

Australopithecines — the extinct southern apes of Africa: a fresh light on their status?

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The now-extinct ‘hominid’ subfamily Australopithecinae has long been a hot and contentious topic for both the creationist and evolutionist communities. These southern apes and the so-called ‘habilines’ are the only available candidates for human evolutionary ancestry. Many authorities consider them to be small-brained bipeds representing transitional stages between even more ape-like ancestors and man.

However, a sizeable body of scientists remain unconvinced that they deserve such an exalted status. This article examines recent new information regarding their locomotory capabilities. Not only is their pongid (ape-like) status strongly confirmed, but their value as genuine transitional forms also appears to be much diminished.

In this paper it is tentatively concluded that they were habitually arboreal creatures, but may not have employed a quadrupedal gait when on the ground. In some respects they resemble the Asian apes, but they also display some of the features found in the great apes of Africa. It is almost certain they had no connection with human origins.

In a 1996 paper, I cited a significant number of evolutionist authorities who, while not denying some degree of bipedal locomotion to ‘Lucy’ and other *afarensis* specimens, nevertheless insisted that they were more adapted to life in the trees.¹ Matters raised included the extremely ape-like skull with small brain capacity, the pongid shoulder, the short legs and long arms, the prehensile (grasping) phalanges, the ape-type bony labyrinths (housing the organ of balance in the skull), and the backward-tilting talus.

The only non-pongid traits seemingly still subject to dispute include an arguably small difference in the denti-

tion, the structure of the pelvis, and the status of the knee. But the overall evidence strongly supports the picture of australopithecines as saying — ‘ape’. In this article I focus mainly on those post-cranial features which could still be considered as ambiguous, rather than features accepted by both evolutionists and creationists as being pongid in character.

The subfamily consists of four main species

1. *A. afarensis* (gracile types, including ‘Lucy’, and the so-called ‘first family’), 3.9–3.1 Ma.
2. *A. africanus* (the Taung ‘Child’ and certain other gracile forms), 3–2 Ma.
3. *Paranthropus* (formerly *Australopithecus*) *robustus* (a coarse form), 2–1 Ma.
4. *P. boisei* (a hyper-robust form), 2.5 Ma.

NB — A few authorities class all australopithecines in a single species, but the above classification is generally accepted.

New developments

Many leading anthropologists and anatomists reject claims that ‘Lucy’/*afarensis* and other australopithecines habitually locomoted fully erect in the modern human manner. Paleoanthropologists Alan Walker and Pat Shipman have co-authored a book which seriously questions such assertions,² while not rejecting some degree of evolutionary relationship with human beings. We now examine those few parts of the anatomy which bear on the matter of bipedality.

(1) *The rib-cage, trunk and pelvis*

Well-known authorities Richard Leakey and Roger Lewin have recently raised serious doubts about the nature of the australopithecine thorax.³ When first reconstructed, the ‘Lucy’ rib cage was given a human-like appearance, but Leakey and Lewin report that anatomist Schmid of Zurich had told them something quite different.

‘The chest was the problem,’ (said Schmid). ‘I noticed that the ribs were more round in cross-section. More like what we see in apes ... But the shape of the rib cage itself was the biggest surprise of all. The human rib cage is barrel-shaped, and I just couldn’t get Lucy’s ribs to fit this kind of shape. But I could get them to make a conical-shaped rib cage, like what you see in apes’ (emphasis added) (Figures 1, 2).

Schmid also discovered that the whole trunk, the lumbar region, the waist, and the shoulders were **not** what we should see in fully erect, habitually-bipedal creatures. The abdomen was pot-bellied and there was no real waist (Figure 3). Dr Schmid informed Leakey that the shoulders were high and, combined with the funnel-shaped chest, would have made arm swinging, in the human sense, improbable. The *afarensis* specimens would not have been

