Record Nr. UNINA9910454799503321 Autore Cooper William S. Titolo The evolution of reason: logic as a branch of biology / / William S. Cooper [[electronic resource]] Cambridge: .: Cambridge University Press. . 2001 Pubbl/distr/stampa **ISBN** 1-107-12172-8 0-511-17447-0 0-511-15441-0 0-511-30233-9 0-521-54025-9 0-511-61284-2 9786610430109 0-511-04692-8 1-280-43010-9 Descrizione fisica 1 online resource (x, 226 pages) : digital, PDF file(s) Collana Cambridge studies in philosophy and biology Disciplina 570/.1 Biology - Philosophy Soggetti Logic Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Title from publisher's bibliographic system (viewed on 05 Oct 2015). Nota di bibliografia Includes bibliographical references (p. 217-222) and index. Cover; Half-title; Series-title; Title; Copyright; Contents; Foreword; 1 Nota di contenuto The Biology of Logic: 2 The Evolutionary Derivation of Life-History Strategy Theory; 3 The Evolutionary Derivation of Decision Logic; 4 The Evolutionary Derivation of Inductive Logic Part I; 5 The Evolutionary Derivation of Deductive Logic; 6 The Evolutionary Derivation of Inductive Logic Part II; 7 The Evolutionary Derivation of Mathematics; 8 Broadening the Evolutionary Foundation of Classical Logic; 9 The Evolutionary Derivation of Nonclassical Logics; 10 Radical Reductionism in Logic 11 Toward a Unified Science of ReasonAppendix Formal Theory; References: Index The formal systems of logic have ordinarily been regarded as Sommario/riassunto

independent of biology, but recent developments in evolutionary theory

suggest that biology and logic may be intimately interrelated. In this book, William Cooper outlines a theory of rationality in which logical law emerges as an intrinsic aspect of evolutionary biology. This biological perspective on logic, though at present unorthodox, could change traditional ideas about the reasoning process. Cooper examines the connections between logic and evolutionary biology and illustrates how logical rules are derived directly from evolutionary principles, and therefore have no independent status of their own. Laws of decision theory, utility theory, induction, and deduction are reinterpreted as natural consequences of evolutionary processes. Cooper's connection of logical law to evolutionary theory ultimately results in a unified foundation for an evolutionary science of reason. It will be of interest to professionals and students of philosophy of science, logic, evolutionary theory, and cognitive science.