

TU Dresden (Germany)

Professorship for Philosophy of Technology

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Abstract:

“Life Sciences between Engineering und Unified Sciences – Questioning Social Embedding of Transdisciplinary Research”

In my lecture, emphasize is on the life sciences as social process. Thereby, my focus is on transdisciplinary challenges. Especially when it comes to new developments in the molecular biology, biotechnologies and synthetic biology, traditional academic and social borderlines are getting blurred. Therefore, I am going to introduce and classify several meanings and concepts of “transdisciplinarity” (Jürgen Mittelstraß, Michael Decker, Armin Grunwald, Bernhard Irrgang, Hans Lenk, Günter Ropohl etc.). In the second step, these concepts are going to be applied to the life science and related new problems in the social self-understanding and competences of biologists. Following the approaches of STS and technoscience (Carl Mitcham, Don Ihde, Bruno Latour etc.) my focus is on the interrelations between biology as social embedded experimental science as well as new form of engineering-practice (biotechnologies). Transdisciplinarity in this context does not only mean a mix-up of several natural-scientific methodological approaches (such as physics, chemistry and genetics), but also a combination of biological competences and competences, that are traditionally related to physic-oriented engineering-sciences. On the philosophical level, methodological and conceptual frameworks are transformed: e.g. the notion of self-organization (originally Immanuel Kant), causality and emergence (Aristotle, Leibniz, Kant) or epigenetics (Lamarck) is related to what we know how to do with what we are used to label “life”. And exactly that is changing now, amplified by laboratory research. Two questions are going to be discussed in the last section: 1. What are the interrelations between new biological knowing and social frameworks related to our understanding of “transdisciplinarity” (on the conceptual and pragmatic level)? 2. What does this mean for our understanding of “Einheitswissenschaft”, the possibility of a unified science?

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