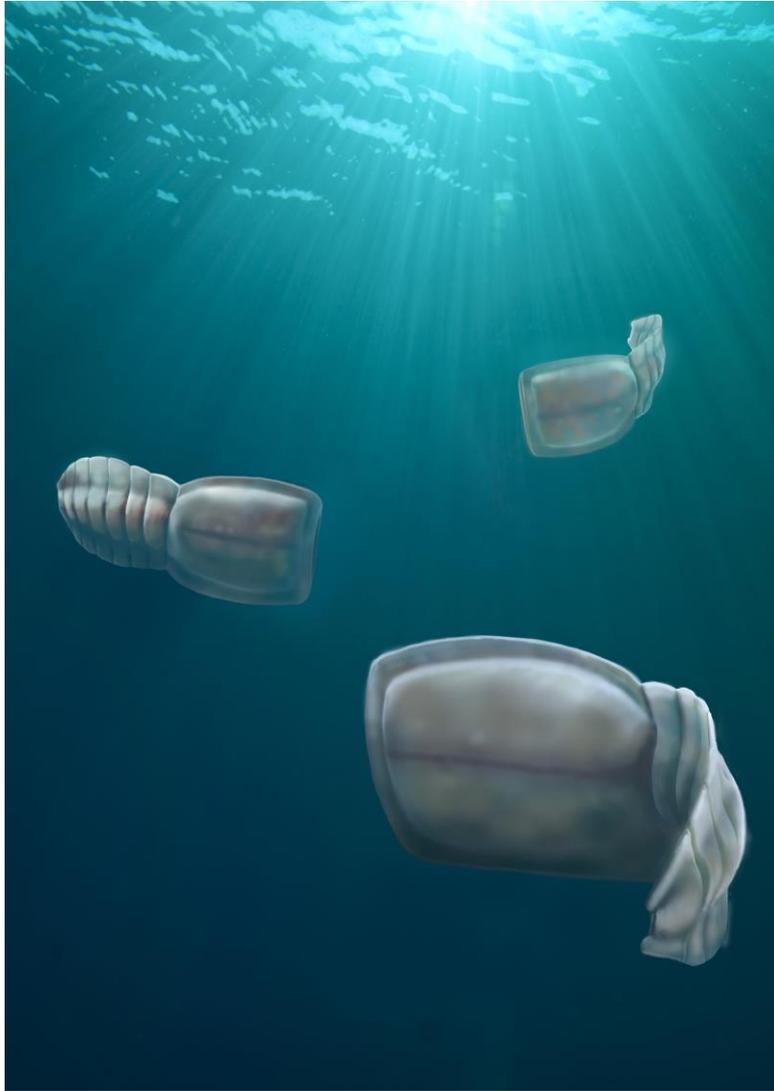


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**Front cover:** Reconstruction of the vetulicolian *Nesonektris aldrigei*, from the Emu Bay Shale (lower Cambrian), Kangaroo Island, South Australia. Illustration courtesy of the artist, Katrina Kenny copyright 2014.

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## BOOK REVIEW

### **Issues in Palaeobiology: a Global View**

Interviews and Essays.

edited by Marcelo R. Sánchez-Villagra & Norman MacLeod

Scidinge Hall Verlag, Zürich 2014. 289p. ISBN: 978-3-905923-17-9

Price & availability: US\$18, from Amazon.com

*Issues in Palaeobiology* is an interesting and thought provoking book, published as a compilation of personal interviews and essays by 22 paleobiologists from around the globe. The book aims to discuss the fundamental questions – what is palaeobiology? Where is it going? How does it relate to classic palaeontology? What motivates people to become palaeobiologists? Editor Marcel R. Sánchez-Villagra expresses the desire “to examine and learn more about the geographic variation in the opinions and views that people hold” regarding “objects and subjects of palaeontology, and the relationship between its boundaries to those of other disciplines”. This is achieved by a series of revealing interviews, asking each participant five key questions:

- *What are the most important problems in palaeobiology?*
- *Which is the most fundamental issue of palaeobiology and evolution that your work addresses?*
- *How could continuation or an expansion of your research programme lead to new insights or open new questions in palaeobiology?*
- *What do you see as the most interesting criticism against your position in discussions about palaeobiology and evolution?*
- *Why were you initially drawn to research in palaeobiology?*

