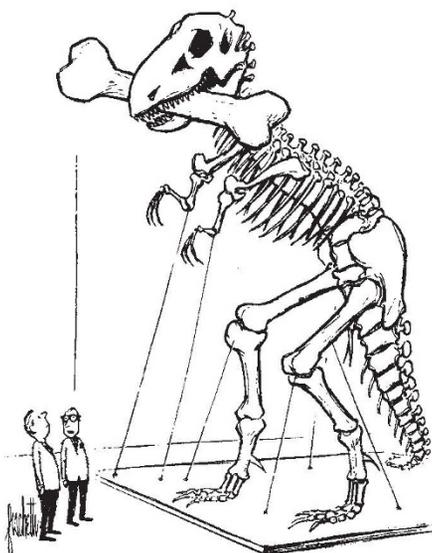


Among the treasures they have come up with are verses by J. Maynard Smith on the "Danger of Being too Clever" (part of a collection presented to J.B.S. Haldane) and a poem by Edward Forbes addressed to a lady whom he must subsequently have left for another. We encounter Edgeworth David suspended over an Antarctic crevasse yet too polite to disturb his only companion, Mawson, who was changing photographic plates unaware of Edgeworth David's predicament. We hear of Ami Boué declining an offer of six



From *A Geological Miscellany*, courtesy of *Punch*.

"It seemed logical. We had one bone left over."

Bulgarian maidens when in the field early last century, and of Mary Anning's exchanges with the King of Saxony. Mention of royalty brings to mind one of the best geological passages, an account by Queen Victoria of the parallel roads of Glen Roy.

These are good historical vignettes; and there is genuine scientific interest in a letter from Sedgwick to Darwin expressing his reservations on the *Origin of Species*, and in an equally sceptical reaction from a Geological Society of America audience to Griggs's paper on convection currents in the mantle. More as good as these would have been preferable to the accounts of swindlers in nineteenth-century USA, of an alcoholic drive through New Mexico and of diamond hoaxes in England which together take up a tenth of the book. And it was insensitive to guy Edward Greenly's tribute to his wife.

All in all, my verdict is — a good idea, could have been carried out more effectively. Let Johnson (quoted p.161) have the last word. Boswell: "Is not the Giants' Causeway worth seeing?". Johnson: "Worth seeing? Yes, but not worth going to see". That sums up the book. □

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More of dinosaur extinction, and more

Malcolm C. McKenna

Hunting the Past: Fossils, Rocks, Tracks and Trails — The Search for the Origin of Life. By L.B. Halstead. Pp.208. ISBN 0-241-10899-3. (Hamish Hamilton/Double-day: 1982.) £10.95, \$19.95.

BEVERLY Halstead is probably most familiar to readers of *Nature* as the instigator of various criticisms of scientific work at the British Museum (Natural History) and of its epistemologically exciting exhibition policies. Polemics apart, he has also published some very important research on Palaeozoic fishes and on vertebrate hard tissues.

In *Hunting the Past* he shows us some of the wonders of geology, palaeontology and physical anthropology, explained simply and with apt and captivating illustrations, most of which are in colour. The book is aimed at beginners but focuses more on geology and on the romance and history of fossil hunting than on how scientific studies are conducted once the field-work stage is finished. *Hunting the Past* is in the *Time-Life* tradition, a book for the intelligent layman but not for the edification of advanced amateurs or professionals.

Much emphasis is given to the ever-popular dinosaurs. The sections on speed and body temperature are welcome improvements over most of the older popular treatments, in view of the obvious complexity of the subject and Halstead's need to simplify in the space available. At several places in the book, however, the reptile-like mammals (therapsids) are dubbed paramammals, an unnecessary redundancy. One wonders why the dinosaurs were not dubbed parabirds!

On the subject of dinosaur extinction, Halstead discounts the currently fashionable asteroid impact hypothesis, noting correctly that many dinosaurs were already extinct by the time of the Cretaceous-Tertiary impact event and its associated iridium anomaly and disruption of the calcareous marine biosphere. No one doubts that crashing asteroids would have had no effect on already extinct organisms, but the argument that the extinction of the very last of the dinosaurs is close enough to the K-T boundary to coincide with it is now being championed with renewed statistical evidence by Louis Alvarez.

Further, anti-asteroid arguments that dinosaur extinction was diachronous from north to south rest heavily on palaeomagnetic polarity stratigraphy that is itself suspect. Anomalies may be missing from the stratigraphic record of the San Juan Basin of New Mexico because of a mistaken lack of notice given to a late Cretaceous to early Palaeocene unconformity beneath the restricted Ojo Alamo Member of the Nacimiento Formation. Moreover, Archibald recently reported a lignite ("Will the Real Z Coal Stand Up")

beneath the famous Bug Creek Anthills site in Montana. There are even rumblings that dinosaurs have been found above what is identified as the Z coal elsewhere. The fat is likely to remain in the fire for some time while all this confusion is sorted out. Meanwhile, Halstead is unwise to play down the asteroid impact hypothesis as a cause of extinction of the last of the parabirds.

In the anthropological part of the book the Piltown Hoax caught my eye. Even the Loch Ness Monster and Glen Rose Cretaceous "human" footprints from Texas get space. And of course there are some amusing errors and misprints, such as Powell supposedly discovering the Grand Canyon, the multituberculates being categorized as rodents or the apt description of Glen Rose footprint modifiers as "Cretationists".

At the end of the book there is a section on classification in which, true to form, Halstead misinterprets cladistics. He seems to have read Hennig's 1966 book, but the subject has progressed a bit since then. In all, Halstead's attempt to purvey palaeontology and geology to a non-professional audience is a creditable effort — but it falls far short of excellence. □

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Going to ruins in central America

Warwick Bray

The Complete Visitor's Guide to Mesoamerican Ruins. By Joyce Kelly. Pp.527. ISBN 0-8061-1566-1. (University of Oklahoma Press: 1982.) \$35.

THERE have been, as the saying goes, plenty of guide books to Mesoamerican ruins, but never one like this. The author covers 119 archaeological sites (graded from one to four stars, in terms of viewability) and also 41 museums in Mexico, Guatemala, Belize, Honduras and El Salvador. A "Complete Guide" it is not, and every reviewer will lament different omissions (I particularly regret the Cacaxtla murals and the new excavations at the Aztec Templo Mayor in Mexico City), but all the principal sites are included, as well as an enterprising selection of second quality sites in the Maya zone and Pacific Guatemala.

Information on the cultural background to the architecture is rather sketchy, and technical terms are occasionally used