Disclosure

of things evolutionists don't want you to know

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Lucy's Foot

A newly discovered bone brings *Australopithecus afarensis* back into the news.

A new chapter is being added to a story that's 25 years old. We've written several articles about this story in the past. In case you haven't read them, here's a brief summary.

The Story Up to Now

Twenty-five years ago, Mary Leaky discovered some footprints which are, by all accounts, indistinguishable from modern human footprints. If they had been found in fresh cement, there would have been no question that they were made by bare-footed people. But they weren't found in fresh cement. They were found in rocks that evolutionists believe are 3.5 million years old. Any evolutionist will tell you that modern humans had not evolved 3.5 million years ago. Who could have made these footprints?

One obvious possibility is that the rocks containing the footprints aren't really 3.5 million years old. Evolutionists won't even consider this possibility—but we will in the sidebar following this article.

According to the evolutionists' timeline, the only primate in existence at the time was *Australopithecus afarensis*. The species name means "southern ape from the Afar region of Africa." The best known skeleton of this species is nicknamed Lucy because the Beatles' song, *Lucy in the Sky with Diamonds*, was playing on the radio when she was discovered. Therefore, it is believed by some evolutionists that the footprints were made by one of Lucy's species.

This leads some people to the conclusion that upright posture had evolved in *A. afarensis*. But analysis of her pelvis suggested that she could not have walked upright. So evolutionists have argued among themselves about this for years.

Of course, the obvious thing to do would be to examine Lucy's foot bones to see if she could have made the footprints. That was never done because Lucy's skeleton, although remarkably complete, didn't include any foot bones. They were never discovered. (Or, perhaps they were discovered, but they looked so much like ape foot bones that they weren't associated with Lucy's skeleton.)

A New Chapter

A new fossil has just added another chapter to Lucy's story.

> One of the earliest human ancestors had human-like foot arches that would have allowed it to walk effectively on two legs. The finding may help to resolve the debate about whether this species, *Australopithecus afarensis*, was completely adapted to terrestrial bipedalism or retained the ape-like ability to climb in the trees.
>
> Carol Ward at the University of Missouri in Columbia and her team analysed a fossilized bone about 3.2 million years old from Ethiopia. The fossil, the fourth metatarsal, is one of the bones that makes up the mid-foot. In flat-footed, tree-climbing chimpanzees, the bone lies flat against the ground, whereas in humans it is twisted and angled — an indicator of stiff, arched feet well adapted for walking with a human-like stride. The *A. afarensis* bone was twisted and angled similarly to its modern human equivalent. [1]
>
> The transition to full-time terrestrial bipedality is a hallmark of human evolution. A key correlate of human bipedalism is the development of longitudinal and transverse

[1] *Nature*, 17 February 2011, "Paleontology: Bones made for walking", page 309, http://www.nature.com/nature/journal/v470/n7334/full/470309b.html

arches of the foot that provide a rigid propulsive lever and critical shock absorption during striding bipedal gait. Evidence for arches in the earliest well-known *Australopithecus* species, *A. afarensis*, has long been debated. A complete fourth metatarsal of *A. afarensis* was recently discovered at Hadar, Ethiopia. It exhibits torsion of the head relative to the base, a direct correlate of a transverse arch in humans. The orientation of the proximal and distal ends of the bone reflects a longitudinal arch. Further, the deep, flat base and tarsal facets imply that its midfoot had no ape-like midtarsal break. These features show that the *A. afarensis* foot was functionally like that of modern humans and support the hypothesis that this species was a committed terrestrial biped. [2]

"Full-time terrestrial bipedality" means, "normally walking on two feet on the land, rather than swinging from trees." This method of locomotion is said to be, "a hallmark of human evolution". This gives us some insight into the mind of a typical evolutionist.

