Record Nr. UNINA9910782461803321 Autore Rosenberg Alexander <1946-> Titolo Darwinian reductionism, or, How to stop worrying and love molecular biology [[electronic resource] /] / Alex Rosenberg Chicago,: University of Chicago Press, 2006 Pubbl/distr/stampa **ISBN** 1-281-96637-1 9786611966379 0-226-72731-9 Descrizione fisica 1 online resource (275 p.) CC 3700 Classificazione Disciplina 572.8 Soggetti Molecular biology - Philosophy Biology - Philosophy Reductionism Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Includes bibliographical references (p. [239]-247) and index. Nota di bibliografia Nota di contenuto Frontmatter -- Contents -- Preface -- Introduction. Biology's Untenable Dualism -- 1. What Was Reductionism? -- 2. Reductionism and Developmental Molecular Biology -- 3. Are There Really Informational Genes and Developmental Programs? -- 4. Dobzhansky's Dictum and the Nature of Biological Explanation -- 5. Central Tendencies and Individual Organisms -- 6. Making Natural Selection Safe for Reductionists -- 7. Genomics, Human History, and Cooperation -- 8. How Darwinian Reductionism Refutes Genetic Determinism --References -- Index Sommario/riassunto After the discovery of the structure of DNA in 1953, scientists working in molecular biology embraced reductionism-the theory that all complex systems can be understood in terms of their components. Reductionism, however, has been widely resisted by both nonmolecular biologists and scientists working outside the field of biology. Many of these antireductionists, nevertheless, embrace the notion of physicalism-the idea that all biological processes are physical in nature. How, Alexander Rosenberg asks, can these self-proclaimed

physicalists also be antireductionists? With clarity and wit, Darwinian Reductionism navigates this difficult and seemingly intractable dualism

with convincing analysis and timely evidence. In the spirit of the few distinguished biologists who accept reductionism-E. O. Wilson, Francis Crick, Jacques Monod, James Watson, and Richard Dawkins-Rosenberg provides a philosophically sophisticated defense of reductionism and applies it to molecular developmental biology and the theory of natural selection, ultimately proving that the physicalist must also be a reductionist.