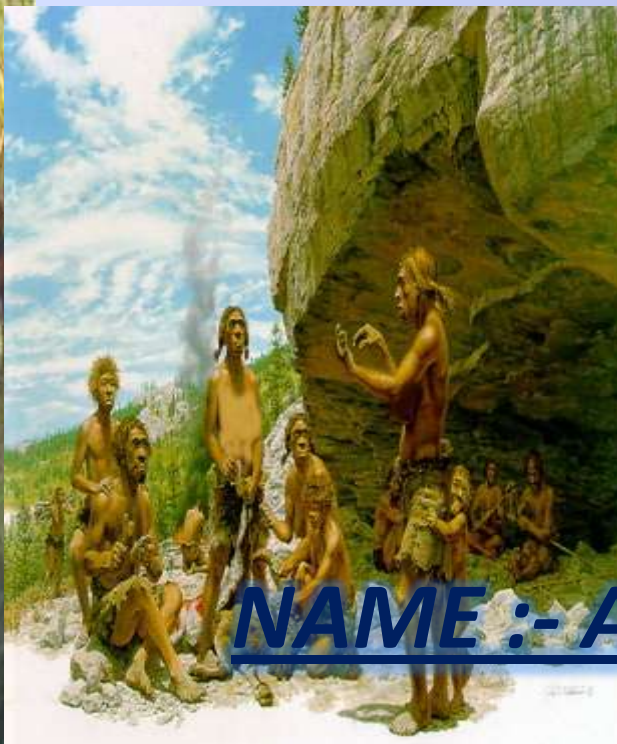
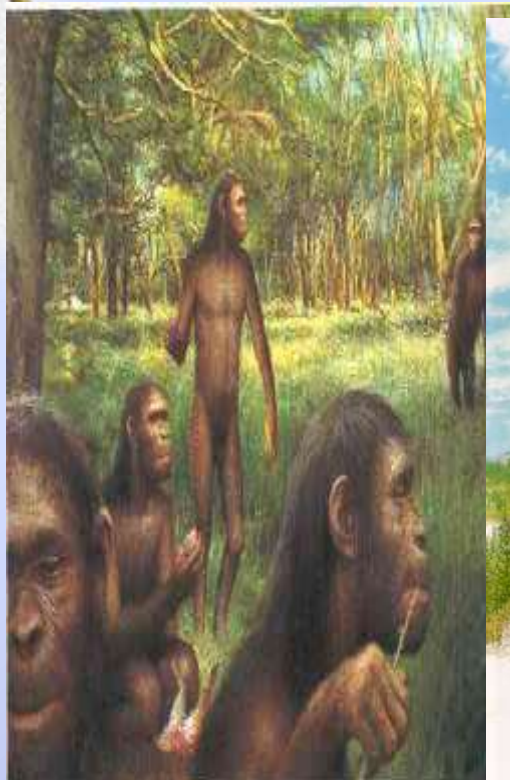


HISTORY PRESENTATION

THE STORY OF HUMAN EVOLUTION



NAME :- Amita Yadav

Australopithecus africanus

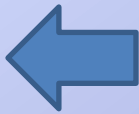
1 The precursors of the modern human being

Humans appeared late in Earth's history



→ The earliest ancestors of humans (**hominids**) diverged from apes about **8 million** years ago.

First Europeans:
approx. 780,000
years ago



Stages of Early Human Development

Paleolithic Age:
(Old Stone Age)
2,500,000 BCE
to 8,000 BCE

-
1. 4,000,000 BCE - 1,000,000 BCE
 2. 1,500,000 BCE -- 250,000 BCE
 3. 250,000 BCE - 30,000 BCE
 4. 30,000 BCE -- 10,000 BCE

The Paleolithic Age

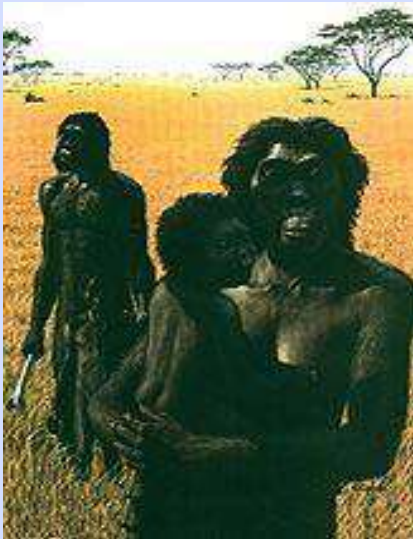
- "Paleolithic" --> "Old Stone" Age
- 2,500,000 BCE - 10,000 BCE
- Made tools



- hunting (men) & gathering (women)
→ small bands of 20-30 humans
- NOMADIC (moving from place to place)

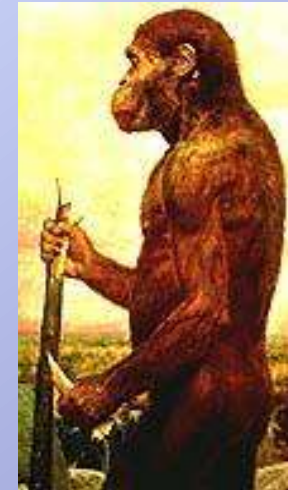
Stage 1

4,000,000 BCE - 1,000,000 BCE



- Hominids --> any member of the family of two-legged primates that includes all humans.

