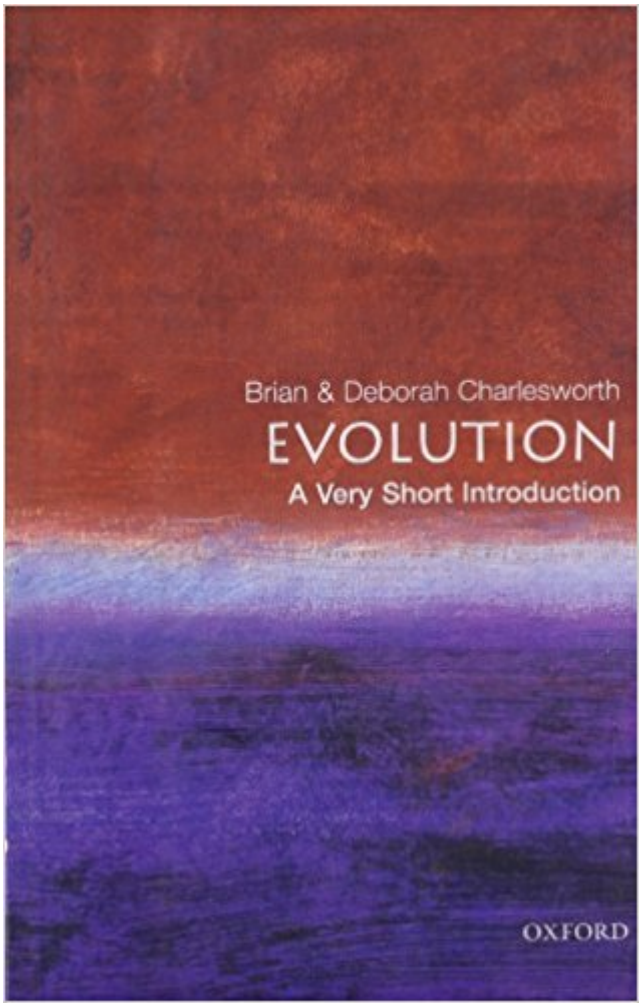
Evolution: A Very Short Introduction



Synopsis

This book illuminates the crucial role of evolutionary biology in transforming our view of human origins and our relation to the universe, highlighting the impact of this theory on traditional philosophy and religion. The authors introduce the general reader to some of the most important basic findings, concepts, and procedures of evolutionary biology, as it has developed since the first publications of Darwin and Wallace on the subject, over 140 years ago. They show how evolution provides a unifying set of principles for the whole of biology and sheds light on the relation of human beings to the universe and each other.

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Customer Reviews

It is a sign of the times that the authors on occasion take a defensive attitude to their subject. Creationism, for whatever reason, has proved remarkably adaptive and, strange as it may seem, evolutionary biologists still feel obliged to painstakingly lay out the evidence for evolution per se, rather than just discuss its mechanisms or trace its history.The Charlesworths do a good job of this, albeit in a rather dry, academic style that may not suit readers that just want a light, readable introduction to the basic principles of evolution.The book contains a fairly heavy dose of microbiology, as the authors go to some lengths to detail the biological functions underlying heredity and evolution. This is useful revision for readers with high school science, but tough going for the complete beginner. Similarly, the style is plain and succinct but never light or breezy. This is not a dummy’s guide.Evolution theory took a spectacular wrong turn in the latter part of the 20th century with the emergence of the idea that selection acts only at the gene level, a view popularized by

Dawkins's The Selfish Gene. This bizarre notion gained a considerable following and was the subject of a heated dispute between Dawkins and Gould that ended only with the latter's death. Thankfully, sanity has been restored and it is now once again recognized that selection can take place at any level, and it is refreshing to see the Charlesworths, in this book, stating unequivocally (p 74) that there can be selection at species level and at other levels (p 73). Interestingly, there is an extract from a very favorable review by Dawkins of this book, on the back cover. Did he skip pages 73 and 74 or has he at last seen the light?

Two eminent professors of biology, both F.R.S., from the University of Edinburgh have collaborated to write this short monograph in the Oxford series of Short Introductions. It certainly maintains the standard of academic excellence characteristic of this series. The book is full of fascinating facts, illustrated with twenty-one figures. The degree of detail is such that the book might be more suitable as an introduction to evolution for biology students rather than for a lay readership, who might find the book on the same subject by John Maynard Smith slightly less intimidating.Maynard Smith, the dedicatee of the book, was Brian Charlesworth's mentor at the University of Sussex. Though his book was published in 1958, it has been brought up to date in a new edition for Cambridge (1993) by Richard Dawkins. The book by the Charlesworths has the advantage of being a decade more recent again and in a fast-moving field, currency is important. The short section on mutations of bacteria is particularly good and the illustration (Fig.8) of how DNA codons relate to specific amino acids in proteins is very clear; but I think taking nearly a page to illustrate evolutionary changes in the fossil foraminiferan Globorotalia and another for the phylogenic tree of Darwin's finches is too much information for all but specialist students. Figure 19, criticised by one reviewer, is quite correct in my book.This book is pure biology: there is nothing here about Intelligent Design (`human beings are the products of impersonal forces') or any other religious issues. In ths, the book follows the materialist approach of the excellent little monographs by Richard Dawkins.

"Evolution: A Very Short Introduction" (2003) by Brian and Deborah Charlesworth offers a concise, detailed introduction to evolutionary biology. The Charlesworths are both Professors at the University of Edinburgh. Brian Charlesworth is former President of the Society for the Study of Evolution while Deborah Charlesworth has served as President of the European Society of Evolutionary Biology.The Charlesworths offer the following introduction to this overview of evolution."The relentless application of the scientific method of inference from experiment and observation, without reference to religious or government authority, has completely transformed our

view of our origins and relation to the universe in less than 500 years. In addition to the intrinsic fascination of the view of the world opened up by science, this has had an enormous impact on philosophy and religion. The findings of science imply that humans are the product of impersonal forces, and that the habitable world forms a minute part of a universe of immense size and duration. Whatever the religious or philosophical beliefs of individual scientists, the whole programme of scientific research is founded on an assumption that the universe can be understood on such a basis."Evolutionary theory still provokes controversy. The Charlesworths do not hide their view that evolutionary theory is inconsistent with the position of supernatural, intentional creation of separate species. At several points in this introduction, they criticize supernatural creationism directly. Throughout the book, they gather the support for evolution from various strands of science and argue that it is overwhelming.