

Last class

- How do you determine relationships amongst organisms?
- What are homologous and analogous structures?
- Which are more useful for determining relationships? Why?

Similarity between organisms

- What are the different forces that can create similarities between organisms?
- Why do some similarities indicate relationship while others do not?
- Which indicate a shared evolutionary past?

More...

- What are primitive and derived characteristics?
- Why are shared-derived characteristics most useful in determining relationships?
- What is the principle of parsimony and how does this apply to determining the relationships amongst organisms?

Humans

- How are humans classified?
- Why are we classified in this way?

Mammals

- What characteristics define mammals?
- What are these characteristics an adaptation for?

We share traits with the Primates



We share traits with the Primates

- Primates share a set of traits due to a shared early adaptation
- Arboreal Adaptation - adapted to living in the trees
- Due to a shared ancestry

Traits of Primates

- Emphasis on vision
 - binocular or stereoscopic vision
 - forward facing eyes
 - postorbital bar or post orbital closure



Visual Traits



**Forward-facing
Eyes**



Post orbital bar

Humans?



Limbs and locomotion

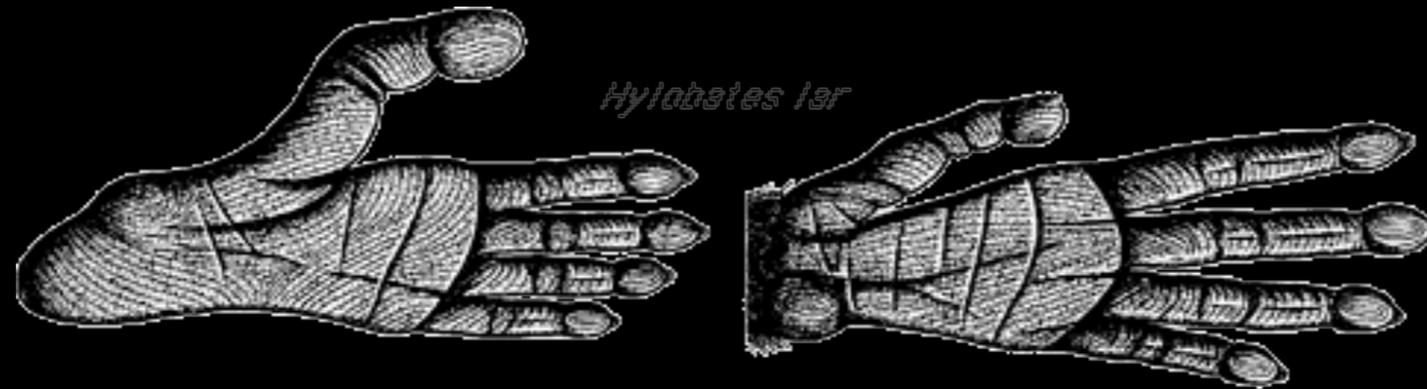
- Erect posture
- Generalized Skeleton
- Retention of clavicle
- Grasping hands with opposability
- Nails instead of claws