Finally Sánchez-Villagra wonders “what the future of the discipline will look like and even if it makes sense to talk of ‘palaeontology’ as a single, unified area of research”. Since the 1960’s, and in particular after discussion by S. J. Gould and contemporaries, the study of the biology of ancient life, or “biological palaeontology” now known as *palaeobiology*, has developed to become an influential and popular science, uniting geology and classical palaeontology with ecological and evolutionary biology. The subject tends to be associated with the more interpretative biological aspects of studying the fossil record, encompassing a suite of analytical techniques, from comparative anatomy and morphometrics, to cladistics and phylogenetics, the patterns and processes of macro-evolution. Although at times viewed as rather ‘fragmentary’ discipline, today with its’ own published journal, “Palaeobiology”, and significant advances in computational data analysis, the once obscure field within palaeontology has truly blossomed.

The interviews included in *Issues in Palaeobiology* offer personal and often unique insights into the thinking behind current research being undertaken by a diverse group of palaeobiologists working around the globe. Those selected to participate vary in their fields of expertise, both geographically, from Columbia (Jaramillo), to Finland (Jernvall) for example; and taxonomically, from foraminifera (BouDagher-Fadel), plants (Boyce, McElwain), to mammals (MacFadden, Janis) etc. Their individual responses to the same set of questions above evoke curiosity and comparison from the

reader. One notes the differences, but perhaps more obviously in this volume, the similarities.

To counter a perceived distancing of palaeobiology from its roots in geology and stratigraphy, some of the participating authors (eg. Korn, Lazarus) highlight the contribution made by classical palaeontology in providing the raw data about taxa through deep time, and evidence of extinct clades (from direct study of fossil specimens) as the foundation for any palaeobiological analysis. They emphasize the importance of integrating both geological and biological input, and stress that there is still much to be gained from applying and uniting biological techniques to wider areas across the field of palaeontology, such as the marrying of ontogenetic and molecular studies with taxonomy; and ecological/community studies with biogeography and biodiversity. Editor Sánchez-Villagra rightly remarks that the strength of palaeobiology “*lies in its diversity*”; by integration of approaches and dissolving the often self-imposed boundaries of subfields within palaeontology, or separate interest groups (with their own historical ‘labels’), we can work together to better achieve our aims.

The questions posed in *Issues in Palaeobiology* apply to all of us working or studying in the field of palaeontology, they stimulate thought, they provoke us to ask how we would respond and answer the interviewer ourselves. This helps us to consolidate our own views. In my case, I was fortunate to have attended University of Otago, where Ewan Fordyce taught a very detailed and inclusive course in all aspects of palaeontology. He managed to convey and weave together the strands of palaeobiology, from functional morphology to cladistics in a way that inspired students to feel part of a united journey of discovering the past, no matter what organism(s) they studied. Interestingly, and perhaps typically, each contributor to *Issues in Palaeobiology* reveals a similar characteristic enthusiasm and passion for their scientific field! Regardless of the many practical applications or variety of technological achievements across the discipline, at the end of the day, to quote Kevin Boyce: “it is endlessly rewarding to pick up a fossil and think about how the living thing could have worked”.

Being a New Zealander, of course I would have liked *Issues in Palaeobiology* to have had a representative kiwi palaeobiologist, but at least an Australian (Michael Lee) is included. Not your usual scientific text, the book itself is a handy paperback-sized volume for easy reading (and perhaps lower price); it is clearly presented, with no obvious typos. The editors have done a fine job with the formatting and the short biographies of the contributors will be greatly appreciated by curious readers. Only those interviewed will know whether the answers to questions are accurately recorded, but one does get the sense of each participant’s individual style and personality. In addition to the interviews, concluding essays are provided by editors Sánchez-Villagra and MacLeod, which further examine the issues and trends in palaeobiology, as influenced by Gould and others, and provoke us to ask how the subject itself might evolve in the future. The book will certainly appeal to students and researchers in palaeontology, less so the lay-person. Certainly, in terms of the history of science, the *Issues in Palaeobiology* interviews provide a unique and fascinating ‘snapshot’ of current thinking within our discipline c.2014.

Book review by Dr **Seabourne Rust**, Northland, New Zealand  
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