

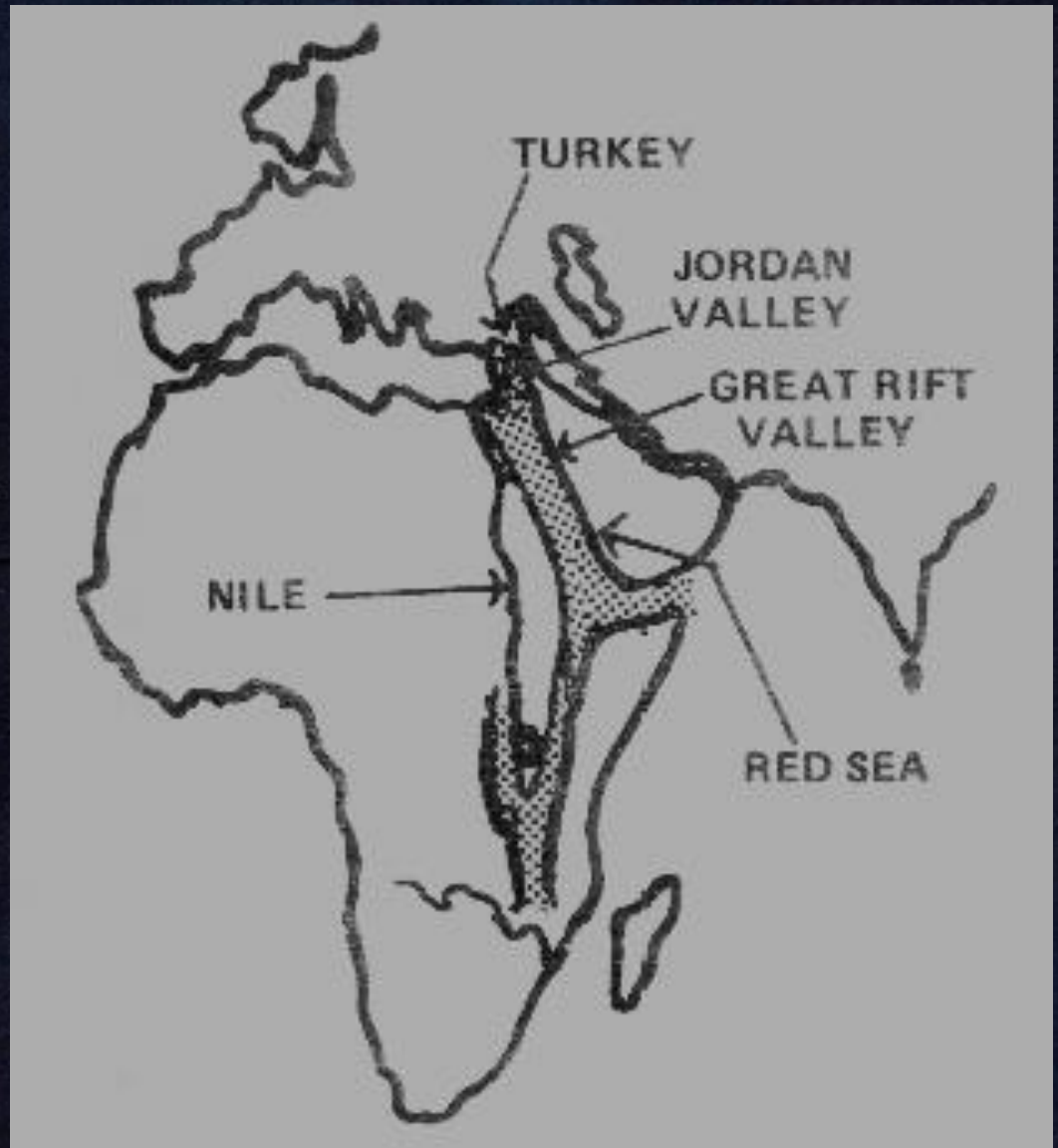
WHAT'S THE CONNECTION?



