



Contents lists available at ScienceDirect

Journal of Human Evolution

journal homepage: www.elsevier.com/locate/jhevol

Lead Book Review

Chalk and cheese 2.0

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ARTICLE INFO

Article history:

Received 2 June 2017

Accepted 9 August 2017

Available online 5 September 2017

The Metaphysics of Apes: Negotiating the Animal-Human Boundary

By Raymond Corbey (2011). Cambridge University Press, Cambridge, 227 pp. \$95.00 (hardcover) and \$35.99 (paperback), ISBN 978-0-521-83683-8 (hardcover) and 978-0-521-54533-4 (paperback).

Almost Human: The Astonishing Tale of *Homo naledi* and the Discovery That Changed Our Human Story

By Lee Berger and John Hawks (2017). National Geographic, Washington DC. 239 pp. \$13.68 (hardcover), ISBN 978-1-4262-1811-8.

Whether we like it or not, classification is part of our daily and professional lives. We rely on other people's classifications every time we go to the supermarket, look for a book in a library, or search the Internet. The success of any classification scheme depends on it having explicit categories with well-defined boundaries. The categories need to tread the fine line between being unhelpfully inclusive, or so exclusive as to lose any utility. They also need to be intuitive. The classification used in my local supermarket mostly makes sense, but how come spices are in the same aisle as 'soy/rice milk' and 'breakfast bars'? But if you think the classifications used in supermarkets are messy, then try breaking down the "unbroken chain of affinities" of the Tree of Life (Darwin, 1854: 4) into separate units with well-defined boundaries.

Within my own bailiwick – human evolution – there are at least three disputed boundaries. The first is the one between hominins – the taxa included in the tribe Hominini that are more closely related to modern humans than to chimpanzees and bonobos – and the rest of the Tree of Life. While there are an impressive number of differences between the morphology and behavioral

repertoire of chimpanzees/bonobos and modern humans, the morphological and behavioral differences between the earliest hominins and the late Miocene ancestors of chimpanzees/bonobos are likely to have been much more subtle. Exactly where in Africa, and under what circumstances, the ape-human demarcation began, and when, how and why the ape-human boundary became irrevocably established, are important research challenges that are still unresolved.

The second of the three disputed boundaries is the one between our own genus, *Homo*, and the other genera recognized within the hominin clade. For shorthand we can call this the *Homo* boundary problem. From 1864 onwards, every time an extinct species was added to the genus *Homo* the criteria for admitting a taxon into that genus were relaxed, and the boundary of *Homo* moved further and further away from modern humans. The most significant relaxation took place just over 50 years ago with the addition of *Homo habilis*. Some, including the writer (Wood and Collard, 1999), have argued that *H. habilis* compromised the functional and phyletic coherence of *Homo*, but the majority of informed researchers accepted its inclusion into *Homo*. But there is still no consensus about when, where and why a population of australopithecines began to develop morphology and behaviors that were different enough to deserve generic recognition.

The third of the disputed boundaries is the one between *Homo sapiens*, the species to which modern humans belong, and the other extinct species recognized within the genus *Homo*. We can call this the modern human boundary problem, and in a book review in this journal (Wood, 1994) I tackled the challenges involved in deciding on morphological and behavioral criteria that consistently, and in all the major regions of the world, distinguish modern humans from the rest of the hominin clade. Exactly what constitutes 'modern humanness' is also still a topic of spirited debate.

In very different ways and styles, and with different degrees of success, the two books reviewed here focus on one or more of these three boundary disputes. One celebrates the history of our discipline by reviewing how these boundaries have been interpreted over time and across disciplines. The other focuses on recent discoveries that will, in due course, become part of that history.

Raymond Corbey is trained in both the philosophy of science and anthropology, and one of his many interests is the nature of the ape-human boundary problem. In *The Metaphysics of Apes* he traces the history of ideas about how modern humans relate to living

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apes, and how their structure and behavior differ from ours. He also explores how these ideas have been influenced by fossil evidence, by new information about morphology, and by behavioral observations made in the wild and in the laboratory that have tended to blur the distinctions between modern humans and apes. The 'Apes' in the title refers to chimpanzees, bonobos, gorillas and orangutans, but early on in the book the author explains how the concept of an ape has been interpreted differently at different times. Corbey invokes a three-fold interpretation of *Metaphysics*. What status or rank do we accord apes? What lines of evidence have been used to come to that determination? And how do apes fit into the world views of those of us who live in countries far away from their natural habitat? *The Metaphysics of Apes* is divided into seven chapters, each of which begins with a useful summary explaining what is covered in that chapter, and why. The first chapter is devoted to the history of when and how apes were discovered, how the boundary between modern humans and the rest of the animal kingdom has been negotiated across time in different cultures, and how apes have featured in popular culture. The second and third chapters delve more deeply into the history of where and how apes have been classified by naturalists. Corbey explains how Linnaeus' decision to include Man as part of the animal kingdom provoked Buffon to re-emphasize the various ways that modern humans are distinct from other animals. Meanwhile Blumenbach used posture and handedness, and Rousseau and Burnett (aka Lord Monboddo) used language to maintain the distinction between Man and the apes. Much of the material covered in the third chapter reminded me just how superficial was my own knowledge and understanding of Darwin's and Huxley's attitudes to the ape-human boundary problem. Corbey explains that although "Huxley tore down the fence between humans and apes using anatomical arguments [...] he replaced it with a new one between the human mind and human anatomy" (p. 72). Nor did I know that Max Scheler had used the results of early experiments on ape behavior to develop the hypothesis that only modern humans are self-aware, and have what we now refer to as 'theory of mind.'

