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## Deep Time Travel

Inside the mind of the intrepid palaeontologist as the rocks reveal their tale.

### **Fossils Alive! or New Walks in an Old Field**

by Nigel H. Trewin

Dunedin Academic Press Ltd: 2008. 211pp.

\$39.95, £19.95

When I read Trewin's introduction I was intrigued by the story line of time travelling in a bus to study prehistory. It brought to mind the book I used to read to my daughter: *The Magic School Bus in the Time of the Dinosaurs* by Joanna Cole (1995). After the first few pages it was evident that Trewin has written a book that will very much appeal to the adult reader. He has taken his favourite Scottish fossil localities, built a picture of each landscape and environment at the time the fossils were alive, and brought us on a fact-filled adventure to prehistoric Scotland. We discover the delights of collecting at these classic fossil localities, and are entertained by the sounds, smells and feel of the living fossils from the Devonian to the Jurassic. This book will appeal to the same audience that enjoy Hugh Miller, the famous nineteenth century natural history writer and populariser of palaeontology who wrote *The Old Red Sandstone; or, New Walks in an Old Field* (1841). Sir Roderick Impey Murchison – the director general of the British Geological Survey in the mid nineteenth century - wrote that Miller's book "to a beginner, is worth a thousand didactic treatises". I believe that the same is true of Trewin's book. Trewin bases his knowledge on facts extracted from publications dating back over 150 years as well as his own researches into the Rhynie Chert, Devonian fishes, as well as Carboniferous, Permian, and Jurassic fossils and palaeoenvironments. It is also apt that Miller and Trewin were both inspired by the fishes of the Devonian Period of the north of Scotland in their pursuit of palaeontological understanding.

Although the book is structured in a time series from oldest to youngest, I found it easy to dip into chapters on specific localities and later return to the others. Each chapter stands on its own, with Trewin introducing the palaeontological site in the present day, describing the fossil fauna, flora and environmental interpretations based on the evidence. Trewin then boards his fieldbus with a colleague and travels back in time to explore the nature of the environment, landscape and ecology of the same site at the time it first formed based on his interpretation of the facts. This is how a real palaeontologist thinks - or at least how they ought to think - following the process from hard scientific fact through the interpretation of facts and then to let the imagination fill the gaps between.

The fossil sites come alive to our senses as Trewin takes his colleagues, and ourselves, for a walk on the silent Devonian flood channels to look at the hot springs of Rhynie, to smell the stagnant pools of rotting fish of Dura Den, to run from Jurassic dinosaurs and to dive with ammonites and ichthyosaurs off the Isle of Skye, and much more.

Trewin's humour feeds the skilful narrative as he takes us on a challenging field excursion to his favourite fossil sites. He introduces many palaeontological concepts perhaps less familiar to the general scientific readership in a subtle, yet powerful way. Frustratingly unable to return to the present day with samples, field sketches and

photographs help us to further visualise the plants, animals and the various environments. Trewin leaves it for us to decide how much of the field trips to the past are supported by the facts, how much is “imagination fuelled by cider or a good malt whisky” and how much is based on speculative conversations with other scientists.

A common thread throughout the book is Trewin’s love of fishing. From the same place in Caithness he fishes for trout in the water-filled quarry and then travels back in time to catch the Devonian fish, *Osteolepis*. Which fly would be best to use in the Devonian? How big, in reality, was that 40cm long fish, *Gyroptichius*, that Trewin’s colleague Jeremy caught? Perhaps his erudite storytelling comes from tales of his fishing exploits?

After surviving centipedes, geysers, dinosaurs and a tsunami, Trewin ends on a philosophical note on conservation and the future of mankind that certainly those who think on a geological timescale will relate to. Evolution, extinctions and climate change are all part of our palaeontological and geological heritage. As Trewin speculates, we either become extinct, or we evolve.

Trewin’s book is a great addition to popular science and will help to promote a better understanding of palaeontology. I hope that this is not Trewin’s only book on Scottish fossil localities. I would like him to visit more of Scotland’s rich fossil heritage and travel back in time, yet again. Perhaps to the Ordovician trilobites of Girvan, the Silurian fishes of Lesmahagow, the Carboniferous sharks of Bearsden, or the Triassic reptiles of Arran?

**Neil D. L. Clark**

*Neil D. L. Clark is at the Hunterian Museum  
of the University of Glasgow, Glasgow,  
G12 8QQ, UK.  
e-mail: n.clark@museum.gla.ac.uk*