

# Hominid Evolution and Adam & Eve



BIB LIT Faith & Science Dialogue

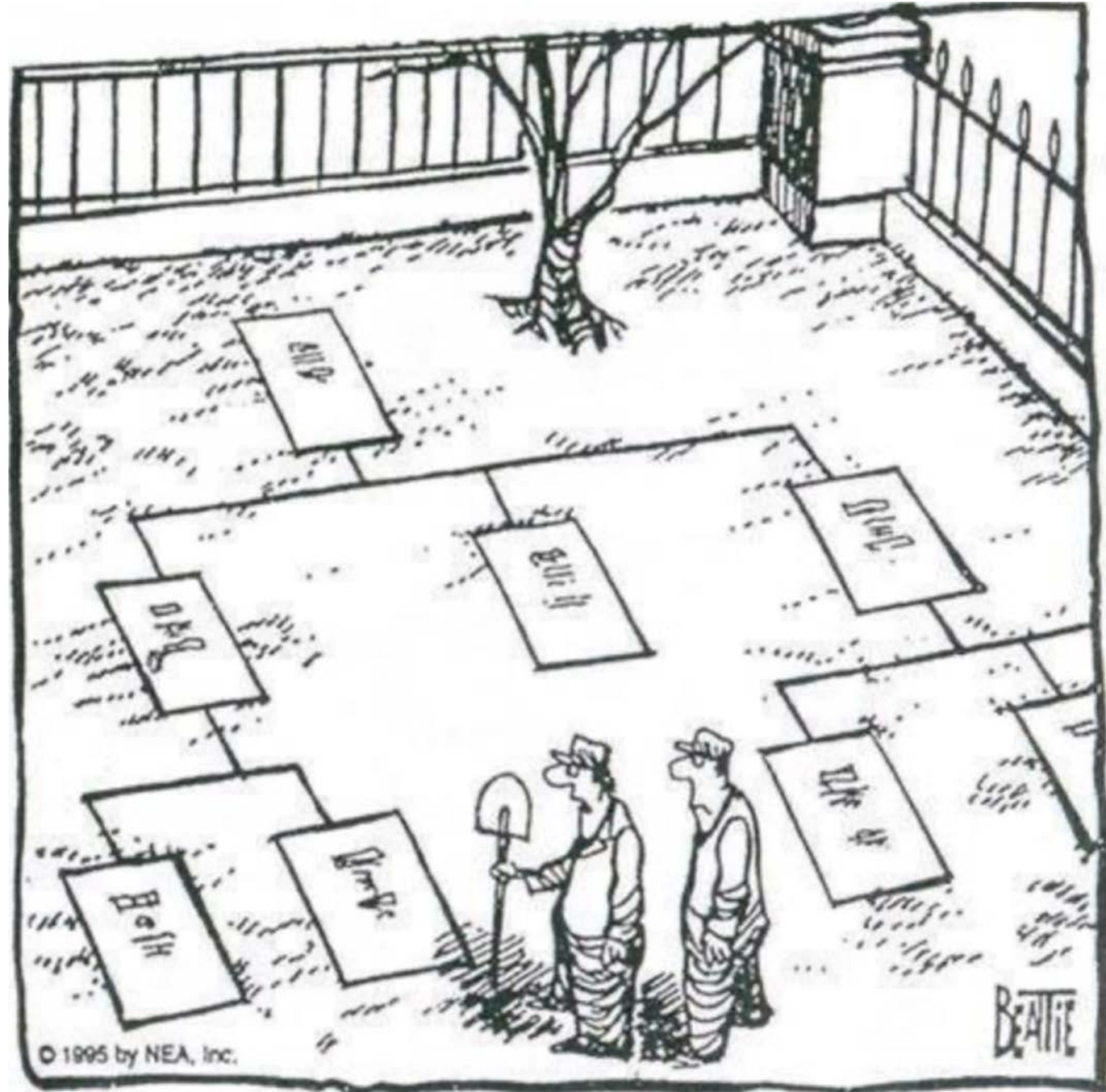
26 Then God said, “Let us make man in our image, after our likeness. And let them have dominion over the fish of the sea and over the birds of the heavens and over the livestock and over all the earth and over every creeping thing that creeps on the earth.”

27 So God created man in his own image,  
in the image of God he created him;  
male and female he created them.

28 And God blessed them. And God said to them, “Be fruitful and multiply and fill the earth and subdue it, and have dominion over the fish of the sea and over the birds of the heavens and over every living thing that moves on the earth.”

