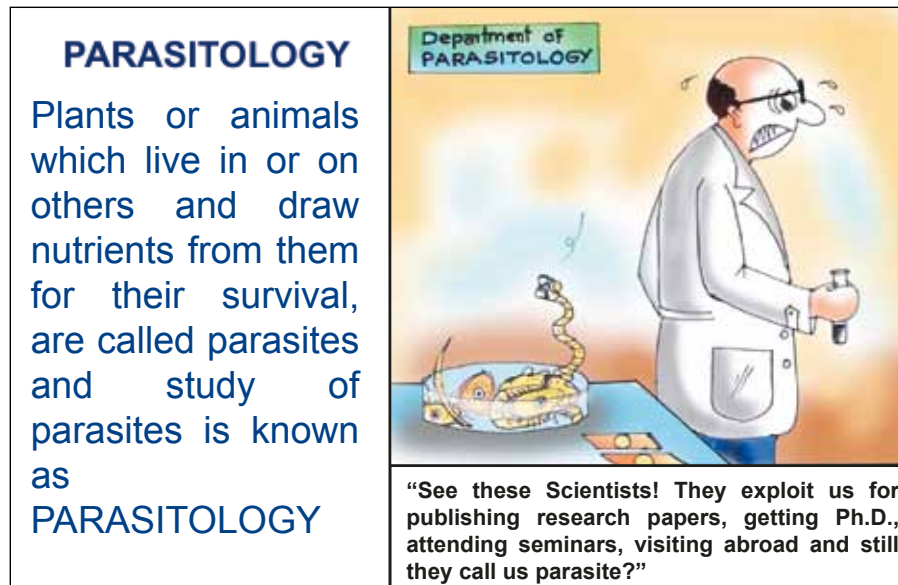


PUBLIC COMMUNICATION OF SCIENCE AND TECHNOLOGY 2010

Kaleidoscope of Cultures of Science

Challenges, Trends and Critical View of Science Communication



Scientoon – making people smile and providing techno-scientific information.

Source: Pradeep Kumar Srivastava

What are the fundamental duties of researchers and practitioners in the field of public communication of science (PUS) today and in the future? Surprisingly, the India’s constitution contains quite a good answer to this question: “To develop the scientific temper, humanism and the spirit of enquiry and reform“. With this reference to the supreme law of India, Dr. Manoj K. Patairiya, Director of the National Council for Science & Technology Communication in India, welcomed the delegates to the 11th International Conference on the Public Communication of Science and Technology (PCST) held last December in Delhi, India. Thus, 60 years after the constitution came into effect, India – as one of the world’s major emerging economies, positioned between modern and developing nations – was the perfect host for the international delegates from 50 countries in an ongoing

exchange between public engagement activities with science (PES). Researchers and practitioners in science communication discussed the different formats and how there are played out in very different contexts across the globe. In short: the evolving role of science in modern society.

The PCST 2010 conference proceedings, with more than 350 research and review papers, provide an overview of the scope of the PUS movement. A colorful blend illustrating, that – twenty years after its first conference – the international science communication network has gained international perspectives, with journals of science communication, universities conducting research and training, and a developing job market for science communicators. Science – and therefore the communication of science – is one of the key players in globalization. And while the nature of public engagement

with scientific knowledge and science-based technologies is changing, so are the ways of creating knowledge. In addition, knowledge is increasingly transmitted via digitalized mass media. As a result, the role of science communication is becoming a moderator of opinions, prospectively about reactions on globalizing forces. Therefore, a “powerful science communication is an asset for the transformation of society”, said Abdul Kalam, former President of India in the inaugural address. The motto of the conference Science Communication Without Frontiers set the frame for sessions ranging from critical reviews and the role of engagement activities, e.g. in science museums or during science weeks, to science communication through mass media as well as globalizing and localizing strategies. Nevertheless the “without frontiers” motto was contrasted by the fact that – due to VISA issues – delegates from China could not attend.