How Evolutionists Think

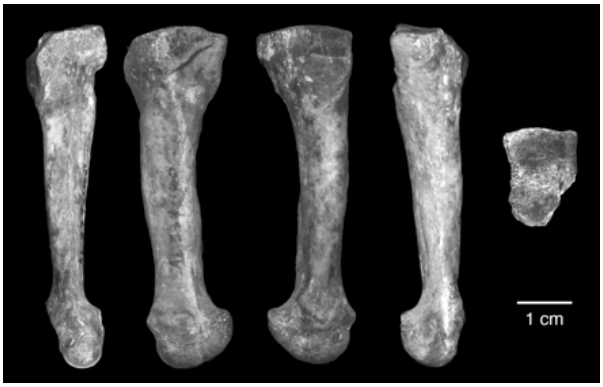
Suppose you ask a biologist about the difference between a tiger and a leopard, or the difference between a horse and a mule. The biologist will consider the differences and similarities and come up with some criteria for distinguishing one from the other.

If you ask an evolutionist what the difference is between a human and an ape, he does the same thing. Apes have smaller brains, more hair, and can't easily walk upright. Therefore, humanity is defined (at least in part) by the way the creature walks. If it walked upright, it was at least partly human. That's why it is vitally important to evolutionists to determine if *A. afarensis* walked upright. That's why it "has long been debated."

Carol Ward found a bone named "AL 333-160" ten years ago that she says proves *A. afarensis* walked upright. After a decade of studying this one bone, the results were published last month.

> Here we describe AL 333-160, a complete, nearly perfectly preserved fourth metatarsal of *A. afarensis* from Hadar, Ethiopia (Fig. 1). This specimen was recovered from the Hadar locality AL 333 in 2000 during sieving of eroded Denen Dora 2 submember surface deposits of the Hadar Formation. Since 1975, these deposits at the 333 locality have yielded more than 250 hominin fossils that eroded from an *in situ* horizon dated to ~3.2 million years ago. We assign AL 333-160 to *A. afarensis*, the only hominin species in an assemblage of >370 hominin specimens so far recovered from the Hadar Formation. Other partial metatarsals attributed to *A. afarensis* are known from Hadar, but none is complete enough to address the question of pedal arches. [3]

Her "Fig. 1" is this picture of that one bone, viewed from five different angles.



Two questions immediately come to mind. The first is, "How does she know it is the fourth (not third) metatarsal?" The second is, "How does she know it came from *A. afarensis*?"

Why Fourth?

Remember, Lucy's skeleton did not include any foot bones. We showed you her skeleton in the February, 2000, newsletter. [4] We also showed you the one partial foot bone found with the skeleton nicknamed, "Little Lucy." [5] They have discovered "other partial metatarsals attributed to *A. afarensis.*" In other words, they have found pieces of foot bones that they think MIGHT belong to *A. afarensis*. They don't really have any other foot bones to compare it to.

They did not find this bone next to a first, second, and third metatarsal. So, how do they know it is a fourth metatarsal? How do they know what a fourth metatarsal really looks like?

These are not rhetorical questions. They are real questions, with one real answer. The answer is, "prejudice."

Circular Reasoning

Let's not lose sight of the historical reason why evolutionists care about this foot bone. It came

[2] Ward, Kimbel, and Donald C. Johanson, *Science*, 11 Feb 2011, "Complete Fourth Metatarsal and Arches in the Foot of *Australopithecus afarensis*", pp. 750-753, http://www.sciencemag.org/content/331/6018/750.full

[3] *ibid.*

[4] *Disclosure*, February 2000, "Let's Talk About Lucy", http://www.scienceagainstevolution.org/v4i5f.htm

[5] *Disclosure*, October 2006, "Little Lucy", http://www.scienceagainstevolution.org/v11i1f.htm

from the same geologic layer as the layer containing some human footprints. Evolutionists believe modern humans could not have made the footprints because modern humans hadn't evolved yet. The footprints had to have been made by Lucy's species because that's the only hominid that had evolved at that time. Therefore, Lucy's foot had to look just like a modern human foot.

This bone looks just like a modern human fourth metatarsal—but they believe it could not be a modern human metatarsal because "modern humans hadn't evolved yet."

