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Throughout the entire history of humans, the acquisition of bipedalism was vital to the success of early humans. Australopithecus afarensis, one of human’s earliest ancestors, was first discovered in various parts of Africa, specifically Ethiopia. When they were discovered, the fossils of A. afarensis, which date back 3. 2 million years ago, were the oldest, and only fossils to demonstrate that early human ancestors walked on two legs (Gibbons, 2009). In recent years, other fossils have surfaced of an older ancestor, Ardipithecus ramidus, that are 4.

4 million years old (Gibbons, 2009). While a picture is forming of when human ancestors began to walk on two legs, the questions of how and why this transition occurred still remain. Many factors could have played a role in this evolutionary feat. In many examples of drastic evolutionary change, the environment often plays an idmportant role.

In regards to human ancestors, how much, and in what ways, did the environment have an influence on the evolution of bipedalism in humans? In 1974, a team of experts were conducting a dig to survey a particularly fossil rich area in Ethiopia, when they came upon different bone fragments that were later classified as A. afarensis. Before this discovering, it was unclear as to how humans began to walk upright, let alone why. This discovery by paleoanthropologist Donald Johanson and his team led scientists to questions the very origins of humans (Kimble & Delezene, 2009). This discovery revealed to scientists a distinct shift between humans quadrupedal ancestors and their new bipedal forms. Australopithecus afarensis was the key to show that humans had a differentiated themselves from their quadrupedal ancestors. This new bipedal form was more efficient and distinctly different

from previous human ancestors. While fossils can show a great deal about the early ancestors of humans, they cannot tell the whole story.

The remains of A. afarensis can only show so much about this important transformation. One major influence on the bipedalism of early humans was the topography that surrounded them.

Before the late-middle of the Miocene in East Africa, habitats were more closed off, and densely crowded with trees. In a crowded environment like this, it is easy to imagine how there was little need for long distance traveling. The trees that dominated this environment made climbing an important tool for any organism and wouldn’t necessarily promote bipedalism. Around this time, a shift towards open environments began (Jablonski & Chaplin, 1992). Due to this shift in the environment around them, early humans were faced with new ways to gather food, avoid predators, and interact amongst themselves.

The loss of trees wasn’t the only change in the topography; the earth itself got rockier, and required human ancestors to climb more than before. The rocky structures that now dominated the land made for perfect stabilization structures; like a toddler learning to walk, the rocks allowed for them to not only improve their posture, this type of topography also offered an access to food resources and a way to hide from predators (Winder, I. C., King, G. C. P., Devès, M., & Bailey, 2013).

This change in the environment and topography allowed for effective, long term, habitual walking (Winder, I. C., King, G. C. P., Devès, M.

, & Bailey, 2013). These and other environmental changes in Africa required the evolution of bipedalism (Jablonski & Chaplin, 1992). While the shift to a complex topography is one current hypothesis that explains why humans evolved the adaptation of bipedalism, another claims the change occurred to better navigate flexible branches often found in the shrinking forests which were common during the time period of this evolutionary change (Thorpe et al. 2007). Before we were land dwellers, our ancestors frequented the trees. The habitat of our early hominid ancestors was dominated, for a long time, by trees and a lack of open terrain (Thorpe et al. 2007).

This hypothesis says that due to the lingering presence of trees, early hominids would evolve the trait of bipedalism from traversing tree branches on two legs in search of food, while at the same time using their free hands to steady themselves and reach for different objects around them (Thorpe et al. 2007). With this hypothesis, it is easier to understand how certain traits in early hominids were still present. For example, the forelimbs of our ancestors remained useful for long and grasping movements; this skill would be most useful in an environment characterized by trees (Thorpe et al. 2007).