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INTERNATIONAL COMMISSION ON MATHEMATICAL INSTRUCTION, 1980-81

by Peter HILTON (Secretary, ICMI)

1. THE PRESIDENT'S REPORT

The following is extracted from the report of Professor Hassler Whitney, as published in the 12th issue of the ICMI Bulletin:

"As reported in the last Bulletin, Number 11, ten Members-at-Large of ICMI were chosen at the General Assembly of the International Mathematical Union (IMU) at Otanieri, Finland, in August 1978, with me as President and Peter Hilton as Secretary. Considerable time and effort were then spent to form a new Executive Committee (EC), with due regard to the Members' experience and geographical distribution. I feel greatly honored by being chosen as President, and very glad of the cooperation of my worthy colleagues on the EC. They are all playing a vital role in the work of ICMI.

The most visible functions of ICMI are the International Congresses on Mathematical Education (ICME's). The first was at Lyon, France in 1969; the second at Exeter, England in 1972; the third at Karlsruhe, Federal Republic of Germany in 1976; and the last one at Berkeley, California, USA this past August 10-16.

At Berkeley the final decision was made to accept the fine invitation from the Australian National Committee for Mathematics to hold the next ICME in Adelaide, South Australia, in August 1984.

With the spreading of ICMI's functioning to wider regions, the difficulties, financial and otherwise, of attending congresses, conferences and meetings are steadily increasing in a trying period of history. We were very fortunate to have representation from most regions of the world at Berkeley; but this is likely to be still more difficult at Adelaide. It was also fortunate that the whole EC could be present at Berkeley, and could have a number of meetings, two of them with three of the remaining Members-at-Large present; we were glad to benefit from these Members' wise counsel.

What part can ICMI play in world-wide mathematics education? The Congresses can help the overview of the whole field, and in part can be relevant to particular problems you might be facing. The regional conferences sponsored by ICMI can attack specific or more general problems in fields of direct concern to the countries involved but can also, of course, range more widely.

The work in mathematics education in any particular country may center in a national organization adhering to the IMU. Any such organization may appoint a representative to ICMI, commonly through a sub-commission on mathematics education. Our list of representatives is not up to date; most have not been heard from for a period of years. Would you please write to the Secretary *) or to me giving the name and address of your present Representative (if different from the name on the appended list), along with any news on mathematics education that you feel to be of general interest. If your country does not have a national committee or representative, you might inquire locally and with the ICMI Executive Committee about getting one started.

Initiative for regional conferences comes from the people concerned locally. Such concerns are apt to be of wider interest also. If tentative plans are drawn up by a committee from two or more countries, the ICMIEC is likely to welcome this, sponsor the conference, and appoint a member to the Planning Committee. This helps in various ways, including the problem of funding; ICMI can usually make a modest contribution.

Finally, what you can accomplish in your own school or region depends primarily on you and the people directly concerned. Help from outside is beneficial to the extent that it relates to the actual local problems. I see, as a major lesson of recent years, that lasting improvement comes mostly from community efforts, involving students, teachers, administrators, parents, and others. If common goals are agreed on, then plenty of open communication and cooperation yields benefits going far beyond anything that might be imported from outside".

2. ICME IV

The main event of the period under review was, of course, the fourth International Congress on Mathematics Education held at the University of California, Berkeley, from August 10 to August 16, 1980. The following is

*) *Secretary's footnote:* Copies of the Bulletin are obtainable from: Professor Ellen Stenson, Dept. of Math., CWRU, Cleveland OH 44106, USA. It would be helpful if the details referred to by Professor Whitney could be made available to Professor Stenson, who is endeavouring to compile an up-to-date list of national representatives.

extracted from the report of Dr. Henry Pollak, Chairman of the International Program Committee:

"Attendance at Berkeley was about 1800 full and 500 associate members, from about 80 countries; at least half of these came from outside of North America. About 450 persons participated in the program either as speakers or as presiders; approximately 40 per cent of these came from the U.S. or Canada.

There were four plenary addresses; they were delivered by Hans Freudenthal on major problems of mathematics education, Hermina Sinclair on the relationship between the learning of language and of mathematics, Seymour Papert on the computer as carrier of mathematical culture, and Hua Loo-Keng on popularizing and applying mathematical methods. George Pólya was the honorary president of the Congress; illness prevented his planned attendance, but he sent a brief presentation entitled, "Mathematics Improves the Mind".

There was a very full program of speakers, panelists, debates, miniconferences, and meetings of working and study groups. In addition, 18 major projects from around the world were invited to make presentations, and various groups representing special areas of concern had the opportunity to meet and to plan their future activities.

Innovations relative to previous Congresses included the following:

1) A series of miniconferences, in memory of Edward G. Begle, devoted to critical variables in mathematical education;
2) A series of miniconferences on topics in the mathematical sciences which deserve serious consideration, in all countries, for inclusion in the curriculum: algorithms, operations research, combinatorics, data analysis, algebraic coding theory, extrema without calculus;
3) Simultaneous translation, among English, French, and Spanish, of one session at all times;
4) Daily informal gatherings with coffee and pastry in the morning, wine and cheese in the late afternoon;
5) A serious attempt to evaluate the Congress. Results from the latter should be available this year.

When one considers the richness of the program, the attendance was smaller than had been hoped. Reasons for this which were most often heard involved the state of the American economy, and the fact that the full program was not

available until the Congress itself. May the next Congress, scheduled for Adelaide, Australia in 1984, build on the success and avoid the weaknesses, of Berkeley!"

Proceedings of the Congress will shortly be available.

3. BULLETIN OF ICMI

A number of reasons account for the late appearance of the 12th issue of the Bulletin, and the Secretary wishes to take this opportunity to apologize for those shortcomings in the publication process for which he must take responsibility. However, a continuing problem is the paucity of material for the Bulletin, so that it is extremely important that the President's appeal for suitable material be heeded. The Executive Committee of ICMI is especially anxious to receive information about initiatives being taken to hold regional conferences devoted to particular aspects of mathematics education. However, relevant personal items would also be welcome.

4. FUTURE ACTIVITIES

Certainly the most important future activities which should be brought to the attention of those interested in mathematics education are:

(i) ICMI Symposium on "What Mathematics Should be Taught in General Education", to be held concurrently with the ICM Congress in Warsaw in August, 1982. This symposium is being organized by Professor Z. Semadeni, of the Matematyczny Instytut PAN, Warsaw, and the joint chairmen of the Programme Committee are Professors Z. Krygowska of Kraków, Poland, and H.-G. Steiner of Bielefeld, West Germany. Considerable attention will be given to the problems of developing countries.

(ii) ICME V, the fifth International Congress on Mathematics Education, to be held in Adelaide, South Australia, in August, 1984. The chairman of the International Program Committee is Dr. M. F. Newman, of the Department of Mathematics of the Australian National University in Canberra.

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