

two teeth this is impossible to determine. Alternatively, fossil teeth of different primate species have been combined. This could account for the apparent mosaic of characters which led the authors to argue that their find is not a chimpanzee or a known australopithecine.

The authors describe the cranial fossils as

*'strikingly chimpanzee-like in morphology.'*¹¹

The arm bones are described as showing

*'a host of characters usually associated with modern apes.'*¹²

The authors speak of **probable** derived features shared with 'other hominids' and emphasise perceived differences with modern apes. In this context they said,

'The proximal humerus lacks the deep, tunnel-like bicipital groove often seen on African apes' (emphasis mine).¹³

In other words, this supposedly distinguishing characteristic is also sometimes seen in African apes anyway.

Overall, similarities to *Australopithecus* spp. are few, whereas similarities to chimpanzees are plentiful. Indeed, Wood, in reviewing the work, raised the question as to whether it would have been more appropriate to allocate the specimen to the genus *Pan* (chimpanzees) rather than *Australopithecus*.¹⁴ Wood argued against this, proposing that the many similarities to African apes are 'primitive retentions' or 'examples of convergence' whereas the three 'hominid characteristics' identified are 'derived'.

This sounds very much like interpreting the evidence to fit beliefs — the priority of the paradigm. The three 'hominid characteristics' claimed are: a modified canine/third pre-molar complex, an anterior foramen magnum, and the morphology of the elbow end of the ulna. In regard to the canines, White *et al.* admitted that some worn female *Pan* canines look 'superficially' similar.¹⁵ The enamel thickness is also similar to chimpanzees and most unlike *Australopithecus*. Indeed the published drawings of the teeth¹⁶ suggest close similarity of the Aramis canines to *Pan*. The claims about the cranial and arm fossils must be viewed critically in view of the carnivore damage exhibited by these bones. White *et al.* also mention reduced sexual dimorphism as a hominid feature of *A. ramidus*, but how the degree of sexual dimorphism was determined with a maximum of two teeth of any one type we are not told.

If *A. ramidus* turns out to be a valid taxon, it will still not be justified to claim it as 'the missing link' because Oxnard has shown, using various statistical analyses of measurements of replicated teeth, that *Australopithecus* is unlikely to be ancestral to *Homo sapiens*.¹⁷ Recent work on the organ of balance in the inner ear has confirmed that if Australopithecines were bipedal, it was not in the human sense, because the semi-circular canal dimensions of *Australopithecus* resemble those of living great apes, not *Homo*.^{18,19}

Like many previous claims about new fossil evidence for the evolution of mankind, this one seems like another case of 'much ado about nothing'. In-

deed, an editorial note in *Nature* expressed some caution:

*'the attractive epithet of the "missing link" had better be avoided until it is possible to answer with some clarity the question "With what?"'*²⁰

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QUOTABLE QUOTE: Religion and Science

'... it may not be long before the practice of religion must be regarded as anti-science.'

— John Maddox (Editor, *Nature*) 17 March 1994. Defending science against anti-science. *Nature*, **368**, p. 185.