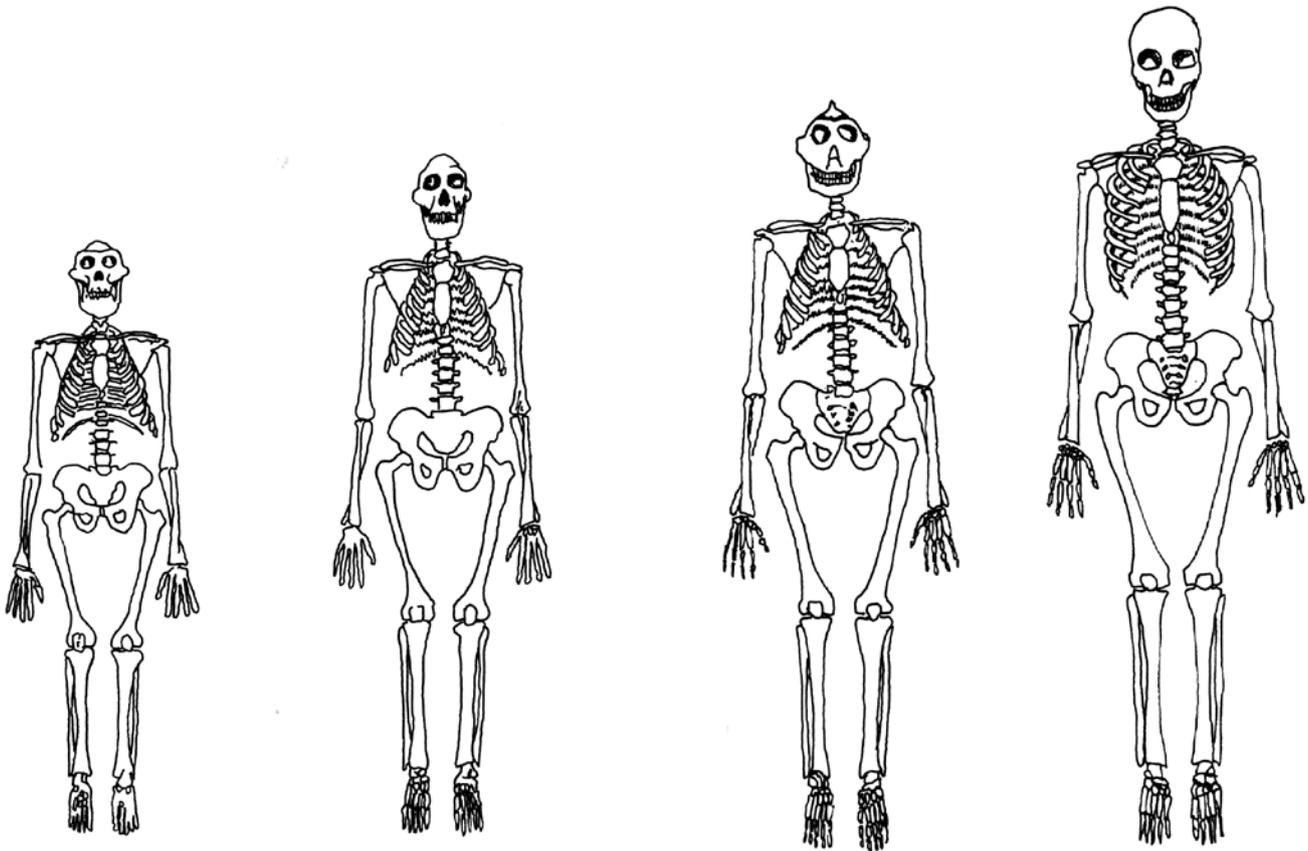


Figure 1. That Johanson, as early as 1991, was aware of the discrepancy between the actual bodily structure of australopithecines and his claims of human-style bipedal locomotion, is evident from these sketches of three putative hominids plus a human being. ‘Lucy’/afarensis (left), along with *A. africanus* and *A. robustus*, are clearly shown with the ape type funnel-shaped thorax which contrasts with the human rib cage at right. The sketches are incorrect in showing narrow hips for the australopithecine apes. The correct pelvic structure can be seen in Figures 2, 3, 4, and 5. Also note the shorter arms of the human (from Johanson and Edey).²³

able to lift the thorax for the kind of deep breathing that humans do when they run. The morphology of the trunk would have severely restricted the flexibility that is essential to human-type locomotion.

Schmid’s conclusions are confirmed by Walker and Shipman.⁴ They produced a diagram which compares the skeletons of a human *erectus* specimen (KNM-WT 15,000) and ‘Lucy’/afarensis, which clearly shows the thick-waisted, pot-bellied anatomy of the latter as contrasted with the narrow human waist of *Homo erectus*. The afarensis features are exactly what we see in the two African apes and the orang-utan of Asia. There is a marked contrast between the wide-flaring hipbones of the australopithecines and the narrower hip formation of humans (Figures 2, 4).

Walker and Shipman also state that the rib cage of *Homo erectus* is ‘... indistinguishable from that of a modern human in almost every respect. It (is) entirely **unlike** the rib cage

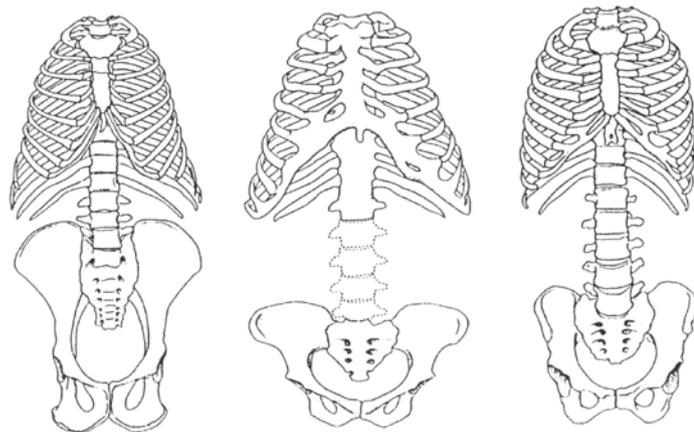


Figure 2. Pelvis and trunk of chimpanzee (left), ‘Lucy’/afarensis (centre) and human (right). The shape of the rib cages is correct, with ‘Lucy’ being closer to the ape. The human thorax is different. Again we see the wide flare of ‘Lucy’s’ blades compared to the narrower ilia of man and chimp. The australopithecines, including afarensis, appear to be extinct apes having no connection with humans. According to Howells, the afarensis gait is not properly understood and was **not** something simply transitional to ours. Although Howells says the Afar pelvis is ‘quite different’ from that of chimps or humans, he claims it is adapted for erectness, but it was not in the human manner (from Howells).²⁴

of a chimpanzee or gorilla, or *Lucy/afarensis*. Like us, his thorax was barrel-shaped; like us, he must have had a well-defined waist between his narrow hips and his lowest set of ribs' (emphasis added). They went on to say that the fossils show that 'Lucy's' hips flared widely at the top, making for an exceptionally broad birth canal, and that her reconstructed rib cage was like that of anthropoid apes (see Figure 2).

