ticultural mathematics education in native American and other contexts, who are glad to see comparative material that can be shared with trainee teachers facing similar issues in different countries.

This evening's Happy Hour seems, in its well-intentioned impracticality, an archetype of Spanish organisation The fine wines and foods of Andalucía are on display. The wine is drawn up from a cask by a slim ladle and poured into a glass from a great height. There is one wine expert demonstrating this technique; it is fascinatingly ethnic, while perhaps not the most practical way of serving a thousand thirsty delegates But the wine, and its accompanying carved ham slices, is wonderful

Saturday

More history today to round off a bumper week. At noon the second session of the history and teaching topic group lives up to the standard of yesterday's, while the final HPM session in the evening has four excellent talks, from England, Colombia, Israel, and the USA The Colombian contribution by Luis Recalde, on mathematical ideas in the work of Jorge Luis Borges, was especially memorable, because it exemplified the ideals of an international meeting. Luis spoke in Spanish but the high quality of the simultaneous translation by Ubi D'Ambrosio made for a better pace than most monolingual talks, and when an American professor of Latin American studies joined in, the feeling of multicultural knowledge being opened up and shared was most exciting.

Around 2:00 a m I find myself at a fiesta in Triana, the old gypsy quarter on the other bank of the river Quadalquivir I bump into John Bradshaw from St Martin's College, Lancaster, and discuss with him the special history issue of "Mathematics in Schools" which he is planning, while around us the fiesta is in full swing: stalls, dodgems, flamenco dancers, and cheerfully shouting children of all ages. I reflect how different Seville is from Milton Keynes, which is not at all like this at two in the morning

Sunday

Holding to my pledge to avoid closing plenaries in inaudible halls, I arrive at the Palacio de Congresos in time to take the HPM-chartered bus for Lisbon The journey is an excellent opportunity to get to know some people better and prepare for the week ahead. It will turn out that a conference of 500 people in northern Portugal is an even better, or at least more concentrated, forum for exploring issues of history and mathematics education, and certainly the Portuguese organisational style is rather more coherent and proactive It will be interesting to sample Japanese and — we hope — Taiwanese hospitality in four years' time

A partial, simplified, and biased story about expectations

ABRAHAM ARCAVI

This report is necessarily partial and biased: the number of things one can attend to in such a large conference as ICME is limited, and obviously even these are viewed subjectively

ICME is an international festival with the potential to address the wide diversity of interests of those of us engaged in mathematics education. I talked to many colleagues about their impressions of ICME, and the conversations usually revolved around the sessions they attended. However, I do not want here to report on the sessions themselves, but rather on the expectations of diverse groups of people, as I was able to pick them up from formal and informal remarks. I was in a favorable position because I speak Spanish (I was born and educated in Argentina), and more than one third of the participants were Spanish speakers (according to "Diario de Sevilla", a daily ICME newsletter distributed during the conference).

Expectations were indeed diverse

☐ A vast majority of the Spanish-speaking participants had expected to learn from colleagues in other countries, but in their own language, and they were disappointed when that was not the case. There were sessions in Spanish and pre-arranged simultaneous translation for the plenaries, but there were many sessions in which translation had to be arranged *ad hoc*. For example, during the second session of the Working Group in which I participated (WG13: Curriculum changes in the secondary school), because of the large Spanish-speaking audience, it was decided that after each 15-20 minute presentation in English, I should provide a 5-minute summary in Spanish This experience was a convincing confirmation for me that: 1) it is one thing to listen to a talk at leisure, and quite another to listen to it in order to provide an almost immediate summarized translation; and 2) the translation of views and experiences in mathematics education may require more than the matching of words in one language to those in another — what may sound plausible and rational in one language (with all its cultural baggage) may sound strange in another. However, it would be as presumptuous and superficial to assert that communication was established as to deny that it was. This would seem to be an interesting aspect, worthy of investigation.

☐ Another "expectant" group was the interested general public and the media. Apparently, they expected from ICME quick fixes to what they saw as the main maladies of mathematics education. For example, "El Correo de Andalucía", a local newspaper, devoted lots of space to the conference. On July 16, an almost complete page was entitled "La asignatura de matemáticas cosecha el mayor índice de fracaso escolar" ("Mathematics is the school subject with the highest failure rate"). The subtitle asserted that the goal of the conference was to solve this problem. In the opening session, the Rector of the Universidad de Sevilla seemed to imply that ICME should address the universal student question: "What is mathematics for?". According to him, the utility of the subject in daily life was far from clear, except for fairly elementary arithmetic and some descriptive statistics.

In other words, ICME was expected to provide an answer to whether/why math — such a difficult subject that most of those studying it are doomed to failure — should be taught at all And if it should, ICME was there to provide ways to ensure greater student success.

