

# Origins of hominid bipedalism

[Science](#), [Anthropology](#)



5 April Origins of hominid bipedalism Most terrestrial mammals use four limbs for locomotive a purpose that is they are quadrapedal humans and other great apes (though circumstantially) use their limbs to locomotive purposes. There are numerous hypothesis developed by anthropologists trying to reconnect this thought, (Rodman and McHenry 103) observed that energetically humans are inefficient running at high speeds. Therefore, bipedalism evolution in human beings cannot be pointed to energy saving purposes during locomotion but bipedalism in humans is as efficient as quadrapedalism in land mammals. The other great apes for example chimpanzees do not have a straight gait and human straight gait is much more efficient than their bipedalism and quadrapedalism. Fossil evidence of hominid ancestor's bipedalism is constructed to imply that it existed about 3.5 million years ago. This essays objective is therefore aimed at looking at two distinct hypotheses that attempt to provide explanations to the origins of hominid bipedalism.

Rodman and McHenry Energetic efficiency hypothesis

The first hypothesis (from empirical evidence) to propose is that bipedalism evolved because of energetic efficiency needed by the hominid for travel and that the need was key to the origin of bipedalism. To accept the hypothesis above, first the comparisons should be made at constant speeds of travel and given that bipedal hominids descended from quadrapedal hominids the comparison should be between bipedal hominids and quadrapedal hominids. Rodman and McHenry( 104) observed that male chimpanzees traveled a median speed traveled a median speed of 3.8, 4.2 and 6.4 km each day in three different seasons and took 59 minutes, 105 minutes, and 148 minutes

respectively to travel those distances. On average, the male chimpanzees travelled at a speed of 2.9 kilometers per hour, a normal human being walks at an average speed of 4.5 kilometers per hour. Modern hominids through adaptive features evolved bipedalistic tendencies to suit their current environment this explanation is provided without reference to any empirical observation. The result show that there was no energetic difference separating hominid quadrupedal adaptation from hominid bipedalism. It is widely accepted that bipedalism arose because the hominid ancestors moved from living less on the trees to be more comfortable on the ground this was because of hominid dietary divergence (Lewin 113).

#### Lovejoy carrying hypothesis

The Lovejoy hypothesis postulates that the primates underwent evolution to achieve reproductive success through reduced parental care, pregnancy and maturation period. As the environment experienced changes, the primate also evolved as a way survival. This led to bipedalism that was the departure of hominids that differentiated them from other primates. This hypothesis is widely accepted as it explains the evolution of human characteristics such as walking on two limbs. It also explains the reason why new group of apes superseded older ones during the Miocene period. Bipedalism according to Lovejoy hypothesis was initiated at the comfort of the floor of trees and not on open savannah grassland. The female hominids were left to care of the small ones and they spent most of their energy and time hunting small animals and insects and gathering fruits (Khanna 69). The male hominids who were the most triumphant in copulating with the females were the ones who evolved bipedalistic features. They subsequently passed on these genes

to the subsequent generations of other hominids who developed better bipedalistic features.

#### Works Cited

Khanna, R Dev. Human Evolution. New Delhi: Discovery Publishing House. 2004. Print

Lewin, Roger. Human Evolution: An Illustrated Introduction. New York: W. H. Freeman, 1984. Print.

Rodman, Peter and McHenry, Henry. “ Bioenergetics and the Origin of Hominid Bipedalism.” American journal of physical Anthropology 52 (1980): 103-106