- Australopithecines

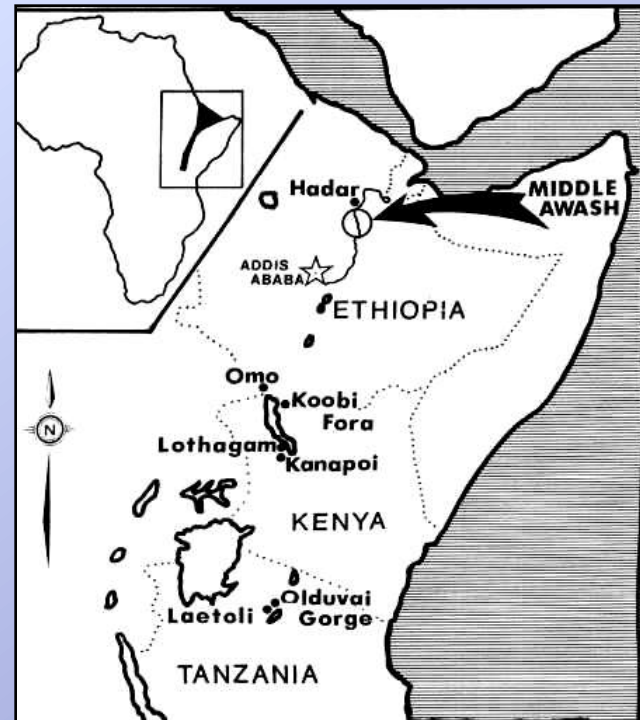
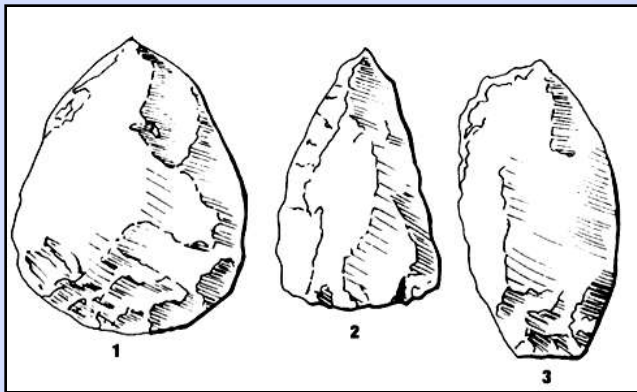


- An Opposable Thumb

Stage 2



- **HOMO HABILIS**
("Man of Skills")
- found in East Africa.
- created stone tools.



The Paleolithic Age

- Humans during this period found shelter in caves.
- Cave paintings left behind.



Purpose??

Two white arrows originate from the text 'Purpose??'. One arrow points horizontally to the left towards the bull painting. The other arrow points diagonally down and to the left towards the bottom row of images.

Stage 3

1,600,000 BCE - 30,000 BCE

- **HOMO ERECTUS**
("Upright Human Being")

- **BIPEDALISM**

- Larger and more varied tools --> primitive technology
- First hominid to migrate and leave Africa for Europe and Asia.
- First to use fire (500,000 BCE)



Stage 4

200,000 BCE - 10,000 BCE



**HOMO SAPIENS
("Wise Human Being")**

Neanderthals
(200,000 BCE - 30,000 BCE)

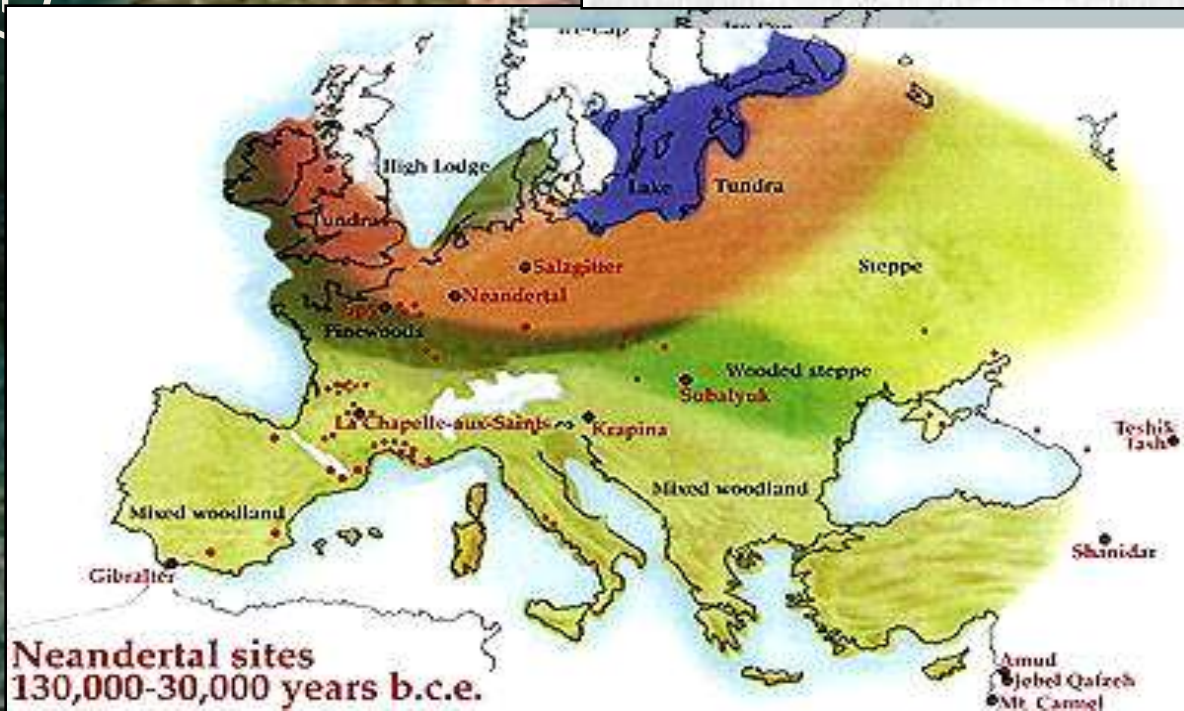
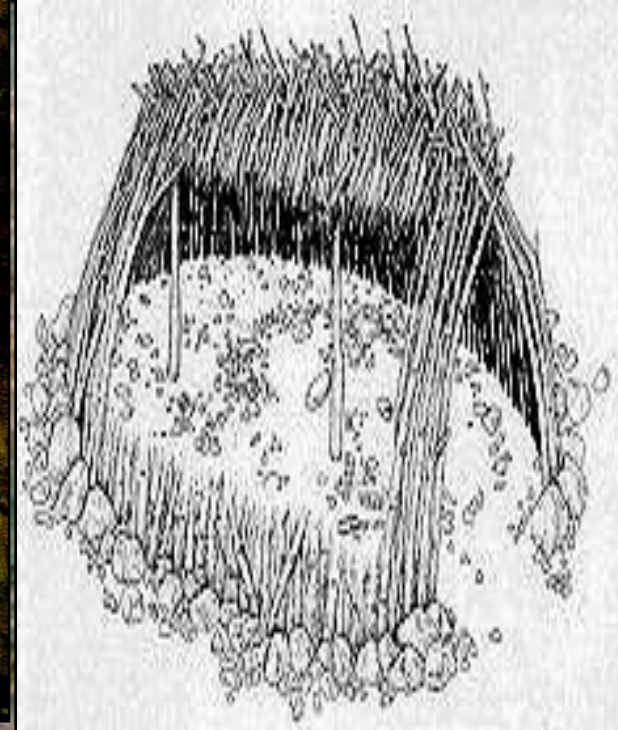
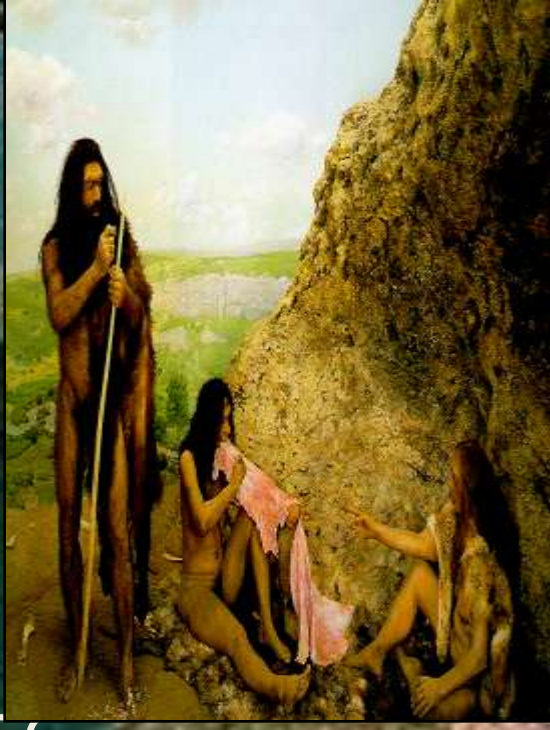
Cro-Magnons
(40,000 BCE - 10,000 BCE)

