

Concepts of Biology. Lecture 39

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1 Where we are?

2 Origin of us

- Just another ape

3 Future evolution

- Dougal Dixon and his “After Man” book



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From Paleogene to Quaternary

Cenozoic era:

- Paleogene: starts 66 Mya
- Neogene: starts 23 Mya
- Quaternary: starts 2.5 Mya

Includes:

- Pleistocene
- Holocene



Origin of us

Just another ape



We and monkeys

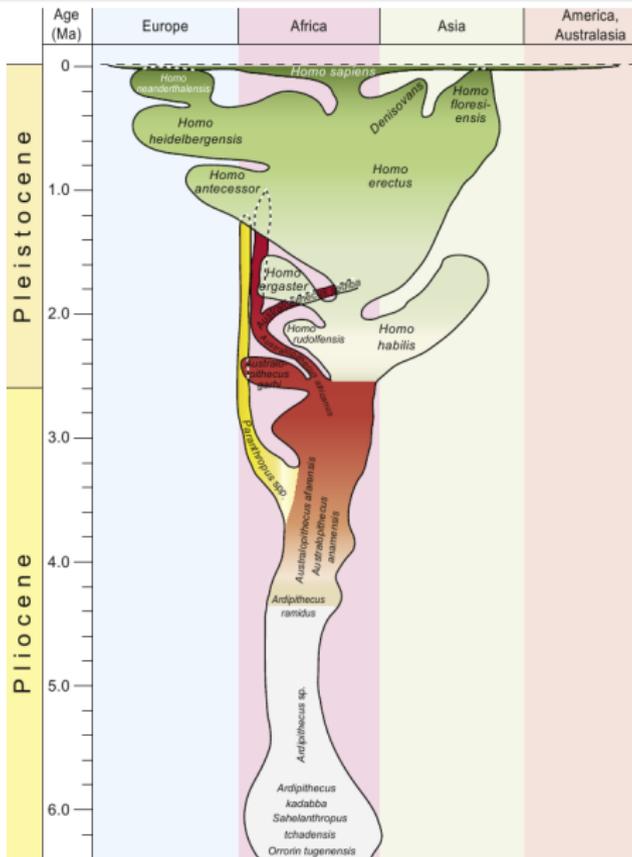
- It is scientifically correct to call us “monkeys” since we belong to the same order, Primates
- More strictly, humans and their relatives belong to the family Hominidae (hominids)