(2) The australopithecine knee

According to British anthropologist Cherfas, no modern (i.e. human) trait, to any pronounced degree, exists in the knee-joint found at Afar. He agrees that the overall knee structure is compatible with a significant degree of arboreal (brachiating) locomotion.⁵ He states that the *afarensis* knee 'looks' modern, but that it is not the same as that of today's humans. Its knee did not bend as far as ours did, indicating that the stride was short; a condition also found in chimpanzees. (The automatic locking mechanism was not 'developed' (i.e. not human)).

In humans the knee locks easily when striding out, and this is why human beings locomote bipedally so efficiently,

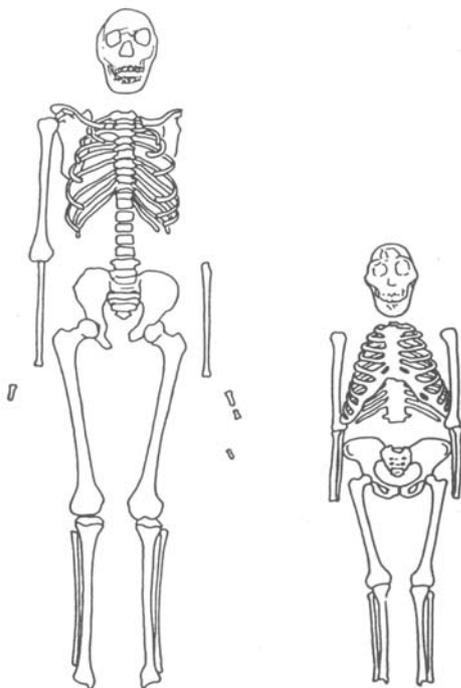


Figure 3. The Walker/Shipman portrayal of the 'Lucy'/afarensis skeletal structure (right) compared with the *Homo erectus* specimen WT 15,000. Walker and Shipman point to the funnel-shaped rib cage of 'Lucy' as evidence that she was thick-waisted and pot-bellied like chimps and orang-utans. The erectus specimen at left was long in the torso and narrower in the hips, thus implying he had a well-defined waist. These features indicate that the *afarensis* form would have been ungainly when locomoting on two legs. The drawing fails to show 'Lucy's' hands dangling almost to the knees (from Walker and Shipman).²⁵

as pointed out in a timely article by Stuart Burgess, who demonstrated the uniqueness of the human knee structure.⁶ Burgess points to the irreducible mechanism of the human knee which possesses no less than sixteen critical characters which are simultaneously present and required, allowing us to stride out freely. The knees of apes cannot lock and must be continually loaded in flexion. The human knee locks easily in extension thus maintaining a fully vertical posture.

According to Cherfas,⁵ measurements of several parameters on the *Afar* knees reveal that the small specimens of *afarensis*, including 'Lucy', fall at the ape end of the human range, while the larger specimens fall outside the human range — a puzzle which suits neither creationists nor evolutionists.

Here is a simple test for the reader — take a few forward steps with the knees not locked — the only way to do this is to bend at the knee like an ape, thus putting a heavy stress on the calf muscles, the ankles and the feet. It is therefore no wonder that apes do not locomote for lengthy periods on two legs.

A further difficulty exists — when considering the fossil knee-joint, the issue is heavily clouded by the fact that the pelvis and skull bones were found in two **different** strata several metres **above** a layer of basalt that evolutionists radio-date at 3.75 Ma. The knee-joint and jaws were embedded in a stratum several metres **below** that same basalt deposit. Johanson and Edey did not attempt to explain this grave discrepancy, stating that 'Lucy' was 'dated' at close to 3.5 Ma, while the jaws and knee-joint 'date' from about 4.0 Ma.⁷

But such a time difference simply cannot be ignored, even though it is in an evolutionary context. To believe that the knee-joint belonged with the pelvis of a creature which lived 500,000 years **later** is an exercise in mental gymnastics which is hard to comprehend. Johanson and Edey acknowledged this discrepancy, but made no serious attempt to justify placing all the bits and pieces in a single species.⁸ There has been much continuing debate about whether two or more species were involved at Afar, and the matter still remains unresolved.

This stratigraphical inconsistency surely means that it is not legitimate to link the pelvis, the jaws, the knee-joint and the rest of the bones in any way because of the time factor. It is useless for evolutionists to complain that creationist authors argue that Johanson linked the knee-joint directly to the 'Lucy' fossil skeleton. Strictly speaking, he did not, but in the literature we are constantly confronted with diagrams and photos of 'Lucy', complete with the knee-joint, thus giving the erroneous impression that it **was** part of 'Lucy's' bones (see Figures 1, 4).⁹ The knee-joint is officially allocated not to 'Lucy', but to the *afarensis* hypodigm.