How do evolutionists know modern humans had not evolved yet? Because no modern human bones have ever been found in this layer of rock. If a modern human bone was found in this layer, it would disprove evolution. Therefore, this foot bone can't be modern no matter how modern it looks! That's why no modern bones have been found in this layer!

Whose Foot is It?

This brings us back to our second question. "How does Carol Ward know it came from *A. afarensis*?" It looks just like a modern human fourth metatarsal, but it could not be from a modern human because that would disprove evolution. All the previous bones found in this layer have been assigned to "*A. afarensis*, the only hominin species in an assemblage of >370 hominin specimens so far recovered from the Hadar Formation." They are assumed to have come from *A. afarensis* because earlier species had gone extinct by then, and later species hadn't evolved yet.

We hope you realize the obvious error in this logic. The fossil bone has been analyzed based on the assumption of the evolutionary timeline, and then used as proof of the evolutionary timeline.

Just Suppose

Suppose Ward had been one of the evolutionists who say that, based on pelvic and shoulder anatomy, Lucy did not walk upright. How would she have interpreted her discovery?

In that case, she would have "known" that the bone could not have come from *A. afarensis* because it is clearly a foot bone from a creature that walked upright. This bone (which is unlike any other previously discovered *A. afarensis* foot bone) must have come from another, previously unknown hominid species. Not only has she discovered an entirely new hominid, she has discovered the hominid species that made the Laetoli footprints! This metatarsal would have been the "type specimen" for an entirely new species discovered by Carol Ward! ☺

We are admittedly prone to humorous exaggeration from time to time, but let us remind you that new species have been named and accepted by the scientific community based on even less fossil evidence. We would like to refer you back to an earlier article in which we showed you the type specimens for *Eosimias*. [6]

Just the Facts

The facts are that Carol Ward found an isolated bone that looks just like a modern human metatarsal. Since they believe it came from a rock layer that formed before humans evolved, they believe it must have come from *A. afarensis* rather than a modern human.

A more reasonable conclusion is that this modern-looking foot bone came from a modern human, just like one of the modern humans who made the Laetoli footprints.

Sidebar

Dating Lucy

Here's why evolutionists believe that Lucy lived about 3.5 million years ago.

The Laetoli footprints and Lucy's skeleton were both found in the same layer of sedimentary rock. Evolutionists determined the age of this sedimentary layer from the ages of the layers of volcanic ash above and below it using potassium-argon dating.

It was originally believed that all argon escapes from volcanic ash and lava at the time of eruption. Therefore, any argon gas found in the ash must have come from radioactive decay of potassium. The longer the time since the eruption, the more argon gas there would be trapped in the solid ash.

The assumption that all the argon gas escapes at the time of eruption was shown to be false by measuring the amount of argon gas present in ash and lava from modern volcanic eruptions. So, evolutionists attempt to figure out how much argon was in the ash originally, and how much has been produced by radioactive decay since the eruption. The United Stated Geological Survey (USGS) has an excellent description of how this is done.

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[6] *Disclosure*, September 2001, "Parent of the Apes – Part 1", http://www.scienceagainstevolution.org/v5i12f.htm

> The conventional K-Ar dating method depends on the assumption that the rocks contained no argon at the time of formation and that all the subsequent radiogenic argon (i.e., ^{40}Ar) was quantitatively retained.
>
> …
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> Under some circumstances the requirements for successful K-Ar dating may be violated. For example, if ^{40}Ar is lost by diffusion while the rock cooled, the age-dates represent the time elapsed since the rock cooled sufficiently for diffusive losses to be insignificant. Or if excess ^{40}Ar is present in the rock, the calculated age-dates are too old. The $^{40}Ar/^{39}Ar$ dating method can overcome these limitations of conventional K-Ar dating, and has the added advantage that potassium and argon are determined on the same sample and that only measurements of the isotopic ratios of argon are required. The method is suitable for use with small and precious samples, such as extraterrestrial materials. [7]

Since the assumption that all the argon escaped at the time of eruption is clearly invalid, they have to estimate how much of the argon gas was created by decay of potassium since the eruption, and how much was there before the eruption and did not escape. They do this by comparing isotopes of argon gas. You should read the USGS web page that explains in detail how this comparison of isotopes is done. Here's the key point.