The first skull
The skull of
Neanderthal man



NEANDERTHALS

- Neander valley, German (1857)
- Made clothes from animal skins
- Live in caves and tents.



The First Humans

Theories on prehistory and early man constantly change as new evidence comes to light.

- Louis Leakey, British paleoanthropologist



Stage 5

CRO-MAGNONs:

- *Homo sapiens sapiens*
("Wise, wise human")



- By 30,000 BCE they replaced Neanderthals.



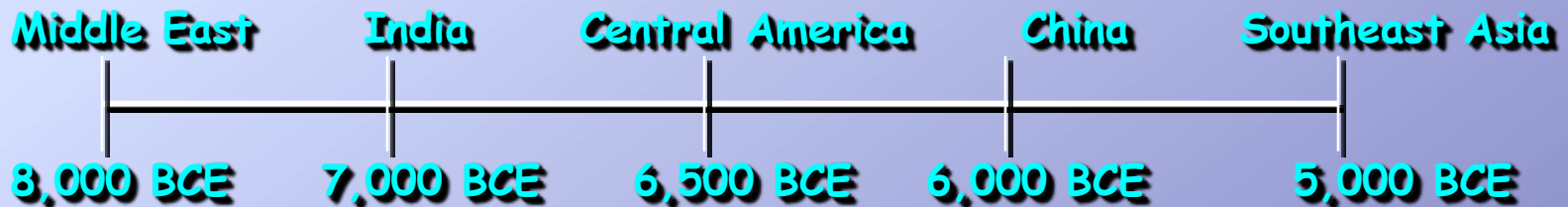
WHY???

The Neolithic Age

- "Neolithic" → "New Stone" Age
- 10,000 BCE - 4,000 BCE
- Gradual shift from:
 - Nomadic lifestyle → settled, stationary lifestyle.
 - Hunting/Gathering → agricultural production and domestication of animals.

The Agricultural Revolution

- **8,000 BCE - 5,000 BCE**
- **Agriculture developed independently in different parts of the world.**
 - **SLASH-AND-BURN Farming**



Modern humans arose about 200,000 years ago

Homo sapiens fossils date to 200,000 years ago.

Human evolution is influenced by a tool-based culture.

There is a trend toward increased brain size in hominids.



**Australopithecus
afarensis**



Homo habilis



**Homo
neanderthalensis**



Homo sapiens

Humans share a common ancestor with other primates

Primates are mammals with flexible hands and feet, forward-looking eyes and enlarged brains.

Primates evolved into prosimians and anthropoids.

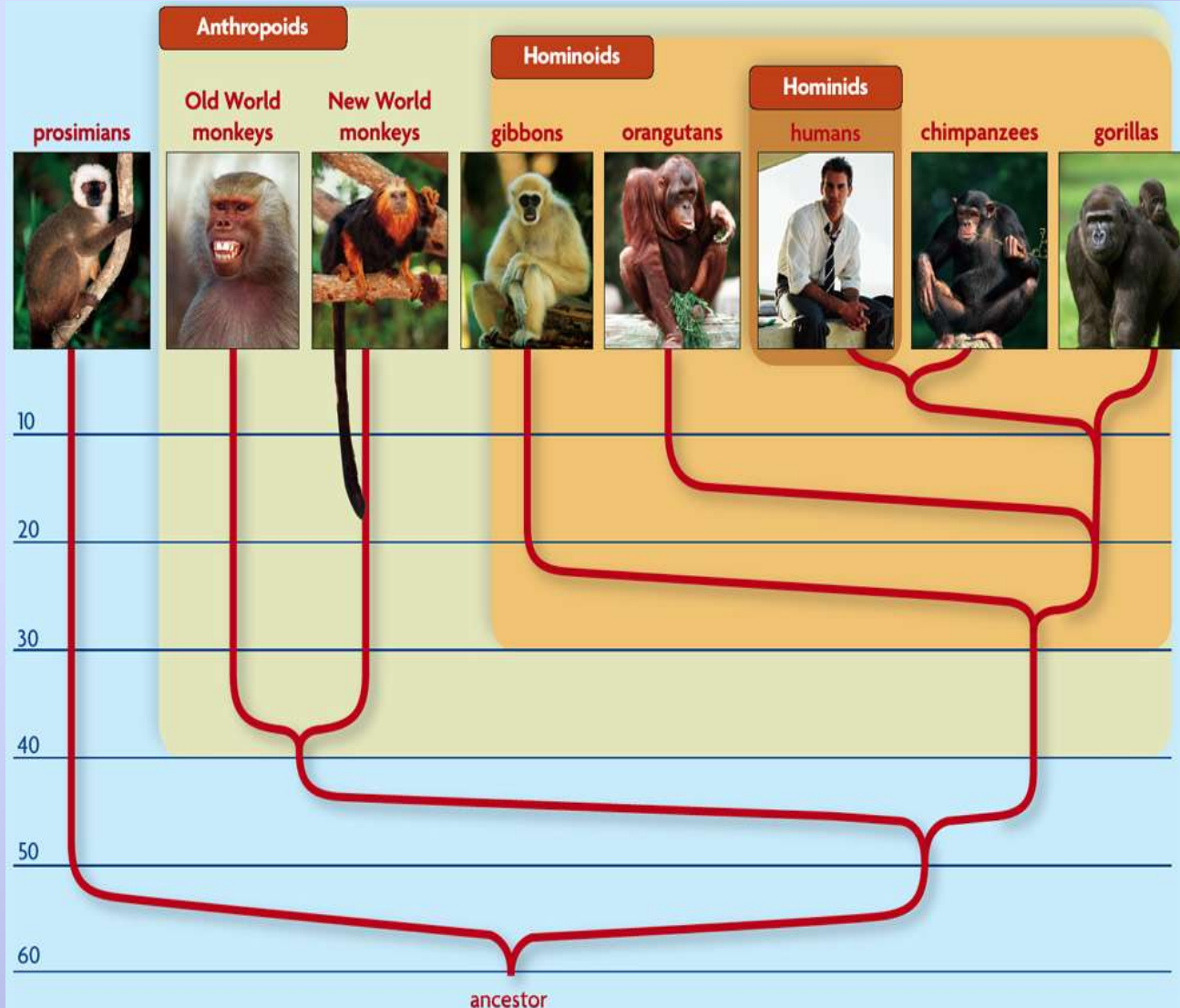
- Prosimians are the oldest living primates.
- They are mostly small and nocturnal.