HUMAN ORIGINS IN AFRICA

WHY IS THE STUDY OF *PREHISTORIC*
HUMANITY SO ELUSIVE?

The Great Rift Valley extends from Turkey through the Jordan River valley, the Red Sea and down through the area of Lake Victoria almost to the Zambezi River.

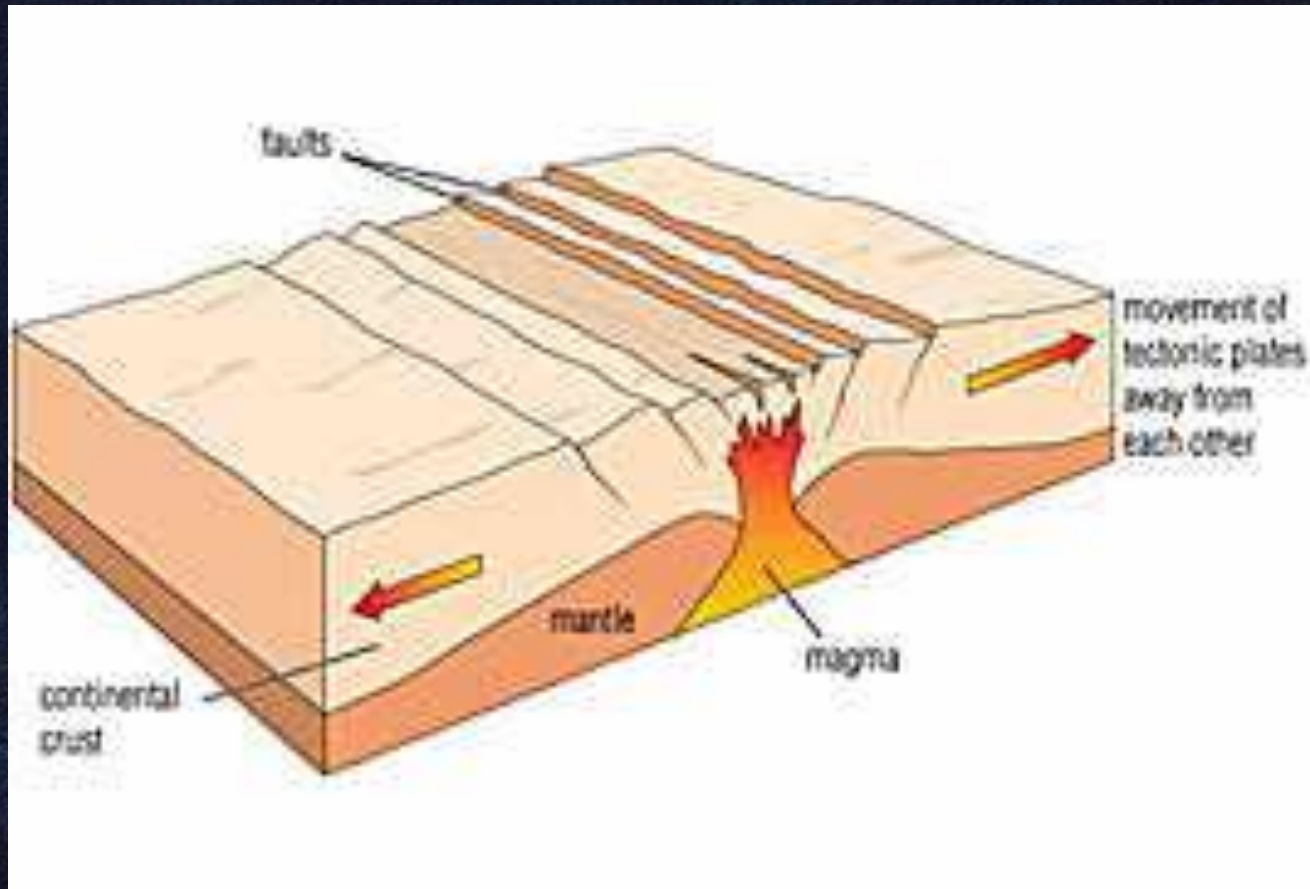




The Great Rift Valley



How the Great Rift Valley Was Created



The subsidence of rock resulting from two or more parallel rocks moving apart is known as a graben. When this happens on a large scale, with tectonic plates moving apart, a rift valley is created.

