What Trust in Science?

Review of the *Trust in Science Workshop*, October 15th-16th 2007, CBC Conference Centre, Toronto

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The Trust in Science workshop was a two-day interdisciplinary event which centred on the question of trust in science.¹ Phillip Mirowski's opening talk about science and neoliberalism largely set the agenda for the workshop. Mirowski distinguished between two competing models of science. The leftwing model, which was common in the Cold War period, sees science as a rational and objective enterprise that can be a means of social reform. This model resonates with the traditional Mertonian model in the sociology of science. Under the alternative neoliberal model, which appears to be gaining popularity nowadays, science operates in a free market of ideas, and is subject to market forces. Under this model, there is competition between various organizations such as universities and private companies for the supply of the best and most efficient research to meet the needs of consumers. STS research has already shown that science has never really conformed to the Mertonian model or any other similar model. Nevertheless, Mirowski's talk seemed to betray a slight nostalgia for the 'good old days' of the Cold War, in which scientists at least pretended to follow norms of objectivity and felt obliged to promote positive social change. The subtext seemed to be that even though things were not so good before, they are much worse now. Some commentators, though, expressed the worry that neoliberalism is used as an umbrella term that captures several social and

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¹ Participation in the workshop was free of charge. The workshop had two public lectures, by Sheila Jasanoff and Natalie Jeremijenko; remaining sessions were open to preregistered participants. The sessions were filmed by CBC for possible future use. The Trust in Science workshop served as an introduction to *Situating Science: Cluster for the Humanist and Social Studies of Science*, a seven-year, \$2.1 Million Strategic Knowledge Cluster Grant from the Social Sciences and Humanities Research Council of Canada. The Trust In Science workshop was co-sponsored by the Social Sciences & Humanities Research Council of Canada; Canadian Science & Technology Museum, Division of Humanities in York's Faculty of Arts and York's Science & Technology Studies Program; the Department of Philosophy at Queen's University; and the Institute for History and Philosophy of Science & Technology at the University of Toronto. The intention of this reviewer is not to give summaries of the speakers' talks, but to touch on the main themes that were raised and discussed in the workshop.

economic processes, which are not necessarily related to each other—nor are they all necessarily undesirable.

The session on medical trials touched on many of these themes. Joel Lexchin discussed the privatization of medical research, which has become a much more prominent issue since the 1990s. He presented statistics that showed that studies that are carried out in private research companies, subcontracted by pharmaceutical companies, are more likely to show positive results about the efficacy of the drug in question than studies conducted in independent universities. This effect is real despite the fact that in both cases researches follow strict methodological protocols that are supposed to eliminate bias. Jill Fisher discussed the wider social-economic conditions surrounding medical research in the United States, where participation in clinical trials is often the last resort of patients who need health care but cannot afford ordinary treatment. Clinical trials are also a way for doctors to increase their income. However, both patients and doctors tend to ignore these conditions when asked to rationalize their participation in these trials.

The theme of science as a commercial product for consumption was prominent in other talks as well. Robert Bud from the London Science Museum talked about the need to brand science for the general population. Mike Goodman talked about how climate change science is marketed to the wide audience using celebrity spokespersons. Sheila Jasanoff criticized a common view that reduces public understanding of science to a list of scientific facts one has to accept, e.g. that man and ape have developed from a common ancestor. This list, she pointed out, is similar to a list of entertaining facts that are written on the back of the bottle caps of a popular soft drink. Jasanoff's talk raised questions such as, is constructing a certain public image for this soft drink the same as constructing a social image for science? Is this what 'Public Understanding of Science' means?

If science is a product and operates in a free market of ideas, shouldn't one have the right to consume the science of one's choice? Jennifer Keelan and Peter Brooks presented case studies in which patients and their family members became their own experts and challenged the common medical views about their illnesses and treatment. In the session about climate change, dissenting voices within the scientific community that challenge the consensus about global warming and its effects were frequently mentioned. Are there relevant differences between these two types of cases?

Moreover, if one can choose her favourite scientific theory, shouldn't she also have the right to choose her favourite model of science? The speakers in the workshop could be divided into four main groups: HPS and STS academics; science journalists; science teachers, including science museum people; and last, scientists. Several mutually exclusive perceptions of science could be identified in the different talks. In the session about science and the media, Jim Handman,

a senior science journalist at CBC, argued that the major problem in science journalism is journalists' scientific illiteracy. His argument implicitly relied on the 'deficit model' of scientific communication. According to this model, journalists need to accurately report to the public new scientific discoveries and developments. According to the 'deficit model' these reports do not play any role in the construction of scientific knowledge. In the same session, Bruce Lewenstein, an STS scholar from Cornell University, devoted the first few minutes of his talk to debunking the 'deficit model', which has been rejected by the STS community. In the session about museums and public trust, Randall Brooks from the Canadian Science and Technology Museum, who is also a former physicist, expressed the view that one of the roles of science museums is to teach youngsters about the scientific method, which he took to be universal and ahistorical. Many STS and HPS scholars in the audience showed visible discomfort with this view, as they took the existence of such a method to be a myth debunked long-ago. Due to a lack of real communication between the different communities, what is taken for granted in one community is received with astonishment in another community.

While lack of communication between different communities is the rule, there are exceptions. Richard Somerville, a meteorologist from University of California, San Diego, presented a summary of the findings of the latest Intergovernmental Panel on Climate Change (IPCC) report. The report clearly indicates, according to him, that there is global warming. Somerville spent much of his time responding to criticisms of the objectivity of the report. He stated that the report was based only on peer-reviewed sources, and that earlier drafts were revised following an iterative process of criticism by scientists around the globe. He further added that scientists of different disciplinary backgrounds and age groups from both the first and third world participated in compiling the report. These measures, as described by Somerville, almost perfectly mirror philosopher of science Helen Longino's epistemic ideal of 'tempered equality', which she views as a means to ensure the objectivity of scientific knowledge. When the stakes are high, so it seems, dialogue can occur.

However, even where there is dialogue between different disciplinary communities, it is still limited. In his talk, Somerville emphasized that the IPCC mandate was only to report the facts, but not to make policy recommendations. In a lengthy response, which was largely left unanswered, Sheila Jasanoff questioned the feasibility of the distinction between facts and values that underpins this mandate. Jasanoff argued that the allegedly independent factual question whether global warming is occurring will never be settled as long as the normative question about what ought to be done about it is left open. In particular, questions about inequality between the third and first world need to be addressed, such as the question of which world should carry most of the burden of preventing the emission of greenhouse gases, or the related question of whether the third world is entitled to the same standard of living as the first world.

We live in interesting times and the Trust in Science workshop has captured the Zeitgeist. Science is undergoing changes that are part of larger economic and ideological changes. Inasmuch as this is a useful framework, these changes may be labelled 'neoliberalism'. These changes are interconnected —the privatization of scientific research, the subordination of science to the forces of the free market, equating science with a product for consumption, and the legitimization of a plurality of perceptions of science. In light of this reality, the participants of the Trust in Science workshop discussed what trust science gets and what trust it deserves. The workshop brought together representatives of different groups, all of which routinely interact with science. Time will tell if the Trust in Science workshop and the other planned Trust in Science initiatives will manage to establish a dialogue between these groups.

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