

Book reviews

Francis Remedios:

Legitimizing Scientific Knowledge – An Introduction to Steve Fuller’s Social Epistemology.

Lexington Books: Maryland, 2003. 143 pages.

One of the main themes in philosophy of science has been the legitimization of scientific knowledge. Traditionally, this project has been an extension of epistemology and the focus has been in the justification of beliefs produced by the sciences. Often this has meant studying the abstract properties and general characteristics of the “Scientific Method” producing these beliefs, not concrete research, and the focus has been on science as *theory*, not science as *practice*. Lately, more attention has been paid to actual scientific research and conceptual and methodological issues in real scientific practices. This new interest in concrete science has, however, still mainly concerned science as theory, albeit there has been some interest in professional ethics of science. Philosophers of science have sometimes seen an enemy in the empirical approach to actual scientific practices, because it seems to question the traditional legitimization project. Other times they have regarded empirical work as simply uninteresting from their point of view. This in turn means that there is little discussion within the philosophy of science that is of any use for empirical science studies. It is not, however, the way things need to be. It is here that Steve Fuller enters

the discussion.

Fuller has expanded the philosophical discussion in two ways: first, by offering a naturalistic account of science as a practice rather than a theory, taking into account the social aspects of knowledge and their implications for scientific knowledge. Second, by offering a normative philosophical discussion on the organisation of scientific research and science policy – in other words, the political philosophy of science. Fuller combines these issues in his politically oriented social epistemology, which, as a “metascience”, approaches science as social practice and an object for empirical study, but nevertheless has philosophical aims, regarding both the political philosophy of science and the legitimization of scientific knowledge.

Getting a grasp on Fuller’s philosophy, however, may be somewhat challenging. His project bridges distinct discussions and he builds his position against their background. This is why Francis Remedios’s book *Legitimizing Scientific Knowledge – An Introduction to Steve Fuller’s Social Epistemology* comes very handy for philosophers of science, epistemologists and empirical researchers of science alike. In his book, Remedios examines Fuller’s social epistemology and

its criticism by positioning them in some of the debates Fuller has been engaged in. Remedios defends Fuller's position, but not uncritically. As a by-product, Remedios also provides a survey of those debates and discusses their relations. Remedios even states this to be the "secondary purpose" of his book. The presented account should, however, be regarded with a certain amount of caution, since the primary purpose of the book – introducing and defending Fuller's social epistemology – is bound to bias it. But keeping in mind the context of the discussion, it does it in a thought-provoking way.

Remedios begins his examination by positioning Fuller in the discussion springing from Thomas Kuhn's challenge for legitimizing scientific knowledge. If there is no "Scientific Method" yielding the truth, as the traditional philosophy of science presupposes, but only incommensurable paradigms, as Kuhn and others have argued, how are the scientific knowledge and related practices legitimized? Fuller's social epistemology, as well as the rival views Remedios contrasts it with, are reactions to this challenge. Remedios distinguishes between truth-oriented, interest-oriented and politically oriented social epistemologies, Fuller belonging to the last category. The truth-oriented social epistemologies, for example those of Philip Kitcher and Alvin Goldman, could be seen as attempts to save the aims of traditional epistemology from Kuhn's challenge. They approach scientific knowledge in a traditional way, as a system of beliefs and their justification. The others reject this project. Fuller in particular approaches knowledge as a system of materially embodied products,

produced in a social setting. Furthermore, he does not consider individuals as the primary subjects of knowledge, as in traditional epistemology, but collectives.

There are two aspects in Fuller's social epistemology. First, it is a naturalistic metascience. This links him with empirical science studies and the debate between philosophers and the sociologists of scientific knowledge (who represent interest-oriented social epistemology here). Remedios examines this debate and Fuller's position in it, as well as Fuller's relation to other naturalist philosophers. He also discusses the unavoidable issue a naturalist has to deal with, relativism, and illuminates Fuller's view on the issue. Fuller, it seems, avoids some of the problems of relativism, since he is only concerned about the means and ends of scientific practices, not the validity of claims concerning objective reality. Furthermore, although he is a relativist with respect to natural sciences, he is a realist about claims made by social sciences, enabling him to escape the self-refuting relativism. At the end of the book Remedios returns to the related issues of the epistemic circle, the epistemic norms and reflexivity. The sciences cannot be justified with the results of science, but as a naturalist, Fuller cannot appeal to any non-scientific epistemic grounds either. Instead, his legitimization for science comes from politics and ethics. This, in turn, links the legitimization question to the normative aspects of Fuller's social epistemology.

Normative political philosophy of science is the other aspect in Fuller's social epistemology. Normativity is an issue that separates Fuller from another po-

litically oriented social epistemologist, Joseph Rouse. Remedios's discussion on their differences and how Rouse ends up discarding the legitimization project and normative philosophy of science, while Fuller turns to the governance of science and political philosophy of science, is especially illuminating. For Fuller, the role of philosophy, in contrast to empirical research, is to make hypothetical prescriptions for the governance of science. Science as such, on a global level, is legitimized through knowledge policy. Furthermore, scientific knowledge is a commodity, produced and consumed, requiring resources, and therefore a subject to inequalities, which further calls for normative approach to science. In what follows, Remedios elaborates Fuller's views on science policy and norms in science, as well as the role of instrumental rationality and success, which is an unavoidable issue for Fuller's instrumentalism: he has to explicate a notion of scientific success in a way not

related to the questions about realism.

Remedios succeeds in systematising Fuller's social epistemology and putting it into its contexts. He also collects the main criticism and Fuller's responses to it, as well as develops both criticism and defence. The book goes beyond a mere introduction to Fuller's philosophy. Collecting these arguments into one book, Remedios has written a helpful starting point for further evaluation and discussion of Fuller's social epistemology. On the other hand, the book is written in a very compact style and not much further background is given for the debates that Remedios is discussing. This is likely to make the book a laborious introduction to these debates themselves for a reader without any previous knowledge.

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**Sven Hemlin, Carl Martin Allwood & Ben R. Martin (eds.):
Creative Knowledge Environments. The Influences on Creativity in Research
and Innovation.
Cheltenham & Northampton: Edward Elgar Publishing Ltd., 2004. 225 pages.**

This book focuses on creative knowledge environments (CKEs). Authors dealing with the phenomenon define CKEs as those environments which exert a positive influence on scientists (and other creative workers) in producing new

knowledge. As reflected in the subtitle, the contributions are oriented to an analysis of the different components that build a creative environment. The book's authors come from different disciplinary backgrounds. Despite the