# The conflict with science

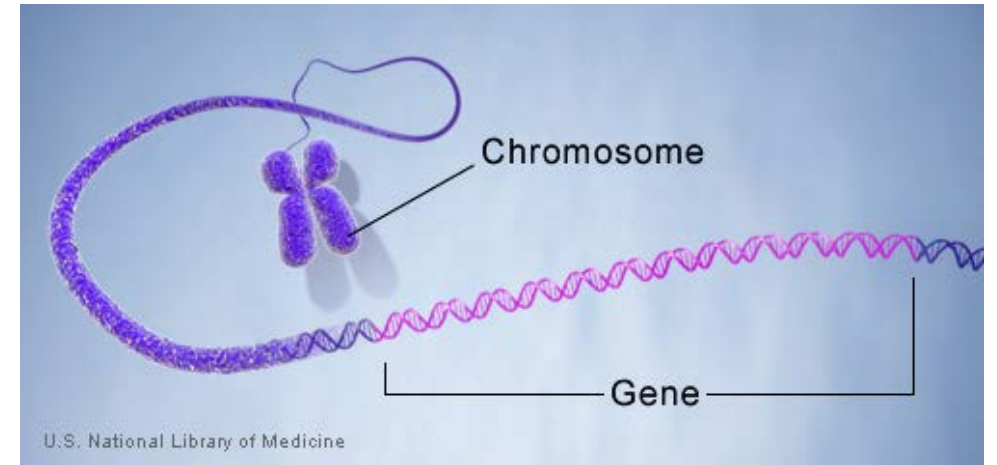
- Started with Linneaus
- Science observed and ordered.
- Darwin promoted the idea of one species could beget another.
- Neanderthal remains were discovered in a limestone quarry in 1856, three years before the publication of *On the Origin of Species*, and Neanderthal fossils had been discovered in Gibraltar even earlier, but it was originally claimed that these were human remains of a creature suffering some kind of illness.



"Some family actually laid out their plots like this?!"

# Two kinds of data

## Fossils



## Genes



Looking for 'traits' that indicate earlier versions.



# Morphology = Anthropology

- The ability to walk on two legs
- Bigger brains
- Reduced dimorphism (male canine tooth)
- Opposable thumbs..
- Others..



By 2012,  
the Sima de los Huesos  
hominin assemblage,  
near Burgos, Spain,  
6500 specimens from  
at least 28 individuals.









# Homo naledi bones from the Dinaledi Chamber, South Africa



# How is dating done?

- **Potassium-argon dating, Argon-argon dating, Carbon-14** (or Radiocarbon), and **Uranium series**. All of these methods measure the amount of radioactive decay of chemical elements; the decay occurs in a consistent manner, like a clock, over long periods of time.
- **Thermo-luminescence, Optically stimulated luminescence, and Electron spin resonance**. All of these methods measure the amount of electrons that get absorbed and trapped inside a rock or tooth over time.
- **Paleomagnetism**. This method compares the direction of the magnetic particles in layers of sediment to the known worldwide shifts in Earth's magnetic field, which have well-established dates using other dating methods.
- **Biochronology**. Since animal species change over time, the fauna can be arranged from younger to older. At some sites, animal fossils can be dated precisely by one of these other methods. For sites that cannot be readily dated, the animal species found there can be compared to well-dated species from other sites. In this way, sites that do not have radioactive or other materials for dating can be given a reliable age estimate.
- **Molecular clock**. This method compares the amount of genetic difference between living organisms and computes an age based on well-tested rates of genetic mutation over time. Since genetic material (like DNA) decays rapidly, the molecular clock method can't date very old fossils. It's mainly useful for figuring out how long ago living species or populations shared a common ancestor, based on their DNA.