**Who first
discovered
these
footprints?**

**Why are they
so
important?**



Laetoli Footprints

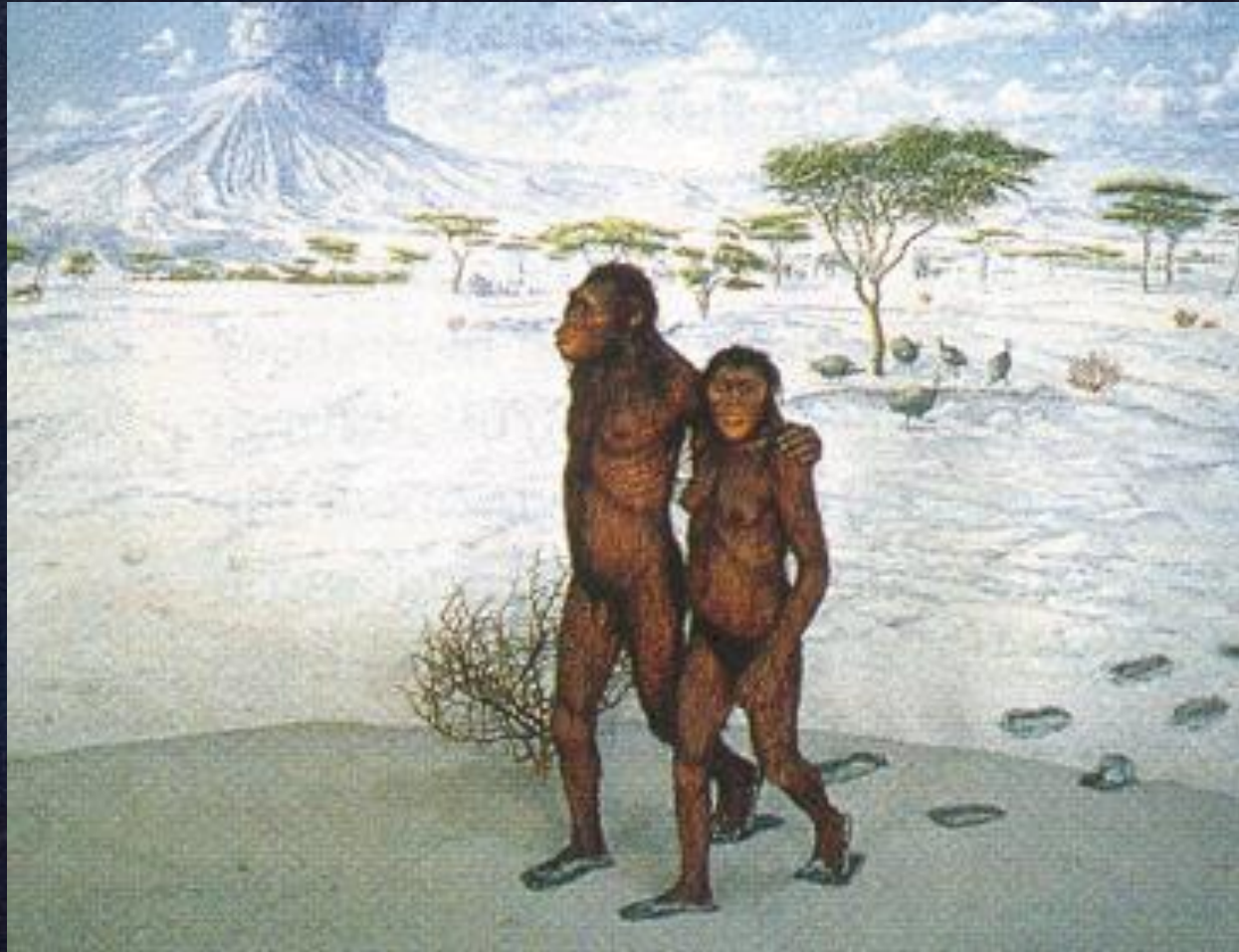
Mary and Louis
Leakey

3.6 million years old

Made by
Australopithecus
Afarensis

(Lucy's species)





What important valley in Africa is this scene a part of?