– Anthropoids are humanlike primates.

They are subdivided into the New World monkeys, Old World monkeys, and hominoids.

- Hominoids are divided into hominids, great apes, and lesser apes.
- Hominids include living and extinct humans.



What differentiates Ape from Man?

Critical Characteristics:

Large brain

Foramen magnum

Dentition – Teeth

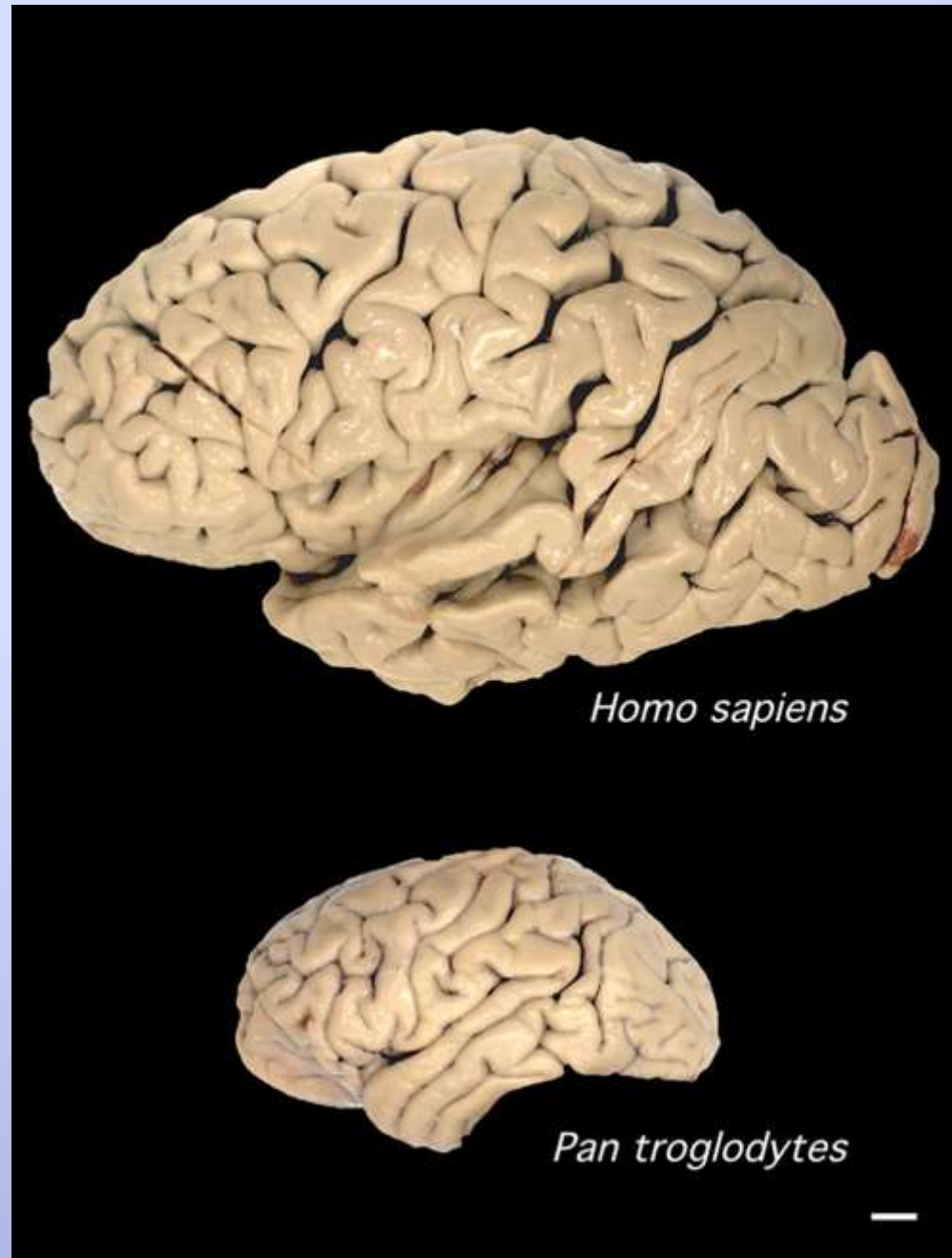
Bipedal skeletal structure & musculature

- ➔ S-shaped spinal column [not C]
- ➔ pelvic structure [shortening-bowl shaped]
- ➔ muscular (gluteal & hamstring)
- ➔ lengthening of lower limb [femur]
- ➔ changes in feet to become weight-bearing structures