Skeletons



Primate Hands



Hylabates lar



Pongo pygmaeus

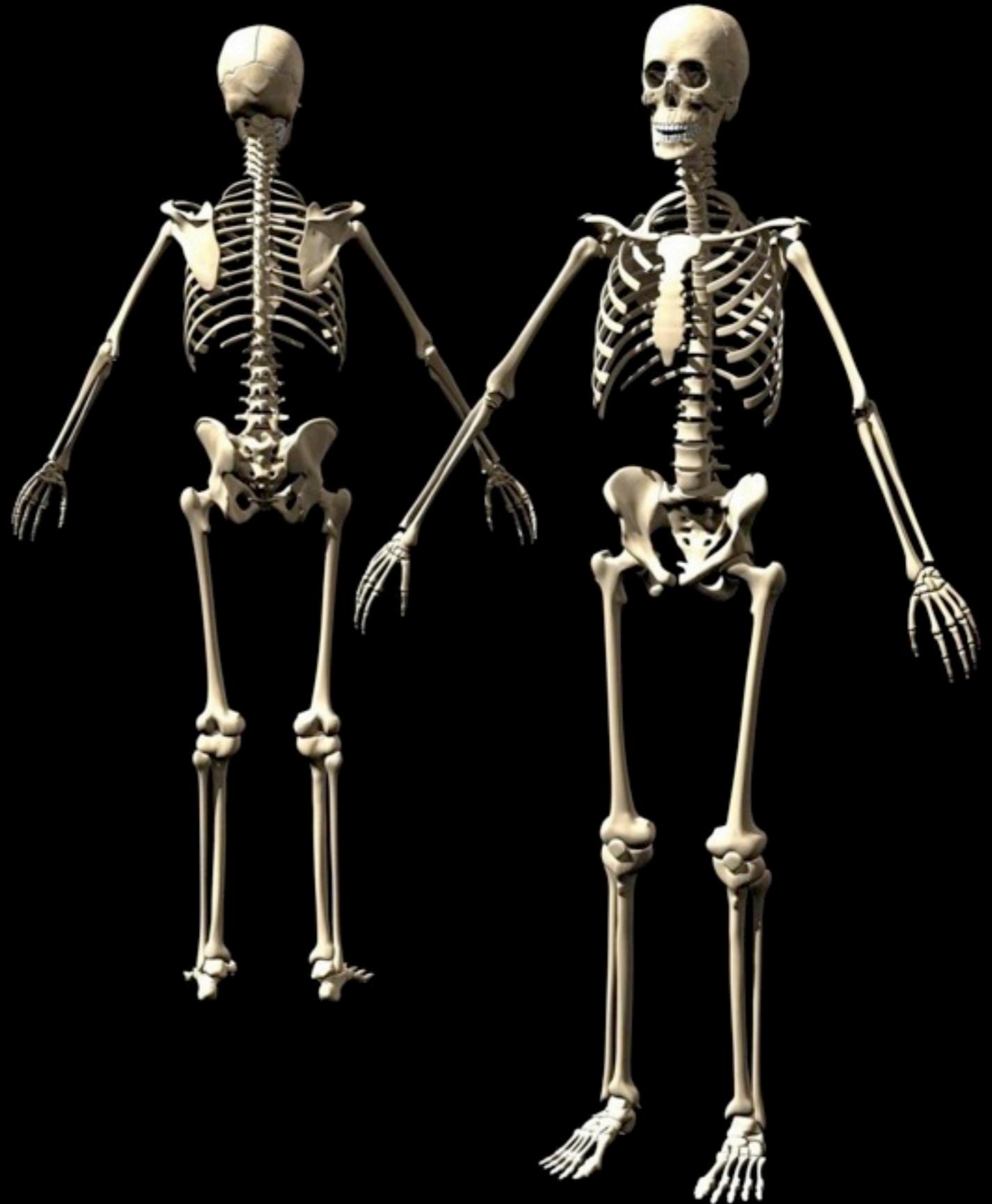


Gorilla gorilla



Pan troglodytes

Humans?



Diet

- Generalized dentition
- Tendency towards omnivory



Primate teeth

Pan trogloditus

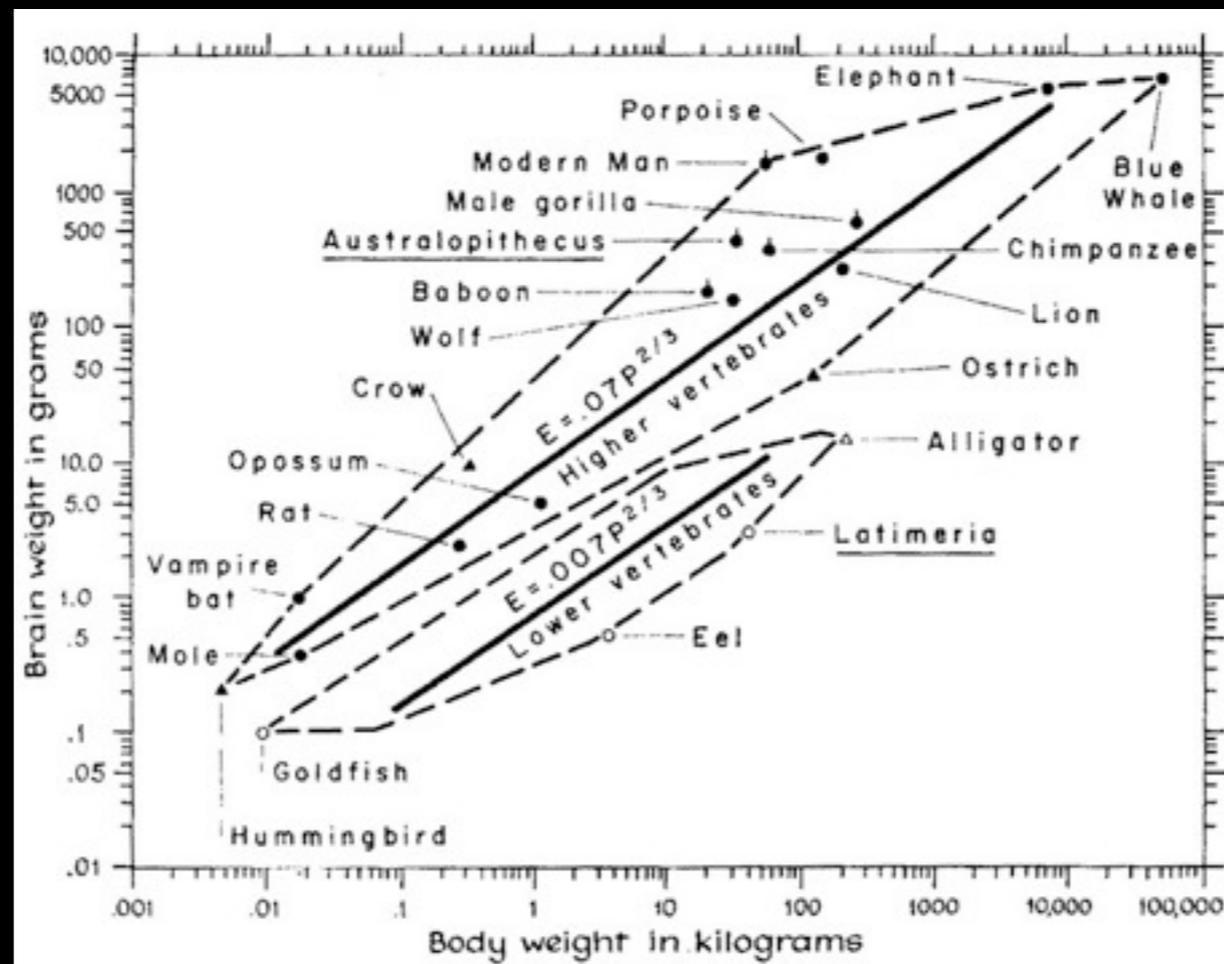
Australopithecus afarensis

Homo sapiens



Senses, brain and behavior

- emphasis on vision
- decreased snout and olfactory areas
- larger and more complex brain



Senses, brain and behavior

- longer gestation, infancy, life span
- more k-selected (tend towards single offspring)
- greater dependency on learned behavior
- more social



Primate trends

- Arboreal adaptations
- Dietary plasticity
- Behavioral complexity



