



Holocene book reviews

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Wally Broecker

The Great Ocean Conveyor: Discovering the Trigger for Abrupt Climate Change Princeton NJ: Princeton University Press, 2010. 172 pp. US\$27.95, £19.95, hardback. ISBN 978-1-4008-3471-6

Reviewed by: Eelco J. Rohling, *University of Southampton, UK*

This book is written by one of palaeoclimate's most eminent researchers, Lamont's Professor W. Broecker. It more-or-less documents, in an easily readable sequence, the author's thought processes regarding the nature and underlying causes of abrupt climate change during the last glacial cycle. As a result, the reader gets a good insight into the workings of science, with hypotheses being tested, modified/adjusted, and tested again, etc. As such, the text provides an interesting read to new graduate students who are perhaps wondering about the processes according to which scientific concepts are elaborated.

I had trouble identifying any other target audience. The book is too technical for the general public and politicians. It is too narrow in focus and insufficiently documented with details and all the relevant key references to serve as a comprehensive textbook for undergraduates, in contrast to some of the author's previous books that served as standard textbooks in universities all around the world. Finally, the present book is too basic in its discussion of developments in the specific field of study to serve as an overview text for more advanced researchers.

Having said all that, it should be noted that the author does clearly state that this book is not intended to be a comprehensive review, but that it instead documents the author's personal sequence of discovery (Preface: x). The book delivers very precisely on that specific objective. Personally, I find it unfortunate that, a bit too often, there emerges a rather self-celebratory aspect that is simply unnecessary given the author's globally acknowledged standing as a key leader in our research field.

The actual subject matter is discussed in an elegant manner, with clear descriptions of the inferred role of the 'Great Ocean Conveyor' in abrupt climate change, and with good explanations of the more technical aspects. It is possible to read through the book at a good pace without losing the train of thought. It is well presented, and the illustrations are functional and clear, even though they sometimes are a bit small. It is immediately obvious that there is an enormous wealth of experience underlying the scientific discourse as well as the writing and presentation. The reader will certainly come out from reading this book with a better view of how the concept of the 'Great Ocean Conveyor' was conceived, and how it is thought to have been involved in abrupt climate change.

I perceive two key omissions in the book. Inclusion of these aspects would in my opinion have given the book significant added value that would have made it into a good starting text for early post-graduates. The first omission concerns an overview of testable, quantitative assessments of the bipolar seesaw concept, such as the work by Prof. Thomas Stocker and others, which strongly argues in favour of 'Great Ocean Conveyor' involvement in abrupt climate change.

The second omission concerns any discussion of the resistance against the very notion of a 'Great Ocean Conveyor' that exists among some influential physical oceanographers. I would have been very interested to see a balanced section in which Prof. Broecker argues how/why the conveyor concept might be key to explain longer-term ocean/climate changes, even though the existence of a systematic conveyor-type circulation may not be too obvious in the shorter-term measurement series of physical oceanographers. The book would have formed a good opportunity for starting to resolve this apparent discrepancy – which may simply be a matter of the timescales considered – but unfortunately this discussion is avoided and thus remains polarized. To any potential readers such an ending would have been more valuable than that offered at the moment: the book finishes with a less-well structured summation of additional factoids with somewhat contrived relevance to the overall message.

In short, I find this a very well presented and logically argued text, but it is unclear to me which readership it may make a real difference to. It is interesting to see how the author's thoughts were formed over time. We can all learn a lot from him, and this makes the book an interesting quick read. However, I find that the book does not present either the comprehensive overview, the well-balanced evaluation of the (international) ideas development, or the critical assessment of the inferred concept relative to important and possibly conflicting observations from other disciplines, which would make it a 'must have'.

Bill Finlayson and Graeme Warren (editors)

Landscapes in Transition (Levant Supplementary Series 8) Oxford and Oakville: Oxbow Books, 2010. 248 pp. £35.00, paperback. ISBN 978-1-84217-416-6

Reviewed by: Bleda S. Düring, *Leiden University, The Netherlands*

Landscapes in Transition is concerned with the transition from foraging societies to Neolithic societies and puts the landscape at centre stage. This transition to the Neolithic in the Levant is compared with that in Britain.

'Landscape' is of key significance when exploring the transition from foraging to farming societies. However, only a minority of the papers in *Landscapes in Transition* are actually concerned