

# INTRODUCTION TO ANTHROPOLOGY



ANTH 101

PROF. KURT REYMERS (DR. K)

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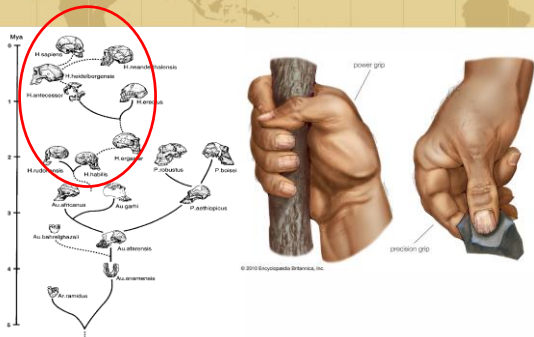
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## D. The First Hominin



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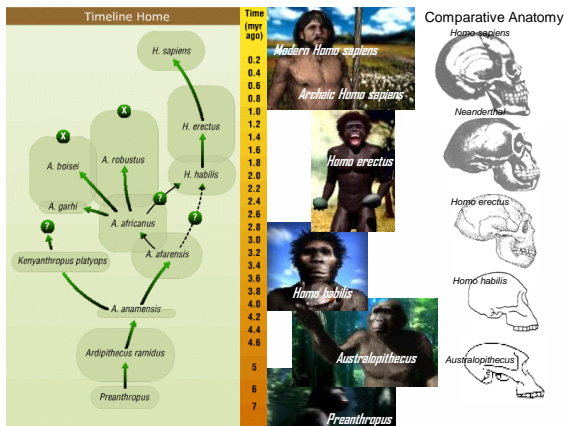
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## D. The First Hominin



1a. Like all living organisms, human beings evolved to become the species it is today, a species with very unique characteristics compared to other living things.

What makes human beings particularly unique is **the size and functions of the human brain**.

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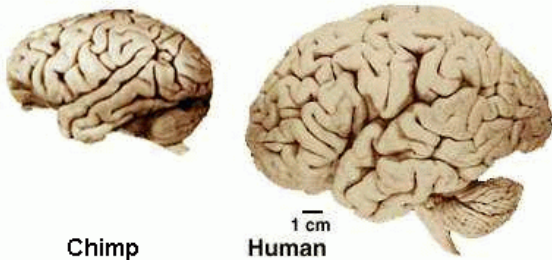
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## D. The First Hominin

Approximate Brain Size Comparison



Chimp

Human

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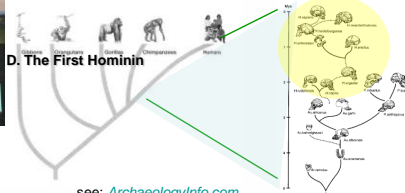
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## D. The First Hominin



1b. Human survival is attributable to the evolution of **brain development**.



see: [ArchaeologyInfo.com](http://ArchaeologyInfo.com)

(UCSB cranial comparison)  
(ArchInfo Skull Page)

Early **brain development** led to the use of fire, tools and weapons, the creation of simple shelters and fashioning of basic clothing.

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## D. The First Hominin



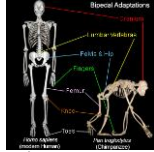
### 1c. Genus: *Australopithecus*

(Hominoid = Ape / Hominid = Human (plural: Hominin)  
Before the genus *Homo* emerged, the genus *Australopithecus* roamed in Africa (~3 to 4 mya).



It was widely thought that *Australopithecines* first developed “**bipedalism**”, or the ability to walk upright

Recent discoveries of earlier genii, such as *Ardipithecus* & *Orrorin*, challenge this theory.



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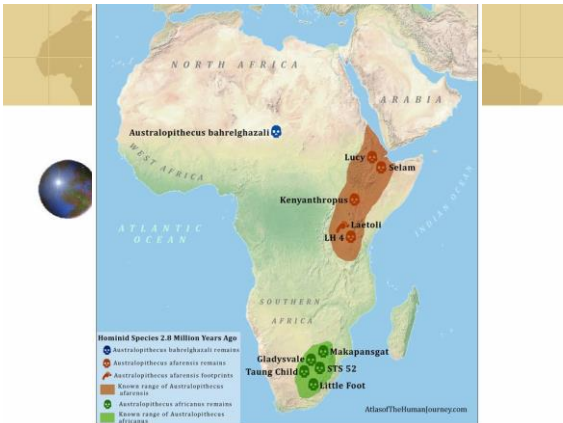
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*Australopithecus afarensis*  
(left) Chimpanzee (right).



