

The Quarterly Review of Biology

Review: Taylor, G. K., & Thomas, A. (2013). Evolutionary Biomechanics, Selection, Phylogeny and Constraint. Oxford University Press.

--Manuscript Draft--

Manuscript Number:	
Full Title:	Review: Taylor, G. K., & Thomas, A. (2013). Evolutionary Biomechanics, Selection, Phylogeny and Constraint. Oxford University Press.
Article Type:	Invited Book Review
Corresponding Author:	Christian M Laurent University of Southampton Southampton, UNITED KINGDOM
Corresponding Author Secondary Information:	
Corresponding Author's Institution:	University of Southampton
Corresponding Author's Secondary Institution:	
First Author:	Christian M Laurent
First Author Secondary Information:	
Order of Authors:	Christian M Laurent
Order of Authors Secondary Information:	

Review: Taylor, G. K., & Thomas, A. (2013). *Evolutionary Biomechanics, Selection, Phylogeny and Constraint*. Oxford University Press.

By Christian Laurent, University of Southampton.

This book provides for all. The introduction offers a lucid explanation of all concepts and ideas referred to later in the book. Chapter one comprises a few pages on each concept they will later explore; either enough to jog the memory of an out of touch student or researcher, or enough to assure the reader the subsequent chapters it references will contain the information he or she is looking for.

By the end of the introduction, one of the book's greatest strengths is already becoming apparent. It has an ability to captivate that many an academic prose lacks. Where so many textbooks become tiresome in examining the esoteric details of a subject, this text mixes in some history of the subject and uses metaphors and ideas from their original thinkers. By the end of the book this makes for a light read, without leaving anything amiss.

Chapters 2-5 delve deeper into the fundamental tenets of the subject. These ideas are again presented clearly, but this time more thoroughly and with the help of some simple and well-explained mathematics and statistics. Although the authors themselves are mathematicians, the book is written for biologists, and intimidating mathematics are not allowed to overbear the main ideas. This depends of course, on the reader's definition of difficult. Chapter 4, is a particularly interesting chapter and looks at scaling relationships in the natural world. Taylor and Thomas go further than just applying scaling relationships to bones and materials which would be all that is needed to explain the concept. There are other aspects of biology which also scale, such as metabolism- an interesting as well as necessary tangent.

Chapters 6, 7 and 8 look at how these ideas are applied to some common but interesting areas in evolutionary biology, mostly to do with the evolution of flight. Now the book has covered the basics it moves to apply them and illustrate how modern science is approaching contemporary questions. Here the authors present more results, graphs and tables. The power of mathematics in biology is succinctly demonstrated and the methods and results used are fully considered and carefully interpreted.

Taylor and Thomas do not aim to provide a comprehensive literature review around the ideas and subjects they present, but they do point the reader in the direction of other texts where further information is available, should it be needed, and warn of some common analytical mistakes. A great book for the undergraduate or the post-doc.

End