(3) The pelvic structure

Although Johanson and Edey claimed that the *afarensis*

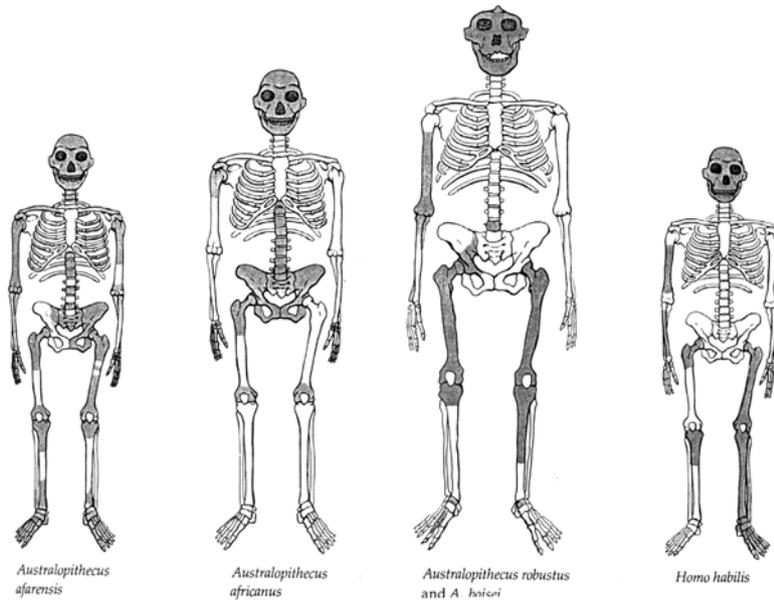


Figure 4. Campbell's depiction of four 'hominid' skeletons — 'Lucy'/afarensis (left), A. africanus, A. robustus and H. 'habilis' (far right). The drawings confirm Walker and Shipman's belief that fully-upright locomotion would be ungainly in all cases. Note how **all** four specimens have the same wide flaring in the hips. However, the rib cages are drawn incorrectly. Compare with Figure 1 where the pelvis are not drawn correctly, but the rib cages are! Also, the 'habilines' specimen (OH 62), supposedly a close ancestor of H. erectus, is no larger than 'Lucy'. Evolution has gone backwards! (from Campbell).²⁶

specimens were capable of fully erect human locomotion, they must have been aware of the peculiarities of the pelvis. In their 1981 book, a picture of the pelvis (Figure 5) is reproduced which clearly contradicts their claim that it is almost the same as a modern human's.¹⁰ Yet on pages 186 and 197 of the same book, Johanson and Edey have changed the hip structure and portray *A. afarensis* as having narrow iliac blades, along with *A. africanus* and *A. robustus* (see Figure 1). The ape-shaped rib cages of 'Lucy', *A. africanus*, and *A. robustus*, are accurately portrayed, but the pelvises are not. It is ironic that anthropologist Campbell has depicted the same australopithecine pelvises correctly, but **not** the pongid rib cages! (see Figure 4).¹¹

There are a couple of similarities between the australopithecines and chimps, depending on the angle of view. For example, the pelvic blades are more like those of chimpanzees in that they are relatively flat and are aligned more sagittally than in humans. However, the wide out-flaring of the ilia in the *afarensis* specimens is very different from that usually found in humans and distinct from the modern chimpanzee condition.

The recent discovery of a 200,000 year-old Neanderthal pelvis in Spain with similar wide-flaring ilia may be considered something of a freak.¹² This pelvis bears an odd resemblance to that of *afarensis*. It must be remembered however, that the alleged 'earliest' human (KNM-WT 15,000) 'dated' at 1.6 Ma, possessed a fully human skeleton, including the pelvic structure. It is highly unlikely that, even under evolutionary assumptions, evolution re-

versed itself during the subsequent 1.4 million years to the emergence of Neanderthals. On the other hand, this 'flaring' in both specimens may be due to distortion of the ilium due to extreme physical exertion during maturation and/or to dietary deficiencies, and would be even more likely had maturation been slower in the past. This is in accord with the attractive theory proposed by Beasley in 1990.¹³

In any event, there is no doubt that, unlike chimps, the Afar ilium does flare out posteriorly even though the preserved pelvis had been subjected to distortion prior to reconstruction. Another difference between the Afar and the chimp pelvis is the total length of the structure (Figure 2). This creates a reduced space between the top of the longer and narrower chimp pelvis and the thorax than is the case in the *afarensis* specimen. This 'cramping' of the rib cage in chimps is one reason why they cannot stand or run upright, preferring to move around mainly on four legs. Nevertheless, the Afar condition is still closer to the chimp state than to the human.

In the case of 'Lucy'/afarensis, the wider hips would

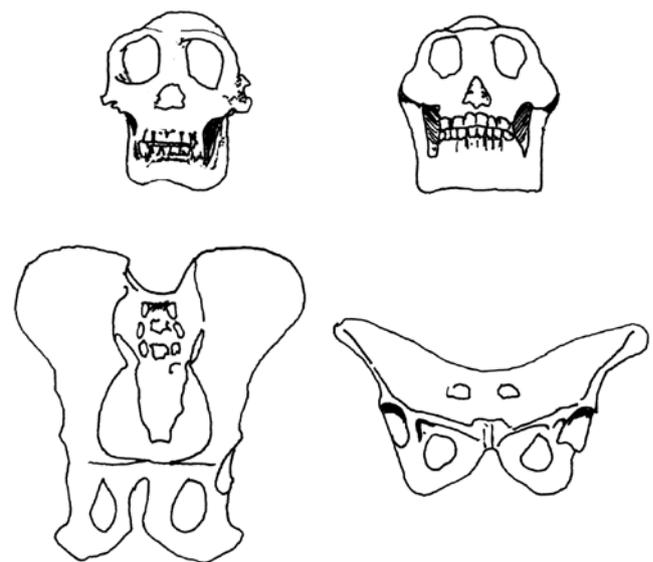


Figure 5. The pelvis of the chimpanzee (left) and 'Lucy'/afarensis. Note the extremely wide flare of the afarensis hips. This flaring is different from humans and from chimps, and supports Walker and Shipman's contention that afarensis was pot-bellied and had no waist (from Johanson and Edey; see text for discussion).²⁷

