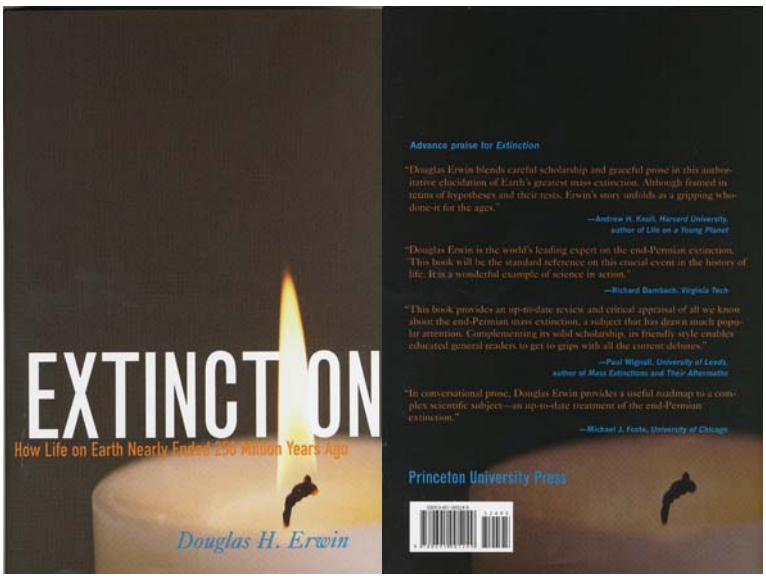
Erwin, D.G. 2006. Extinction. How life on earth nearly ended 250 million years ago. – Princeton, New Jersey, Princeton University Press

Book review by H.J.M. Meijer



As a vertebrate palaeontologist whose focus lies mostly on Tertiary faunas, I was nearly oblivious to the events happening in much older eras. However, with this book by Douglas H. Erwin, I might consider a change of careers.

Douglas H. Erwin is a Senior Scientist and Curator at the Smithsonian's National Museum of Natural History. His research focuses on the late Permian mass extinction, and his grand knowledge of this topic is reflected in this book. In the introduction, the 'crime scene' of the greatest biological crisis in the history of the earth is described. 95% of all living species died out in this catastrophe, but despite various theories, the cause behind their demise remains unclear. Erwin distinguishes six possible causes of the extinction; 1) the impact of a meteorite or comet; 2) the climatic aftermath of massive volcanic flood basalts in Siberia; 3) extinction due to a decline in the number of biotic provinces; 4) glaciations; 5) the disappearance of oxygen from shallow waters; and finally 6) the 'Murder on the Orient express' hypothesis suggesting multiple interacting causes.

Within the next chapters, Erwin takes the reader on a journey throughout the world to visit various end–Permian and early–Triassic sites to scrutinize the evidence for each hypothesis. He starts in Meishan, China, were the rocks provide an excellent account of the Permo–Triassic boundary and these marine rocks are one of the best–studied Permo–Triassic sequences. Studies on the Meishan rocks revealed that 161 of 333 species went extinct at the Permo–Triassic boundary. In order to narrow down the spectrum of possible causes, Erwin then takes to South Africa, where he studies the terrestrial fossils of the Karoo in order to compare the extinctions on land and in the sea. Throughout the book, Erwin critically evaluates the fossil evidence for the faunal extinctions, both on land and in the oceans. In addition, the evidence from geology, isotope studies, pollen analysis and modeling of biological diversity are carefully blended in to provide an excellent and up–to–date account of the events leading to the end–Permian extinction. This all is written in conversational prose with the occasional type and style errors. However, for scientists as well as general educated readers, this book enlightens its readers to the complexity of the largest biological crisis the earth has yet seen.

And as for the 'who–dun–it'? This book is too good to reveal the evil–doer on forehand, but you will enjoy finding out.

Erwin, D.G. 2006 Extinction. How life on earth nearly ended 250 million years ago. – Princeton University Press, Princeton, New Jersey. 306 pp. ISBN 978-0-691-00524-9. Price $ 24.95/£ 15.95 (hardcover).