

The gap between theory and experience: evolution of a problem from morphogenesis to semiophysics

jeudi 21 septembre 2023 10:00 (50 minutes)

Catastrophe theory is introduced by René Thom as an “art of models” for the study of morphogenesis. In this talk I will start from the observation that in Thom’s founding writings on morphogenesis the relation of mathematical models with experience is thought through the mediation of images of Waddington’s epigenetic landscape. I will then track the survival of images or properties of the epigenetic landscape in the evolution of Thom’s thinking from catastrophe theory to semiophysics. In so doing I will highlight the use and role of analogies by Thom, showing both aspects of continuity and of innovation with respect the morphological tradition he inserts in. I will finally argue that Thom’s use of analogy challenges the main contemporary philosophical analysis of analogy and analogical reasoning in science. This unnoticed practice represents, in my opinion, one of the aspects of the actuality of René Thom’s thinking.

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