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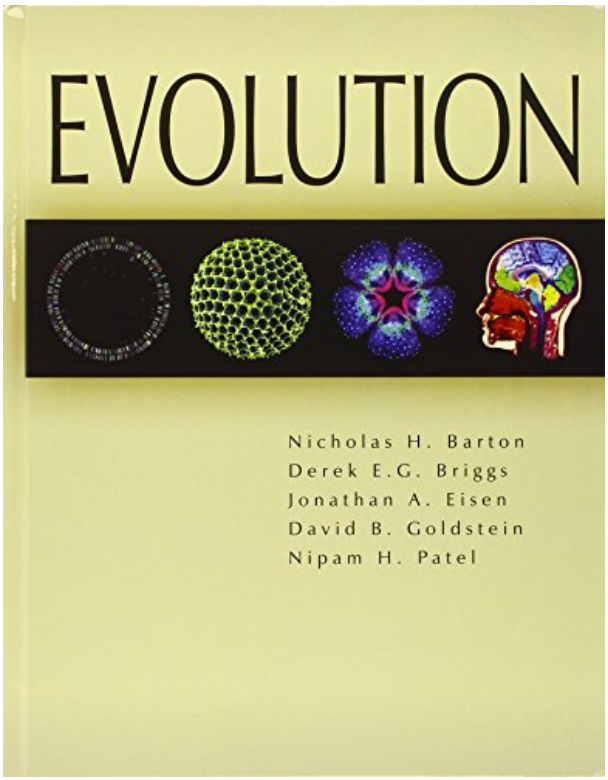

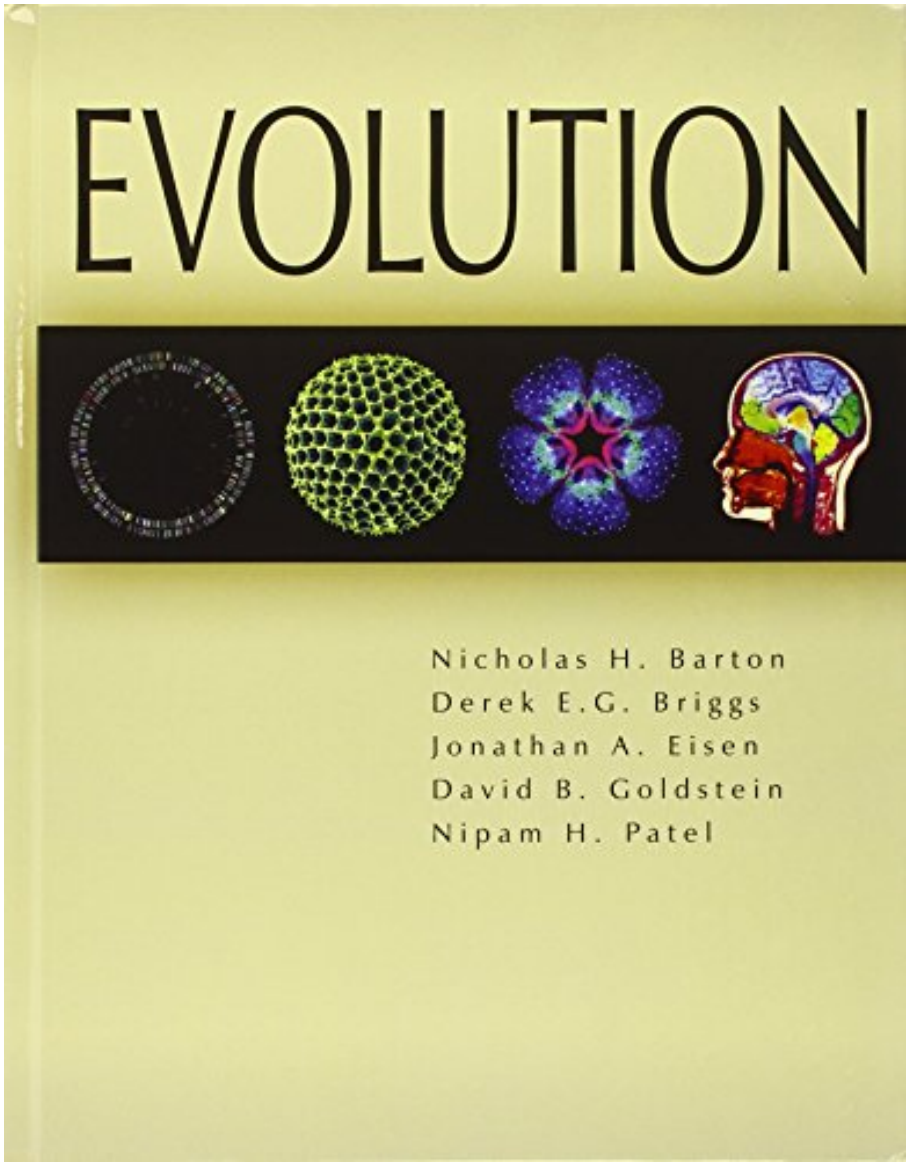

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Review

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Evolution is a new book on evolutionary biology that elegantly synthesizes traditional evolutionary theories with contemporary concepts from genomics, developmental biology, human genetics, and other areas of molecular biology. As an innovative, interdisciplinary, and thoroughly integrated book on evolutionary biology with world-renowned author, Evolution thoroughly illuminates this major paradigm of modern science. Evolutionary principles are introduced with examples from across the spectrum of life - from "jumping genes" to RNA molecules, to populations of yeast and E. coli reared in the laboratory, to dung flies, lizards, and deer in their natural habitats. A section is also devoted to human evolution and diversity, merging recent insights from molecular techniques with paleontological evidence. Evolution is recommended as a primary textbook for undergraduate courses in evolution as well as for biologists seeking a clear, current, and comprehensive account of evolutionary theory and mechansms.

