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Focus

Cultural differences accompany the growth of science communication

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In a beautiful Barcelona, bathed in sun, the 8th PCST Congress was celebrated at the beginning of June.[1] Besides the magnificent location of this year, there are several other reasons to commemorate the event. The first reason is that the community of professionals and scholars interested in Public Communication of Science and Technology (science journalists and writers, scientists, sociologists, teachers, historians, science museum curators, etc.) is growing quickly.

More than 300 abstracts were submitted this year, coming from all continents, and 282 were accepted (183 for oral presentation and 99 for posters). Maybe even quicker is the growth of the community of scholars coming from southern Europe and from the South of the World: 16% of the abstracts came from Latin America, especially from Brazil and Mexico (only Europe, who hosted the congress and has several founding members in the PCST network, had more papers submitted, 62%). Within Europe, the growing participation of southern countries is remarkable. Spain, of course, submitted most of the papers, as was stressed in *Quark*'s last issue: "This […] indicates just how important the hosting of this conference is in activating the PCST community of a country […]. Furthermore, this is not one-off participation, but the opportunity to jump onto an international train with an already solid trajectory". [2] Italy, France and Portugal also showed a quite impressive level of participation in the event. In the south of the world, Australia, South Africa and India also gave a strong contribution. As Revuelta and her colleagues write, "the congress activates a group of people who perhaps previously worked in isolation and since the meeting, they have become integrated in the network, forming an active part of it".[3]

Table I: distribution of PCST-8 abstracts (from Revuelta et al)[4]

Table I	Procedence and distribution to PCST-8 abstracts				
Country	Number Abs.	Country	Number Abs	Country	Number Abs.
Spain	95	Belgium	5	Armenia	1
United Kingdom	32	Greece	4	Bolivia	1
Brazil	30	Ireland	4	China	1
USA	23	Colombia	3	Korea	1
Italy	23	New Zealand	3	Eritrea	1
Australia	19	Poland	3	Finland	1
Mexico	18	Austria	2	Iran	1
South Africa	17	Canada	2	Latvia	1
France	12	Denmark	2	Qatar	1
Portugal	10	Netherlands	2	Russia	1
Germany	9	Japan	2	Switzerland	1
India	7	Norway	2	Thailand	1

Besides this "activation" and catalyzing capacity of the PCST network, there is another factor which gives cause to celebrate the event: the growing diversity in geographical origin of the researchers involved in the network comes together with diversity in point of views about new approaches in PCST, both theoretical and practical. Pierre Fayard, Paola Catapano and Bruce Lewenstein, in the PCST network Scientific Committee, write: "another interesting evolution is noticeable today in PCST outside Europe. Though modern science is international (global) by definition, when it comes to public communication of science, the local social and cultural values play a major role".[5]

The congress was definitely the right place to see difference in action. While everyone agrees that a *strictu sensu* "deficit model" (in which science popularization is essentially a unidirectional transmission or translation process toward a homogeneous, passive "public") doesn't work, proposals for better

engagement, participation and debate, and for contextual, interactive science communication differ a lot in content and methods. Some still seem to believe that "appropriate information" has to be transmitted by legitimate actors (scientists, teachers, "experts") to fill the holes in people's knowledge before a debate, let's say on cloning, can happen. Others stress the importance of listening to and studying what people already know, how they know it, how they construct their beliefs and competences on the topics of science and technology and how they incorporate them into traditional knowledge and their ethical, political, religious beliefs. Some still see the field of science journalism essentially as that of strict science popularization and tend to view other places and channels through which science information flows and is debated (like propaganda, sports, politics, economy, letters to the editor, etc.) as "distorted science" or "not real" science communication. Others depict a society in which a network of actors communicate science contents (and contexts) and social images on science and technology through a variety of non-traditional channels, several of which imply the presence of scientists, teachers or science writers as relevant but not unique sources. Southern countries seem to have become particularly attentive in recent years to such differences, maybe because they have to cope with an incredibly rich cultural diversity (due either to indigenous people or to new migrations), with enormous social differences and injustices and with high, or terribly high levels of illiteracy in the population.

Luisa Massarani and Ildeu de Castro Moreira write: "as a result of the social demands which characterize democratic societies regarding the uses of science and technology and their growing importance for humankind, new doors are opening onto a definition of science popularization which is less mystifying and more critical of science. From this perspective, there is a more important role to be played by questions inherent to the process, such as the functioning of the scientific apparatus, the uncertainties, the risks and the ethical questions. In a sense, the public, who has been progressively isolated from the science arena since the 17th century, is returning to play an important role". [6]

We think we have here a difficult as well as fecund debate: cultural peculiarities exist, no doubt, that make a substantial difference in the way in which effective public communication and engagement about science and technology is viewed and performed in different countries. Such cultural peculiarities also make the difference when trying to invent new practical approaches to science communications or a new theoretical framework to analyze the relationships between science, communication and other social institutions.

In this issue of *JCOM* we propose two different comments (and two different points of view) about science communication in a diverse world. Pietro Greco confronts us with a difficult question: does a "Mediterranean model" for science communication exist? Carmelo Polino analyzes, instead, why the old deficit model in public understanding of science and classical definitions of science literacy are particularly inadequate for South America. Both, as the readers will see, show us how science communication is not only a linear link from science to the rest of society, based on translation and dissemination, but that PCST is a complex ecosystem, merged in a very complex way with society, history, politics and culture as a whole. Scientific literacy is not only an individual attribute, which can be measured by means of a quiz and improved by means of accurate "inoculations". It is also a social characteristic, constructed by collective praxis, like the rest of our culture.

Revision by Prof. Robert Garner, IPA, Porto Alegre, Brazil.

Notes and references

[1] http://www.pcst2004.org
[2] G. Revuelta *et al.*, "The Pcst Network Seen Through 341 Abstracts", *Quark*, 32, April-June 2004. http://www.imim.es/quark/num32/default.htm
[3] *Ivi*.
[4] *Ivi*.
[5] P. Fayard *et al.*, "The International Public Communication of Science and Technology Network. A Brief Historical Overview", *Quark*, 32, April-June 2004. http://www.imim.es/quark/num32/default.htm
[6] L. Massarani, I. De Castro Moreira, "Popularisation of Science: Historical Perspectives and Permanent Dilemmas", *Quark*, 32, April-June 2004. http://www.imim.es/quark/num32/default.htm