have made it hard to maintain balance when erect, while the slim-hipped *erectus* (WT 15,000) was capable of fully erect locomotion with much less effort. According to Walker and Shipman, the result is that the *erectus* (human) specimen was a very efficient walker and runner, which leaves ‘Lucy’ and her kind out in the cold. They also acknowledged that with such a trunk and hip structure, and a pot-bellied abdomen, *afarensis* specimens could only have locomoted bipedally with some difficulty and clumsiness.

The ‘trick’ of bipedalism is to balance the body weight over the hip joint of the supporting leg; otherwise we lose our balance. This is achieved by the contraction of the abductor muscle, the gluteus medius, which stops us from toppling over when we lift one foot from the ground. If you place your palms just below the bony protrusion usually referred to as the ‘hip-bone’, you can feel this muscle contracting and relaxing each time you take a step.

Has the evidence been misrepresented?

Most of the drawings, photographs and sketches of ‘Lucy’/*afarensis* which have been published over the years appear to be unintentionally misleading. The original *afarensis* skeleton (‘Lucy’ in this case) was reconstructed and assembled from hundreds of fragments that were laid out on a flat table and photographed from above. This distorted the creature’s true structure. If we could re-assemble ‘Lucy’ and her kind in three dimensions we would see those traits which point to a pongid character, such as the long arms dangling to the knees, the pot-bellied waist, and ape-type rib cage. These things are not obvious when the bones are viewed in two dimensions when laid out horizontally. I am sure that when the artist attempted to bring the dry bones to life, he was portraying what he genuinely thought must have been the correct appearance of ‘Lucy’ and her kin in real life (Figures 6, 7). Unfortunately, the drawings are not compatible with the actual skeletal structures.

The chimp pelvic structure is long and narrow, which is more suitable for a quadrupedal gait as well as arboreal (brachiating) movement. The pelvises of australopithicines are shallower, shorter, and broader, like a basin, and appear to be less suitable for quadrupedal locomotion. Neither is there any sign of the chimp-type knuckle-walking capability on the bones of the hands and feet. (It should be noted here that the pygmy chimp *Pan paniscus* spends a good deal more of its daylight time moving bipedally on the ground than does the common chimp. Both species spend most hours of darkness in the trees).

The relationship (if any) between *afarensis* and the two modern chimp species is hard to determine with absolute certainty because we are dealing with extinct creatures about whose life-style we really know very little. British authorities Chérfas and Gribbin, did once suggest that the modern African great apes may be the modified descendants of the southern apes.^{14,15} Their hypothesis was based largely on the fact that the latter have left no obvious descendants, while there is a lack of fossil ancestors for modern chimps



Figure 6. Artist’s portrayal of how ‘Lucy’/*afarensis* may have looked in real life. The face is probably correct and was extremely pongid in appearance. The drawing fails to convey the pongid form of the chest and the shoulder. This is a creature you would not wish to have as a next-door neighbour (from Johanson and Edey)!²⁸

and gorillas. Since nobody alive today has ever seen an australopithicine in action, and dry bones do not talk, we have to work by educated guesswork and inference, but the case for overall pongid status is hardly deniable.

Still another view exists — Oxnard performed several multivariate analyses which suggested that none of the now-extinct southern apes including ‘Lucy’/*afarensis*, is related to any other known pongid. He concluded their terrestrial locomotory patterns were distinct from those of both humans and modern apes.¹⁶ Oxnard believes them to have been a unique group of their own, and not likely to be related to other pongid species or to humans.

(4) The dentition

An identifying feature of apes is found in the diastema or gap between the canine and second incisor in the upper jaw. (In the mandible the gap lies between the first premolar and the canine.) ‘Lucy’/*afarensis* displays the diastema quite clearly, but in some of the *A. africanus* specimens the gap is not so obvious.