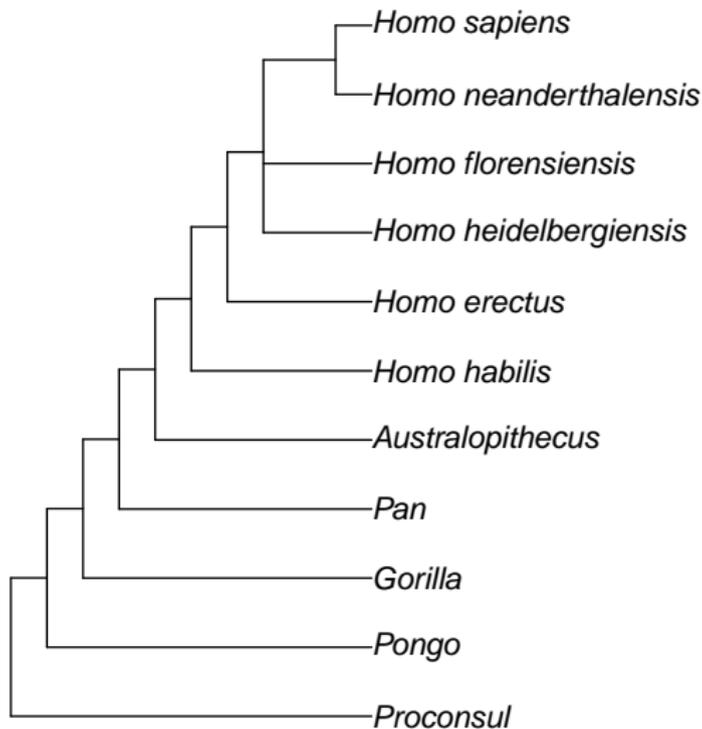
We and monkeys



Time and space of Hominidae evolution



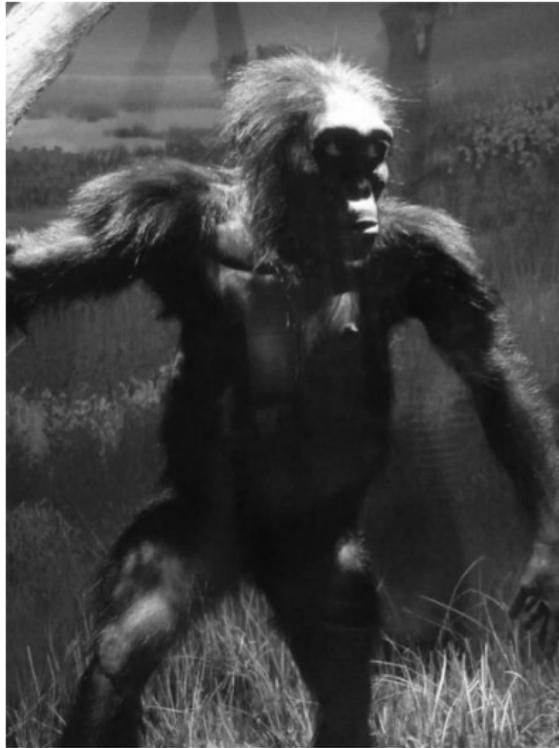
Phylogenetic tree of hominids (simplified)



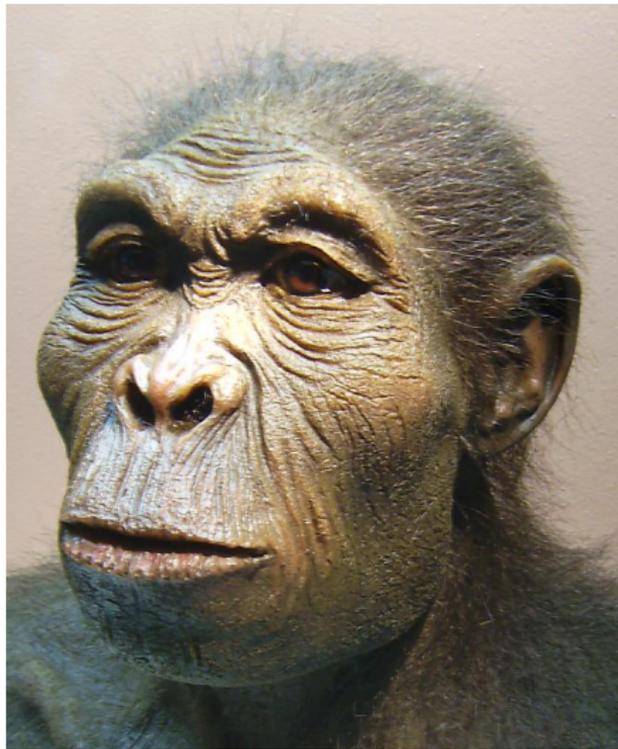
Please note that some terminal groups exchanges their genes (e.g., Neanderthals with modern humans)



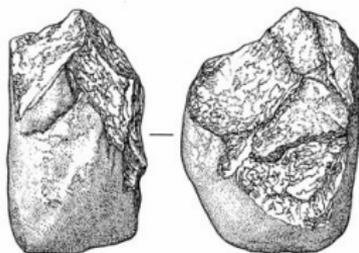
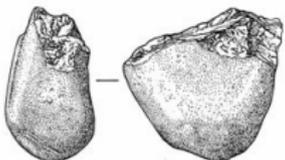
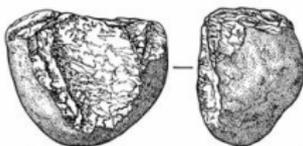
Step I: still a monkey—*Australopithecus* spp.