2.6 million

Oldest stone toolmaking

Argon,  
Paleomagnetic



1.8 million

*Homo erectus* expands  
out of Africa

Argon,  
Paleomagnetic



800,000 – 200,000

Rapid brain expansion

Argon & Uranium-series  
Paleomagnetic



250,000 – 30,000

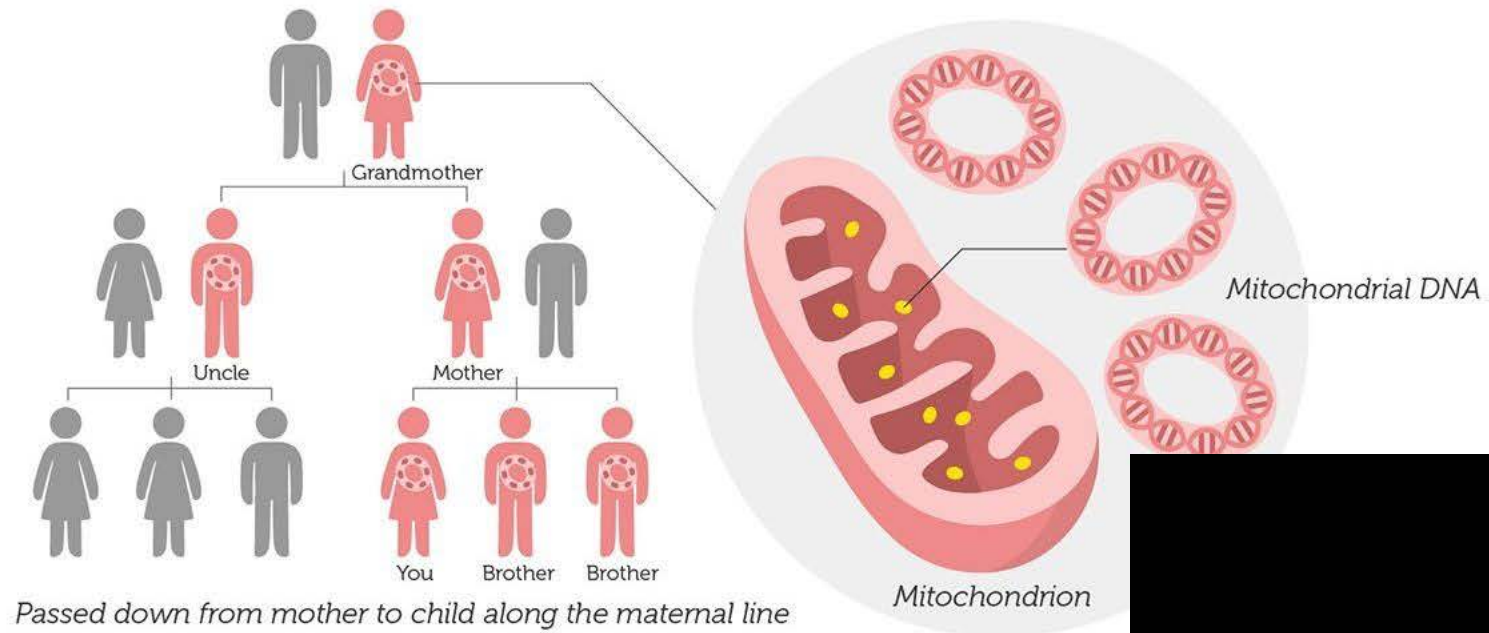
Neanderthals emerge,  
then become extinct;  
*Homo sapiens* emerges in  
Africa, then expands to other  
continents; symbolic culture

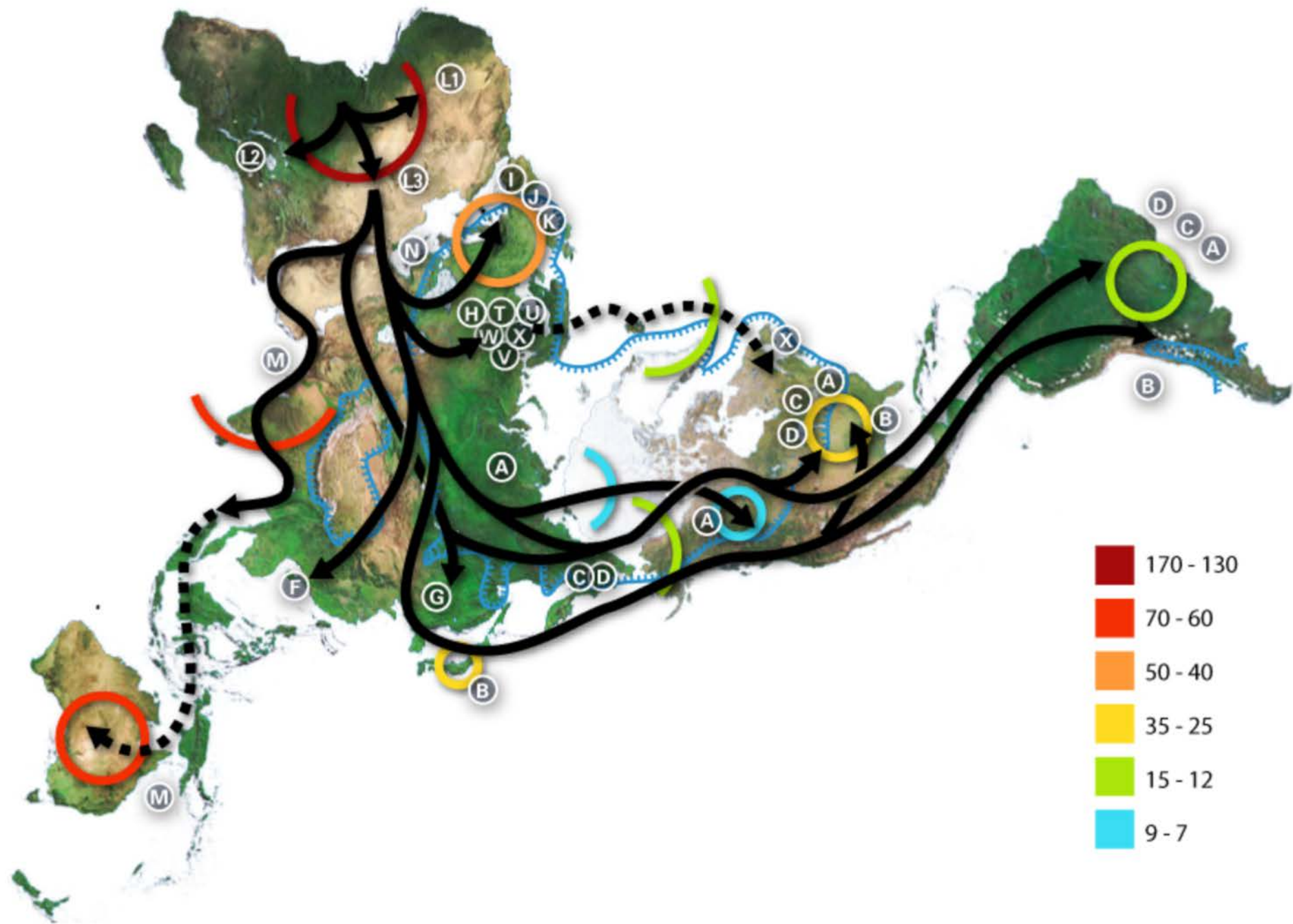
Thermoluminescence  
Electron spin resonance  
Carbon-14,  
Molecular genetic clock





