Parallel Session 10: Science Communicator, is it a good profession?

MAXIMISING SOCIAL PARTICIPATION IN SCIENCE COMMUNICATION: SOME LESSONS FROM ANTHROPOLOGY AND PSYCHOLOGY

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Abstract

This paper begins with the premise that science communicators – though a diverse breed - are all facilitators of social/public participation in science. Given this, four short examples are presented deriving from the author's prior experience in anthropology and psychology. The examples are summarised as; culture clash, notions of rationality, relativism and culture change. Using these, the importance of social awareness to science communication theory and practice is highlighted. It is argued that science communication without recognition of, and responsiveness to, social context is science evangelism.

Key words: facilitation, context, culture

Text

As a practice and a discipline, science communication is extremely diverse. Underlying this diversity however, is at least one, central theme: our role as facilitators of social/public participation in science. To fulfil this role effectively, we need to be equipped to recognize and respond to the demands that varying social contexts may make upon us. In this paper, I present four examples from anthropology and psychology, each aimed at enhancing the science communicator's awareness of social context, and therefore their capacity to facilitate societal science participation.

Culture clash

A useful way to highlight social context is via cross-cultural comparisons, remembering that "culture' refers to more than just differences in ethnicity. First, an example of a culture clash within one ethnic group from a conference held in Australia, sponsored by the Forum for European-Australian Science and Technology Cooperation (FEAST).

This science/technology research-focussed forum ("Networking for Excellence") featured researchers, bureaucrats and practising scientists, and focussed on economic-related science issues. The 'clash' occurred at the beginning of the plenary session "Science and Social Responsibility". As this session began, over half the attendees left – a dramatic example of cultural difference unrelated to ethnicity. The message to science communicators? Many involved with science have no interest in the social contexts in which science exists.

Notions of Rationality

Taking a traditional view of culture and applying it to science communication is also enlightening when considering awareness of social contexts. James Frazer, author of the classic anthropological work *The Golden Bough*, proffered two laws anthropologists could use when rationalising the logic behind 'primitive' magic. These are the laws of similarity, and of contagion[1].

The first law describes how like produces like, as happens with voodoo dolls. A voodoo doll looks like a magic practitioner's intended victim because they assume that anything inflicted upon this likeness will accordingly happen to their victim.

The second law, 'contagion', suggests that objects which have been in contact remain connected after separation. Hence some Australian Aboriginal groups ensuring others cannot find their nail clippings as these could be used to inflict harm 'remotely'.

Interestingly, similar 'misperceptions' - from the vantage of science - occur in science-literate societies, too. Notions of contagion are demonstrated by people who believe that choosing the same lottery numbers each week enhance their chances of winning. Implicitly they believe that the balls drawn from the lottery machine this week affect, or infect, those drawn in subsequent weeks.

The law of similarity can be seen in the still poorly-evidenced belief that watching violent movies 'makes' people violent, or that subliminal advertising 'makes' people buy things they don't want. A half-century old anthropological theory is relevant to the work of science communication today.

Relativism

From here, I want to consider cultural relativism: the idea that cultural practise is best understood from within the culture that adheres to it. Adopting this position can be productive, as anthropologists found when interpreting magical beliefs outlined above. So too, the science communicator may appreciate the position of, for example, a community of loggers unsympathetic to views of environmental scientists whose research they communicate. Appreciating the loggers' "anti-environment" stance relativistically may reveal a "pro-survival" stance when viewed from within the loggers' culture. But relativism can only go so far.

A clinical psychologist I knew spoke of working in Thailand with villagers who routinely sold their daughters into urban prostitution so their families could survive. For a time, she tried to remain relativistic, understanding this practice in context. In the end though, her moral sensibilities no longer allowed her even tacit complicity in such practices. She broke down from the stress of trying to resolve her personal beliefs with her professional duties. Her message? Recognize and maintain your own moral standards. Without these, we operate without grounding, swinging from belief to belief as the immediate social environment dictates. This is particularly relevant to science

[1] see http://www.sciencedaily.com/encyclopedia/magic__paranormal_ for more background

communicators working in areas involving ethically charged research and practice, such as reproductive technologies, bioprospecting and the environmental science.

Culture change

My last point, using an example combining anthropology and psychology/psychiatry, is this: social contexts, and more broadly cultures, change. They are neither static nor preservable. This example comes from the history of the Diagnostic and Statistical Manual of the American Psychiatric Association (DSM), the 'bible' of psychiatric diagnosis. The DSM-I, first published in 1952 , has been substantively revised thrice (DSM-II, DSM-III and DSM-1V). To demonstrate how (scientific) culture changes, I will consider DSM-II. Published in 1968, it included homosexuality as a mental illness. In 1973, well before the next formal revision (DSM-III, 1980), the American Psychiatric Association voted to remove homosexuality from the DSM-II. This change, brought about not *by* science, but *in* science, was influenced by contemporary changes in society/culture. Social acceptance of homosexuality had changed, and psychiatry and psychology were moved to change too.

This example highlights that scientific culture changes, and does so in relation to the social context of the society in which it exists. It shows how social context, culture, and the psychiatric sciences are inextricably entwined, suggesting again that awareness of social contexts is a highly desirable trait for a science communicator.

Conclusion

Culture clashes, concepts of rationality, cultural relativism and culture change - all are examples of the diverse interaction of social context and understanding. Considering the science communicator as facilitator of social participation in science, the relevance of these examples is clear: science communication will be enhanced by socially aware practice. Without this, it is little more than science evangelism.