In chapter four, Corbey considers the meaning of what it is to be human in terms of the *Homo* boundary problem. What morphology or behavior distinguishes the genus *Homo* from australopithecids? He reminds us that *Man the Tool-Maker* was the title of a booklet written by Kenneth Oakley (1949) for what was then known as the British Museum (Natural History). The preface to the first edition explains that *Man the Tool-Maker* was the title of a wartime exhibit of early implements, and that Oakley was commissioned to write a guide to the exhibit to provide a paleontologist's view of the culture of early man. Oakley gets straight to the point in the first sentence, where he states "Man is a social animal, distinguished by 'culture'; by the ability to make tools and communicate ideas" (p. 1). He goes on to suggest that while living apes are capable of "improvising a tool to meet a given situation [...] the idea of shaping a stone or stick for use in an imagined future eventuality is beyond the capacity of any known apes" (p. 3). He also makes it clear that "If man is defined as the tool-making animal, then the problem of the antiquity of man resolves itself into the question of the geological age of the earliest known artifacts" (p. 3).

It was presumably this logic that led Louis Leakey, Phillip Tobias and John Napier to argue that hominin fossils from Olduvai Gorge recovered from the same strata that had yielded Oldowan stone artifacts should be included in the genus *Homo*, as *H. habilis*. For at least one of these authors, Phillip Tobias, inferences about the language ability of *H. habilis* also played a part in the decision to allocate the new species to *Homo*. Tobias (1991) devoted the closing pages of his magnum opus on *H. habilis* to the topic of spoken language, entitling the penultimate and ultimate sections of the final chapter, respectively, '*Homo habilis* a Speaking Primate,' and

'The Coming of Genus *Homo*: The Attainment of a New Level of Organization on Planet Earth.' Tobias' monograph concludes with the unambiguous statement that *H. habilis* "was the first hominid who substantially distanced himself from his animality [...] as a language-bound, culture dependent hominid" (p. 845).

Corbey's impressive scholarship is on full display in the fifth chapter where he ranges across the writings of Lévi-Strauss, Boas, Durkheim, Geertz and Sahlins. This is not familiar territory for me, and I confess to having to read this chapter more than once, but it was worth making the effort. It certainly helped me understand why biologists and sociocultural anthropologists reach very different conclusions about comparative research involving apes. In the seventh and final chapter, entitled 'Beyond Dualism', Corbey suggests that the great apes are not 'missing links.' Instead he refers to them as "go-betweens and mediators between humans and other animals, philosophically, scientifically, and morally" (p. 200).

The hardcover edition of Corbey's book was published in 2005, but he was sufficiently up-to-date to cite one of the first attempts to confront the implications that modern humans share the vast majority of our DNA with chimpanzees (and bonobos) (Wildman et al., 2003). We know several orders of magnitude more than we did in 2005 about the genetic and behavioral differences and similarities between modern humans and the other apes, and in the same period we have seen substantial advances in paleoanthropology. But, as important as these new DNA, fossil and archaeological data are it would be extremely unwise to conclude that Corbey's erudite and comprehensive review is outdated. On the contrary, the historical context he sets out helps us appreciate the relevance of this new evidence.

I regret not reading and benefiting from *The Metaphysics of Apes* long before now, and I urge you not to make the same mistake. I will recommend this excellent book to graduate students, and reading it has improved my own understanding of the history of our discipline.

The agenda of human evolution research is to investigate the twig of the Tree of Life that connects modern humans to the common ancestor we shared with chimpanzees and bonobos ca. eight million years ago. How many branches does that twig have? When, how, and in what order do the distinguishing features of modern humans make their appearance? Modern humans are scattered across the globe, but for the first five or six million years of human evolutionary history evidence about our precursors and close relatives is confined to Africa, and, apart from a handful of sites in Chad and Malawi, the vast majority of the African fossil evidence from this period comes from two regions, one in the south, and the other in the east. Discoveries in the southern region of Africa antedated those in east, but for the past half century the latter region has hogged the scientific headlines with announcements of several new genera of fossil hominins. Although discoveries were continuing at existing sites in southern Africa, and some new sites were discovered, the consensus was that the fossils recovered from southern Africa had not materially changed the way the human fossil record was interpreted.

The second of the two books, *Almost Human: The Astonishing Tale of Homo naledi and the Discovery That Changed our Human Story*, is an attempt to change that narrative. It focuses on the *Homo* boundary problem, and tells the story of how two new fossil sites, Malapa and Rising Star, both in the Cradle of Humankind in Gauteng, were discovered. In doing so, *Almost Human* makes the case that anyone interested in the origins of the genus *Homo* needs to shift their attention away from east Africa toward southern Africa.

My teacher, Michael Day, insisted that, unless it is qualified, the term human is unhelpfully ambiguous. For example, I have in my library a book by Shirley Strum called *Almost Human: A Journey into the World of Baboons*. As the subtitle suggests, Strum is using human

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