

Review of “What it Means to be 98% Chimpanzee” by Jonathan Marks and “In Defense of the Soul: What it means to be human” by Ric Machuga

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“*Homo sapiens* has remained an ape nonetheless...there is no hope of quickly shrugging off the accumulated genetic legacy of his whole evolutionary past.”

-Desmond Morris¹

“In other words, we are apes, but only in precisely the same way that we are fish.”

-Jonathan Marks²

Is the link between humans and apes a special one? Are we really 98% chimpanzee? Both Jonathan Marks and Ric Machuga try to answer these questions, in very different ways. Marks, a molecular anthropologist, approaches the issue empirically, as a scientist, and comes to the conclusion that we are quantitatively different from chimpanzees, our closest living relatives. On the other hand, Machuga, a philosopher, uses Aristotelian logic to argue that we are a qualitatively different species, which he attributes to the presence of an immaterial soul in *Homo sapiens*. Machuga argues that his conclusion does not necessarily derive from religious dogma, even though it parallels what Western religion has always claimed about humanity’s place in nature.

Machuga uses several examples to argue that humans are unique. For example, since computers are unable to pass the Turing Test, this proves, according to him, that our cognition must be assisted by some immaterial force absent from computer hardware. This argument is somewhat circular, in that humans designed the machines they are being compared against, so it is unclear whether we could create a machine that could “think” better than us. However, it does drive home the point that the human ability to reason is, so far as we know, unlike any other with which we are familiar. Machuga further argues that humans have an ability to conceptualize that is unlike any other species. For instance, while chimpanzees perform remarkably well at many tests of concrete knowledge, no one has demonstrated their ability to comprehend a concept, such as “tomorrow”. Machuga’s opinion is not unlike that of creationists, who argue for a qualitative split between humans and other animals, indicating a lack of evolutionary continuity. Yet, while it may well be true that chimpanzees do not conceptualize, this could indicate human biases as to what conceptualization should resemble in another species rather than an actual lack of continuity.

Marks takes on the irresponsible use of genetics that has led to claims such as that humans and chimpanzees are 98% similar not only genetically, but also anatomically and behaviorally. For starters, although humans and chimpanzees are genetically similar,

¹ Morris, Desmond. 1967. *The Naked Ape*. Dell Publishing, New York, NY. p. 9

² *What it Means to be 98% Chimpanzee*, p. 45

genetic similarity does not translate into phenotypic resemblance. Furthermore, we share no less than 25% of our DNA with bananas, for several basic reasons that Marks elucidates. First, there are only 4 bases used by DNA, meaning that at any one point, two sequences have a 25% chance of sharing a base. Second, many DNA segments result from ancient homologies and are shared across species, rendering the number even more similar. Finally, the segments of DNA chosen for analysis are typically not random, rendering the results somewhat suspect. Marks then proceeds to take issue with disciplines which assume that all similarities found are due to genes when there is no proof of a genetic link, and ends by discrediting the current argument that chimpanzees are so closely related to humans that they deserve equal rights and protections.

There are certain weaknesses in both books that detract from their ability to resolve the questions implied by their titles. Marks' book, while soundly argued, at times appears to be predominantly a platform to air the author's pet vendettas, the most prominent being the misuse of genetics to justify racism. While clearly an important issue, this diversion is likely to disappoint those looking for the distinction between chimpanzees and humans. Machuga's book is a single logical argument for the presence of a soul. However, while Machuga occasionally resorts to the absence of evidence to demonstrate a deficiency in non-humans, he fails to demonstrate concrete evidence for a human soul. This lack of empirical argument makes it impossible to verify his argument, and will likely fail to sway any of those whom he appears to be trying to convince, that is evolutionary biologists, computer scientists, and other empirically minded individuals.

This lack of empiricism lies at the heart of the problem with reconciling the arguments of these two books. Humans are not just "naked apes." Both Marks and Machuga agree on this. However, there remains disagreement about whether we are qualitatively different, imbued with an immaterial soul, or simply another primate which turned on a few new developmental genes. Because the question of the soul cannot be pursued in an empirical manner, any unification of these two viewpoints will remain elusive.

If we have souls and chimpanzees do not, perhaps our soul arises from the 2% of DNA that is uniquely ours. Ironically, then, our immaterial soul may have a material basis.