

Like any other activity or living being, dialogue needs to change in order to survive. Matteo Merzagora of SISSA-ICS, Trieste, Italy and TRACES, Paris, France, charts this change.

Evolving dialogue

The risk is clear and is not new. It was very well portrayed by the Italian writer Giuseppe Tomasi di Lampedusa at the end of the 19th century, when he wrote in *Il gattopardo*: "In Sicily, we need to change everything so that everything remains unchanged". Let's substitute "Sicily" with "science communication" and we have an interesting lens with which to investigate the current situation.

The wording and the rhetoric used to justify the need for public communication of science have dramatically evolved in the last 20 years or so. The limits of the so called "deficit model" have been clearly identified and embedded in most national and European policies. We have witnessed a tangible transition: in acronyms, we have moved from PUS (Public Understanding of Science, with a strong focus of policies on fighting scientific illiteracy through a unidirectional transfer of information) to PEST (Public Engagement in Science and Technology, where the focus is on convincing the public of the importance of participating in scientific debate) and PUR (Public Understanding of Research, where science is seen more as an ongoing activity than as a series of results.)¹ This has now moved on to what we generically refer to as science-society dialogue, which we can define as a critical exchange of knowledge and values between the scientific community and non-scientists, aimed at a concrete change of perspective in both actors. "Dialogue," "engagement" and "participation" have now become unavoidable keywords. Several social scientists² have helped us understand that the chains of equations that link scientific literacy, engagement in science and technology, and relevant careers, public support for science and technology, etc. are far from being linear, and are strongly dependent on the evolution of science itself. Many efforts have been deployed to blur the frontiers between science and society, for example by moving from a "science *and* society" to a "science *in* society" perspective³. We can bet the next step will be to further enhance both the "society *in* science" mode (implying a stronger



The Decide game being played in Pretoria, at the Sci-Enza Discovery Centre, University of Pretoria

engagement of citizens in understanding science to become functioning actors in scientific development), and the "science *for* society" mode (implying a stronger engagement of scientists in understanding what scientific developments are desired and requested, and which are not, in order to become functioning actors in social development).

Words have indeed changed. But in the move from words to actions, we can be quite optimistic: whether the trend is supported top-down or bottom-up (that is, generated by opportunities of funding or generated by public demand), the number of initiatives aimed at engaging the public, involving participation, focusing on controversies, demanding the expression of the public's hopes and concerns, etc., has enormously increased. This is well documented, for example, in the analysis of the UK case edited by Jon Turney for the Wellcome Trust⁴, or, to remain closer to the science centre

sector, by the many recent FP6 projects focusing on dialogue and participation, in which Ecsite was involved directly or indirectly: Cipast, Decide, Dotik, Nanodialogue, Messengers, Meeting of Minds, Alter-Net (and the list is largely incomplete...).

So if things are changing in theory and in practice, is the risk of changing everything for everything to remain the same avoided? No: we can indeed show optimism, but conservatism, like rust, never sleeps. Our approach needs to constantly change if we want to be able (as we should be) to follow the evolution of science itself and of science in society.

The main challenge seems now to be the move from "dialogue events" to a dialogue culture. It is essential that dialogue is intended by the parties concerned not just as a new umbrella to reproduce the usual strategies, but as a concrete means of obtaining new results. That is, as a



pathway to provoke a social and political change, however small. This implies a shift in focus from the *methodologies* of dialogue to its *objectives*.⁵ Science centres are indeed among the better placed institutions to achieve this. But they have still not exploited this opportunity fully.

Let's ask ourselves two questions. First: are science centres today the first place citizens think to go, when they want their voices to be heard on controversial issues involving scientific expertise? The answer, for the most part, is still no: science centres do organise exhibitions and events on controversial issues, from GMOs to vaccines to nanotechnology, but are very seldom used by pressure groups of citizens, watchdogs, whistle blowers or advocates of demand-driven research as a platform to actively defend their issues and reach their objectives. Second: are science centres today the first place scientists think to go, when they want to defend their viewpoints, to lobby, or to stage the competition among themselves for cultural and financial recognition? The answer, again, for the most part, is mostly no: science centres do organise debates on front-end current research, but have mostly failed to convince scientists to use them as a public stage on which, for example, to advocate for investment for the ITER reactor rather than for energy saving domestic appliances, or for string theory rather than loop quantum gravity research. These functions, essential for a dialogue to occur, are still mainly covered by the mass media, where the battles among scientific institutions for coverage and recognition are widely experienced by any science journalist.

As the idea of the dialogue model of science communication has become common sense and is now largely institutionalised, in order to renew it so that everything can keep on changing, a further step appears to be needed. This requires the actors engaging in the dialogue to become the driving force asking for the dialogue to occur in the first place, and that the outcome of the dialogue can be, or at least be perceived as, a real instrument for change. But first of all, we need dialogue in order to understand what dialogue really means. If it is largely unclear how to achieve the first two conditions, many valuable efforts are devoted to the third: the attention given to the topic in the Ecsite Director's Forum 2006, in the Ecsite Pre-Conference, and in the Annual Conference sessions are clear examples of a strong will to understand how dialogue is evolving.

Matteo Merzagora and Paola Rodari co-authored the manual of scientific museology "La scienza in mostra: musei, science centre e comunicazione", PBM, 2007.

¹The literature on the subject is quite vast: it has been usefully reviewed by Bruce Lewenstein of Cornell University at <http://www.people.cornell.edu/pages/bv11/scicomm.html>. From a science centre perspective, see also Chittenden et al. (eds) *Creating Connections*, Altamira press, 2004.

²Such as Brian Wynne in the UK, Michel Callon in France, Helga Novotny in Switzerland, Massimiano Bucchi or Pietro Greco in Italy, to quote but a few.

³This is clearly visible by reading the evolution of the introduction of the science and society sections in the 5th, 6th and 7th Research framework programmes of the European Commission.

⁴J. Turney, ed., *Engaging Science*, Wellcome Trust, 2006.

⁵A series of contributions on the future of dialogue, mainly from the science centre community, have been published on the latest issue of the online Journal of Science Communication (jcom.sissa.it).

Side Note: Cultural Considerations in Dialogue Events

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Different communities do have different everyday practices regarding dialogue and debate that could be useful to take into account when developing as well as observing public dialogue events.

For example, in one of the report-out meetings of trials by the partner museums during the development of Decide, a discussion ensued on use of the "Yellow Card". The function of the Yellow Card in the Decide activity is to help facilitate participation by the whole group in the discussion. If someone was seen as dominating the discussion too much or interrupting other people, group members could give the person a Yellow Card as a signal to let others speak or contribute. The partner from Helsinki, Finland said that the people doing the activity liked the idea of the Yellow Cards, but didn't use them in the discussion. The Naples, Italy partner in contrast said, "Really? At my place they were almost throwing yellow cards at each other in heated discussions!" Although they were very different styles of dialogue, the Helsinki and Naples partners both said that the participants were satisfied with the discussions and came to consensus in their policy voting.

This difference highlights a couple of important features of a dialogue activity such as Decide. First is that the activity itself is flexible enough to allow for different forms to exchange. Second is that even in heated arguments and debates, consensus can happen (perhaps if the debaters are accustomed to this form of discourse).