Brain Size

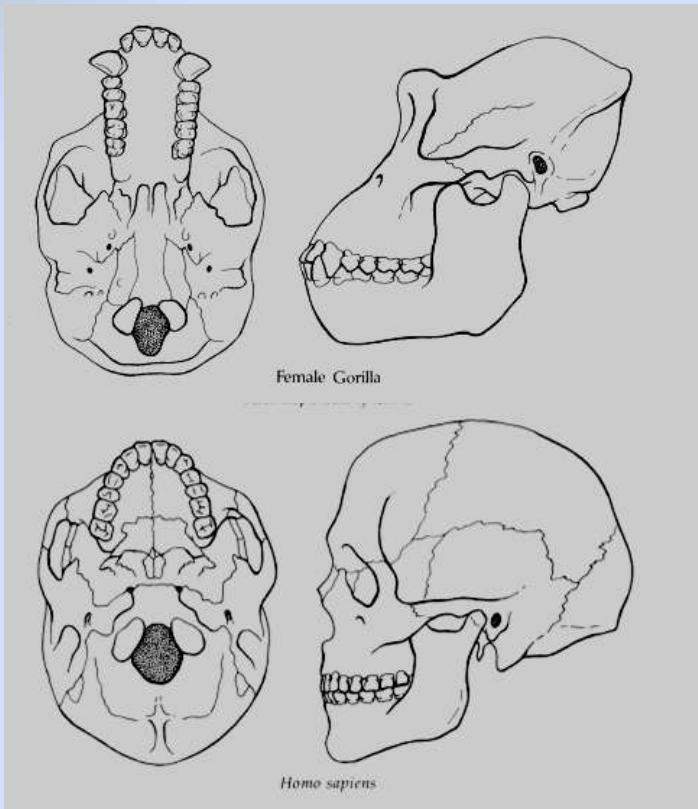
Human vs. Chimp

- modern man 1000 - 2000 cc
- chimps 280 - 400 cc



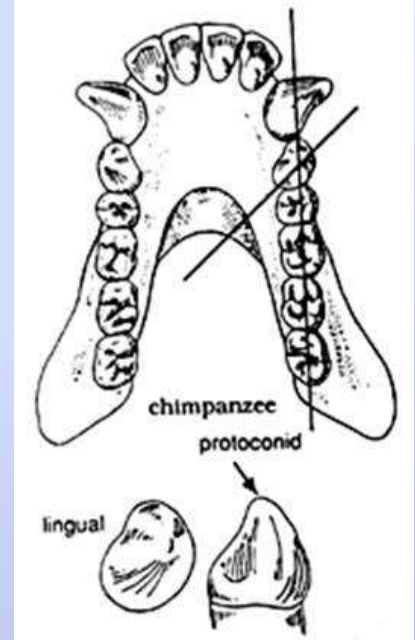
Foramen Magnum

- The hole at base of skull through which spinal cord passes
- Position of foramen magnum strong indicator of the angle of the spinal column to the head
- Habitual bipedalism

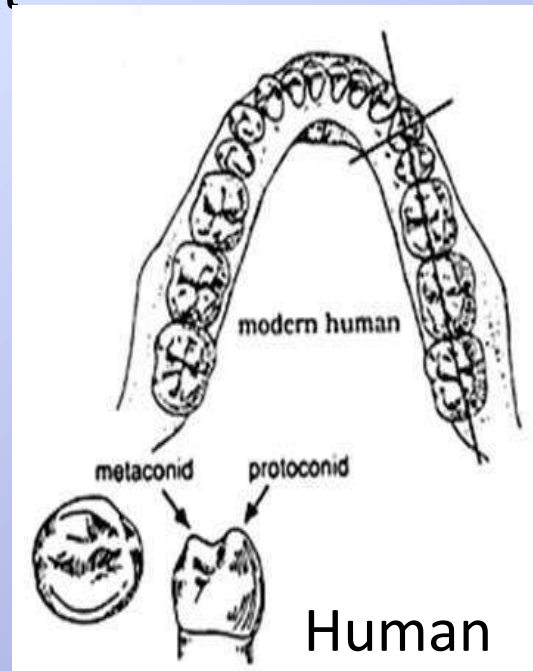


Dentition / Teeth

- Reduction in size of incisors & canines
 - Ape canines → displays of aggression and as defensive weapons
- Premolar & molar with flat occlusal wear pattern