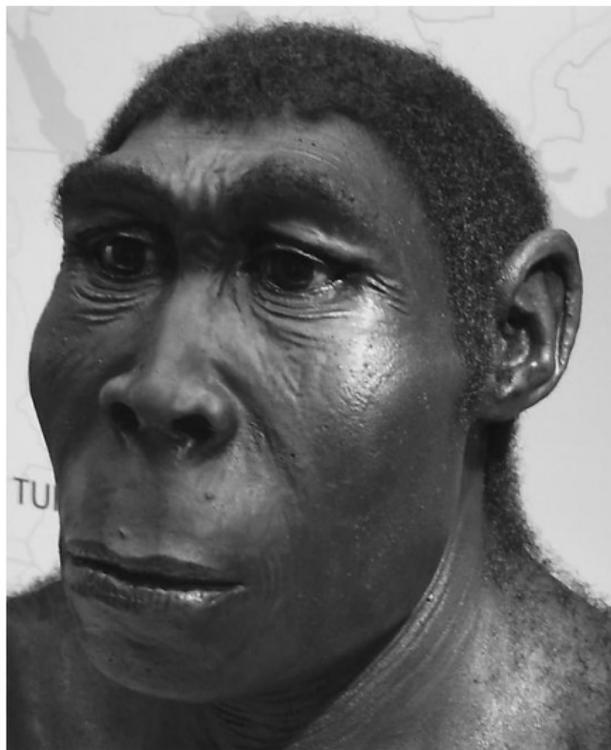
Step II: tool-maker—*Homo habilis*



... and his tools

*a**b**c*

Step III: fire-maker—*Homo erectus*



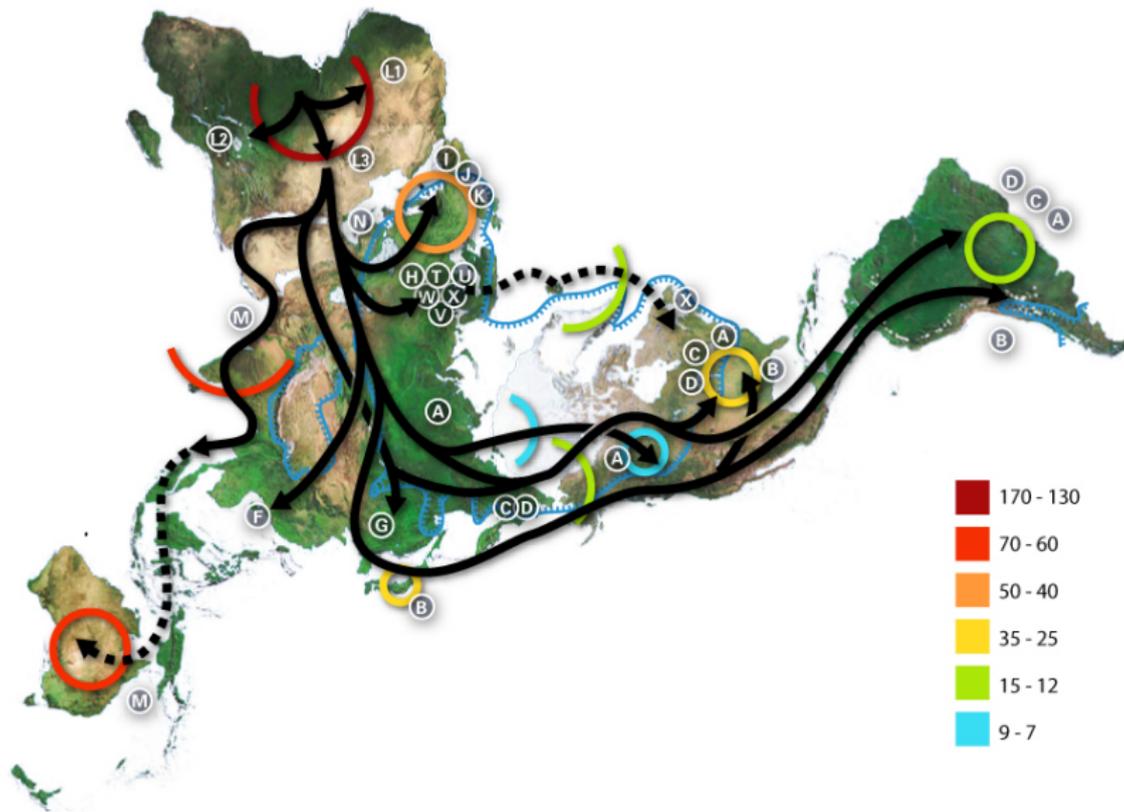
Step IV: grave-maker—*Homo neanderthalensis*