> The main isotopes of argon in terrestrial systems are ^{40}Ar (99.6%), ^{36}Ar (0.337%), and ^{38}Ar (0.063%). Naturally occurring ^{40}K decays to stable ^{40}Ar (11.2%) by electron capture and by positron emission … [8]

All argon gas atoms have 18 protons. ^{36}Ar has 18 neutrons for a total mass of 36. ^{40}Ar has 22 neutrons for a total mass of 40. These different isotopes of argon gas have the same electrical charge, but slightly different weights. They can be separated using an atomic mass spectrometer, allowing scientists to determine the percentage of each isotope.

Naturally occurring argon gas in the atmosphere is 99.6% ^{40}Ar and 0.337% ^{36}Ar, which is a ratio of 295.55 to 1. Therefore, one might be led to believe that if the ratio of ^{40}Ar to ^{36}Ar is more than 295.55, the extra ^{40}Ar came from decay of potassium since the eruption.

The obvious flaw in this reasoning is that there is no reason to believe that the ratio of isotopes of argon gas inside a volcano has anything to do with the ratio of isotopes of argon gas in the atmosphere. If one believes that the Earth is billions of years old, there have been billions of years for lots of ^{40}K to decay to ^{40}Ar. The ratio of ^{40}Ar to ^{36}Ar inside the Earth could be much more than 295.55 to 1.

Isotopic Ratios

Isotopic ratios aren't as consistent as one might believe.

> Just as the weight listed on your driver's license doesn't necessarily reflect your actual poundage, the official atomic weights of most chemical elements are actually more like ballpark estimates than precise constants. In acknowledgment of this natural variation, the official weights of 10 chemical elements will no longer be expressed as single numbers, but as ranges. The adjustments, published online December 12 [2010] in *Pure and Applied Chemistry*, are the first in an overhaul of the atomic weight of almost every element on the periodic table.
>
> Instead of being described by a single fuzzy number, the atomic weights of oxygen, hydrogen, lithium, boron, carbon, nitrogen, silicon, sulfur, chlorine and thallium will now be expressed as intervals. The change, long overdue, explicitly acknowledges the fact that most of the 118 elements come in multiple forms of varying weight.
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> …
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> Previously, a given element's official atomic weight was actually an average of this variation. But as the number of discovered isotopes grew — there are more than 2,000, but only 118 elements — weights kept needing adjustment. These numerical tweaks implied that the numbers couldn't be pinned down with precision, when in fact such measurements are more precise than ever, says Coplen, who headed the international task force charged with surveying various isotope abundances in nature so that the numbers could be revised. [9]

Since one can't know for certain the ratio of the various isotopes of argon gas inside the Earth, one can't legitimately compare the ratio of isotopes to determine how much argon gas has been produced by decay of potassium since the eruption, making the potassium-argon method of determining age invalid.

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[7] http://wwwrcamnl.wr.usgs.gov/isoig/period/ar_iig.html

[8] *ibid.*

[9] Ehrenberg, *Science News*, January 29, 2011, "Periodic table gets some flex", page 5, http://www.sciencenews.org/view/generic/id/67938/title/Periodic_table_gets_some_flex

Email

Evolution Definition

If you can't quibble with the facts, then quibble with the definition.

Spencer sent us this brief email:

> Hello sir. I think you mis-represent [*sic*] science and evolutionary theory in a very unreasonable and dishonest way.
> Sent from my iPhone

We get lots of emails like this one, so we sent our standard one-sentence reply, "Can you give even one specific example?" Normally, we don't get any response. Surprisingly, Spender actually replied.