# Mitochondrial Eve





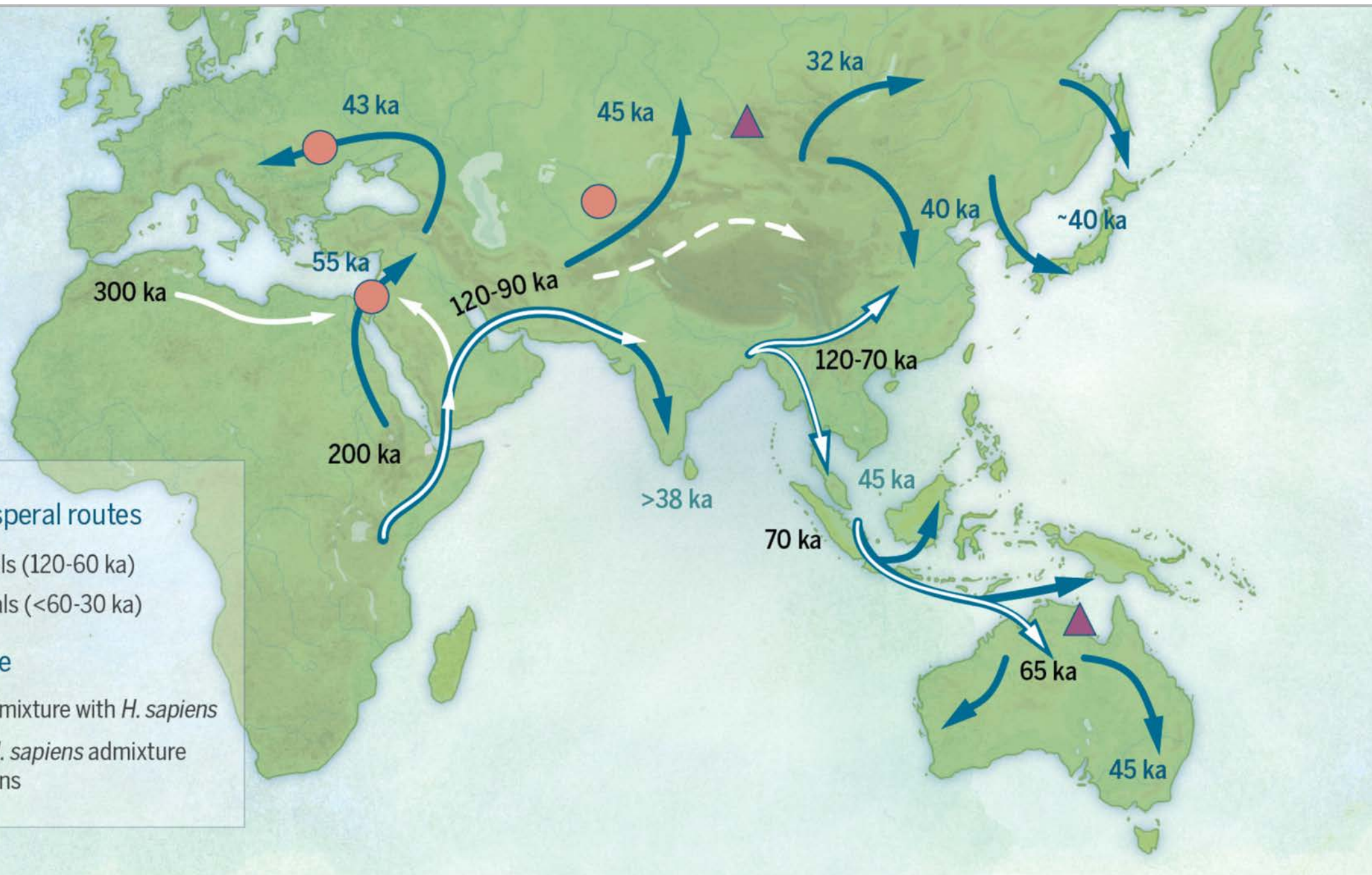


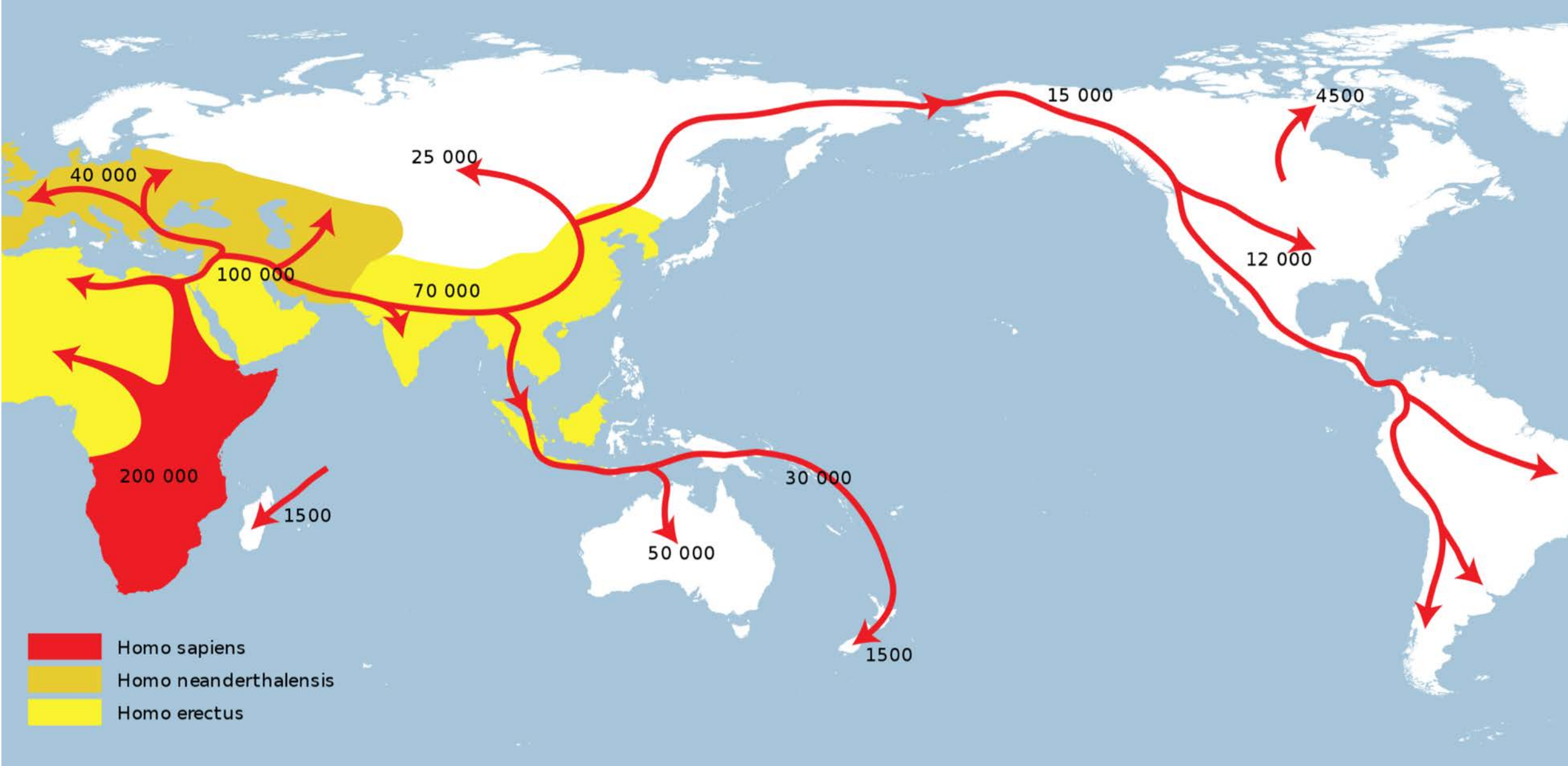
### *Homo sapiens* dispersal routes

- Early dispersals (120-60 ka)
- Later dispersals (<60-30 ka)