At first glance it appears that *afarensis* possessed smaller

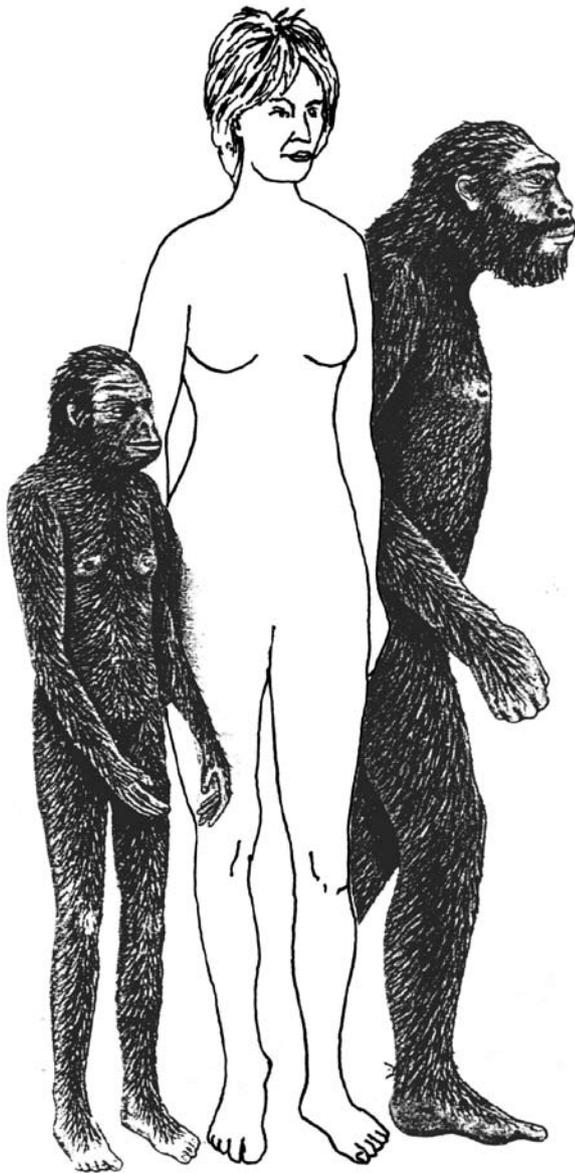


Figure 7. This drawing by Parker shows how ‘Lucy’, a modern human female, and a large afarensis specimen, allegedly looked in real life. ‘Lucy’ is very diminutive, being only a little over three feet tall while the larger (presumably male) specimen of afarensis was almost five feet in height. There is little doubt that there was more than one species present in the Afar collection, but nobody knows for certain. It remains a puzzle. The australopithecine prehensile fingers and toes are not represented (from Parker).²⁹

canines and incisors than today’s great apes, but closer inspection reveals that the canines are not so different from pygmy chimps in size. However, the molars and premolars are extremely large, suggesting a diet which involved much grinding. Of more interest is the comparison of the **shape** of the canines. Figure 9 shows a comparison of the canines of the chimp, ‘Lucy’/afarensis and humans. The human canine is spatulate in shape and differs from that of ‘Lucy’ which is more like the ape example. In some ways it could be considered as being in-between human and ape, but the dental morphology of afarensis is closer to that of

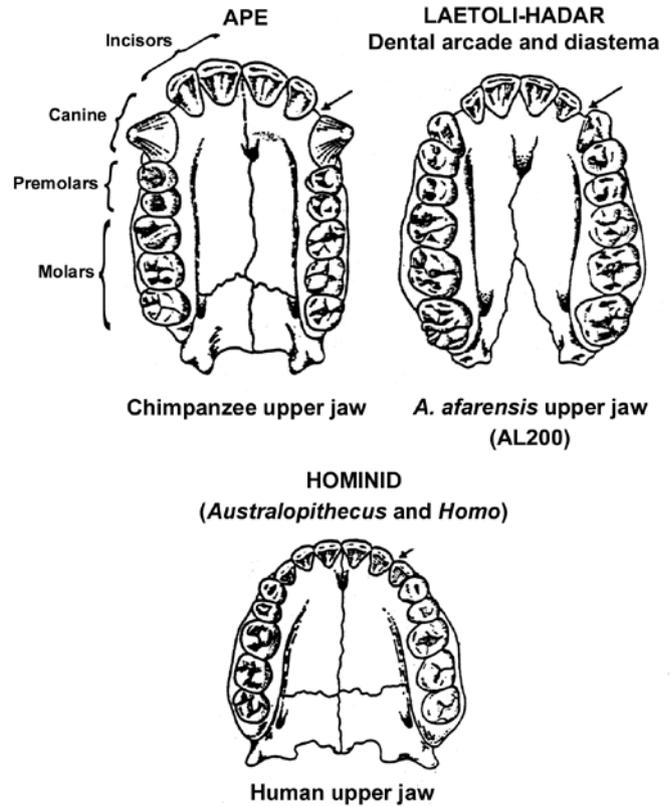


Figure 8. The upper jaw and tooth morphology of an ape (upper left), afarensis (upper right) and human (below). The diastema (arrow), although small, is still evident in the afarensis palate. Note also that the dental arcade of afarensis is closer to that of the ape, with huge cheek teeth (from Leakey and Lewin).³⁰

the pygmy chimp (Figures 8, 9).

Anthropologist John Waechter acknowledges that the ape-like features of *A. robustus* (dental patterns, heavy brow ridges and large faces) are due mainly to diet, and that the same traits in Neandertals are due to feeding habits, and are not part of an evolutionary process.¹⁷ This probably also applies to *Homo erectus* and most archaic sapiens. (The teeth and jaws largely determine the shape of the skull and face of both apes and humans).

When we consider the large number of pongid characters in the remains of ‘Lucy’/afarensis and other australopithecines, the creationist contention that these are not human ancestors seems well supported. The basic facts can thus be summarized:

1. Clear-cut fossil ancestors for modern chimps and gorillas are non-existent; the most likely candidates being vaguely rooted somewhere among the Miocene Dryopithecinae.
2. Both groups, the australopithecines and modern African pongids, appear abruptly in the fossil record, as does *Homo erectus*.
3. The quadrupedal-type pelvises of modern gorillas and chimpanzees appear to be different enough in structure from the australopithecines to at least keep an open mind, for the time being, as to any genetic relationship



Figure 9. The shape of the canine in a chimpanzee (left), ‘Lucy’/afarensis (centre) and human (right). This is one of the very few features of ‘Lucy’ which may be argued by some as being intermediate. Yet, as the authors say, ‘Lucy’s’ canines are still ape-like in being conical and not spatulate as in man. The human canine is quite different (from Johanson and Edey).³¹

(Figures 2, 5).

