

Book Review

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Process-Philosophical Perspectives on Biology: Intuiting Life (edited by Spyridon A. Koutroufinis and Arthur Araujo)— Philosophical Intuitions for a New Understanding of Life

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The ontologies of the seminal 20th century philosophers, Alfred North Whitehead and Henri Bergson criticized the intellectual attitudes that dominate modern life sciences. These attitudes particularly influence one of the core problems of contemporary biology and philosophy of biology, i.e. the nature of explanation. In 20th century philosophy of science, Carl Hempel’s theory of explanation was the backbone of theorizing about scientific explanation for decades. Hempel differentiates between the deductive-nomological and the inductive-statistical types of explanation but both types have the same logical structure. In philosophy of biology there is a broad consensus that the explanatory relevance of modelling in contemporary biology—especially in mathematically operating systems- and theoretical biology—cannot be captured by Hempel’s account. Some influential philosophers of biology agree that in life sciences both kinds of laws—deductive-nomological and statistical generalizations—do not explain, but rather characterize phenomena. As life scientists commonly seek to uncover the ‘mechanism’ responsible for the phenomenon of interest, in life sciences explanations are based on

mechanisms. Leading philosophers of science who advocate a school of thought, which is often described as “New Mechanical Philosophy” or “New Mechanism” argue that in many fields of science what is considered a satisfactory explanation requires providing the description of a mechanism. Indeed, mechanistic explanations form the main theoretical basis of most, if not all, contemporary biological disciplines, and life science practice can be understood in terms of the discovery and description of mechanisms.

The neo-mechanistic school in biology is a specific manifestation of what Whitehead called “scientific materialism”—a metaphysics that emerged from the spirit of the late 19th century. As a result, many life scientists implicitly assume an outdated reductionist metaphysics that does not do justice to the complexity of biological phenomena and leaves many features of living processes unexplained. Scientific materialism—and its latest expression, the “New Mechanism”—can also be seen as a typical product of the technological intellect, which, despite the limitations that Bergson warned about in his works, reduces reality in order to manipulate it.

Some modern criticisms of the biological relevance of mechanistic explanations echo Bergson's warning in *Creative Evolution* that "[t]he [abstract] intellect is characterized by a natural incomprehension of life" (addition by S.K.). Based on this, the new volume *Process-Philosophical Perspectives on Biology: Intuiting Life*, published by Cambridge Scholar Publishing (UK) in 2023, reflects the belief that intuition must assist the life-studying intellect, for only intuition can do justice to those aspects of life, which, for fundamental reasons, transcend the discursive-analytic modes of thought. Intuitive knowledge is not the only conceivable response to neo-mechanistic thinking, but it is certainly one that takes into account essential facts that neo-mechanism simply ignores. The authors of this new volume are convinced that philosophy, and in particular process philosophy, must breathe new life into what has been suppressed by scientific reductionism. Serving this purpose, the present volume is committed to the following maxim: Starting from philosophical intuitions, biophilosophy must unveil any abstractions of biology and overcome them with new metaphysical hypotheses.

This book challenges the reductionist and materialistic metaphysics often adopted by biologists, arguing that it overlooks the intricate complexities and essential characteristics of life. The authors explore the viability of process metaphysics to advance our understanding of fundamental biological concepts such as organism, ontogeny, agency, teleology, environment, and normativity. Based on the metaphysics of Whitehead and other process thinkers, e.g. Bergson, who attribute subjectivity, value, and purposeful striving to all organisms, they ascribe subjective interiority to all living beings, from unicellular organisms to the most complex animals. In doing so, they highlight the uniqueness and intrinsic value of living beings. The book presents a new approach to essential dimensions of the phenomenon of life with the aim of opening new horizons in the thinking of philosophers, philosophers of biology, life scientists, and environmentalists.

The book contains the following chapters:

- Introduction
Philosophical Intuition and the Understanding of Life: A Whiteheadian and Bergsonian Approach
Spyridon A. Koutroufinis
1. The Creative Power of the Individual Memory and the Species-Specific Memory in the Development and the Evolution of Living Beings
Gernot G. Falkner
 2. EcoEvoDevo, Epigenetic and Whitehead's Concept of Organism: Overcoming the Bifurcation of Matter and Mind in Nature
Regine Kather
 3. Whitehead and Uexküll: Meaning and the Creation of the Web of Life
Arthur Araujo
 4. Generalization of Quantum Theory into Biology
Attila Grandpierre
 5. Why Physicalism is Not Enough: Whiteheadian Ideas for an Organismic Concept of Agency
Johanna Häusler
 6. The Flowing Bridge: On the Processual Teleology and Agency of Living Beings
Spyridon A. Koutroufinis
 7. Agency, Process, and Habit
Philip Tryon
 8. Whitehead's Pan-Experientialist Account of the Organismal Self-Creation
Federico Giorgi
 9. On the Place of Life in the Cosmos: Whitehead's Philosophy of Organism and Contemporary Theoretical Biology
Matthew D. Segall
 10. Life and Value: A Whiteheadian Perspective
Nathaniel F. Barrett

The easiest way to order the book is directly from the publisher at www.cambridgescholars.com/product/978-1-5275-0450-9