### Genetic admixture

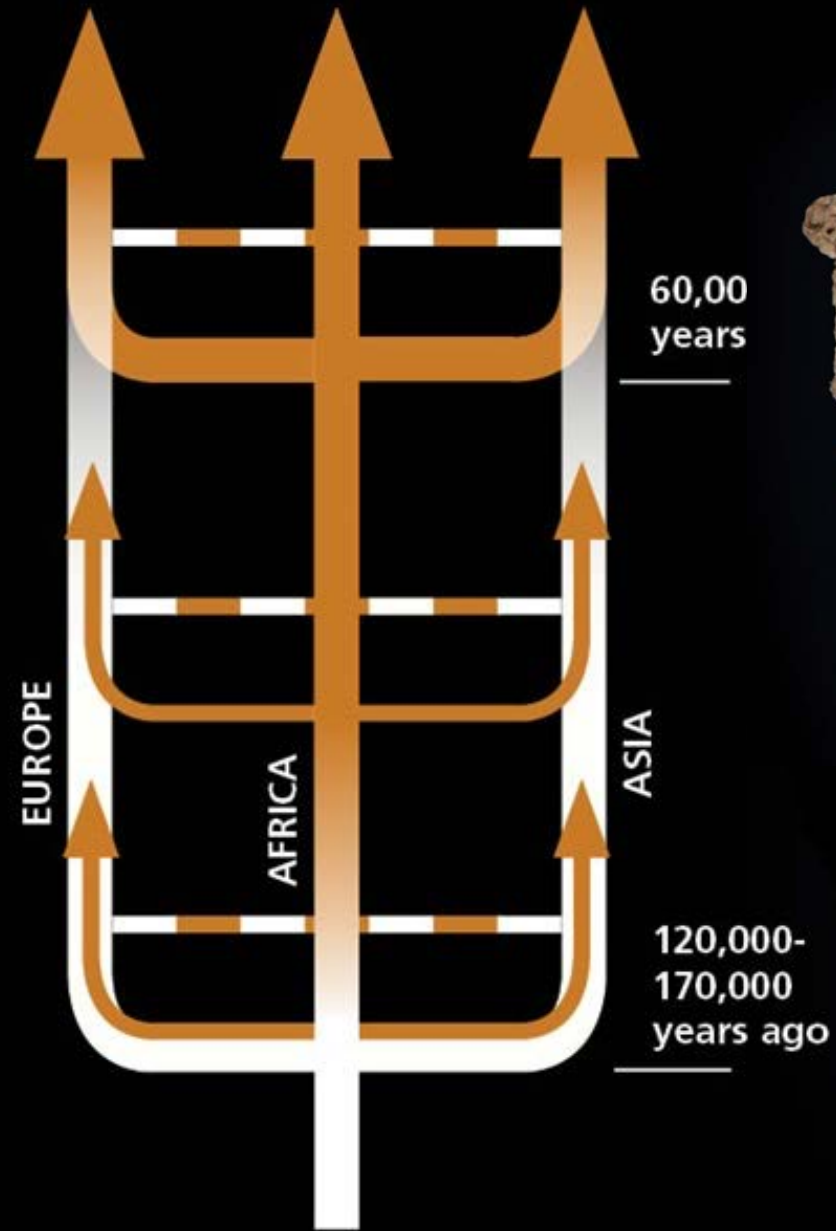
- Neandertal admixture with *H. sapiens*
- ▲ Neandertal/*H. sapiens* admixture with Denisovans





