

The Complexity of Complexity: Structural vs. Quantitative Approach

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Abstract

The first part of this paper is devoted to a critical review of the concepts used to characterize complexity. It will be followed by a choice of the conceptual framework for this study based on methodological reflection of the author from his earlier publications in which the concept of information formulated in terms of the categorical opposition of the one and many plays a fundamental role. Finally, more comprehensive approach will be proposed for the study of complexity in which both selective and structural manifestations of information are considered. The former is associated with the quantitative characterization of complexity, the latter with the structural one.

Keywords: complexity

Biography



Marcin J. Schroeder is a Professor (since 2004) and Head of Basic Education at Akita International University in Akita, Japan. He received his MSc. in Theoretical Physics at the University of Wroclaw, Poland and his Ph.D. in Mathematics from Southern Illinois University at Carbondale, USA. His current research interests are focused on the study of information in mathematical, theoretical perspective, as well as on the philosophical aspects of information.