40th Anniversary of EATCS

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Yes, we won!

When EATCS was founded, TCS was a bet: we were only a few people who believed that it was an important subject and that its importance was going to grow. We betted, we founded our association and we inaugurated the series of meetings known as ICALP.

And we won, we were right. TCS is a very healthy branch of Computer Science, the number of researchers in the field and the number of published papers has increased by a huge coefficient (maybe 1000?). The association is still there, ICALP is organized regularly every year around the 14th of July, the journal TCS has grown tremendously from 400 pages a year to over 10000, each new page now containing much more than an old page.

What makes me very happy is that the scope of TCS has not changed much, nor its spirit, in 40 years. The bet was also that TCS would be something like Theoretical Physics, very close to Mathematics but different because the intuition, the motivation, the aims of the researchers are different and because Computer Science, what we call in France (and several other countries) Informatics is a kind of Physics, the Physics of the phenomena linked with computation, information processing, programming, encoding meanings in sequences of symbols. These phenomena have to be observed before being understood and explained with theories, and that is what the theoretical scientists do: their way of reasoning may be very similar to the way of reasoning of mathematicians (though they invented completely new ones in many cases), the axioms on which they build their theories are not arbitrarily chosen, they derive from the observation of some phenomenon linked with computation and the validity of the theories when they are built can always, ultimately, be measured by experience.

It is no mystery that for a long period of time we all have had difficulties to be considered as "serious" by scientists of other more traditional and well established sciences, and also by computer scientists who are not theoreticians. I can very well

Bulletin of the EATCS no 108, pp. 145–147, October 2012

remember the time when I was accused after a conference on infinite computations of "perverting" computer science for, as my contradictor said, "nobody will ever see the end of an infinite computation". Or the time when I was refused admission to the editorial board of the Comptes-rendus of the French Academy of Sciences by a famous French mathematician on the ground that "I, Maurice Nivat, was compromising the unity of Mathematics!". This period is fortunately over and TCS has found its place among the various chapters of Science.

Computer Science, be it theoretical or more practical, plays an important role in science, in industry an in society as a whole. There is however one domain where it does not play the role it should, and this is education. There are differences in various countries but in many the situation in no better than in France. Roughly what happens in France is that a short initiation is given in primary schools to nothing more than what I call the "pushing buttons" computer science: no attempt is made to explain how computers work nor to tell the children what computers can do. Computer Science is ignored almost completely in secondary schools (age 11 to 18) and very poorly taught in engineering schools, which are many in France and provide 90% of the engineers employed by industry. This situation is crazy since the shortage of computer scientists is obvious, all managers are complaining about it and "enforced innovation" is the only way to retrieve an effective and competitive industry which the government suggests and tries awkwardly to implement.

Everybody can see and knows that computer science is the main source of innovation in industry (and elsewhere, in administration too), but only a few people admit that learning about algorithms and writing small programs would be as interesting for children and as good for their training in reasoning as the cases of equality of triangles or the volume of the truncated pyramid.

I belong to a small group of French people who are trying to promote by all means the teaching of CS at all levels of the French education system. I also belong to a recently created committee created by the Academy of Sciences to think about the content of such teaching. We are happy to participate in the creation of a teaching programme in CS in the last year of secondary schools for some of the pupils in the scientific branch. This will start in September 2012 : something is always better than nothing! I have little doubt that many people in Europe share our desire to see CS take the place it should have in schools and high schools ; and I suggest that EATCS set up a committee to think about and take actions towards this goal: our habit of communicating across frontiers of national states will make easier the comparison between the state of CS education in our countries, and the diffusion of ideas and experiences in teaching CS. Since part of the problem is to convince reluctant governments that it is urgent to teach CS to the young gener-

ation if we wish Europe to keep its prominent scientific, technical and industrial position in the world, a European committee, established by our association would have more weight than scattered national ones.

I wish you a very fruitful ICALP, but I have no doubt it will be as fruitful as usual.