also the past was indeed a different country. Were we, for instance, to visit a Triassic tropical forest then in comparison with today's cacophony dominated by frogs and birds then apart from 'the occasional groans and squeaks of tetrapods, most song probably derived from the resonant clacking of titanopterans, backed by the trills of haglids and the chirping of early gryllids' (p. 206). So Grimaldi & Engel throw open a window onto an unexpected world, and one that in principle is recoverable from study of the fossilized stridulatory organs and ears.

It is this reviewer's opinion that science urgently needs to recapture a sense of imagination, and whilst the stern realities of analytical judgement cannot be neglected, the fact of the matter is that whether by teaching or research it is the telling example, remarkable fact or intriguing instance that must readily serve to reawaken the deep springs of our curiosity and so the source of scientific enthusiasm. So too one is not surprised to find interspersed poetic contributions by such as Frost, Keats and Nash. *Evolution of the Insects* serves to do exactly what is most important, and that is to remind us of our extraordinary world and how we can understand it more deeply. At an astonishingly reasonable price every biologist and palaeontologist should regard this book as an essential acquisition.

Simon Conway Morris

WYNN JONES, R. 2006. *Applied Palaeontology*. xiii + 434 pp. Cambridge, New York, Melbourne: Cambridge University Press. Price £45.00, US $85.00 (hard covers). ISBN 0 521 84199 2.
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This textbook, as the title indicates, concerns the use of fossils in the study of biological evolution, environmental processes and industrial applications. There are many texts on fossils, and aspects of their palaeobiology, but this book fills a large gap because it discusses the 'classic' palaeontology, together with the practical application of fossils. The author, Bob Jones, is a well-known micropalaeontologist who has worked for BP for over 20 years.

The first chapter is a brief introduction which summarizes the remaining six sections, and is a very useful abstract. Chapter 2 is on 'Fossils and Fossilisation', and is a relatively short account of a multiplicity of aspects of palaeontology. These include the fossilization process, preservation and cladistics, in addition to (arguably) more prosaic topics such as fieldwork, collecting, preparation and curation. I must make special mention of Jones's hilarious account of the naming of new fossil taxa on pages 14 and 15. No revelations are repeated here; but honestly, this short section is well worth the cover price alone! Chapter 3 is on the major fossil groups. It is the principal section of the book and gives, in some 200 pages, succinct descriptions of the major groups of fossils including microfossils, plants, invertebrates, fungi, vertebrates and trace fossils. Jones describes the different groups in a pragmatic, and often quirky style. For example, I was surprised (and delighted in equal measure!) to see forensic palynology described on the first page of this extensive chapter. The descriptions of the different palaeontological groups are up to date, well illustrated, and biostratigraphy is always prominent. Unsurprisingly, foraminifera (Jones's specialism) are given an authoritative and comprehensive treatment. This chapter is an excellent introduction to the many fossil groups for students and professionals alike. Chapter 4 is a relatively short section on palaeobiology, and encompasses aspects such as palaeoecology, biogeography and palaeoclimatology. The fifth chapter is devoted to 'key biological events in earth history'. This is a very skillfully crafted synthesis of our knowledge of evolution and extinction. After a brief introduction, Jones describes major palaeobiological events in stratigraphical order. This begins with the origin of life during the Proterozoic, and ends with a concise and accessible discourse on palaeogeography, palaeoclimate and land mammal evolution/dispersal during the Quaternary. Chapter 6 is on biostratigraphy and sequence stratigraphy. As would be expected, given that the professional background of the author is the oil industry, Jones skillfully guides the reader through the rudiments of the use of fossils as indices of relative age. He then seamlessly explains sequence stratigraphy, with the emphasis on how biostratigraphy is an integral part of this unifying theory of sedimentary geology. Sequence stratigraphy is a somewhat complex concept, rich in jargon. However Jones's concise explanation is as good an introduction to sequence stratigraphy as you will find anywhere in the literature. The final section, Chapter 7, is on case histories of the applications of palaeontology. Although relatively short, in my view, this is the strongest and most interesting chapter of the entire book. Some of the modern, integrated applications of micropalaeontology and palynology in the oil industry are as equally ingenious as they are fascinating. Many, of course, receive little or no publicity, due to the fact they are industrial operations. The insight, skill and level of expertise required for many of these is just as scientifically worthy as aspects of the subject that are generally perceived to be more high profile. Jones does not confine himself to describing oil industry operations; examples pertaining to engineering geology, archaeology and vertebrate palaeontology are all described.

Some general points are pertinent. I very much like the way the author has used numbered headings and subheadings. These make the book much more user-friendly, easy to use and to cross-reference. The book is well-illustrated with high-quality diagrams. However there are no photomicrographs of fossils which seems rather a shame.

I must give special mention to the acknowledgements on p. xiii. Following a long list of the author's teachers and colleagues, there is a listing of Bob's favourite musicians who have inspired him over the years. It is an unprecedently eclectic selection including Bach, Johnny Cash, Maria Callas, Jimi Hendrix, Joy Division, Mozart and Gillian Welch. I found myself immediately warming to an author who has the courage and honesty to reveal his (in my view excellent) musical tastes, and to acknowledge the inspiration of music and musicians to a scientific career.

In conclusion, *Applied Palaeontology* is an absorbing and highly readable book on all aspects of palaeontology. The book is eminently suitable for advanced undergraduates, postgraduates and professionals alike. Bob Jones is to be congratulated for producing a book which is unique in this very crowded marketplace. It is highly recommended to those interested in palaeontology at any level.

J. B. Riding

KONHAUSER, K. 2006. *Introduction to Geomicrobiology*. x + 425 pp. Maldon, Oxford, Carlton: Blackwell Publishing. Price £34.99 (paperback). ISBN 9780 632 05454 1.
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This work was designed as a text for final year earth sciences, geology and biology students following a course in geomicrobiology. It will also provide a valuable text for post-graduates and other researchers in the field. Micro-organisms