

## Abstract

Morten Sager, *Pluripotent Circulations: Analyzing Articulations of Stem Cells in the USA, prior to 2001*, Ph.D. Dissertation in English, Department of History of Ideas and Theory of Science, Göteborg University, 2005, ISBN 91-628-6666-4.

In this thesis, stem cell research and politics in the USA are analyzed by using actor-network theory (ANT). ANT is put to work on largely textual materials, often directly from US political settings. Also, I analyze and challenge ANT meta-theoretically, inspired by ongoing critique in Science and Technology Studies.

In *part one* the alternative notions of obligatory point of passage and boundary objects are applied to the political and public dynamics of human embryonic stem cell (hESC) research between November 1998 and August 2001. I suggest an integrated model that draws on the metaphor of a circulatory system of science and society. The hESCs are not merely forms that open for multiple uses, but also constrain and define diverse actors through their pluripotent capacities, the main expected use within transplantation therapies, and the material sources of “spare embryos”. To capture this composite content I argue that hESCs are strong boundary objects, or *boundary packages*.

*Part two* goes backwards to understand how the configuration of the boundary package and its coordination of diverse actors were stabilized. Technological developments within in vitro fertilization together with funding structures contributed to a so-called standard procedure producing “spare embryos”. Transplantation therapies to cure degenerative diseases came to be regarded as both possible and urgent together with the coordination of patients and politicians. These processes call for a compartmentalized conception of stabilization in *multiple circulations*.

Finally, the study returns to the period of 1998–2001 to analyze how “spare embryos” and transplantation therapies were made to contribute to the configuration and coordination of hESCs. One such process was the terminological definitions of pluripotency between toti- and multipotency, which positioned the hESCs between embryos and alternative stem cells

*Keywords:* Actor-Network Theory, meta-theory, obligatory point of passage, boundary objects, sociotechnical reality, articulations, human embryonic stem cells, spare embryos, pluripotency.