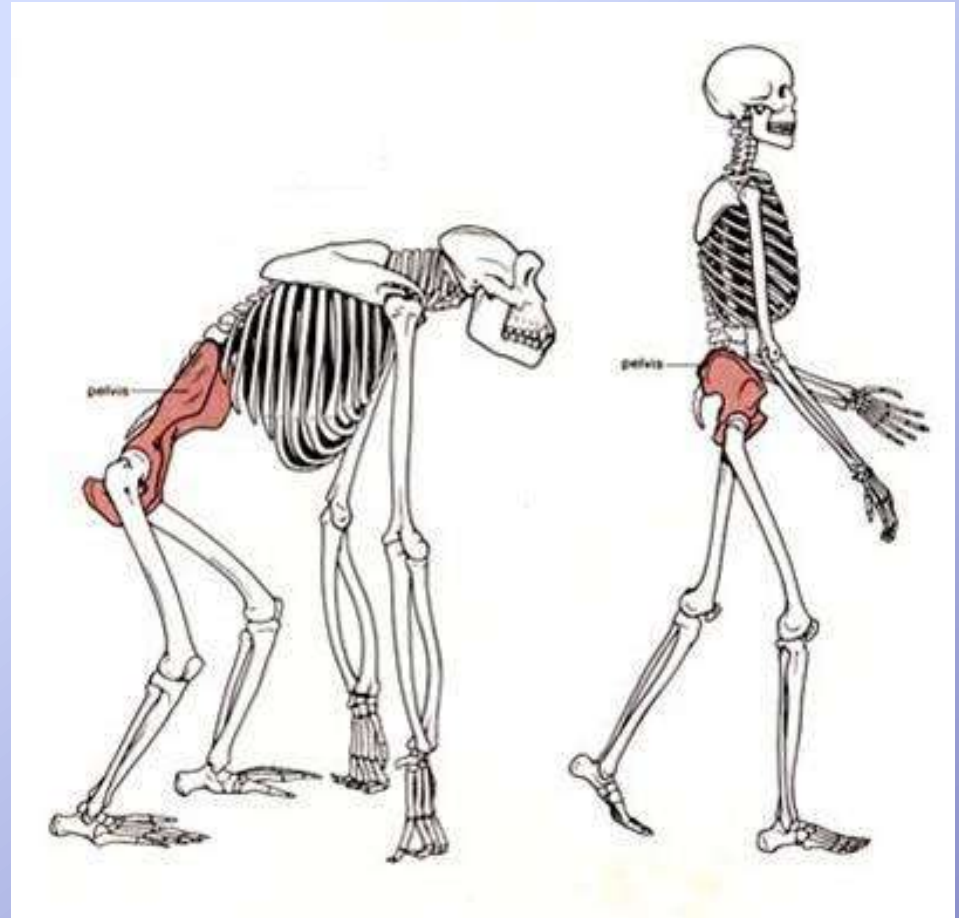
Chimpanzee



Human

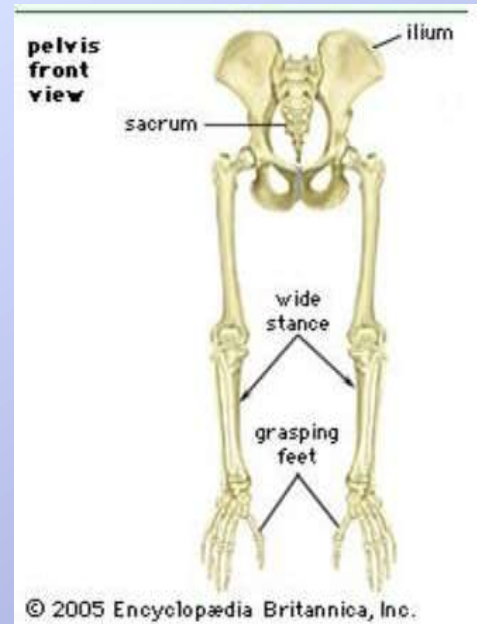
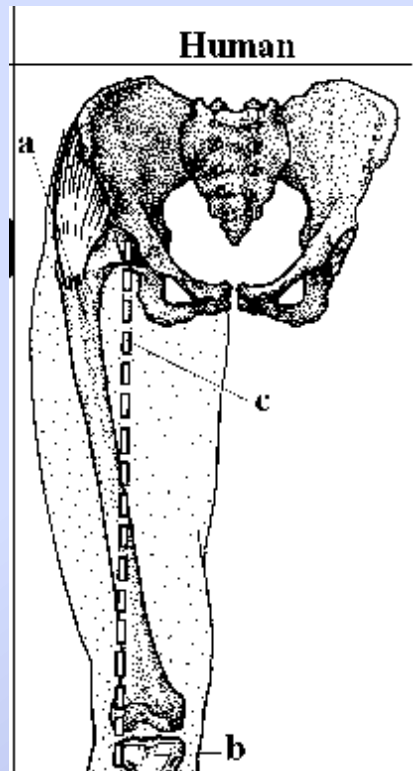
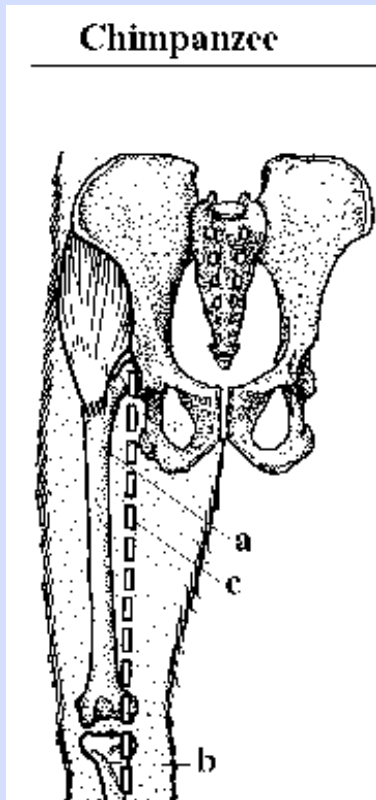
Gorilla vs. Human Skeleton Comparisons

- Shape and position of the skull
- Relative size of the neck
- Relative length of the arm
- Relative length and shape of pelvis
- Posture especially shape of the spine
 - C-shaped vs. S-shaped



Skeletal Structure

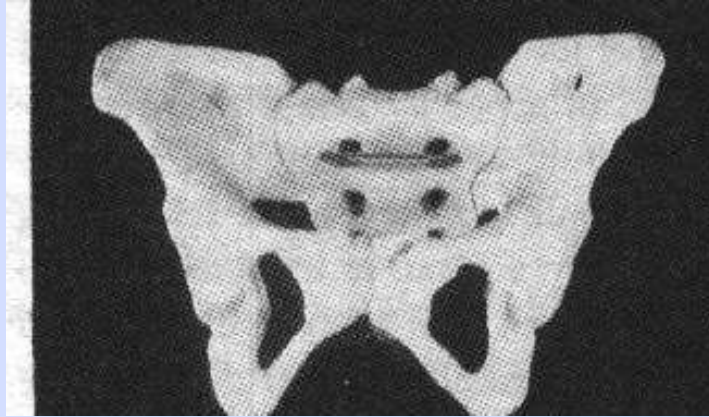
Upper legs angled inward from hip joints position knees to better support body during upright walking [apes sway from side to side]



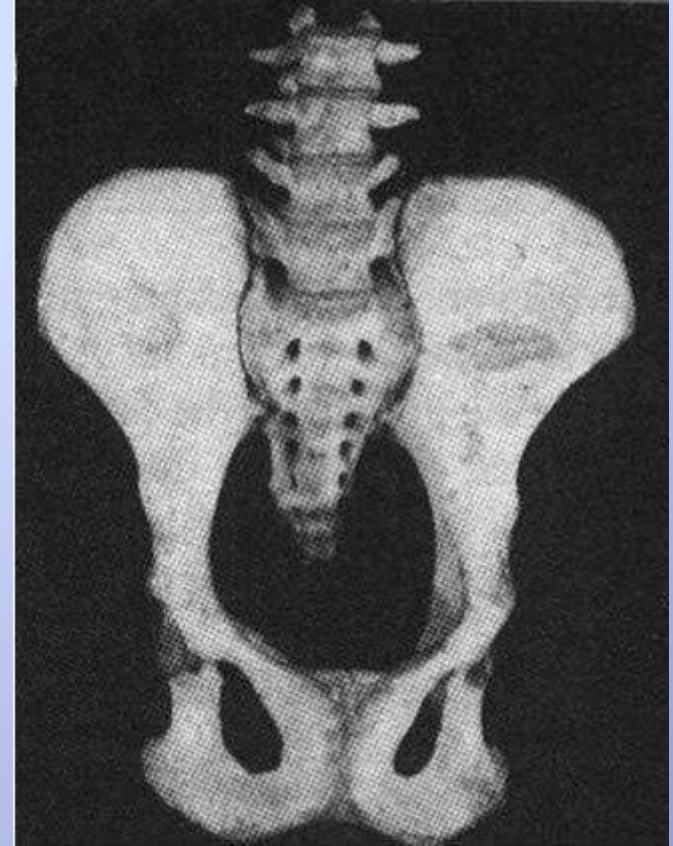
A = femur b = tibia c = weight-bearing axis