What is it crucial to know about results in comprehensive PUS research? Martin Bauer, from the London School of Economics, mapped out the change in relations between science and society. He reported on shifts in the cultures of science in Europe and India, based on a large-scale comparison of data on scientific literacy, attitudes and interest across different contexts and over time. As research into the public communication of science is increasingly focusing on the correlation between knowledge and attitudes, our understanding of PUS is equally evolving more towards a Science in-and-of Society model (Bauer). The shift in the perception of science is defined in terms that societies move along axial transitions – from an industrial to a post-industrial and knowledge-intensive economy – and that the distribution and relationship

between people's knowledge, their interests and attitudes to science occur differently. To cut extensive comparative research short: The operational axiom of the Royal Society's 1985 assumption that 'the more you know, the more you love it' is no longer universally true in knowledge-intensive postindustrial societies, because the familiarity with science leads to a sceptical loyalty in terms of a utilitarian scrutiny. Therefore, a critical public can be seen as part of the solution and not of the problem of progress of science and technology – and as a de-facto extended peer-review process. The research by Martin Bauer et al, based on the Eurobarometer data, shows various trajectories of PUS across the Europe EU-12 with the conclusions that:

- ◆ overall the baby boomers and generation-X are the most positively inclined in their view of science;
- ◆ knowledge is increasing overall across generations in all contexts; while the literacy of different generations rank order differently across different countries;
- ◆ attitudes to science show very diverse inter-generational dynamics in the different countries.

What are the challenges?

"Research should consider communicative effectiveness, foresighted views and methodologies, focusing more on the younger generation, which is actually confronted with the global challenges", recommended Hak-Soo Kim, from the Sogang University, in Seoul, South Korea. Considering the overall low level of science literacy amongst the masses in the world, Jay Kumar, from the Swadeshi Science Movement in Kerala pointed out: "If science communication does not contribute to scientific literacy and a better life for the people, it has no meaning." Global issues – climate change, the loss of biodiversity as well as food and water affairs to name a few – are pressing problems and not at least socio-cultural phenomenon, which need cultural answers. Vishwa Mohan Tiwari, former president of the Indian Science Writers Association,



PCST 2010 opening ceremony: music and cultures of science communication

Source: D. Trescher

tion, called the "culture of mere consumption" a dangerous development. The continuous propagation of the "western lifestyle" in Indian media, where so-called "scientific products" are advertised, are in major contrast to the traditional lifestyle in India, which can be considered "simple living and high thinking, meaning to restrain appetites by living in a higher domain intellectually".

A short account and overview of the European perspectives on research policies was presented by Ulrike Felt, University of Vienna. She mapped out the recommendations of the MASIS report (Monitoring Activities of Science in Society). The MASIS expert group identified seven challenges to overcome for a better engagement between science and society. To name three of the most important:

- ◆ The internet and/or Web 2.0 techniques, such as the 'blogosphere' play an increasingly prominent role and therefore have to be incorporated in PUS and PES activities.
- ◆ All parties involved need training for communicating with different audiences, whereas the public needs to be both: media- and science literate.
- ◆ Narratives about futures are essential resources for deciding on the present – therefore scientists and communicators are accountable for future-creating activities, which necessitates new approaches to enable better deliberation and assessment of such futures.

An increasingly popular way of science education and communication are scientoons, educational caricatures, with techno-scientific context. "Besides making people smile, they also provide information about new research, subjects and concepts in an understandable and interesting way", said its creator, Pradeep Kumar Srivastava, Senior Scientist at the Central Drug Research Institute (CDRI) in Lucknow, India.

One conclusion: The ongoing shaping and reshaping of the role of science in society in Europe can be characterized as a "patchwork of transformations" (Felt). Basically, the paradigm shift lies in the change from a transmission to a transaction mode, Ulrike Felt explained. This leads to a new notion of communication, where scientists and multiplicities of the public can learn from each other in a reflexive way, a two-way communication in an ongoing exchange of information, debate and knowledge. Therefore, students play an increasingly role as societal multipliers. This is especially true of India, where half of the 1.2 billion (and rising) population is under 30 years – thereby outnumbering the complete population of the USA. (DT)

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