What explains why these two early *hominids* left footprints 3.5 million years ago?

The Leakeys in the Great Rift Valley



©Leakey Family Collection

Dr. Louis Leakey and his wife Mary Leakey, archaeologists, display the skull of a human ancestor, Zinjanthropus, in 1959.



The young
Donald
Johanson with
his amazing
discovery.

What was it?

In 1976 he was
inducted into
the Academy
of
Achievement
for his
discoveries.



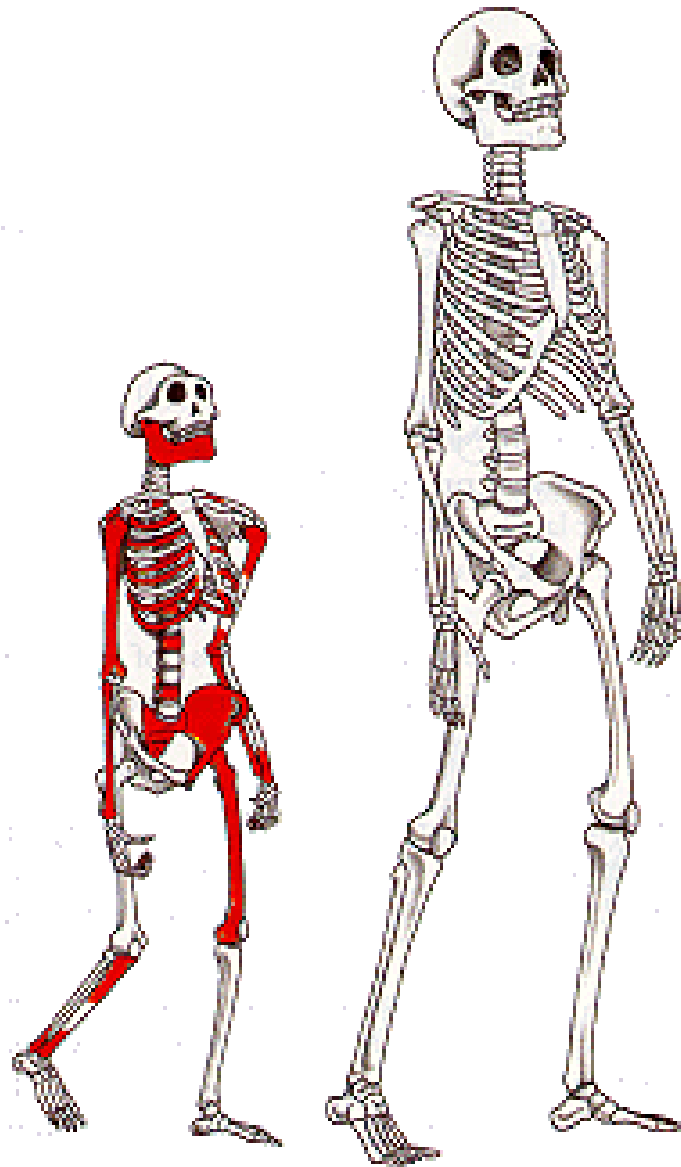
DISCOVERER
OF LUCY



"I've always thought
that risk-taking is an
important part of what
it means to be human."

~ Inducted: 1976 ~

Lucy



One of the
great *fossil*
finds:
LUCY
A hominid

Figure 11.3

Here, Lucy's skeleton stands beside the skeleton of a modern human female. The parts of the skeleton that have been discovered are shaded. Lucy was shorter than modern females and had relatively long arms and a relatively small brain.

