Ape-Woman Lucy Walked Upright

Written by Administrator Friday, 02 November 2012 11:33 -

Ape-woman Lucy walked upright, according to an article on BBC News, 20 July 2005 and *Journ al of The Royal Society Interface*

, DOI: 10.1098/rsif.2005.0060. British scientists have developed a computer robotics technique for predicting walking patterns based on footprints and the size of leg bones. The research team has applied their model to footprints found in Laetoli, Tanzania, believed to belong to fossil human ancestor officially named

Australopithecus afarensis

, but commonly known as "Lucy". The model showed that A. afarensis would have had a human-like, fully bipedal walking pattern, rather than the shuffling gait that chimpanzees have when they walk on two legs. Wejie Wang of Dundee University, Scotland, who was part of the research team commented: "Assuming that the early human relative

Australopithecus afarensis

was the maker of the Laetoli footprint trails, our study suggests that by 3.5 million years ago at least some of our early relatives - despite their small stature - could sustain efficient bipedal walking at absolute speeds within the range shown by modern humans." However, Chris Stringer of the British Natural History Museum, commented: "It doesn't end the argument because there is still the possibility that there were different creatures around at the time." In fact, ever since the Laetoli footprints were found there has been a debate over whether they were formed by a bipedal hominid (human ancestor). As Chris Stringer explained to the BBC, "There are still some people who argue that, looking at the foot bones of "afarensis" that they were unlikely to have made the Laetoli footprints."

BBC

Editorial Comment The reason for the ongoing debate about Lucy and the Laetoli footprints is that Lucy's skeleton is very ape-like, but the footprints are very human-like. Stringer's and Wang's comments actually point to the truth. Wang reminds us the connection between Lucy and the Laetoli footprints is only an assumption. We know that Lucy or any other *A. afarensis*

fossils that have actually been found did not make the Laetoli footprints, because their skeletons were found in Ethiopia, yet the footprints were found near Laetoli in Tanzania (approximately 2000km away). The reason the Laetoli footprints are considered

A. afarensis

footprints is that the rock in which they were found is believed to be of similar age to the Lucy fossil - about 3.5 million years old, long before humans are believed to have evolved. In order to develop the computer model the researchers had to make assumptions about the precise size and shape of Lucy's leg bones because none of the fossil leg bones are complete. (The femur is close to being complete but it has been assembled from several broken pieces.) Lucy is believed to have had a shuffling chimp-like walking style because studies of the actual bones indicated that Lucy was a knuckle walker - a form of locomotion distinctive of apes. (See

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Nature

, vol 404, p382 and news@nature 23 Mar 2000) Stringer is closest to the truth - there were "different creatures" walking around when the Laetoli footprints were made, namely human beings. The computer robotics study of the footprints is good evidence that they are really human footprints, and that humans co-existed with Lucy. (Ref. hominids, anthropology, biomechanics)