

Francis Remedios
Legitimizing Scientific Knowledge: An Introduction to Steve Fuller's Social Epistemology.

Foreward by Steve Fuller.

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The emergence of heightened public concern and debates over BSE, GM foods, cloning, nuclear technology, nanotechnology, etc. has spurred attempts by scientists and politicians to continually legitimize the enormous budgets for scientific research. In all industrialized countries without exception, enrollments in science courses have declined dramatically and the continued maintenance of trust in science cannot be taken for granted. Typically, the scientific enterprise has been legitimized by appeals either to the goal of the disinterested search for universal truths about nature or the social benefits that are expected to follow from the application of scientific knowledge. Both modes of legitimation are derived from the assumption that the scientific knowledge is hermetically sealed and insulated from social influence. Social constructivists who criticized this image of science were occasionally sufficiently carried away by their missionary iconoclastic zeal to come up with some absolutely relativistic perspectives on scientific knowledge. The hackles raised by the extreme relativist characterization of science were enough to precipitate the "science wars" that contributed to some pretty petty and inflamed intellectual exchanges. In the fray was Steve Fuller and unlike many others from both sides, his contribution to the "science wars" avoided personal attacks and constituted a model of productive engagement with the issues at hand. Deploying insights from his program of social epistemology and adopting the radical naturalist position, Fuller pointed out that that total rejection or acceptance of relativism were equally problematic. Fuller's position on the largely futile but nevertheless never-ending realist versus relativist debates has been consistent all along. As he puts it, "relativism is a necessary evil for making sense of the human condition; the more necessary it is made to appear, the more evil it becomes...relativism should not be allowed to slide from a methodological principle that enables us to access the distinctness of others to a full-fledged epistemology of human cognition."

In *Legitimizing Scientific Knowledge*, Remedios provides a detailed, sympathetic but not uncritical explication and evaluation of Steve Fuller's ambitious research program "social epistemology". As Remedios points out early on in the book, rather than systematically presenting his ideas, Fuller's style is to develop and defend his views on science by playing them off against his many opponents. In line with his commitment to "interdisciplinary interpenetration" implicit in the naturalism of J. S. Mill, Mach and Dewey, his intimate familiarity with at least half a dozen disciplines provides a challenge for most scholars wedded to rigid disciplinary boundaries. As such Remedios' goal in this book is to systematically map out the contours of Fuller's project of social epistemology and to compare his ideas with that of other philosophers of science such as Joseph Rouse, Philip Kitcher and Alvin Goldman. As Remedios points out, as opposed to some science and technology scholars whose overzealous social constructivist critiques could be interpreted as dismissing science, Fuller does not reject the scientific enterprise. However, he does reject the most common justification offered for legitimizing science – the abstract goal of the discovery of truth about nature *per se*.

Fuller argues that although science and society are two forces that influence each other, they are not hermetically sealed and separate entities. On the contrary, scientific knowledge is materially embodied in society and it is a universal, trans-contextual form of knowledge. It is also a commodity that takes time, money and effort to produce in specific institutional settings. As with any commodity, specific modes of production and consumption of scientific knowledge has consequences for patterns of social inequality in society. For example, the need for larger budgets for Big Science such as the Human Genome Project and the failed Superconducting Supercollider translates into more pronounced inequalities of power and money. The main goal of Fuller's program of "social epistemology" is to democratize scientific knowledge such that people who are its presumed beneficiaries ought to have some role in directing it towards specific goals. The very term "democratization of scientific knowledge" raises the hackles of many scientists and social scientists, but what Fuller means by it is obviously not town-hall discussions or referenda on the truth-claims of scientific theories. Rather, it involves the attempt to critically focus on who benefits and loses under specific regimes of knowledge production and consumption in specific social contexts and to provide normative frameworks for minimizing such inequalities. Remedios devotes a lot of space fleshing out the details of the explicitly political and normative agenda of Fuller's social epistemology. His critical discussion of the differences between Fuller and Joseph Rouse on this issue is particularly illuminating. His evaluation of Fuller's attempt to develop a normative and political framework for the governance and management of the science that would pay attention to the implication of scientific knowledge with empowerment and disempowerment is also extremely insightful. Fuller's project of social epistemology is ambitious and has attracted enormous attention and generated controversy. Through his program of social epistemology, he seeks to go beyond the endless critiques of scientific knowledge whose proponents do not offer any alternative framework for the practice of science. Drawing on the ideas of Karl Popper and rejecting Thomas Kuhn, Fuller's goal is to promote a "civic republican theory of science" that promotes genuine participatory politics and the "right to be wrong" in a non-coercive setting.

In this book, Remedios has skillfully accomplished the task of systematically explaining and evaluating the various strands of Fuller's project of social epistemology. Fuller is one of the most prolific scholars and Remedios' book provides a compact, comprehensive introduction to the main contours of his ideas that cut through several disciplines.

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