

## Book reviews

**Man's Place in Evolution.** (2nd edn) Natural History Museum Publications. Cambridge University Press. 1991. Pp. 103. Price £7.95, softback. ISBN 0 521 40864 4.

Human evolution is a large and complex subject, and translating what we know about it into something suitable for general consumption is no easy task. Such a book can really only offer an overview, a flavour of the subject based on a theme, rather than a detailed discussion. The linking theme here is one of relationships, of seeing the place of modern humans in evolution by looking at our closest relatives among living and fossil species.

After stressing our place among the mammalia the stance is unashamedly cladistic in placing humans among the apes, and the presentation of relationships begins on page 14 with the explicit working assumption that speciation always involves a bifurcation into two new species. This is followed by a second assumption, that none of the species considered, fossil or living, is the immediate ancestor of any other so that all pairs represent sister taxa.

Those are enormous assumptions, and one might question their suitability for the framework of a popular treatment where their implications cannot be discussed. They have always raised questions in my mind about the strict application of cladistic principles, and I wonder what the general reader will make of them. Speciation in sexually reproducing organisms is certainly cladogenetic rather than anagenetic, but it does not follow that one parent always (or even frequently) splits into two daughter species. The argument that ancestors cannot be found or recognized among (or indeed because of, as the book implies) the plethora of known organisms will run counter to the intuition of many, and will rule out the one question that most readers will ask. Even if it is true of much of the fossil record, it strains credulity when applied to the human lineage of the past two million years to imply that so many more taxa existed.

Of course these assumptions remind us that the book is the companion to the original Museum exhibition of the same name, in which the use of cladistics raised such a furore. It is ironic to note that a parallel exhibition at The American Museum of Natural History in New York in 1983, organized by people of a markedly cladistic persuasion, was entitled 'Ancestors' precisely in response to moves by religious fundamentalists over there who sought legal powers to deny that we had any ancestors.

In other respects, as a broad brush introduction, the book really works quite well. It shows many of the more important fossils and charts the general course of our evolution in a fairly clear manner, and the relationship theme itself offers a graspable overview at the higher taxonomic levels. One can quibble, of course; the chronology of human appearance in Europe is vague, and calling the first Europeans *Homo erectus* is out of step with most of the literature. But the alternative is something of a nomenclatural nightmare for treatment in a short, popular book, and one can sympathize. So far as presentation is concerned, the space taken up by the double-page photographs that head each chapter could have been put to better use, and in this respect the layout bears out the statement in the preface that the Museum experts offered only 'guidance' in the planning. The illustrations themselves are a somewhat motley collection, some good and some, like the depictions of life on the savanna, rather poor. The maps have their geographical and political idiosyncracies: in the one on page 72, Amud, Kebara and Tabun are wrongly located in an Israel expanded beyond the wildest dreams of Zionism, and Anglo-Spanish disputes over the ownership of Gibraltar have been resolved by moving it to North Africa.

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