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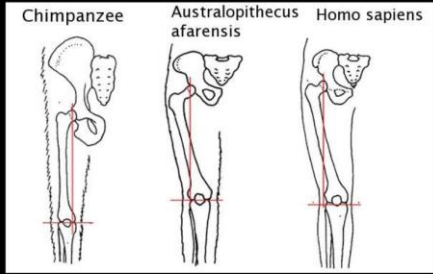
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# Comparative anatomy



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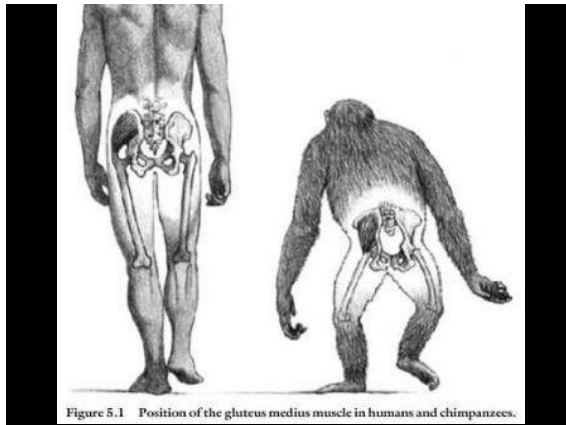


Figure 5.1 Position of the gluteus medius muscle in humans and chimpanzees.

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**"The Laetoli Footprints"**

Based on analysis of the footfall impressions "The Laetoli Footprints" provided convincing evidence for the theory of bipedalism in Hominins.

The discovery of these footprints proved that the Laetoli hominins were fully bipedal close to a million years before the earliest known stone tools were made. The footprints were classified as possibly belonging to *Australopithecus afarensis*.

The footprints themselves were dated at 4 million years old. It is noted that the toe pattern is much the same as the human foot, which is much different from the feet of chimpanzees and other non-bipedal beings. The footprint impression has been interpreted as the same as the modern human stride, with the heel striking first and then a weight transfer to the ball of the foot before pushing off the toes.

- Wikipedia

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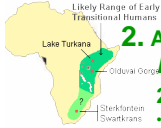
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## D. The First Hominin

Structure of the Upcoming Notes:  
2. Early Human Biological Development (Anatomy)  
3. Early Human Cultural Development (Intelligence)



### 2. ANATOMY: Evidence of early biological development of Homo

#### 2a. i. *Homo habilis* (~2.3 mya)

- Lived in Africa only
- Brain growth (600-750 cc) compared to *Australopithecus*
- Smaller molars and premolars compared to *Australopithecus*.
- Walked grasslands and partially arboreal (climbed trees)

Related species? *Homo rudolfensis*

(larger cranium, longer face and larger molars than *H. habilis*)

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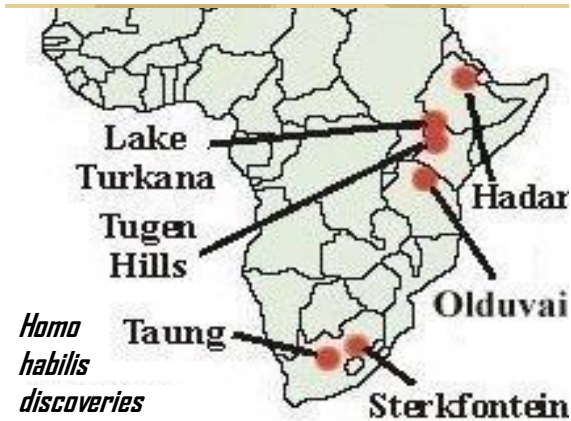
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## D. The First Hominin

### 2b. *Homo erectus* (~1.8 – 1.5 mya)



- First hominid species widely distributed across Eurasia (remains found in [Java \(Indonesia\)](#), China, Georgia (Russia), Africa, [Turkana, Ethiopia](#));
- Long, low, and thickly walled skull with flat frontal area and prominent brow ridges;
- Smaller third molars ("wisdom teeth") than *Homo habilis*;
- Larger brain size (900-1040 cc);
- *Occipital torus* (skull pattern) and *sagittal keel* (skull ridge).



