

EDITORIAL:

From Pro-Science to Anti-Science – And Where Next?

In the past two years we have witnessed some surprising science and technology-related developments in the United States: the shutdown of the Superconducting Supercollider, the closing of the Congress' Office of Technology Assessment, a recent science exhibit at the Smithsonian Institution which has been seen as directly hostile to science, and, last but not least, the Unabomber. The first two events are real physical indications of the redefinition of the role of science in the United States. After the post World War II boom, the growth curve of science came to a halt in the early 1970s. The latter two events reflect current critical attitudes to science and technology which are not limited to museum curators or one particular anti-technology terrorist. Indeed, as the growth curve of science tapered off, the various fields whose object was science started undergoing a transformation themselves. From their earlier attempts to explain why science worked so well, philosophers, sociologists and historians now moved in the opposite direction, questioning cherished assumptions about science and demonstrating that the emperor had no clothes (or, rather, that the clothes were of a different nature than earlier assumed).

What is, then, the connection between the objective social situation for science today and current criticisms of science coming from parts of the larger public and particularly from science studies and "postmodern" humanists? And do these miscellaneous criticisms form a cognitive category which could rightly be called 'antiscience,' as some claim today? What are the motivations of "antiscience" advocates, and what are the motives of the "anti-antiscience" warriors themselves? Finally, in the current climate, what is the prognosis for science and science studies? It is these kinds of things that the present issue of *Science Studies* is addressing.*

The first article discusses a variety of different recent claims about "antiscience." It questions the existence of a clear 'antiscience' category and argues that the label 'antiscience' might rather be seen as a heuristic device which allows academics from different fields to collectively combat various types of criticism of science. This label is convenient

* The contributions to this issue are based on presentations in the session "From Pro-Science to Anti-Science – And Where Next?" at the joint meeting of the Society for the Social Studies of Science (4 S) and the Society for the History of Technology (SHOT) in October 1995 in Charlottesville, Virginia. The only exception is the final paper by John Ziman. Ziman was invited as a commentator for this session, but was unfortunately unable to participate. The session itself was intended as a forum for general discussion of the claims about 'antiscience' raised most recently by Paul Gross and Norman Levitt's *Higher Superstition: The Academic Left and Its Quarrels with Science* (Johns Hopkins, 1994).

for dismissing scientific opponents as well: thus we have the paradox of scientists accusing other scientists for “antiscience.” However, the current warriors against antiscience have a genuine concern for defending the ideals of the Enlightenment against a perceived onslaught of socially dangerous “postmodern” irrationalism. For them, science embodies the all-important social values of objectivity and reason needed for the functioning of democracy.

The second author, Bernard Barber, a veteran of sociology of science from its very inception after the Second World War, shares with the readers his own sense of the changes taking place in science studies over half a century. We learn the intriguing fact that his 1952 book *Science and the Social Order* was appreciated by both British Marxists and the CIA. Meanwhile, whether he intended it or not, Barber helped inspire a critical attitude to orthodox conceptions about science with his famous 1961 *Science* article “Resistance by Scientists to Scientific Discovery.” (This article prompted at least two of the contributors to this issue to go into science studies).

Henry Bauer, a chemist who is also engaged in science studies, criticizes the antiscience attitude in present-day science studies. He compares the view now seemingly dominating STS – that science lacks solid foundations – with practicing scientists’ own conceptions of science. At least chemists are fully agreed about those areas within their field that are still controversial and those that are no longer under dispute. According to Bauer, it is strange to find scholars who purport to study science propounding major misconceptions about it. As science increasingly sets out to defend itself, critics of science will find themselves opposed by a community with higher prestige, and this may be detrimental to science studies.

The fourth paper discusses the changing relationship between science and society as reflected in changing support for science. Valery Cholakov, a historian with training in science, identifies conditions of strong support for science during this century. He discusses three metaphors depicting science as, respectively, “the endless frontier,” “a direct productive force,” and “the land of opportunity.” The positive vision of science conveyed by these metaphors he ties not only to national security interests but also to the relevance of new scientific breakthroughs to people’s everyday life.

Stephan Fuchs, a sociologist, analyzes the basis of the opposition between science as a system and the postmodernist critique, which he believes by now has run its course. According to him, there are many reasons why the postmodern criticism cannot really reach scientists. Postmodernists treat “science” as homogeneous and do not distinguish between strong and weak fields. Furthermore, postmodernists end up mystifying scientific epistemology, because they make no difference between science as a formal and informal system. In fact, scientific epistemology should simply be regarded as part of the “myth and ceremony” of the formal system of science. Like any organization, also science has a front- and a back-stage, and science’s much-challenged objectivist and rationalist epistemology is merely part of its social facade.

John Ziman, a theoretical physicist turned theorist – and statesman – of science, acknowledges the inevitable change to “postacademic science.” Although he welcomes many of the “postmodern” changes in scientific organization and culture envisioned by himself and other recent authors, he warns that the loss of objectivity implied in this transition may affect the democratic practices in society as we have known them in the recent past. For Ziman, the emergence of local scientific cultures and the disappearance of academic science and its universalist ambition removes an important existing model for fact-based societal dialogue, and threatens the social fabric of democratic societies. Thus, from a different angle we return to the central concern of the current warriors against “anti-science,” for whom science is the carrier of crucial cultural values.

Ullica Segerstråle