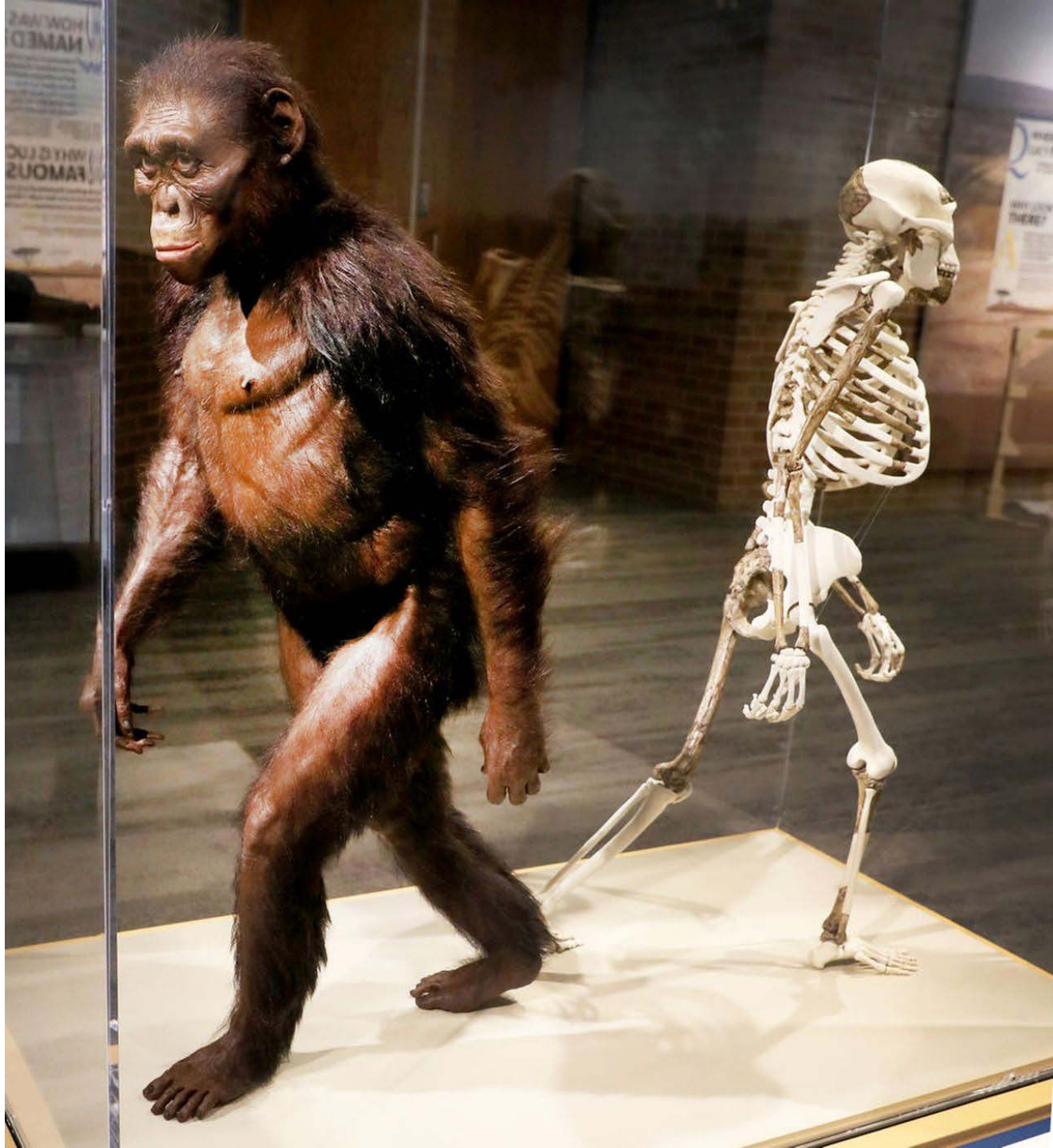


■ HOMO SAPIENS ■ HOMO ERECTUS



jawbone from an anatomically modern human, found in Israel, is more than 170,000 years old.





# Take a break..

- Players in science and faith

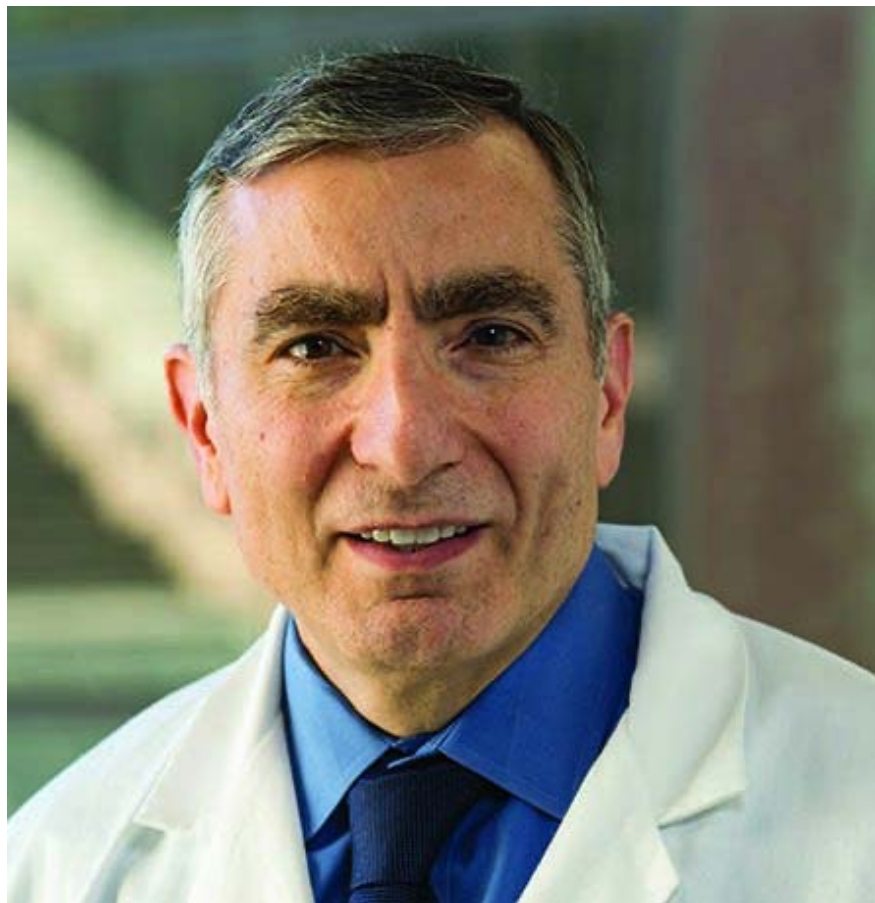
# Francis Collins

- NIH
- Biologos
- The Language of God
- Theistic evolution





# James Tour



- synthetic organic chemist, specializing in nanotechnology
- Rice University
- ID proponent
- [Jmtour.com](http://Jmtour.com)



# Josh Swamidass

- Medical doctor
- Computational/  
bioinformatics
- Washington U.
- Peaceful Science

