

compaction/diagenesis and dynamic basal water flow. From this perspective the book conspicuously fails to address two technical issues that are commonly so much more critical in the definition/evaluation of stratigraphic traps than for layer-cake geometries in structural traps: namely loop-level imaging and the calibration/prediction of rock properties. Shooting 3D seismic is only a beginning. For example, how best should one preserve true relative amplitudes through the seismic processing sequence, generate sedimentologically-defensible horizon attribute maps, design sedimentologically-smart horizon-picking algorithms, best use AvO and dedicated shear wave data in determination of lithology/pore-fill, trade large offsets against bandwidth? The need to explore for stratigraphic traps is obvious – what we want are better tools.

Creative sedimentary geophysicists will get little technical advice or inspiration from this book, nor should it compete strongly for scarce library funds.

David James

LI, R. & COOPER, P. 2006. *Early Silurian (Llandovery) orthide brachiopods from Anticosti Island, eastern Canada: the O/S extinction recovery fauna*. Special Papers in Palaeontology no. 76. 71 pp. London: The Palaeontological Association. Price £39.00 (paperback). ISBN 1 4051 6012 8, ISBN13: 9781 4051 6012 4. doi:10.1017/S0016756807003135

For students of marine Silurian megafossils there are globally two major sites for superlative specimens: the island of Gotland for the latest Llandovery–very Late Silurian, and the island of Anticosti for the earliest Llandovery into the latest Llandovery. The new treatment of the orthide brachiopods in this Special Paper substantially helps to update our understanding of the group's Llandovery record. The Special Paper is well written, provided with excellent illustrations and a text that carefully describes the taxa involved. Also provided is a brief account of the Anticosti litho- and biostratigraphy, together with a brief history of prior palaeontological investigations of Anticosti fossils, chiefly brachiopods. A detailed locality Appendix is a valuable adjunct for specialists, together with a warning (p. 11) about locality name changes during the past 150 years of publication on the fossils.

Variation was studied relative to length and width of the abundant taxa, but other characters remain to be considered. For those taxa represented by a good size range of specimens a study of their ontogeny, particularly internal features, remains to be carried out. For some taxa there is a need for further investigation of internal features by calcining shells followed by careful shaving away of the calcined material to reveal internal features preserved on the moulds.

Art Boucot

CARRANO, M. T., GAUDIN, T. J., BLOB, R. W. & WIBLE, J. R. (eds) 2006. *Amniote Paleobiology. Perspectives on the Evolution of Mammals, Birds, and Reptiles*. vi + 547 pp. Chicago, London: University of Chicago Press. Price US \$95.00, £60.00 (hard covers), US \$40.00, £25.50 (paperback). ISBN 0 226 09477 4; 0 226 09478 2 (pb). doi:10.1017/S0016756807003196

A memorial volume dedicated to Jim Hopson, who, during the past 40 years, has revolutionized our understanding of basal mammals, *Amniote Paleobiology* comprises a series

of papers authored by his former post-graduate and post-doctoral students at the University of Chicago, most of them unsurprisingly focusing on aspects of mammalian palaeobiology. Given the title, I was hoping for a volume composed of papers on large-scale evolutionary processes and incorporating techniques that would be applicable to all areas of vertebrate palaeontology. However, I was disappointed to find that most of the papers are descriptive, narrow in scope, and would only really appeal to those with extensive knowledge of the group in question.

The text is divided into five parts: the first, titled 'New Fossils and Phylogenies', comprises five papers on diverse topics from a re-description of a mandible of the early tetrapod *Whatcheeria*, which, given the in depth discussion on phylogenetic characters, would have benefited from a new phylogeny, to a phylogeny of living and extinct armadillos. Part two, 'Large-scale Evolutionary Patterns', comprises three papers, two of which, those by Parrish, and Rougier & Wible, appear to be essentially review papers, and offer little new information. Part three, 'Functional Morphology', includes an important contribution by Paul Sereno, in which, among other things, he proposes new phylogenetic definitions for mammalian higher taxonomy. Part four, 'Ontogeny and Evolution', includes an interesting contribution by Richard Blob, in which he examines the utility of limb-bone scaling in cynognathian cynodonts for usage in assessing metabolic modes, although the other papers in this section are somewhat disappointing. The final section, 'Reflections on James Allen Hopson', comprises a biography and a bibliography of Hopson's publications.

The quality of papers and editorial style varies widely throughout the book; in places the text is too chatty and informal, noticeably in the contributions by Lombard and Bolt, and that of O'Keefe. Quality of the illustrations is also extremely variable: those of Lombard and Bolt are beautiful, while in other contributions they are rather lacking. Munter and Clark would have benefited from line drawings of the pelvis of the theropod dinosaur being described, rather than the unclear photos presented, while O'Keefe's figures are recycled from his earlier publications, do not illustrate the braincases being described, and as such render the paper almost impossible to understand for the non-specialist. Although contributions to the book were apparently peer-reviewed, one feels that some of the papers may not have made it to publication in journals where the peer-review process was more stringent.

Although there are several fascinating and important papers in this book, it is hard to see to whom the volume as a whole would appeal: the topics are too disparate and narrow to warrant the title.

Susannah C. R. Maidment

THOMAS, P. J. HICKS, R. D. CHYBA, C. F. & MCKAY, C. P. (eds) 2006. *Comets and the Origin and Evolution of Life*, 2nd ed. xvii + 346 pp. Berlin, Heidelberg, New York: Springer-Verlag. Price £54.00 (hard covers). ISBN13 978 3 540 33086 8. doi:10.1017/S0016756807003603

Where, when, and how life began are the ultimate scientific questions to which there are, as yet, no answers. But evolve we did, so another question is, from what? *Comets and the Origin and Evolution of Life* is an updated and extensively rewritten second edition of a 1997 conference volume. Since the publication of the original work, there have been theoretical and practical advances in this fast-moving field. For example, several cometary and asteroid sampling missions are either,