Step V: *Homo sapiens* play the “Evolution” game



Out of Africa

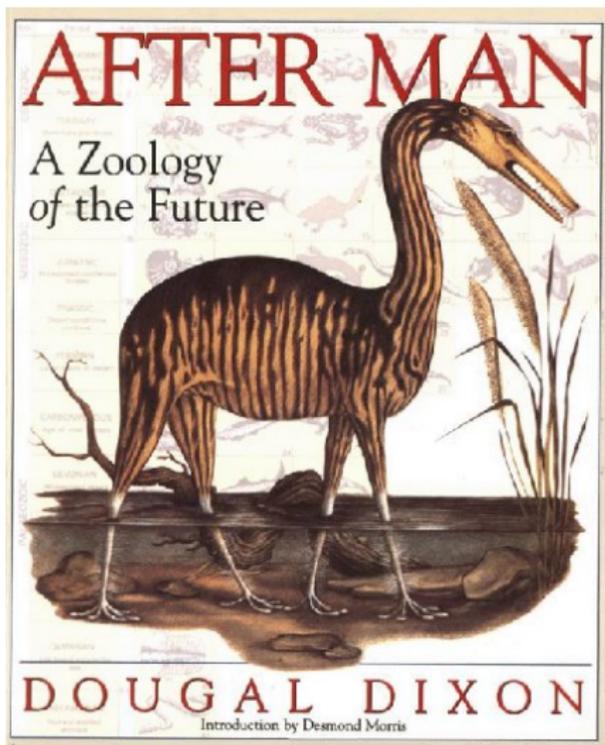


Future evolution

Dougal Dixon and his "After Man" book



D. Dixon. After man. Zoology of the Future. 1981



Two main assumptions

- Big mammals will disappear from Earth (exterminated by humans)
- Humans will disappear without traces (leaved to colonize other planets?)

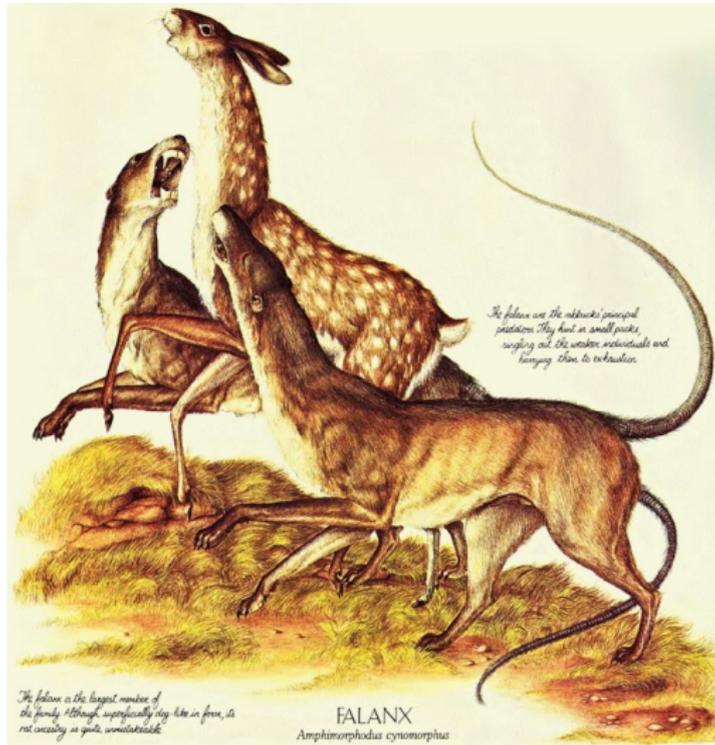


Some results

- Rodents and hares will radiate and fill niches of big hoofed mammals and their predators
- In many places, previously "neglected" groups will fill new ecological niches



