

CIEAEM : The History of This Commission

=====

I'd like to speak in Spanish because I particularly desire to address myself to my Mexican colleagues, as this is the first time that our Commission is holding its meeting in this country.

It is difficult to trace a history of our small Commission, created thirty years ago in Europe.

I shall try to give you an idea, calling your attention to some aspects and people, but I shall be obliged to leave out other aspects and other people who, however, have been very significant for us.

Created in 1950, the "International Commission for the study and improvement of mathematics teaching" saw, at its beginning, three remarkable personalities: the mathematician Gustave Choquet (who was the first president), the psychologist Jean Piaget (vice-president), and the pedagogist Caleb Gattegno (secretary).

By representing these three sciences -mathematics, psychology, pedagogy- the Commission intended to point out that the mathematicians alone were not sufficient to inquire into the didactics of mathematics: a more open vision has to be given, by having recourse to psychologists and pedagogists also.

I want to immediately say that our Commission has always been independent from everything and everyone (even from an economical point of view, a fact that produces some difficulties), and, precisely because of this independence, its work has often been original. But this independence doesn't mean that we haven't very good relations with other International Commissions and Institutions, like ICMI, Unesco, and the Universities of many countries.

The life of the Commission was constructed during its meetings (once a year, and, in the beginning, also twice), held in different countries, often in small localities ~~where participation started in 1950~~.

~~mathematical~~ in the first years there was a very limited number of teachers (25-30) who worked -we can say- night and day. Immediately friends, because we worked together so hard, we became more and more friends. But real friendship is like a spreading spot, and so many new friends came into the first circle. Today, after thirty years, we are really many in number, and not only from Europe.

We have ideas about the future, but to understand them it's important to look back and, for this reason, I will trace the history of CIEAEM.

It seems to me that we can single out three periods, each of ten years:

1950-'60

1960-'70

1970-'80.

The first periode is characterized by the three personalities of Choquet, Piaget, Gattegno: Choquet explains the fundamental ideas about the modern structure of mathematics, Piaget reports the results of his psychological research and opens new views on the relationship between the mental operative structures and the logico-mathematical construction; Gattegno, in these ten years, has given a remarkable pedagogical contribution trying to connect, in a didactical context, the new mathematical theories with the psychological research. The old members of our Commission will never forget his didactical ardour that, even if sometimes in a rather exclusive vision, has strongly affected our work.

The meetings were held from England to Germany and France; from Belgium to Holland, Italy and Spain, to cite only a few countries. But, more than this or that country, what is important is the theme of the discussions; here are some: "Relationship between the curricula of mathematics in secondary schools and the intellectual abilities of the adolescent", "Mathematical structures and mental structures", "Modern mathematics in the school", "Materials in the teaching of mathematics",

"The teachers training in mathematics".

Many of these themes were suggested by Willy Servais who, from this first period, led our works with his deep mathematico-philosophical culture and a open and sensitive didactical vision.

Working on and discussing these subjects we arrived at the beginning of the sixties.

From 1960 to 1970 the Commission was strongly influenced by the personality of the Belgian Georges Papy, who also became its president. With Papy the problem moves from the pre-eminently psychologico-pedagogical plan, upheld and exalted by Gattegno, to that of the reconstruction of the whole teaching curriculum.

Papy intended to construct a curriculum strongly marked in an algebrical direction, being inspired also by the works of Choquet, Artin and Dieudonné. The meetings were held, even in this period, in many European countries, including Poland. Here are some themes that can be useful to understand the interests of the Commission during these years: "Reconstruction of mathematical teaching in the secondary schools", "The place of geometry in a modern teaching of mathematics", "The beginning of analysis in modern teaching", "The teaching of mathematics in primary schools".

As I said before, and as it results from these themes, the idea of Papy was to lay the foundations for a new curriculum of mathematics for the secondary and primary school; this curriculum had, without any doubt, a vast echo in Belgium and even abroad. But -it's necessary to say- very often this treatment was assailable from a didactical point of view.

