

**Antimonies of Science Studies:
Towards a Critical Theory of Science
and Technology**

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Abstract

Science Studies is an interdisciplinary area of scholarship comprising two different traditions, the philosophical History and Philosophy of Science (HPS) and the sociological Science and Technology Studies (STS). The elementary tension between the two is based on their differing scholarly values, one based on philosophy, the other on sociology. This tension has been both animating the field of Science Studies and complicating its internal self-understanding.

This thesis sets out to reconstruct the main episodes in the history of Science Studies that have come to formulate competing constructions of the cultural value and meaning of science and technology. It tells a story of various failed efforts to resolve existing antinomies and suggests that the best way to grapple with the complexity of the issues at stake is to work towards establishing a common ground and dialogue between the rival disciplinary formations: HPS and STS.

First I examine two recent theories in Science Studies, Sociology of Scientific Knowledge (SSK) and Actor-Network Theory (ANT). Both of them are found to be inadequate as they share a distorted view of the HPS-STs divide and both try to colonise the sociology of science with the tools of HPS. The genesis of this colonizing impulse is then traced back to the Science Wars which again is underpinned by a lack of clarity about the HPS-STs relationship. This finding further highlights the responsibility of currently fashionable theories such as ANT that have contributed to this deficit of understanding and dialogue.

This same trend is then traced to the work of Thomas Kuhn. He is credited with moderate achievements but recent re-evaluations of his work point to his culpability in closing the field to critical possibilities, stifling the sociological side and giving rise to a distorted view of the HPS-STs relationship as seen in SSK and ANT. Now that the origins of the confused and politically divided state of Science Studies is understood, there is the urgent task of re-establishing a balance and dialogue between the HPS and the STS sides.

I use two important theoretical threads in critical theory of science and technology to bring clarity to the study of these interrelated yet culturally distinct practices. Firstly I look at the solid line of research established by Andrew Feenberg in the critical theory of technology that uses social constructivism to subvert the embedded values in the technical code and hence democratize technology.

Secondly I look at the work of Jürgen Habermas's formidable Critical Theory of science that sheds light on the basic human interests inside science and technology and establishes both the limits and extent to which social constructivism can be used to study them.

Together Feenberg and Habermas show the way forward for Science Studies, a way to establish a common ground that enables close scholarly dialogue between HPS and STS yet understands and maintains the critical difference between the philosophical and the sociological approaches that prevents them from being collapsed into one indistinguishable entity. Together they can restore the HPS-STs

balance and through their shared emancipatory vision for society facilitate the bringing of science and technology into a democratic societal oversight, correcting the deficits and shortcomings of recent theories in the field of Science Studies.

Statement

I hereby state that following thesis is entirely my own work and has not been submitted for any other degree at any other university or educational institution. All sources of information used in the thesis have been indicated and due acknowledgement has been given to the work of others.

Signed:

Nikó Antalffy

Date:

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