

Changing places

Bernard Wood

A Theory of Human and Primate Evolution.
By Colin P. Groves. Oxford University
Press: 1989. Pp.375. £40, \$49.95.

COLIN Groves is a delightfully anachronistic scientist. While most of us attempt to learn more and more about less and less, Groves's interests have broadened with time — the references of his that he cites in this book are an eclectic collection embracing work on marsupials, rhinoceroses and bovids.

In 1975 Groves surprised hominid palaeontologists with a novel and radical analysis of early *Homo* remains from East Africa. Its conclusions were awkward and, perhaps because of that, they have been largely ignored. But those who surmised that this was to be Groves's only incursion into hominid palaeontology are due for another surprise, for his new book shows that he must have been thinking about, and following, hominid evolutionary studies for the intervening 15 years. There is much of interest in the first five chapters, which deal with systematics, evolutionary theories and primate evolution. In this review, however, I will dwell on the sections of the book in which Groves sets forth his views about how the hominid fossil record should be interpreted.

The first of several adjustments the reader is invited to make is the author's adoption of the term 'hominin' in place of hominid. He proposes that the Family Hominidae embraces two subfamilies — Ponginae (which includes a single genus, *Pongo*), and the Homininae (embracing three tribes, the Gorillini, Panini and Hominini). The first two of these tribes are monogeneric; the last includes four genera, three of which are named (*Homo*, *Australopithecus* and *Paranthropus*), while the fourth is not.

Groves is a 'splitter' by inclination. Sometimes he subscribes to splits proposed by others, but in other cases his combinations are novel. Much of his detailed discussion centres on the systematics of the early hominid fossil record from African sites. The Hadar material is subdivided into 'small' and 'large' remains, the former (including the skeleton AL-288) being judged to be the "plesiomorphic sister group to all other Hominini", whereas the latter (including the numerous AL-333 remains) is allocated to an unnamed species of *Homo*. The Laetoli type fossil series is retained, as it must be, within *Australopithecus afarensis*, but its *Homo* affinities are emphasized. Groves is not prepared to subsume all the East African 'robust' australopithecines into a single species,

but few will have expected his preferred taxonomic solutions. *Paraustralopithecus aethiopicus* is transferred to *Homo*, the derived and primitive characters in KNM-WT 17000 are accorded separate specific status, and KNM-ER 732 and its ilk are placed in an unnamed species of *Paranthropus* whose similarity to *Paranthropus boisei* (for example crania KNM-ER 406 and OH5) is acknowledged. Groves follows Broom in recognizing two separate taxa of the 'robust' australopithecines from Southern Africa. In the light of recent suggestions by Clarke and others, it

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New man? A frontal view of KNM-ER 1470, a 1.9-million-year-old *Homo* cranium from Koobi Fora, Kenya. It is generally thought to belong to *Homo habilis*, but Colin Groves regards it as being distinct from that taxon, and suggests that it should be placed in a new species, *Homo rudolfensis*.

is noteworthy that he sees no need for taxonomic rearrangement of the remains presently attributed to *Australopithecus africanus*.

As might be predicted, it is the treatment of *Homo* that is most radical. The allocations of material from Hadar to one taxon, and those from Omo Member C and the Upper Burgi Member at Koobi Fora to another, have already been alluded to. The author claims, and I believe him, that he sought, but did not find, evidence of heterogeneity in the Olduvai hypodigm of *Homo habilis*, so he adheres to his earlier conclusion that *H. habilis sensu stricto* remains a 'good' taxon. Several derived features are proposed to support this conclusion (p. 268), drawing upon evidence from the cranial vault and base and the dentition. Although the early *Homo* remains from Koobi Fora overlap in time with those attributed to *H. habilis* from Olduvai, the former are judged to show sufficiently consistent patterned heterogeneity to justify their allocation to several taxa.

Groves persists with *Homo ergaster*,

and by including KNM-ER 1813 within it he implies that this taxon spans nearly half-a-million years. Specimens such as KNM-ER 1470, 1590 and 1802 are included in a separate taxon *Homo rudolfensis*, which takes its species name from a suggestion made by Alexeev in 1986. The phenetic resemblances of this hypodigm to *H. habilis* are recognized, but the latter group is kept separate because of its possession of derived traits which are shared with later *Homo* taxa. Groves claims that *H. rudolfensis* can be distinguished by the unique combination of relative canine size and mandibular symphyseal form. The crania KNM-ER 3733 and 3883 are also recognized as a separate species, said to share derived traits with *H. ergaster*, but which is nonetheless judged to be distinct from *Homo erectus*.

What should we make of all this? Can these taxonomic assessments be dismissed as the byzantine ramblings of a zoologist who is unacquainted, at first hand, with much of the fossil evidence? Such a judgement would be both unfair and unwise. Groves's wide experience with other animal groups is just the background that many hominid palaeontologists lack and I, for one, will give his judgements careful consideration. We must also remember that taxonomic solutions as complex as these have been supported by other experienced zoologists, Ian Tattersall for example. This is not to say that Groves's solutions cannot be faulted. Several of them can; for example, I believe that the affinities of KNM-ER 992, the type specimen of *H. ergaster*, have, once again, been misjudged.

This is an unconventional and stimulating book. It gives welcome emphasis to geographical variation and helps blow the dust off the conventional wisdom of hominid palaeontology. Groves includes in the text a cladistic analysis of hominids which once again demonstrates the apparently high levels of convergence which bedevil the efforts of hominid palaeontologists to determine durable phylogenetic schemes. It also delivers, as the title promises, a new theory for primate and hominid evolution based on the neglected precepts of Berg.

Aspects of the book's production deserve criticism. Groves needs to buy a scale, a new camera or a new pair of spectacles; I suspect he needs all three. And the publishers should select their proofreaders a good deal more carefully; the text is blemished by too many typographical and citation errors. But this refreshing and original volume should not be ignored. John Napier, one of the two people to whom it is dedicated, would have enjoyed reading it. □

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