The following decade, 1970-'80, was "sweeter", but, not for this reason, less significant. It was directed by the strong and, at the same time, open and sensitive personality of Ana Zofia Krygowska. She had worked on the Commission for many years, succeeding in the preceding period to moderate, with the help of Willy Servais, currents that,

even being mathematically valid, often appeared weak from a pedagogical point of view. President from '71 to '75, A.Z. Krygowska gave a real, new thrust towards a broader direction: the Rencontre of 1971 in Krakow (Poland) with more than two hundred participants, marked this beginning. Her profound culture, united with a long and devoted work with teachers and students of Poland, has gradually brought the Commission towards a "more problematic" vision of the didactical subjects and methods; consequently, the discussions ~~and~~ at our meetings became more and more open and richer. It was precisely in this period that the meetings left Europe: in '73 the Rencontre took place in Québec (Canada) and in '75 in Tunis.

The contact with so different countries presented us with new problems: the situation of people, sometimes too rich, sometimes too poor, compelled us to re-examine our projects. More open themes arose, suggested by those countries: "Development of mathematical activities in teaching", and "Why mathematics in education?" But, in the meantime, Europe called us back to more specific subjects, like "Probability and statistics in school". The real problems, raised from these themes, led us to understand that we had to give a more lively vision to our teaching, removing it from its noble isolation and approaching other sciences and reality.

It is in this wide vision, under the excellent guide of Claude Gaulin, president in these last four years, that the Commission held its Rencontres. And it is with the same spirit that today we hold our meeting in Mexico.

We think that ~~taxing~~ we have to bring real mathematics to the school but connected both to its concrete sources and to its concrete applications, a theme that Hans Freudenthal, always present at our meetings, has upheld for many years. His authority, his fundamental works in didactics, his experiments in Dutch Schools, has strongly affected our ~~Commission~~

Commission.

I realize that in my talk I left out the most important protagonists of our Commission: the teachers. During these long years they have lived the life of the "CIEAEM small-ship", sometimes collaborating with the coxswain, other times disputing in passionate, lively but always friendly and constructive discussions. These teachers come from many countries and during the scholastic year develop activities on didactical research, organization of refresher-courses, and, above all, living the life of their school. Frequently they have neither any recognition nor a particularly important job in their country, but they have the satisfaction of cooperating silently for the improvement of the teaching of mathematics, carrying out, in this way, a real social action. These teachers -I repeat- are the protagonists of our Commission: so it has always been and so we wish it to continue to be. I think that, by calling me to the presidency, CIEAEM wishes to underline this plan officially: it is only for this reason that I have decided to accept.

I have referred to the past and to the present. But a Commission finds its strength also and above all by looking towards the future. What about our ideas?

We have seen that, especially in the first two decades, it was mathematics, with its modern structural theories, that influenced the didactical works of the Commission.

The reactions of the students were examined, in the first period, with the "psychological lens" of a Piaget; afterwards, in the second period, the excitement for the setting-up of a modern mathematical curriculum often left out this psychological control.

Now, in these last ten years, perhaps also because of the influence of

the young men's movement of '68, we have been led to seriously reconsider the didactical side. And we have understood that it's precisely with the teaching of mathematics that we can act in opposite directions: we can use mathematics as a selective arm by teaching too abstract theories and, this way, driving off most of the students; but, on the contrary, we can use mathematics as a means of collaboration, by making the students aware of the importance and utility of this science, even in a social perspective.

Now, - and this is the opinion of several among us - we can realize this direction only by stimulating our students with real problems. This idea imposes a deep study about the meaning of the interaction of mathematics with other disciplines, in a frame that always respects the autonomy of each of them.

It is in this direction that I see the development of our works in the coming years.

=====

Emma Castelnuovo

Oaxtepec, 31-7-1980