4. The only other apes which locomote upright, but which do so only rarely and still with a degree of ungainliness on the ground, are the gibbon and siamang of southeast Asia. As far as can be determined, they never move on all fours when they descend from the trees. Gibbons and siamangs have the most slender bodily structure of all apes, and they are not built for quadrupedal locomotion. There are similarities between the pelvises of the gibbons and those of the australopithecines. Ancestors for erect-locomoting Asian apes are probably to be found in the Miocene fossil forms *Ramapithecus* and *Sivapithecus* for the orang, and *Pliopithecus/Propliopithecus* for the gibbons and siamangs. The orang shares so many similarities with its fossil ancestors, that it could almost be regarded as a living fossil.
5. The ape-type bony labyrinth structure of the inner ear (housing the organ of balance) found in the fossil skulls of the australopithecines and so-called ‘habilines’, indicates their primary locomotion was brachiating in the trees like all apes. Walker and Shipman explain this function fully in their 1996 work.¹⁸
6. Even the earliest-known (in evolutionary chronological terms) *Homo erectus* specimens from the lower Pleistocene series undoubtedly moved on the ground in exactly the same way as do modern humans.

General comments

The orang-utan and gibbon are very agile arborealists (brachiators), whereas gorillas and chimps, although at home in the trees, spend most of their daylight time on the ground (except for juvenile gorillas which, because of their lighter weight, are very agile in the trees).

The skeletons of gibbons however, are so constructed as to allow not only free movement in the trees, but also a significant degree of almost fully-erect terrestrial locomotion. Gibbons never move on all fours. Orangs do so on rare occasions, walking on balled fists and clenched feet, but they can, and sometimes do, walk upright with a more comfortable gait than do chimpanzees.

Gibbons probably come closest to human locomotion in that they can walk on the ground almost fully upright,

but with their arms outstretched to the sides parallel to the ground to maintain their balance. But they still remain habitual brachiators. Despite this, no living or extinct pongid can ‘push off’ from the toe and ball of the foot when taking a step. Humans however, can go further — no pongid, living or extinct, could match the ‘goose step’ performed by certain European soldiers on parade — such a feat would be totally beyond them.

Note also that the teeth of gibbons are specialized for fruit eating and are distinct from the teeth of other apes.¹⁹ This diet probably contributes to their more rounded skulls and negligible supraorbital tori.

The so-called ‘habilines’

The classic evolutionary position is that the australopithecines evolved into *Homo habilis* about two million years ago, which in turn transformed into *Homo erectus* in only 100,000 years! Creationists have never believed this to be the case, and strong arguments exist for rejecting it. Throughout their book, Walker and Shipman consistently reject the validity of the taxon *Homo habilis*. They say the identification of ‘*habilis*’ was based mainly on the fact that they were of the ‘right’ age — about 2 Ma.²⁰ They write, ‘... any non-erectus, non-boisei hominid from this time period simply had to be *habilis*, because that was the only other hominid known to exist ...’.

On the same page Walker states his aversion to the taxon — ‘I don’t like *habilis* as a species; something is all wrong with it and always has been ... (this) leaves *Homo erectus* without a clear ancestor, without a past. *Erectus* may be the now-found missing link, but the link to which it was connected is now a missing one as well’.

The actual evidence seems compelling — the so-called habilines appear to be nothing more than large-brained *A. africanus* specimens. (A creationist case was more fully argued in 1996.)²¹ The discovery of Olduvai Hominid 62, with its diminutive size and pongid features,²² was virtually a final blow to the taxon (Figure 10).

Conclusion

Based on the latest available evidence, I feel the australopithecines are not quite like any other ape, nor are they pre-human ancestors. Their structure is similar to chimpanzees in some respects — the skull, the rib-cage, the shoulder, and the absence of a human-type waist.

In some of their cranial and dental features they appear to be somewhat similar to orangs, although they do share certain facial characteristics with chimps. In life-style, ‘Lucy’ and all other australopithecines were undoubtedly very much at home in the trees, probably feeding on various fruits, berries, rough vegetation, juicy shoots and other plant material. They probably descended to the ground only for short periods for water and other food types. Their large grinding molars (Figure 8) were probably used for seeds,