Comparison of Pelvis Structure

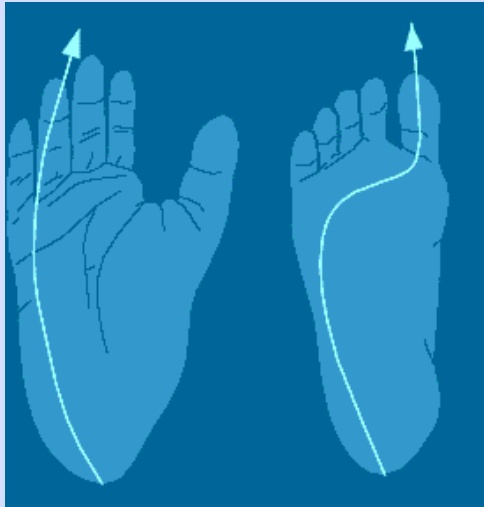
Human Ilium shorter and broader allows hip muscles to steady the body during each bipedal step



Human Pelvis



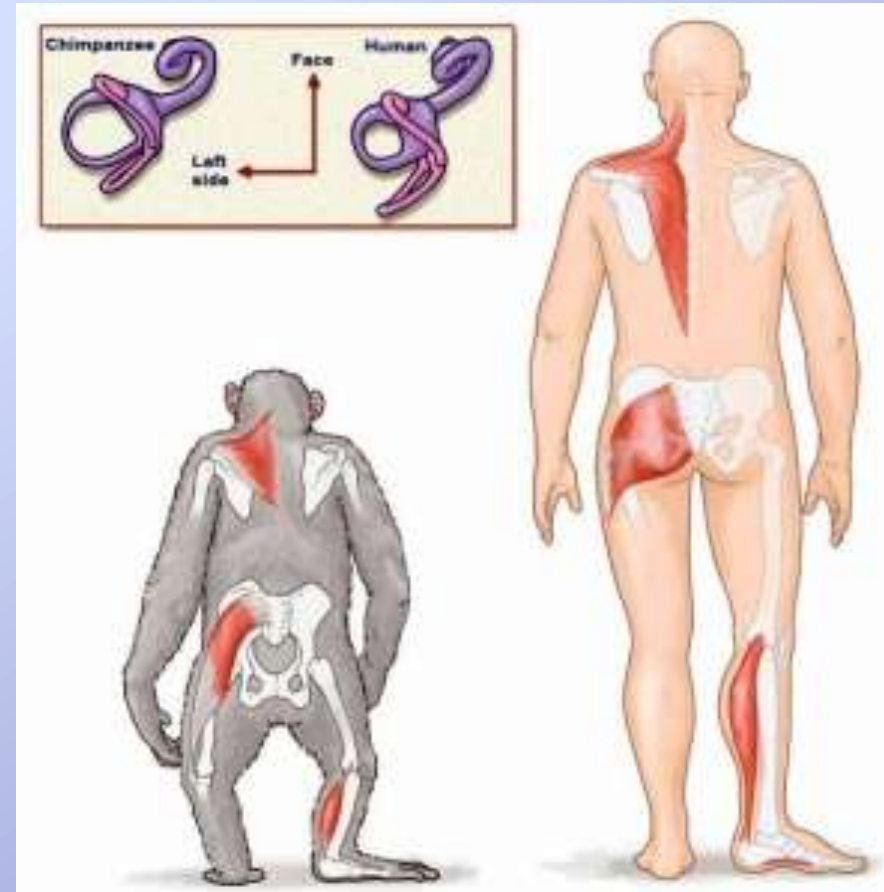
Chimpanzee Pelvis



- position of big toe
- Foot shorter – less flexible toes → more rigid lever for pushing off with each step
- Arch → shock absorber

Comparison of some soft tissue involved in biomechanical differences between chimps and humans [[American Museum of Natural History webpage](#)]

- Humans → 2 of 3 semicircular canals [balance] specialized to stabilize head
- Less muscle between head and shoulders in humans
 - Chimps have to fight gravity to hold heads up while walking on all fours
 - Our head just sits on our necks
- Humans → more gluteus maximus muscle
 - Stabilizes femur into pelvis and helps keeps trunk and leg moving together.
- Achilles tendon and tendon of arch of the foot larger in humans
 - In running act like springs, absorbing and releasing energy



Bipedalism

- Bipedal means walking on two legs.
 - foraging
 - carrying infants and food
 - using tools
- Walking upright has important adaptive advantages.



Advantages of Bipedalism

1st stood upright then got smart

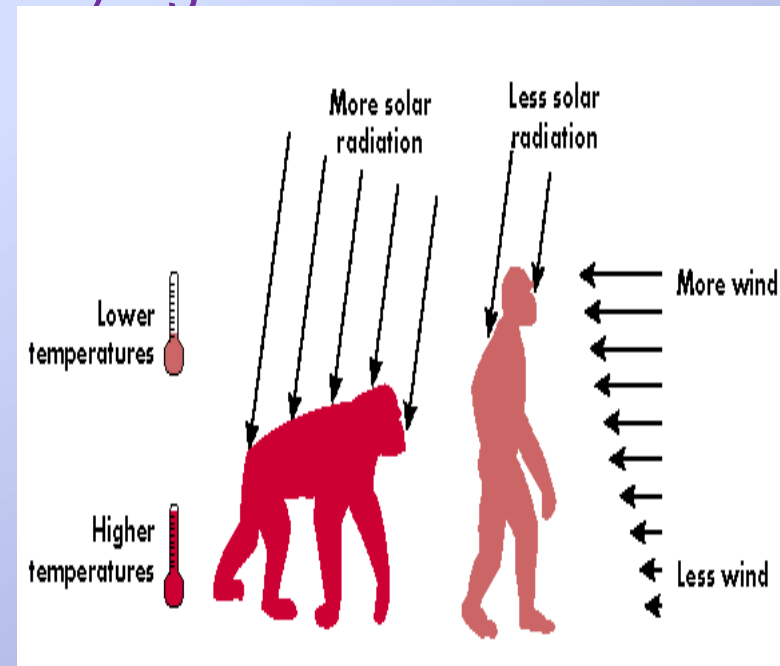
Freeing hands – advantageous for carrying food or tools