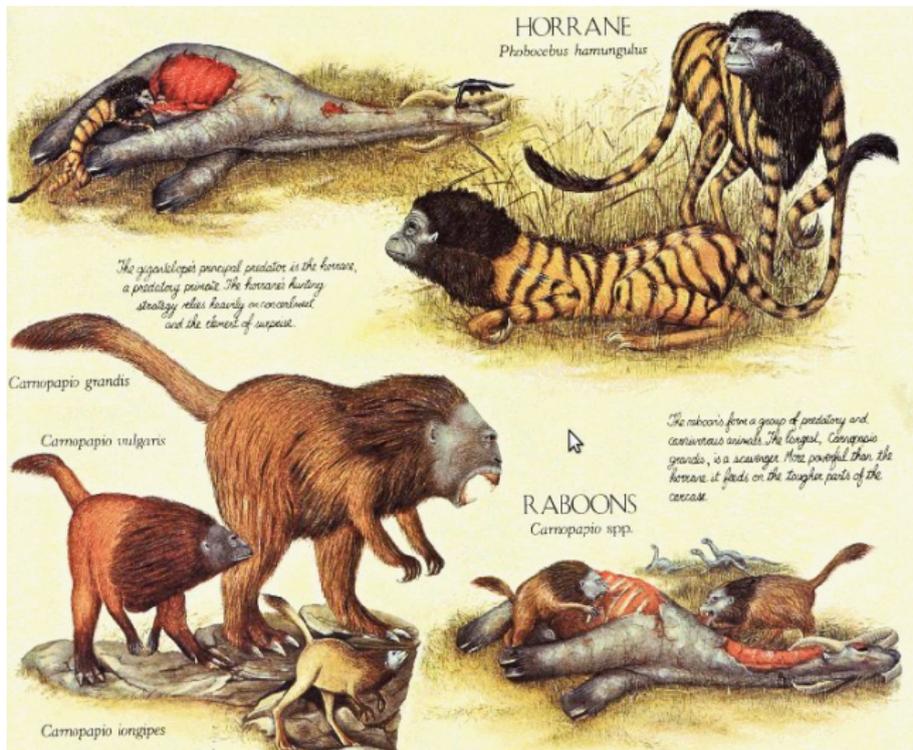
"Hoofed hares" and "wolf rats"



Tropical "monkey cat"



