user’s guide” to the paper. Some suggested that a written synthesis could be made in advance from several papers. One suggestion was for a survey of related literature to be provided. It was not clear who was supposed to make such provisions.

Two participants queried the quality of papers presented, suggesting that it was not totally at a level suitable for such a conference.

There were comments about the domestic and social nature of the conference. There was much appreciation for the accommodation at Haus Orbeck and the facility for everyone being close together on the same site. A number of people felt unhappy with the hotel being so far from the house. A few people felt the accommodation too
restrictive, and would have appreciated greater facilities. The lack of email provision was remarked by a few. Some groups would have liked a bigger room. On the social side, some felt the evenings could have been livelier, perhaps with music and dancing. Some people felt that the venue should have been easier to reach. Some felt that it was expensive for the facilities it offered. These last two comments were from very small numbers of people. However, there was much appreciation for the work of the secretariat, both in setting up the conference and in running it and being so helpful to participants. The web page was also praised.

Although this summary has necessarily mentioned all comments both positive and negative which were made, it would be a mistake to feel that the negative comments overwhelmed the positive. This was not the case. An overall appreciation was indicated for the style of conference and the work which had gone into organising it.

6. Conference Programme Committee

CERME1 was organised by the following Programme Committee elected the 1997 May meeting:
Elmar Cohors-Fresenborg – Coordinator (Germany), Milan Hejny (Czech Rep.), Barbara Jaworski (UK), Joao Pedro da Ponte (Portugal), André Rouchier (France).

Barbara Jaworski
On behalf of the CERME1 Programme Committee
September, 1998