> Sure, in the 'Is Evolution Scientific' article your description of what the court's 'definition of evolution' (in the McLean v. Arkansas Board of Education case) is incorrect. Your attempt to refute a mis-representation [*sic*] of science amounts to nothing more than a straw man argument.
> Do you understand how supernatural intervention cannot be scientific, even if it is true?

Our article quoted the court's complete definition correctly. So, we asked, "What is the true definition of evolution?" (We ignored Spencer's attempt to change the subject.)

Spencer replied,

> Maybe you didn't understand what I meant... I said your description of the court's definition of evolution in the McLean v. Arkansas case is incorrect.
> I think it is your intent to give a false and misleading account of biological evolution, and science in general, to promote your religious views. Do you have any training in biology or evolutionary biology?

So, we tried to get him to be specific by asking, "What is wrong with our description of the court's definition?" (Of course, we ignored the personal attack, and the attempt to change the subject.)

Spencer did not reply.

The Court's Definition

Spencer is not the first to make the charge that the court's definition of evolution is wrong, so let us address it.

The court had to decide whether or not "evolution" should be taught in American public schools. But what kind of evolution is taught in school? Schools teach that modes of transportation have evolved from horse and buggy to spacecraft. Schools also teach that new varieties of dogs, horses, corn, and roses have been produced by selective breeding. Those kinds of evolution are irrelevant to the lawsuit because nobody disagrees with that, or objects to it being taught. Therefore, the law in question defined the objectionable kind of evolution to be:

1. Emergence by naturalistic processes of the universe from disordered matter and emergence of life from nonlife;
2. The sufficiency of mutation and natural selection in bringing about development of present living kinds from simple earlier kinds;
3. Emergence by mutation and natural selection of present living kinds from simple earlier kinds;
4. Emergence of man from a common ancestor with apes;
5. Explanation of the earth's geology and the evolutionary sequence by uniformitarianism; and
6. An inception several billion years ago of the earth and somewhat later of life. [10]

We must point out to Spencer if it had been an incorrect definition (misrepresenting the theory) then the lawyers for one side or the other would have objected to its use. Furthermore, if the doctrine described by the definition was not being taught in public schools, there would have been no need for the lawsuit. Creationists would not have fought against it being taught if it were not being taught. Evolutionists would not have fought to keep teaching it if they didn't think it should be taught. Therefore, it must be true that the court's definition is an accurate description of what is being taught in public schools.

Evolutionists don't like to admit this because the scientific evidence is against this definition. They are the ones who want to use rhetorical tricks, claiming evolution is just "change," or variation in species.

Our shorter definition of evolution is, "The doctrine that unguided natural forces caused chemicals to combine in such a way that life resulted; and that all living things have descended from that common ancestral form of life."

[10] McLean v. Arkansas Board of Education January 5, 1982, http://www.talkorigins.org/faqs/mclean-v-arkansas.html

by Lothar Janetzko

Creation vs. Evolution

http://www.wiebefamily.org/e.htm

An organized presentation on the creation vs. evolution controversy

This month's web site review looks at a site that the web author hopes "will provide a logical and coherent framework for defending the fact of special creation and the abrupt appearance of life on earth against the popular dogma of evolution."

The web site is organized by providing a table of contents of links to 23 different topics that cover most of the questions that arise when discussing creation and evolution. After the table of contents you will find a preface to the document that makes many interesting remarks. The author hopes to "simply encourage critical thinking. One must get past the arguments *ad populum* (that its popularity counts for something), *ad hominem* (that if you attack the person making the argument, this counts for something), and especially *ad baculum* (that there are people who have the clout to decree it as true), to ask the key questions and challenge the unsubstantiated assumptions and thinking of those who would hold to the evolution position."

To get a general overview of all the topics discussed, just read the section labeled, "1. An abstract of the presentation to follow." Here you will also find links as presented in the table of contents. Just select a topic of interest and you will find a more detailed discussion. At the end of the detailed discussion you will find links to references that provide more information about the topic and a brief summary of many books.

Much material about the creation vs. evolution controversy can be found on this site. You should bookmark this site if you are interested in learning more about creation and evolution.

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