EUROPEAN SCIENCE FOUNDATION
SETTING SCIENCE AGENDAS FOR EUROPE

Universität Bielefeld

Universität Bielefeld ZiF

RESEARCH CONFERENCES

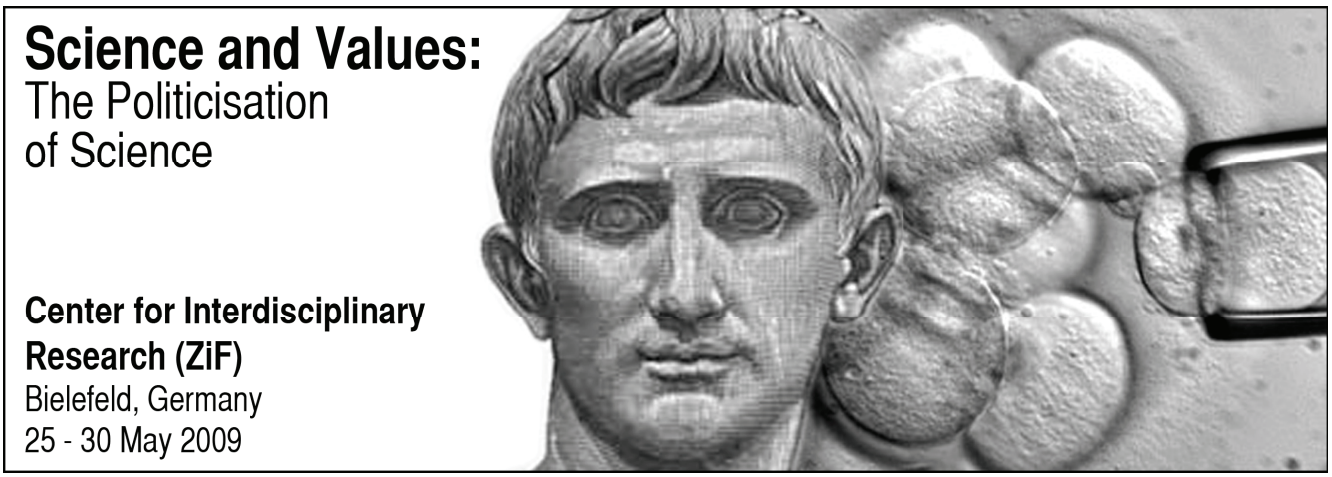
ESF-ZiF-Bielefeld Conference

Science and Values: The Politicisation of Science

Center for Interdisciplinary Research (ZiF), Bielefeld Germany
25-30 May 2009

Chairs:
Martin Carrier, Bielefeld University, DE
Peter Weingart, Bielefeld University, DE

www.esf.org/conferences/09286



www.esf.org

Conference Highlights

Please provide a brief summary of the conference and its highlights in non-specialist terms (especially for highly technical subjects) for communication and publicity purposes. (ca. 400-500 words)

The conference represented a tri-disciplinary endeavor in the tradition of the Bielefeld Institute for Science and Technology Studies (IWT). It brought together speakers of different disciplinary affiliations and divergent intellectual orientations: philosophers, sociologists and historians of science, but also science writers.

A motive for organizing the conference is the worry among scientists that the inclusion of social and political values in the selection of research topics or the assessment and confirmation practices is detrimental to the epistemic authority of science. The apprehension is that political interference tends to undercut the neutrality and objectivity of science. Many scientists think that politics need to be kept out of the lab lest the credibility of science be compromised. A science tied up too intimately with politics might lose the capacity of "speaking truth to power."

While some speakers at the conference agreed with this sentiment, many others pointed out the positive impact, or even the inevitability, of some forms of politicization. Some speakers demanded that scientists enter the political arena themselves and arouse awareness of scientific issues and scientific rationality. Nobody denied that the political suppression of data and hypotheses does violence to the scientific enterprise—as it could be observed until recently in the responses of the Bush-administration to global warming. Yet many insisted that there are benign forms of politicization in science. For instance, the inclusion of social or ethical values is mandatory for a "responsible science," intended to improve "human flourishing." In addition, the risks and uncertainty going along with many contemporary research projects generates an increasing need for accountability. Participatory governance (which is tantamount to some form of political guidance) appeared desirable to many speakers. Consensus conferences were widely welcomed as a means for selecting research topics and making decisions about which research findings should be implemented technologically. Other speakers objected, though, that the freedom of research is an essential element of the openness of the scientific community and that the creativity of science might be stifled if every new project needs to be subjected to public inspection before it is allowed to be pursued.

