

1. Record Nr.	UNINA9910298294103321
Titolo	Handbook of Evolutionary Thinking in the Sciences // edited by Thomas Heams, Philippe Huneman, Guillaume Lecointre, Marc Silberstein
Pubbl/distr/stampa	Dordrecht : , : Springer Netherlands : , : Imprint : Springer, , 2015
ISBN	94-017-9014-0
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (898 p.)
Disciplina	507.1 570 570.1 576.8
Soggetti	Evolution (Biology) Biology - Philosophy Science - Study and teaching Evolutionary Biology Philosophy of Biology Science Education
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Foreword; Jean Gayon -- Introduction; Thomas Heams, Philippe Huneman, Guillaume Lecointre, Marc Silberstein -- Part 1. Concepts: Processes -- Variation; Thomas Heams -- Heredity; Thomas Heams -- Selection; Philippe Huneman -- Adaptation; Philippe Grandcolas -- Function; Armand de Ricqlés -- Part 2. Concepts: Patterns -- Character; Véronique Barriel -- Species; Sarah Samadi and Anouk Barberousse -- Descent (filiation); Guillauem Lecointre -- Life; Stéphane Tirard -- Part 3. Darwinism "At Work" : Philosophy of Science -- Formalising Evolutionary Theory ; Anouk Barberousse -- Continuities and Discontinuities of Variation Mechanisms in On the Origin of Species; Pascal Charbonnat -- Evolutionary Developmental Biology: Philosophical Issues; Alan C. Love -- Phenotypic plasticity: From microevolution to macroevolution; Antonine Nicoglou -- Darwin and molecular biology; Michel Morange -- Systems biology and

evolutionary biology; Pierre-Alain Braillard -- The (in)determinism of biological evolution; where does the stochastic character of evolutionary theory come from? Christophe Malaterre and Francesca Merlin -- Darwin and phylogenetics: past and present; Pascal Tassy -- Telling the story of life; on the use of narrative; Guillaume Lecointre -- Part 4. Darwinism "At Work" : From molecules to eco-systems -- What exactly is Synthetic Biology? Thomas Heams -- Evolutionary developmental biology and its contribution to a new synthetic theory; Guillaume Balavoine -- Behavior and Evolution: crossed glances; Henri Cap -- Sex and evolution: Pierre Henry Gouyon, Damien de Vienne, and Tatiana Girard -- Biological costs of a small stature for Homo sapiens females: new perspectives on stature sexual dimorphism; Priscille Touraille -- Ecology and evolution: Toward a multi-hierarchical connection; Julien DeLord -- The ecological niche: history and recent controversies; Arnaud Pocheville -- Darwin, Evolution, and Medicine: Historical and Contemporary Perspectives; Pierre-Oliver Méthot -- Part 5. Evolution in Other Sciences -- Evolutionary algorithms; Marc Schoenauer -- Artificial evolution of autonomous robots and virtual creatures; Nicolas Bredeche -- Evolutionary Psychology, Adaptation and Design: Stephen M. Downes -- Externalist Evolutionary Cognitive Science; Pierre Poirier and Luc Faucher -- Human Language: An Evolutionary Anomaly; Jean-Louis Dessalles -- Evolution, Society, and Ethics: Social Darwinism versus Evolutionary Ethics; Christine Clavien -- Darwinian Morality: Moral Darwinism; Jérôme Ravat -- Origins and evolution of religion from a Darwinian point of view: synthesis of different theories; Pierrick Bourrat -- Current Darwinism in Social Science; Christophe Heintz and Nicolas Claidière -- Evolutionary economics: a specific form of evolution? Eva Debray -- Phylo-Linguistics: Enacting Darwin's Linguistic Image; Mahé Ben Hamed -- Biological functions and semantic content: the teleosemantics; Françoise Longy -- Part 6. About Anti-Darwinism -- Evolutionism(s) and creationism(s); Olivier Brosseau and Marc Silberstein -- The theory of evolution in secondary schools: some teaching issues; Corine Fortin.

Sommario/riassunto

The Darwinian theory of evolution is itself evolving and this book presents the details of the core of modern Darwinism and its latest developmental directions. The authors present current scientific work addressing theoretical problems and challenges in four sections, beginning with the concepts of evolution theory, its processes of variation, heredity, selection, adaptation and function, and its patterns of character, species, descent and life. The second part of this book scrutinizes Darwinism in the philosophy of science and its usefulness in understanding ecosystems, whilst the third section deals with its application in disciplines beyond the biological sciences, including evolutionary psychology and evolutionary economics, Darwinian morality and phylolinguistics. The final section addresses anti-Darwinism, the creationist view and issues around teaching evolution in secondary schools. The reader learns how current experimental biology is opening important perspectives on the sources of variation, and thus of the very power of natural selection. This work examines numerous examples of the extension of the principle of natural selection and provides the opportunity to critically reflect on a rich theory, on the methodological rigour that presides in its extensions and exportations, and on the necessity to measure its advantages and also its limits. Scholars interested in modern Darwinism and scientific research, its concepts, research programs and controversies will find this book an excellent read, and those considering how Darwinism might evolve, how it can apply to the human sciences and other disciplines beyond its origins will find it particularly valuable. Originally produced in French

(Les Mondes Darwiniens), the scope and usefulness of the book have led to the production of this English text, to reach a wider audience. This book is a milestone in the impressive penetration by Francophone scholars into the world of Darwinian science, its historiography and philosophy over the last two decades...This English translation does indeed serve as a Handbook of Darwinian Thinking that will advance understanding of Darwinian theory in every language. Alex Rosenberg, R. Taylor Cole Professor of Philosophy, Duke University Until now this useful and comprehensive handbook has only been available to francophones. Thanks to this invaluable new translation, this collection of insightful and original essays can reach the global audience it deserves. Tim Lewens, University of Cambridge.
