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Nota di contenuto	1. The origin of matter -- 2. The variety of elements -- 3. The abiotic environment -- 4. The biotic environment -- 5. The human environment (the ‘anthroposphere’) -- 6. The human crisis -- Epilogue.
Sommario/riassunto	This book covers the origins, transformations, and interactions of matter—from atoms and molecules to complex biological and composite materials—across abiotic, biotic, and anthropogenic systems. It offers a unique chronological narrative, tracing the evolution of chemodiversity from the Big Bang to the present, and explores how these material changes underpin the ecological crises of our time. The book frames the ecological crisis through three interlinked dimensions: the chemical crisis (pollution), the biological crisis (biodiversity loss), and the physical crisis (climate change). These are analyzed both microscopically—at the level of atomic and molecular interactions—and macroscopically, through phenomena such as air and

ocean pollution, global warming, and ecosystem degradation. Through detailed chapters, the book examines elemental formation, ecosystem structure and function, and provides a critical analysis of the anthroposphere, highlighting how human activity has reshaped Earth's systems and accelerated environmental decline. It critically addresses sustainability, resource management, and the systemic challenges posed by the current human-environment crisis. Designed for researchers, scholars, and advanced students in environmental science, geochemistry, and systems ecology, this work provides a robust conceptual and analytical framework. It is an essential reference for those seeking to understand the material basis of life and the complex interdependencies that define our planet's future.