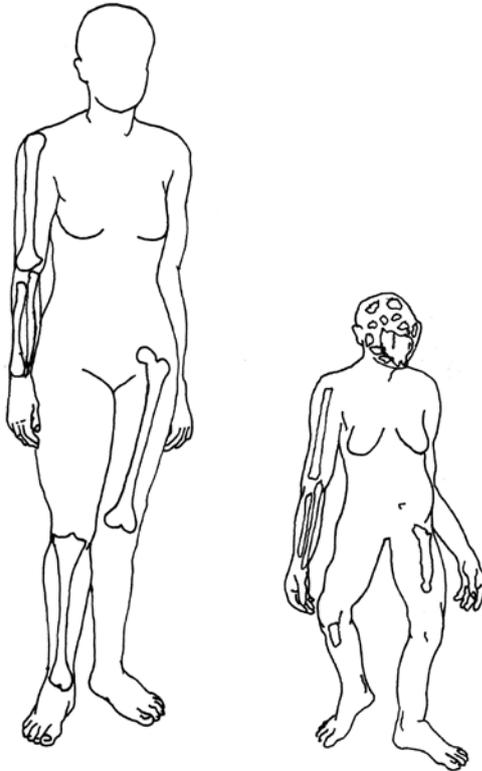


Figure 10. A comparison of the long bones of a modern female human and the so-called Homo ‘habilis’ adult specimen OH 62, which is also believed to be female. Note the diminutive figure of the ‘habiline’ (right) which would have stood only 1.2 m (three feet three inches) tall. Even the discoverers were disappointed at its primitive appearance, which, according to evolutionary theory, should have been very advanced towards humanness by 2 Ma. Since erectus humans are known from 1.9 Ma, this leaves only approximately 100 ka for the final ascent to full humanity. Johanson and Edey say that its long arms which dangled to the knee, its tiny brain and its small stature were much more primitive than previously thought. (Similarly disappointing is the latest research which shows that another ‘habiline’, KNM-ER 1470, was as equally ape-like as the earliest afarensis in cranial and facial morphology). The ‘habiline’ body proportions are those of a primitive australopithecine ape. Tim White called it the ‘ape-lady’ (from Johanson and Shreeve).³³

nuts, and tough roots.

While on the ground, it seems more likely that they would have locomoted on two legs instead of quadrupedally, and a little less awkward than chimpanzees. The pelvic structure seems to indicate they were not designed for quadrupedal locomotion, but they were still pongid in overall character.

The locomotory patterns of the greater and lesser apes seem to have been as follows (see also Figure 11):

Note — gibbons and siamangs are the only apes which employ the plantigrade mode of bipedal locomotion (like humans) — but as far as I am aware, no anthropologists have ever claimed human descent from them.

It is again emphasized that no ape, Asian or African, walks or runs bipedally in the free human style. Not even the gibbon which can **stand** fully erect, can locomote in the

human manner — it must extend its arms fully to the sides like a tightrope-walker when moving. To have ‘perfect’, fully erect and striding locomotory capability, a creature must possess the ‘right’ phalanges, tali, knees and pelvic structure, plus a barrel-shaped thorax and human-type trunk and waist. Only humans meet all these requirements, and

Species	Locomotory Patterns	
	Primary	Secondary
Gorilla	Quadrupedal	Arboreal/brachiating, occasionally bipedal
Chimpanzee	Quadrupedal	Arboreal/ brachiating, sometimes bipedal
Orang-utan	Arboreal/brachiating	Quadrupedal, and occasionally bipedal
Gibbon/Siamang	Arboreal/brachiating	Bipedal
Australopithecine	Arboreal/brachiating	Bipedal

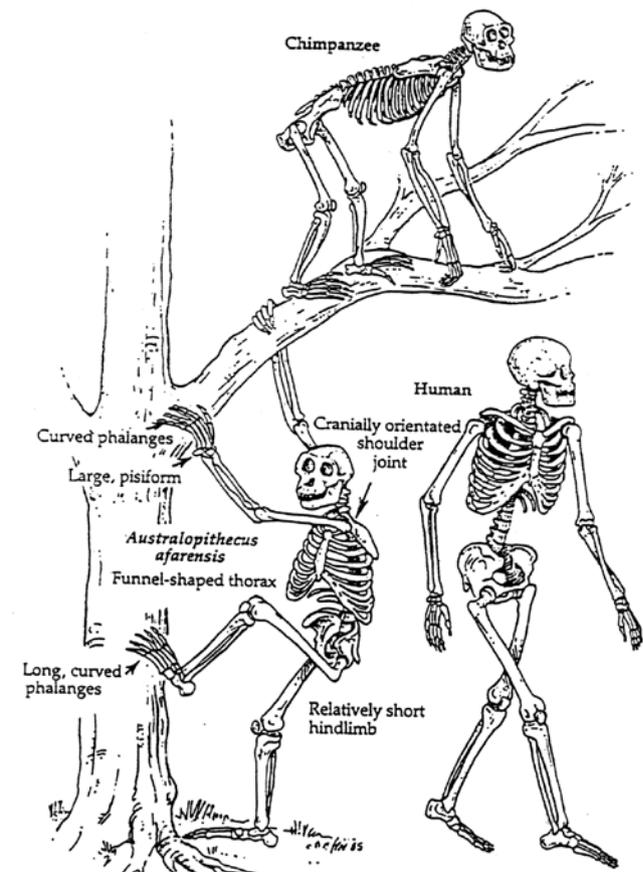


Figure 11. This sketch shows more clearly the different locomotory modes of chimpanzee (top), afarensis (bottom left) and human. Note the differences in limb proportions, thorax, the orientation of the shoulder socket, and the phalanges. Australopithecines and chimpanzees were designed mainly for climbing while humans are adept at full-stride erect locomotion. Leakey concedes that australopithecines ‘almost certainly’ were **not** adapted to the striding gait or running in the manner of human beings (from Leakey).³²

every ape, living or extinct, including the australopithecines, fails in at least some of these conditions.

To imagine that the main bodily structure of any creature could be gradually converted to that of a basically different animal by means of a sequence of random mutations and natural selection belongs to the world of story-telling. It has never been demonstrated, and a much more reasonable conclusion is that each type was created for the life-style it was meant to live.

Since the australopithecines were characteristically pongid and did not exhibit any clearly recognizable (shared) 'human' traits, they can no longer be regarded as *prima facie* evidence for an evolutionary origin of humankind.

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