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*Antinomies and polarities, determination and aleatority in the living process of matter*

The aim of this paper is to look into the physical singularity of the living, in order to develop an epistemological understanding of the analysis of the inert matter as opposed to that of the living, based on the notions of aleatority and determination. Firstly, it seeks to highlight the theoretical insufficiencies of any “physicalist” viewpoint in biology. To be sure, although some biological aspects are well grasped by physical approaches on a local scale, physical theories arguably show a mathematical incompleteness as regards the unity and multiplicity of the living. Subsequently, this paper seeks to introduce some recent approaches, derived as mathematical extensions of the physical theories, which make some biological aspects intelligible. Theoretical oppositions and contrasts can finally account for the complexity of the living, which is at the same time order and disorder, regularity and irregularity, integration and differentiation, variance and invariance, stability and instability, predictability and aleatority, limit and openness, criticality and extension, linearity and bifurcation, entropy and anti-entropy.