Physiological Standards for being Human:

1. 90cc skull size
2. Upright vertebrate
3. Thumb for tool making



EXAMINING HISTORY: PREHISTORY

- **PRE-HISTORY**- period before written history
- Approximately 1.75 million years ago, earliest people first began using small pieces of rock as tools
- Massive development of humans over years in 4 major groups:
 - 1) Homo Habilis (2 million years ago)
 - 2) Homo Erectus (1 million years ago)
 - 3) Neanderthal (100 000 years ago)
 - 4) Cro-Magnon (50 000 years ago)

DEVELOPMENT OF HUMANS

Homo Habilis

- Latin for “handy man”
- Lived in eastern Africa > spread north to Asia
- fossilized human bones found with stone tools and animal fossils
- Skulls – humans had a flatter head with a brain only 2/3 size; approximately 1.5 m tall
- Built shelters of braches and collected bird eggs and wild berries for food; hunted wild pigs
- Tools / weapons = rocks, braches, sharp stones
- No clothes
- Did not know how to use fire

Homo Erectus

- Latin for “upright man”
- Discoveries of “Java Man” (Indonesia) and “Peking Man” (China”
- Lived in Afria, south Europe, Asia
- Skulls- humans had long, flat and sharply angled at back (between ape and human head)
- Thighbone- identical to modern humans > walk upright
- Charred animals bones found = they used fire to cook
- Belief that homo erectus was a descendant of homo habilis
- Make fire= first by coals or volcanic ash; later by friction= made life easier as they could survive in colder climates
- Tools / weapons= bones, rocks, blades for carving, spears

Homo Sapiens

- Latin for “reasoning man”
- 250 000 years ago= emergence of Homo Sapiens who evolved from homo erectus
- is the species to which all modern day people belong

NEANDERTHALS VS CRO MAGNON

HOMO SAPIENS NEANDERTHAL

- Neander Valley- Germany
- 6 cm taller than homo erectus; thick eyebrow ridge
- Tools= knives, spear sharpeners made from chipped rock
- Animals hides worn as clothes
- Lived in caves kept warm with fire
- First to bury the dead (graves with bodies carefully prepared)

CRO MAGNON (aka -Homo Sapiens Sapiens)

- South France- clearing away earth from back of a rock shelter locally known as Cro-Magnon
- First appeared in Europe 30 000 years ago following ice age
- Brain as large as modern day human; approx. 2 metres tall with modern "faces"
- Tools= slim, sharp edge blades, chisels, knives, spearheads, lamps (stone bowl with animal grease and lit fur or moss)
- Animals bones and teeth used to make musical instruments, jewellery
- Cave paintings
- Fierce warriors
- Wiped out Neanderthals

Denisovans

- Discovered in 2010
- Minimal fossil remains
- Branched out from Neanderthals about 400,000 years ago





