

Divergence between apes and hominids research paper

[Sociology](#), [Communication](#)



Introduction

An ape is a primate whose appearance resembles that human being. Apes have no tails and most of them lived in Africa and Eastern Asia. Of the great apes, the only existing ones are chimpanzees, orangutans, bonobos and gorillas. On the other hand, hominids are primates who move/walk on two limbs. They are members of the great apes. However, this definition may not suggest that all hominids including the first ones walked on two limbs. (Juan, Ignacio and Mauricio, 2006). Many paleoanthropologists believe that hominids are the immediate ancestors of the modern human beings. In many cases, it is hard to distinguish hominids from the great apes and the modern man. Most of these hominids share a great number of our capabilities. Some anthropologists refer to human beings when talking about hominids.

(Ankel-Simons, 2010)

Apes and hominids are very close in their formation and existence than the old world monkey. They are mammals with very close relationship. Going by the evolution theory, human beings/hominids evolved from the apes through millions of years. What we have today as the hominids are products of different and many biological and environmental changes. Charles Darwin asserts that life begun from a single primordial organism, which developed gradually by chance into the present man. Apart from the fossil hominids, human are the last products of this process. The several similarities that exist between great apes and hominids have clearly clear support to this theory. They share a good number of genetic formations. For instance, chimpanzees have a genetic similarity of up to 94 per cent. Further research

has also revealed that other similarities are common in areas such as feeding and some aspects behavioral and cognitive traits. (Henke, 2007) In spite of all these similarities, there are still many differences between apes and human beings. Despite the claim that hominids evolved from the apes, offspring are rarely the same as their parents. There must be some differences. However small those differences may be, they still count and therefore variations between parents and offspring are inevitable. Darwin never explored this fact in his researches. The differences between the apes and hominids - their offspring - cut across brain developments, complexity and capacity, speech development, feeding perspectives and bipedal movement or posture. This paper therefore seeks to explore this divergence into details.

Bipedal locomotion

Bipedalism is the ability of some primates or organisms to walk on their two hind limbs. Many anthropologists argue that hominids started deviating from the apes when they became complete bipeds. However, it is undisputable that some apes attempted moving on two limbs. The only difference is that those apes never relied on this form of locomotion for long distances. In cases where they attempted it, their body weight was entirely supported by their hips and bent knees. This gave them a lot of discomfort and they found bipedal locomotion very tedious. They would resort to their quadruped locomotion where they moved on their four limbs. Hominids are the only living primates who have fully developed an upright posture. Other apes are still crawling on their four limbs or having a bent posture. Bipedalism

therefore is a very important and unique feature that can distinguish hominids from the apes. Despite the fact that the hominids derived their bipedalism from the African apes, they were not just like any other animals walking on two feet. This bipedalism was biologically and physiologically contrasting from the rare discretionary bipedal characteristics selectively portrayed by other primates such as the apes. Bipedalism developed in hominids as a result of unique environmental and historical dispositions. Hominids had and still have very unique mechanisms of maintaining the right posture. (Henke, 2007 p. 709).

Ankel-Simons (2010) emphasizes that bipedalism is a result of biological changes that took place in the hominid from the toes to the head. These changes modified the skeletal formation of this primate to support his upright gait. For instance, maintaining an upright posture of the skull requires a skull position that is relatively centered above the spinal cord. This predisposition creates a very strong link between the feet and the skeletal bones. This scenario brings a very clear distinction between bipeds and other primates such as chimps. In chimps, the opening at the base of the skull through which the spinal cord leaves the skull (foramen magnum) is positioned more towards the back. This is a direct contrast of what happens in hominids. Their foramen is largely deviating from this case by assuming a more forward position. In addition, this spinal cord makes an array of convex and concave curvature to maintain the upright posture. This positions the body's center of gravity above the legs or the hind limbs. A very unique collaboration between these curves and the neck, chest, lower back and the pelvic regions of the spine completes the skeletal system. This implies that

the bone formation of the hominids deviated from the apes and series of modifications had to take place to aid bipedalism. (Ankel-Simons, 2010) Bipedalism has given man the ability to engage his hands and arms in other tasks while moving on his two feet. Unlike other primates, man no longer depend on his four limbs to maintain the supports of his weight. His body has adapted to the upright posture and this adaptation has in turn boosted his stability on the two feet. In addition, this upright posture has saved man from the strong sun radiations that comes from the ground. He is no longer very close to the ground to receive that direct solar radiation from the ground. This implies that the apes including the great apes are still victims to this radiation.

