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Nota di contenuto	Frontmatter -- Table of Contents -- Preface -- Acknowledgments I -- List of Contributors -- Introduction: The Need for a New Biophilosophy / Koutroufinis, Spyridon A. -- Teleology and the Life Sciences: Between Limit Concept and Ontological Necessity / Muraca, Barbara -- The Experience of Environmental Phosphate Fluctuations by Cyanobacteria: an Essay on the Teleological Feature of Physiological Adaptation / Falkner, Gernot / Falkner, Renate -- Beyond Systems Theoretical Explanations of an Organism's Becoming: A Process Philosophical Approach / Koutroufinis, Spyridon A. -- Process and Action: Whitehead's Ontological Units and Perceptuomotor Control Units / Delafield-Butt, Jonathan T. -- Life in the Interstices: Systems Biology and Process Thought / Earley, Joseph E. -- Quantum Biology: A Live Option / Gunter, Pete A.Y. -- The Effect of Mind upon Brain / Stapp, Henry P. -- A Fourth Variable in Evolution / Cobb, John B. -- Evolution without Tears: A Third Way beyond Neo-Darwinism and Intelligent Design / Griffin, David R. -- Covariance and Evolution / Valenza, Robert J. -- Index
Sommario/riassunto	Alfred North Whitehead is arguably the most original 20th-century philosopher of nature and metaphysics. In recent decades a number of physicists have produced ground-breaking new theories in

fundamental physics influenced by his process philosophy. In contrast, few biologists are even aware that Whitehead's radical rethinking of the Cartesian assumptions implicit in 19th-century sciences might be relevant to their enterprise. This book seeks to fill this gap by exploring how Whitehead's process ontology might provide a new philosophical foundation for the biosciences of the 21st century. The central premise shared by all of the volume's authors is the idea that all living processes are irreducible processes. Each chapter focuses on assumptions implicit in some of the core concepts of biology - such as organism, evolution, information, and teleology - that play crucial explanatory roles in the biosciences, but as metaphysical concepts fall outside its purview. The authors each identify important shortcomings implicit in contemporary biological paradigms and show how an approach grounded in a process-oriented metaphysics can avoid them.

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