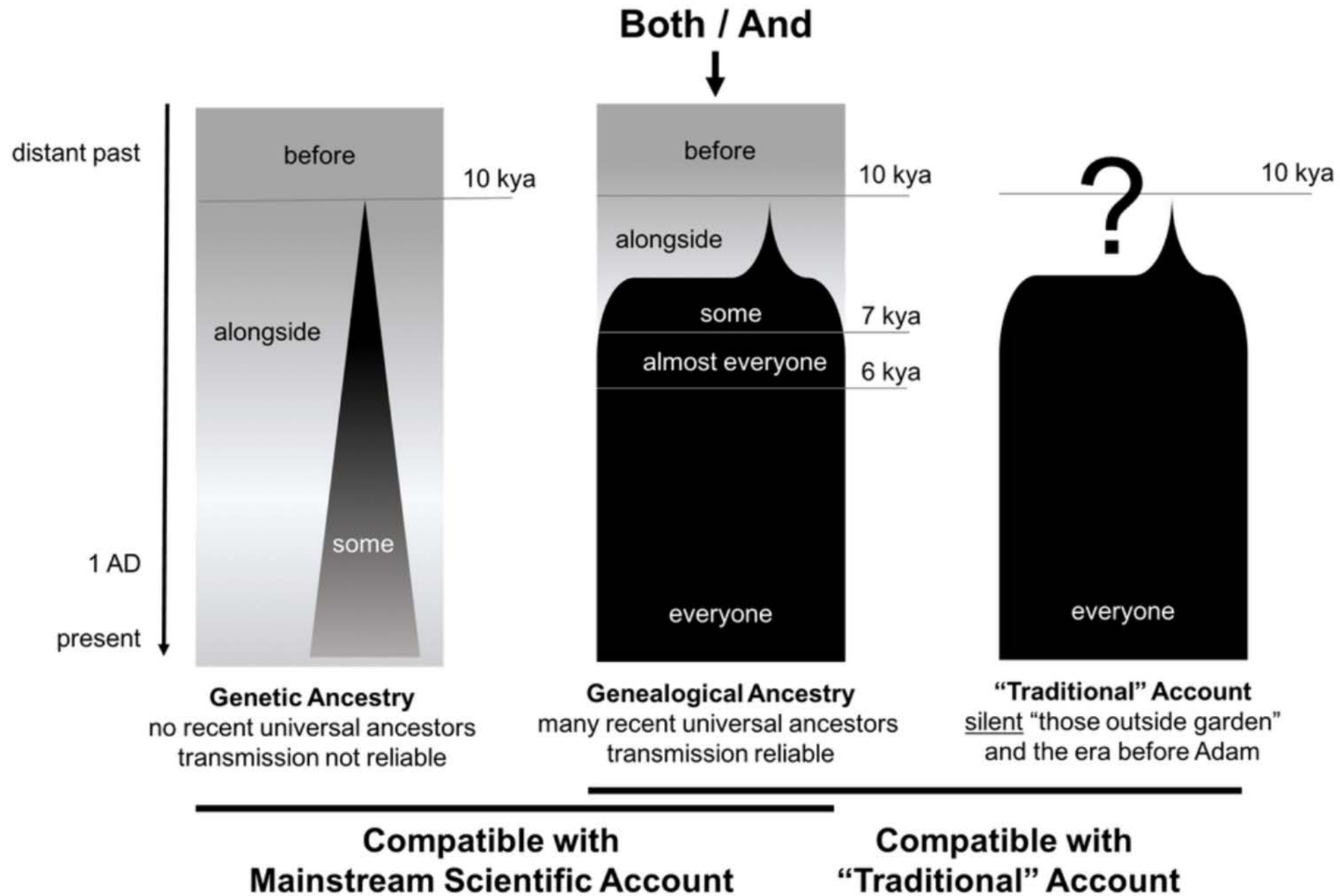


*Entirely consistent with the genetic evidence, it is possible Adam was created out of dust, and Eve out of his rib, less than 10,000 years ago in a divinely created garden where God might dwell with them, the first beings with opportunity to be in a relationship with Him. Perhaps their fall brought accountability for sin to all their descendants. Leaving the Garden, their offspring blended with their neighbors<sup>1</sup> in the surrounding towns. In this way, they became genealogical ancestors of all those in recorded history. Adam and Eve, here, are the single-couple progenitors<sup>2</sup> of all mankind. Even if this scenario is false or unnecessary, nothing in evolutionary science unsettles this story. So, evolution presses in a very limited way on our understanding of Adam and Eve, only suggesting (alongside Scripture) that their lineage was not pure.*

# Genetic vs Genealogical

relating to genes or heredity, to origin, or arising from a common origin.

relating to the study or tracing of lines of family descent.



# What are our options?

- Original sin
- Bestiality
- Single couple
- More than 100 individuals
- Adam and Eve were real.
- Adam and Eve were not real.
- Adam and Eve might have been real.



# Understanding the truth of scripture



*God hath made of one blood all the nations of the world.” Acts 17:26.*

# What to believe?

- Revelation from scripture
- The sensibility of faith
- Faith – confidence in things unseen
- Rest in faith