Brain development and capacity

Hominids have a more developed brain than the apes. Human beings have always performed excellently in complex tasks such as communication skills, assembly and use of different tools, art and aesthetics than their counterparts. The evolution theory shows that the both ape's and hominid's brains underwent various modifications right from Dryopithecus to the modern man. Their intelligence advanced with their ages with the recent species being the most intelligent. In other words, hominids have a more refined brain than the apes. Their brain capacity also surpasses that of the apes by far.

A discussion of this deviation starts from the cerebral cortex and cerebellum development and capacity. These two parts of the brain form the nerve system of the brain and thus performs several intelligence and behavioral

tasks. These are the parts of the brain that deals with the function of thought and logic. The ability to reason out before making decisions is one of the uniqueness of the hominid's brain. Many apes are not gifted to this extent. They may think but lack reasoning. Recent research has shown that cerebellum not only the motor function but is also a major component in cognitive functioning of the brain. Besides, it has a very close connection with the cerebral cortex, which is the prevalent structure in the brain of the primate.

The brain size of the modern human beings is six times larger than those of other mammals. Hominids developed a very intelligent brain that improve his tool making skills. In this way, he seriously boosted his living standards and his lifestyle was much better than that of apes. Hominids (human) could think and evaluate matters and offer comprehensive analysis before taking action. This large brain capacity also triggered off curiosity and quest of exploring the environment more and more. Major anthropologists' research reveal that the intelligence of primates increased as they continued evolving. This doubtlessly gives the hominids an upper hand in brain capacity.

Language

Language is a system that is communicatory and representational in nature. In fact, most of the communication is representational. Representational language involves hand and body movement and gestures that have elaborate meaning. This is the kind of communication that dominates the ape community. They do not have a well developed speech. However, considering human beings as members of the hominid family, language then,

has gone extra miles beyond gestures and body movements. Human beings have developed a more refined speech with systematically arranged words. This skill greatly diverges from the apes' communication skills. The communication and collaborative skills of hominids were far much advanced. They had more coordination abilities than the apes. According to Rosati et al (2010), even the great apes like chimpanzees could not comfortably articulate harmonious and communicative skills to the extent of the hominids. (Hare and Tan, 2012)

Hominids did not use an apparent language but they communicated in such a way that they could coordinate and motivated each other towards doing a particular task. Rosati further states that hominids differ from apes in their social domain. This suggests that hominids evolution had modified the hominids social domain into more specialized social cognitive skills surpassing that of their closest relatives. These skills helped in living and exchanging knowledge in cultural groups. Darwin in his theory of evolution considered most of the characteristics of man to be more on discontinuous side than continuous side. Such illustration is brought about by the fact that human being is able to reflect what he has done in the past and the way of approving and disapproving.

Generally, it appears that the global functions are performed by animal in ways that are basically similar to human performance, that is, through construction and use of representations of various degrees of planning and removing of some points. However, close inspections of the available literature in relation to other aspects of general human cognition like partial behavior, co-ordination of movement in hand usage also help to saw some

light on the issue of resemblance and differences between human and nonhuman primates. The scientific study of languages (Linguistics) shows that human beings and apes similar especially the way in which they uses figures that are equivalent to spoken signs. Therefore, from present view one should be able to see that apes have individual representation of the signifier of gesture and its meaning and, that has made analysis of the representation easier just like in the case of human being.

Other deviations exhibited by the hominids include the structure of the upper canine and the 3rd lower premolar teeth and thick layer of enamel. For instance, australopithecus had a dentition with a reduced size of both upper and lower canines. These canines also had very short edges that matches with their incisors and occlusal surfaces of their premolars. Canines and incisors of modern hominids are in both upper and lower jaws with bicuspid premolars in bo jaws. Similarly, hominids refined their tools to suit their advanced needs. Actually, they had specialized stone tools to perform particular tasks. This casee is in escence different from the apes which relied on rudimentary tools to randomly perform tasks.

Conclusion

Hominids are the recent most evolved primate before the modern man. They trace their ancestry from the great apes. However, this closeness did not deter the hominids from differing from the apes. The environment in which hominids evolved favored their morphological and physical deviation from their ancestors. This environment allowed them to undergo an overhaul of change from the brain to the feet. Their intelligence increased, they walked

on their two hind legs on an upright posture and also changed their dietary. Many paleoanthropologists have conducted research day and night to ascertain such deviations. This has emphasized and actually confirmed that hominids are to a greater extent not the same as the ancestors.

References

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