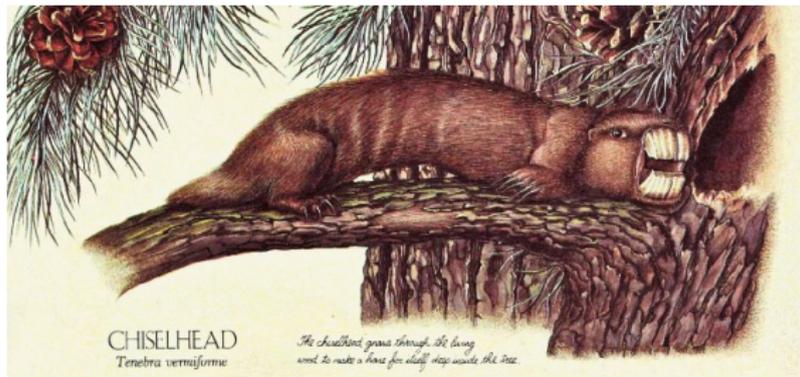
Carnivorous monkeys



Mammal ectoparasite



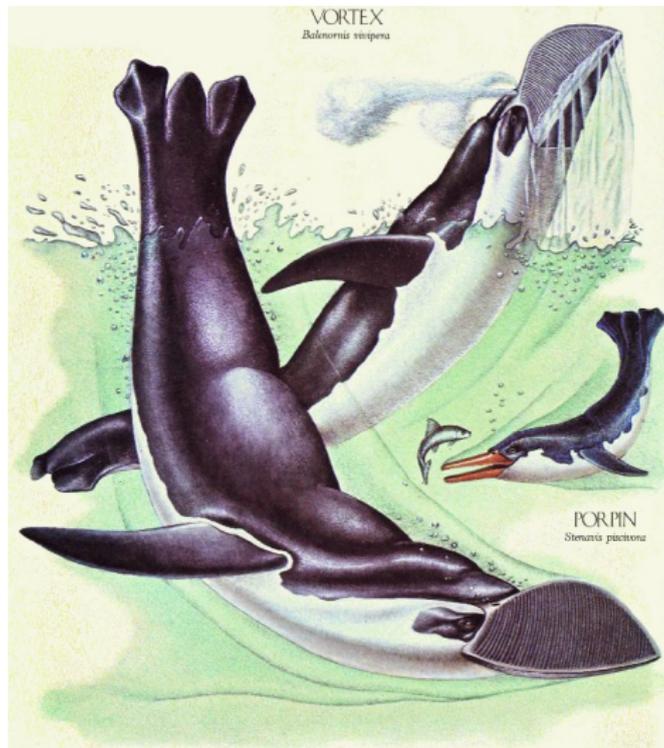
Chiselhead, wood-inhabiting mammal



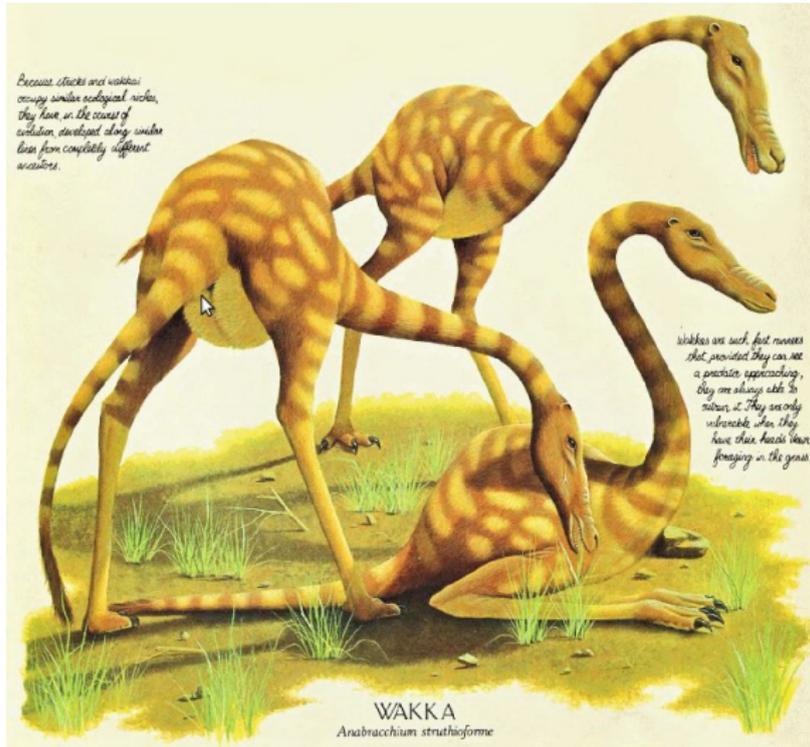
Australian terrestrial bats



Penguin whale



Bipedal mammal herbivore



Short anonymous absolutely voluntary survey

- A What do you **like** most in Biology 111?
- B What do you **dislike** most in Biology 111?
- C **Which lab** do you remember most of all?
- D Please grade (1—bad, 5—excellent):
 - A. Lectures
 - B. Labs
 - C. Exams



For Further Reading



[Walking with beasts \(movie\).](#)

http://en.wikipedia.org/wiki/Walking_with_Beasts



[Human evolution.](#)

http://en.wikipedia.org/wiki/Human_evolution



[Homo.](#)

<http://en.wikipedia.org/wiki/Homo>



[D. Dixon. After man. Zoology of the Future.](#)

http://www.sivatherium.narod.ru/library/Dixon/main_en.htm