Related species: *Homo ergaster*

Lived between 1.5 and 1.9 million years; "Turkana Boy" (or Nariokotome Boy) is the most famous example; tall, long-legged body, with a flatter face, a projecting nose and a somewhat expanded brain.

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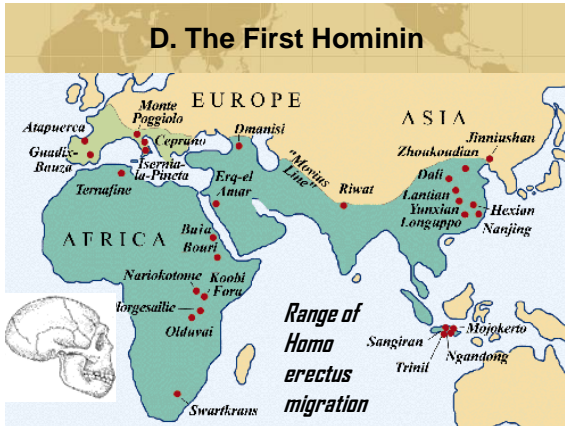
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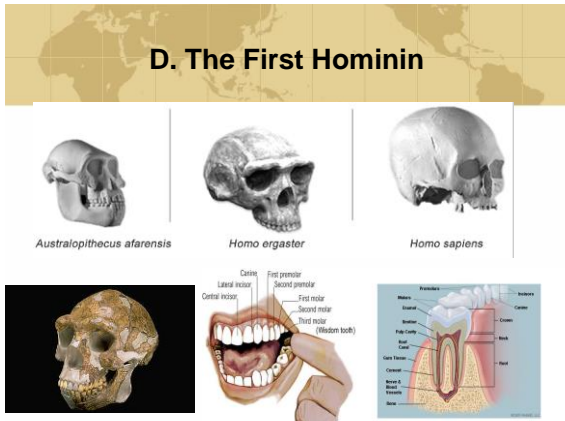
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**Human Evolution Mnemonic**  
by species name:

- **A**ustralopithecus
- **H.**Habilis
- **H.**Erectus
- ...

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## D. The First Hominin

### The STONE AGE (Paleolithic Era) Begins!



There are 3 segments of the Stone Age:

**The Upper Paleolithic Era**

15kya – 40kya

**The Middle Paleolithic Era**

40kya – 300kya

**The Lower Paleolithic Era**

300kya – 1.5mya

Paleolithic Stage
Upper Paleolithic
Middle Paleolithic
Lower Paleolithic

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## D. The First Hominin

### 3b. THE LOWER STONE AGE:

*H. erectus* & Lower Paleolithic Cultures  
(1.5 mya – ~300kya)



**Acheulian Tool Industry** (from St. Acheul, France)

i. **“Core” tool** technique – bifacial tools

- called the **Hand Axe**
- “Soft hammer” technique used

ii. **Big-Game eating** (maybe not the first?)

iii. **Control of fire** (fire drives)

iv. **Possible camp sites** (not permanent settlements, a place to cache, or store, tools)

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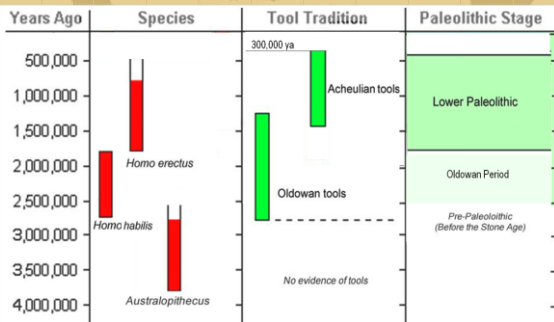
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## D. The First Hominins

### Know This Chart! (part 1)



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