Lee Berger

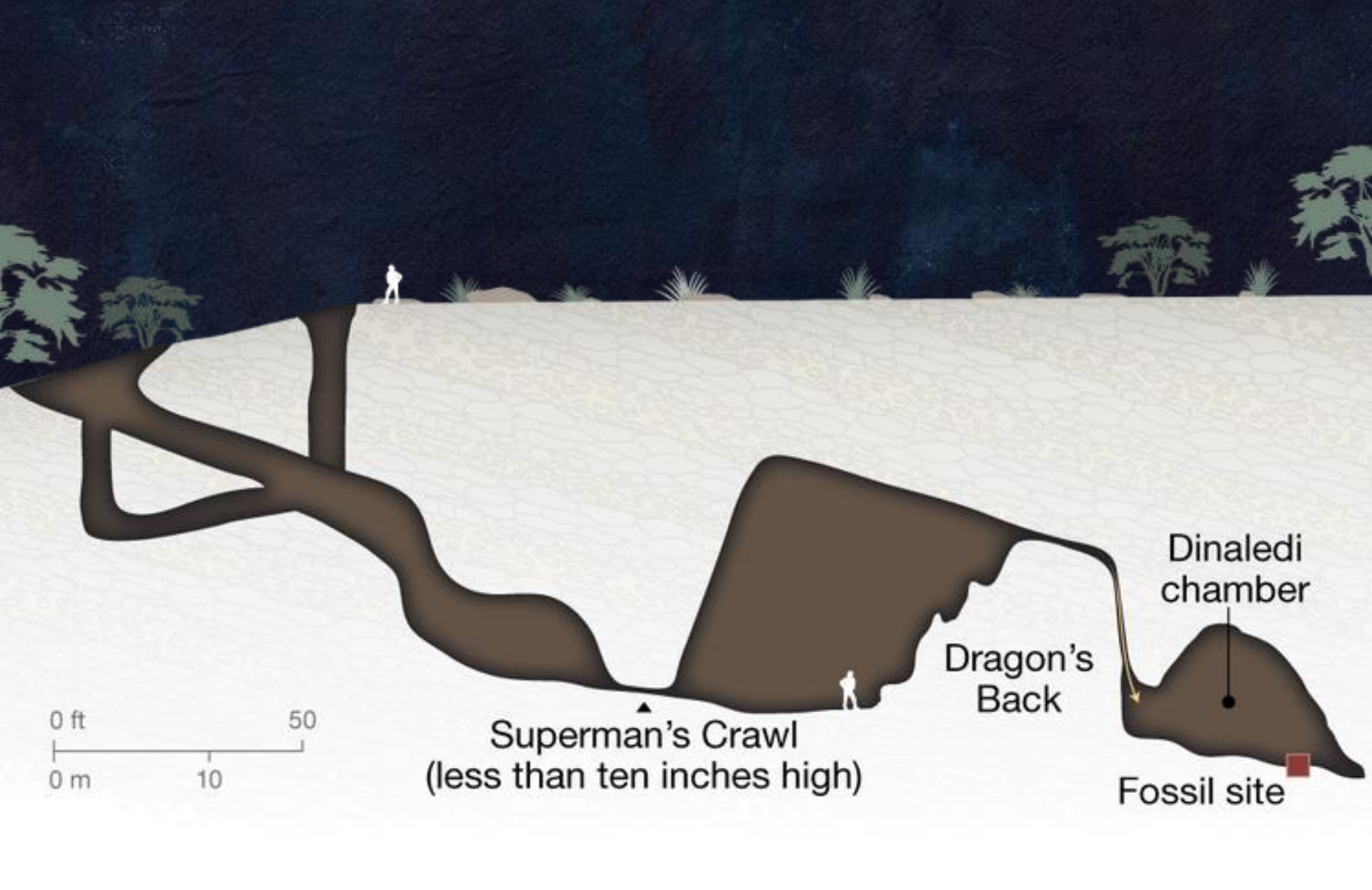
*Discovered a new species -
Homo naledi ("star man")*

Discovered: 2013, officially named in 2015.

**Between 300,000 and 200,000 years old.
South Africa**

Significance: A strange mix of features
-some parts of its skeleton indistinguishable
from those of modern people

- other parts looked almost ape-like
- a brain little bigger than that of a chimpanzee,
- Seems to have deliberately disposed of its dead



0 ft 50
0 m 10

Superman's Crawl
(less than ten inches high)

Dragon's Back

Dinaledi chamber

Fossil site

Homo Naledi -

A Blend of Features from Homo Sapiens and Australopithecine

HOMO FEATURES

Humanesque skull

The general shape of *H. naledi's* skull is advanced, though the braincase is less than half of a modern human's.

Versatile hands

H. naledi's palms, wrists, and thumbs are humanlike, suggesting tool use.

Long legs

The leg bones are long and slender and have the strong muscle attachments characteristic of a modern bipedal gait.

Humanlike feet

Except for the slightly curved toes, *H. naledi's* feet are nearly indistinguishable from ours, with arches that suggest an efficient long-distance stride.



AUSTRALOPITHECINE FEATURES

Primitive shoulders

H. naledi's shoulders are positioned in a way that would have helped with climbing and hanging.

Flared pelvis

The hip bones of *H. naledi* flare outward—a primitive trait—and are shorter front to back than those of modern humans.