Improved vision in grasslands

Reduce body's exposure to hot sun

Hunting or weapon use

Feeding from bushes and low branches – easier when standing and moving upright between closely spaced bushes



5 million

4 million

3 million

2 million

1 million

Present

Ardipithecus ramidus

Australopithecus anamensis

Australopithecus afarensis

Australopithecus africanus

Paranthropus aethiopicus

Homo habilis

Paranthropus boisei

Homo ergaster

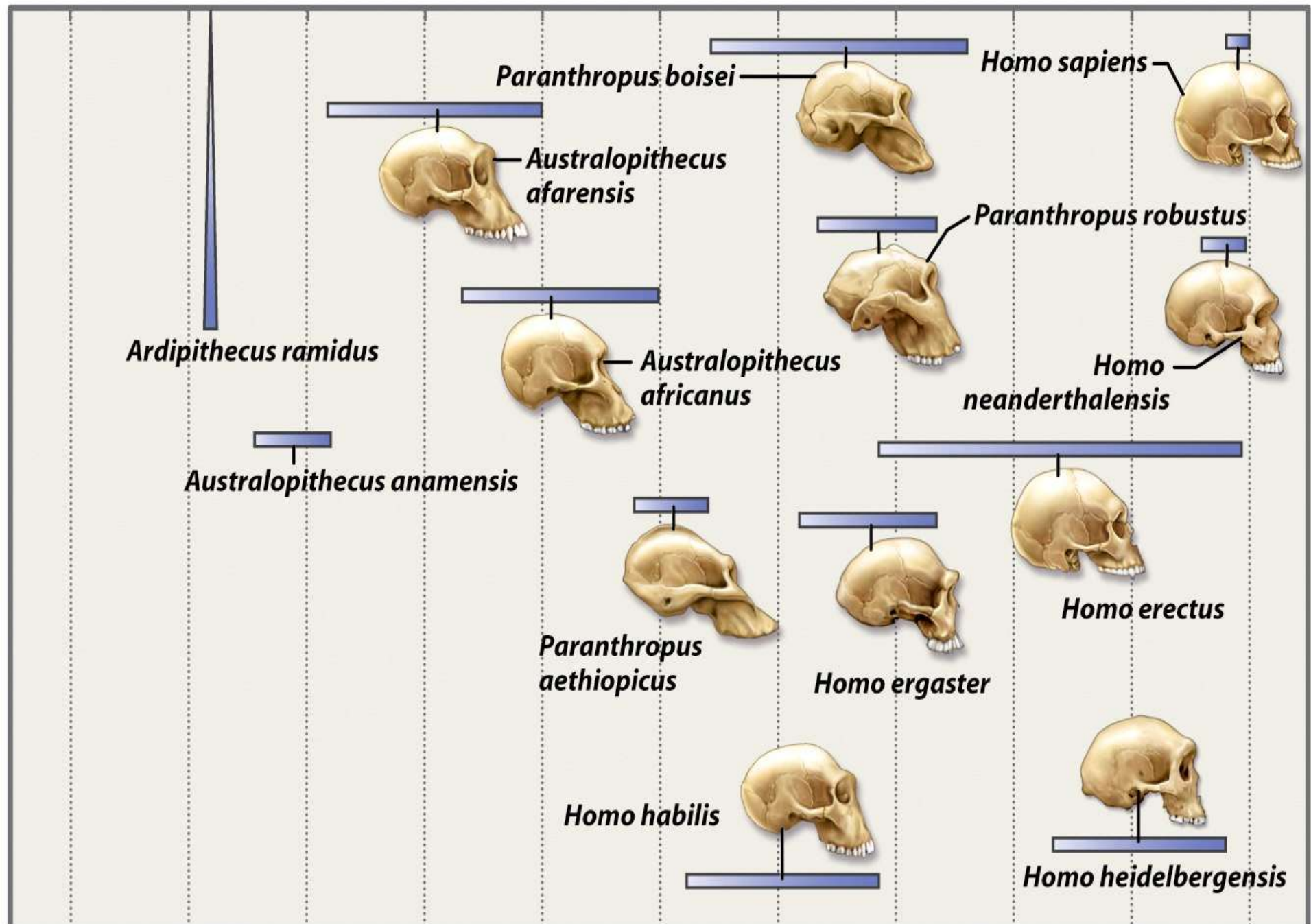
Paranthropus robustus

Homo neanderthalensis

Homo erectus

Homo heidelbergensis

Homo sapiens



**LUCY**

Nearly all experts agree Lucy was just a 3 foot tall chimpanzee.

**HEIDELBERG MAN**

Built from a jawbone that was conceded by many to be quite human.

**NEBRASKA MAN**

Scientifically built up from one tooth, later found to be the tooth of an extinct pig.

**PILTDOWN MAN**

The jawbone turned out to belong to a modern ape.

**PEKING MAN**

Supposedly 500,000 years old, but all evidence has disappeared.

**NEANDERTHAL MAN**

At the Int'l Congress of Zoology (1958) Dr. A.J.E. Cave said his examination showed that this famous skeleton found in France over 50 years ago is that of an old man who suffered from arthritis.

**NEWGUINEA MAN**

Dates way back to 1970. This species has been found in the region just north of Australia.

**CROMAGNON MAN**

One of the earliest and best established fossils is at least equal in physique and brain capacity to modern man... so what's the difference?

**MODERN MAN**

This genius thinks we came from a monkey.

*"Professing themselves to be wise they became fools."
(Romans 1:22)*

THANK YOU