The follow-up questions concerned validation and brought the context of justification or acceptance into play. Some speakers claimed that social and political values rightly enter assessment procedures in science and play a legitimate role in weighing the import of the evidence. The argument was that the products of research might cause serious damages outside of libraries and laboratories. For this reason, the non-epistemic consequences of error are required to be taken into account—which means including social and political values. Others replied that appealing to political considerations in the context of acceptance is likely to hurt the integrity of science and politics alike. Science follows epistemic principles that are a far cry from political modes of operation (such as pursuing interests or casting votes) so that a too close encounter might do damage to both science and politics. In sum, the role of political values in science was largely acknowledged and mostly welcomed although lots of reservations and a large amount of ambivalence remained.

x ☐ I hereby authorize ESF – and the conference partners to use the information contained in the above section on 'Conference Highlights' in their communication on the scheme.

Scientific Report

Executive Summary

(2 pages max)

Science-related policies, the sponsoring of specific kinds of research by foundations or political bodies, expert advice on scientific policy intervene in science and intend to prompt the production of research outcome of certain sorts. But such specific research objectives are difficult to achieve. Science is as human creation which yet has, like the economy, acquired features which were not intended at the outset and rather constitute initially unnoticed by-products of earlier choices. Such emergent features are not realized instantly; they need to be studied systematically like natural phenomena in order to be understood. Intervening in science successfully is a demanding challenge.

The scientific revolution of the 17th century heralded a new conception of the relationship between knowledge of nature and technological intervention. Understanding nature was taken as the basis for putting its powers to use. Nature can only be controlled by obeying its laws, as Francis Bacon famously put it. Although the relationship between scientific understanding and technological use has proven to be much more complex than anticipated by Bacon, there is an element of truth in his claim that targeted intervention, effective and without side-effects, is dependent on understanding the underlying processes.

A similar relationship can be assumed to hold between the understanding of science and the intervention in science. Science governance and the targeted regulation of research can be expected to benefit greatly from a superior account of how science works, as it were, and what role values play in it. Politics often intervenes in the pathways of research. But if this intervention is supposed to be accomplished in a responsible fashion, that is, by respecting the epistemic ambition of science and without doing damage to its intellectual culture, it needs advice as to the mechanisms of scientific knowledge production. This is the practical challenge science studies face today (in addition to the cultural challenge of clarifying the epistemic characteristic of scientific knowledge, the methodologies used for its production, and the institutional features of science as a social system).

One of the aims of the conference was to cast light on the complex entanglement of epistemic, economic, ethical and social values in science. Understanding this entanglement is essential for upholding the epistemic prospects of science, securing its contribution to the betterment of the human condition and keeping science in conformity with our ethical and social commitments. The interdisciplinary exchange of views on the relationship between science and values has contributed to achieving the objective that science preserve both its epistemic power and its social responsibility.

Scientific Content of the Conference

(1 page min.)

- *Summary of the conference sessions focusing on the scientific highlights*
- *Assessment of the results and their potential impact on future research or applications*

The conference topics can be grouped into four major areas, the relationship between science and the public, the impact of science on politics, the impact of politics on science, and the political influences on the context of justification.

Science and the public

The issue of the "medialization of science," that is, the relationship between science and the public, came up repeatedly. Many speakers complained that science education is low and that the general public pays little attention to science. Speakers demanded that the politicization of science be intensified in the sense that the public should take part more actively in scientific developments. The general idea was that science is subject to politicization because people don't understand science. Increasing scientific literacy was suggested as the remedy.

This sentiment was countered by the argument that recommendations of this sort underrate the complexity of scientific thinking and neglect in particular that competing approaches are frequently found in science itself. Consequently, the concern is that science education will not simply bring people to act as we think they should. Rather, as Harry Collins suggested, the more you get to the ground of science, the more you become aware of scientific uncertainty. Many debates in science show that the issues are subtle and cannot to be resolved easily.

Impact of science on politics

Scientific knowledge may undermine or support political values. For instance, genetic determinism was taken in some quarters as a scientific justification for stopping political programs designed to assist disadvantaged social groups. After all, the genetic inferiority of the pertinent people was assumed to underlie their lack of achievement, and nothing could be done to remove of compensate this innate deficiency.

Today, we encounter quite different views on the impact of science on politics. For instance, David Guston demanded the anticipatory governance of the emerging nanotechnology. In this framework, scientific innovation is taken as a challenge for politics, something that needs to be managed politically in order to be coped with or fenced in or be accepted by the public in the first place. Arie Rip spoke of protected spaces which science needs in order to be innovative. However, the impact of science on the world outside of laboratories and libraries makes it increasingly difficult to grant science such spaces. The stem cell debate shows that science puts our value system under stress.