☐ Some of the teachers I overheard expected to receive from ICME immediate and simple guidelines to apply in their daily work in schools. After a very interesting talk in

Spanish about research in mathematics and mathematics education, a teacher from a Latin American country approached the speaker Almost in despair, she wanted the speaker to tell her which were the three most important research papers in mathematics education, so that, after reading them, she would know how to make a success of her new position as head of department in a secondary school

☐ I overheard yet further expectations from some researchers attending ICME 8 In particular, the wish to establish a productive dialogue with practitioners (teachers, teachers of teachers, textbook writers). Instead, many discussions were less concerned with the ideas than with "mundane" problems such as: How do I convince my principal to allow me to introduce change in the directions you recommend? How do I get to build a computer lab? How do I access continuous support for my attempt to implement this innovation?

☐ Some researchers expected to find fellow researchers who were interested in sharing and discussing present trends, "cutting edge" news and innovations Yet they found that some colleagues seemed to remain focused on issues and methodologies of earlier days

Great expectations hung in the air — and after the conference was over they were probably left hanging And yet I am sure that, like myself, most participants picked up, consciously or unconsciously, ideas, insights, and issues to reflect upon, from the sessions or in small talk over coffee

A conference like ICME may not be able to fulfill great expectations, or provide overnight breakthroughs But is that not intrinsic to our field? Our field would seem to advance by small steps; great strides are anyway prone to "backlash", as some past experiences would seem to show And it is not only advances that concern us Mathematics education is also concerned with change, necessitated or made desirable by the changing mathematical, cultural, and even political environment in which it operates If we acknowledge that we came back home with food for thought on some of these issues, then attending ICME 8 can be regarded as a positive experience, in spite of the many unfulfilled, perhaps unrealistic, expectations

A story we are the heroes of

COLETTE LABORDE

I was among several thousand participants of ICME 8 swarming over the Campus Reina Mercedes at Sevilla, but I missed seeing many colleagues and friends despite the "Happy Hours" that favoured the conglomeration of participants around some sources of refreshment Indeed, the regulation limiting the consumption by each person to one glass of soda or beer and to one piece of bread stuffed with ham, led some participants to sulk and miss this opportunity of meeting Such is the destiny of congresses with more than 3,000 participants (3,481 on the day before the opening, including accompanying persons): a series of regrets, aborted appointments, forced omissions, misunderstandings, but also pleasant encounters and fruitful fortuitous events that cancel out the bad side Everybody individually experienced some such events, sometimes to his/her great surprise The most unexpected event for me was certainly meeting a California poet of Chinese origins, publishing his work in English and speaking French, as well as being an *amateur* of "foies gras" from Périgord and a friend of Paul Erdös

I was confronted with the peculiar very early in the course of the Congress What for all the other participants consisted of listening to a lecture in uncertain sound conditions, was transformed for me into a stimulating exercise, thanks to a sudden last-minute proposal. The evening before the Congress, the chief organizer asked me to introduce the plenary lecture by Anna Sierpinska with which the Congress would begin I was given the written text of the lecture, and had to put the transparencies on the overhead projector at the right time — a fearsome synchronization task when like all the other participants I could hardly hear her voice However, I managed to read the text with one eye while trying with the other to follow the rhythm of the speaker by deciphering her lip movements This method of reading, that did not tolerate either re-readings or stops for reflection, has proved very effective in showing me the extent of the speaker's work, the quality of her synthesis of research on the teaching of mathematics, and the due place given to French research A lecture that opened the Congress well and that will be an important reference in the future

An itinerary

My itinerary at the Congress was guided by my interest in new technology and in geometry: I followed Working Group 15 (The impact of technology on the mathematics curriculum) and Topic Group 19 (Computer-based learning environments) The audience at the Working Group played an important part and attended assiduously My interest fluctuated; the range of softwares presented went from specific software designed by its author to satisfy a youthful fantasy dating from the time of his studies in mathematics to software seeking to give new means and ways of working on concepts whose difficulties for the learner had been identified Some of the speeches (for or against the use of technology) were as inflated with ideology as balloons, a small touch of a pin would have reduced them to nothingness But their authors were most often better speakers than others and had an impact on their audience before one could even reach for a treacherous pin It seems that we now enter an era in which we need precise reports and analyses of teaching experiments integrating technology

The crowd filled the great amphitheatre during the entirely bilingual presentation (thanks to the spontaneous translation by Carlos Vasco) of the ICMI study on geometry: a great richness despite a too strong emphasis on the Occident and on secondary schools, as was remarked by a participant The planned book will certainly fill a lack that has been created by the renewal of interest in geometry in the curriculum, including university level

An international congress such as ICME 8 is a preferred place for a project like the "Multicultural Dynamic Geometry Project" because it gathers various experiences from around the world This project presented teaching experiments and the uses of dynamic geometry software, from Catalunya to Japan, passing through South Africa and Argentina Examples well illustrated the influences of culture on the curriculum, but time did not allow the examples