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Most helpful customer reviews

19 of 23 people found the following review helpful.
Intellectual, stimulating, fascinating, revealing; a must have for those who must know what Life really is.
By Amit B. Singh
I'm not a Molecular Biologist or an Evolutionary Scientist by profession. So I think my friend who loaned me this book was a bit surprised when I asked if I can borrow the book from her. It is after all a text book for students in extremely specialized field(s). The thing about this book is that you don't have to be in a specialized field to be reading it. It is for anyone who has ever wondered about life on earth, how it evolved, time scales involved in the evolutionary journey, various stages of evolution, different mechanisms life has employed to adapt, etc. etc. It is a fascinating work built upon the original idea proposed by Charles Darwin himself in "On the origin of species", with theories that have since been proven to be facts, and more in depth knowledge about the subject than any other book of its kind out there. This book will literally take you through the tree of life, with wonderful illustrations, and have you thinking about Life like you've never thought before. This book will make you feel connected to the Universe and every life form that has ever existed on the Earth and you can't help but feel both immortal yet insignificant. The particles in your body have been around for an eternity, and will be around long after you're gone. You're part of the Universe and the Universe is a part of you. I'm very fortunate to have had the chance to read this book. It is now part of my collection of books and I highly recommend it to all the curious minds out there.

6 of 8 people found the following review helpful.
Decent and extensive, but often vague
By puetz
This is a decent textbook of high print quality, usually good and professional graphics and modern layout. There is no doubt that a student can learn a lot.

Unfortunately, I do have a couple of issues with this book. I am a biologist and have read 17 out of the 26 chapters (about 2/3). In summary, the book is too long because it is often vague and sometimes fairly

technical. Occasionally I had trouble understanding the material because of poorly selected figures or examples. Here are some examples:

The introductory 3 chapters already have some serious shortcomings. For example, the section on "Objections to Evolution" (p. 76) is pretty lame. The argument that evolution cannot be observed is only vaguely addressed. Of course it can be observed, given that we can observe mutations either accumulate from generation to generation or that we can simply generate such mutations at will. We can also observe selection of such mutations in the lab etc. Similarly, the argument that evolutionary theory is not testable is rebutted by the "consistency of phylogenies" and the fossil record. Sigh. Is that all the authors could come up with?

In the same vain, I find many sections vague, with suboptimal examples. For instance, the chapter on evolutionary novelty doesn't really present any novelties but rather "standard evolution". We have known of a number of newly (or recently) evolved genes, novel enzyme activities, or novel morphological structures. There is barely any mention of those. Instead the chapter describes "Müllerian mimicry", how mutations in phosphoglucose-isomerase causes temperature-sensitive differences in kinetics or how opsin can change its light absorption properties by mutations. Hardly any novelty that will convince a creationist. It is true that there are not many true novelties that we understand well but there are certainly better examples than those in the book, e.g. radical changes in protein activity with very few mutations (think yeast Gal1 and Gal3 proteins) or morphological inventions such as feathers from reptile scales. Instead, Barton and colleagues use rather obscure examples and then don't even explain them well.

In fact, the vagueness is my main complaint. There are dozens of cases where the authors talk, for instance, about "baceria that grow on carbon monoxide" (p. 719) but don't say which ones. A page earlier they have a figure illustrating non-homologous gene displacement, using a hypothetical "green gene" displaced by an "orange gene". I am inclined to scream "Lord! Just give me a real example, please!" and there are many, especially in microbial metabolism. Often I got the impression that the authors were too lazy to look up better examples (or ANY example) and this is what makes evolution so interesting and convincing.

Finally, the book is often too complicated because of the many attempts to recapitulate the scientific literature without distilling out the gist of it. Chapter 11 is a case in point. It would have helped to edit some figures by simply adding labels instead of just reprint them from a scientific paper (see Fig. 11.16 which is incomprehensible without reading the legend). Many sections thus could easily be shortened significantly without losing much information.

I often have discussions with a creationist friend, but I am reluctant to recommend this book to him. It may backfire...

10 of 15 people found the following review helpful.
Sadly, not a very good book
By Yegor Voronin
At first glance, the book is fantastic. Only when you start reading it, you discover that it is too unwieldy and tries to accomplish too much. Authors decided not to choose any particular knowledge level for their audience, but instead cover a lot of ground very quickly. The learning curve in this book is extremely steep! This is a book that will take you from description of molecular nature of DNA all the way to such complex concepts as average fitness excess and beyond. Unfortunately, this means that explanations are brief and many things are given as a fact of the matter, without proper explanations of their origins and/or importance. It also means that if you are like me, a scientist with quite a decent knowledge of biology and evolution, then for 80% of this book you will be bored, for 10% you will have no clue what the authors are talking about,

and only 10% will be of any reasonable interest to you. In the end, the book is just not fun to read. Very disappointing...

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