Impact of politics on science

The reverse influence is the value-ladennenss of science. Values are brought to bear on judging knowledge claims in science; they contribute to determining what qualifies as knowledge.

Active political interference in science was one of the major topical foci of the conference. The usual requirement is that science be left alone. The epistemic dignity of science tends to be hurt by outside interference. Science that operates under political pressure tends to degenerate. Many scientists voice complaints of this sort; in the conference Jürgen Mittelstraß and Alfred Nordmann went in this direction. The same goes for Gürol Irzik with respect to the commercialization of science. The conclusion advocated was that politics should refrain from any active intervention in science.

But many counterpoints were developed. Marc Brown pointed out ways of benign politicization of science. Participation of citizens is a way to strengthening the legitimacy of research. Janet Kourany saw social needs as the critical factor in determining research topics. Philip Kitcher claimed that the public ought to be involved in setting up the research agenda of science, that is, in shaping which scientific problems are addressed legitimately. Kitcher sketched the vision of a well-considered political intervention in science with a long-term perspective.

Whereas “well-ordered science” of this sort was considered an attractive ideal by many, the present reality was described by Ortwin Renn. He saw no pronounced long-term visions on the part of politics. Politics poses problems to the sciences and asks for clarification, yet it does not intend to shape the course of science but rather asks for help as to urgent desires. The influence is short-term and without specific aims in mind. Politics plays a rather receptive role in the relation to science.

A different question at this juncture is to which extent or under which circumstances can the research agenda be shaped by political intervention in the first place. It’s difficult to anticipate research outcome in advance. Therefore, it is advisable to pursue a multiplicity of approaches. But this multiplicity diminishes the controllability of research. It its light, broad epistemic research rather than narrowly focused investigations is the royal road toward bringing science successfully to bear on practical problems. The worry is, accordingly, that science may not be susceptible to systematic attempts of setting the agenda in ways that promote the common good.

Political influences in the context of justification

The follow-up question concerns validation and brings the context of justification or acceptance into play. Indeed, we find political interventions in favor of or against scientific approaches—as in the case of the Bush administration and global warming. But such cases of external political pressure on science are rare and of limited impact. Characteristically, the Bush-Administration caved in after a few years and acknowledged global warming.

In fact, what we find is a lot of influences below this threshold of interference on the part of political bodies and rather from within, as it were. Scientists are inclined to accept more easily what matches their expectations; the latter tend to be imposed on unclear data and may eventually dominate the interpretation of experience. While the facts remain recalcitrant to some degree, social values may have a considerable impact on scientific thought. For instance, archaeological human remains were frequently interpreted earlier on the social model of the breadwinning male and the housekeeping female, whereas today the working couple tends to provide the role model for making sense of relevant fossil data. Analogously, early primate research focused on social conceptions like male domination of the females or male competition and fighting as a chief factor of reproductive success whereas today softer strategies like courting and making friends with the females are at the focus of attention. Social values influence the context of justification and this time rightly so, as most of us believe.

The talks of Don Howard and Justin Biddle stressed in a more systematic way that political values may influence, and even rightly influence, decisions of scientists to adopt certain scientific approaches. Scientists are justified in bringing their political views to bear on the interpretation of the data. In a similar vein, Heather Douglas required values to enter assessment procedures and to be involved, if indirectly, in weighing the import of the evidence.

Conclusion: Pervasive Ambivalence

On the whole, the role of values in science was largely acknowledged and mostly welcomed. An agreement to the effect emerged that the research agenda is rightly to be set by appeal to social values. However, it should be kept in mind that it is difficult to anticipate what can be achieved on the basis of a given state of knowledge. Regarding the context of acceptance, there is a certain divide. The influence of epistemic values was not regarded as problematic, but the intrusion of social or political values in the context of justification or acceptance caused worries to some participants. The apprehension was that the inclusion of political values in the context of

acceptance might undermine the credibility of science and eventually hurt the integrity of science and politics alike (as Michael Yeo claimed). Peter Weingart likewise demanded to keep the two separate. Science is ruled by the search for truth, politics is driven by the pursuit of interests; the two modes of operation systemically diverge from one another. The feeling was that it is a delicate problem to include non-epistemic values or political values in science, on the one hand, and to create or preserve science with a human face, without abandoning, on the other hand, the claim of science to yield knowledge of a privileged reliability, hardened through severe empirical tests and reciprocal criticism.