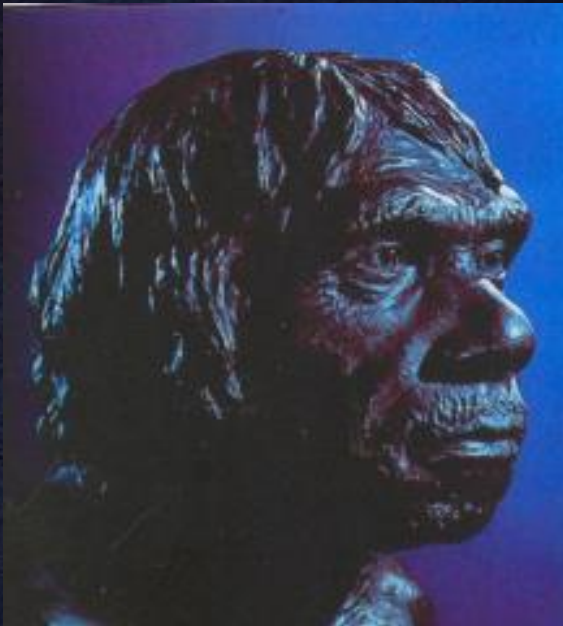
Curved fingers

Long, curved fingers, useful for climbing in trees, could be a trait retained from a more apelike ancestor.

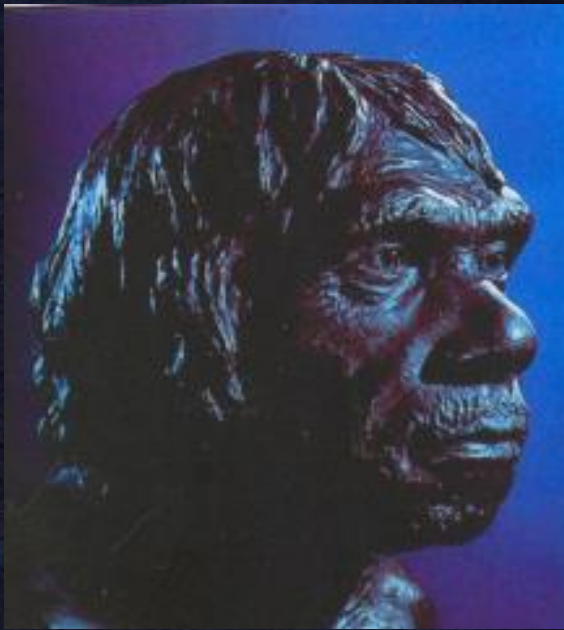
Homo – Man(person)

Sapien - Wise

**Which is the *Neanderthal* and which is the *Cro-Magnon*?
(Homo Sapien Sapien)**



**Homo Sapiens
*Neanderthalis***



**Homo Sapiens Sapiens
(*Cro-Magnon*)**

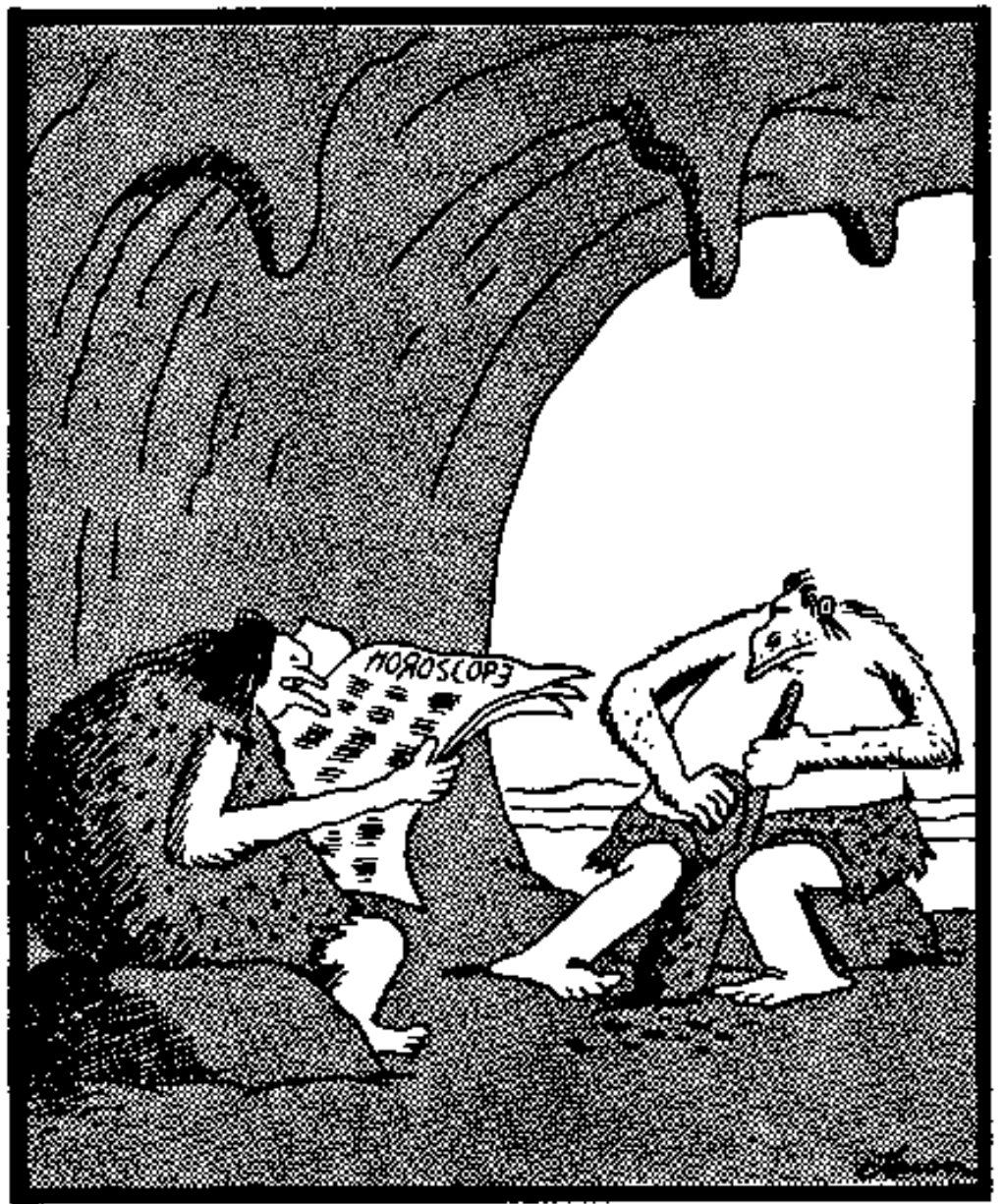


These skulls are both examples of *Homo Sapiens*





Does this describe a Neanderthal or a Cro-Magnon?



“You have a small capacity for reason, some basic tool-making skills, and the use of a few simple words.’ ... Yep. That’s you.”



How do you think an anthropologist figured out that *Neanderthal* buried their dead?

How does this scene suggest *Neanderthals* are like us...a *homo sapiens*?

GREAT LEAP FORWARD AKA THE COGNITIVE REVOLUTION

- 35 000 years ago when changes brought about innovation, creativity to humans (Homo Sapiens Sapiens)

2 FUNDAMENTAL CHANGES OCCURRED:

- 1) Development of modern anatomy
- 2) Beginning of innovative behaviour

EFFECTS

- Production of crafted tools and more sophisticated weapons
- development of trade for raw materials and ornaments
- Emergence of sculptures, paintings and crafted objects that showcased beauty and religion

So, what sets us apart from other animals?

How have we gone from an “animal of no great consequence” to one that has dominated the planet? Opposable Thumbs

- Obligate tool users
(We are dependent on tools)
- Control Fire
(nutrition, heat, energy)
- Cultural and expression
- Complex language
(the ability to coordinate in large groups, and collective learning)

*Where we stand apart most significantly is
in cultural accumulation and transmission.
Many animals learn. Only humans teach.*

-Adam Rutherford
The Book of Humans