Unit One
Chapter 1
Part 1 Rise of Agriculture

Technological and Environmental Transformations, to c. 600 B.C.E. “Foundations”

1.1: Big Geography & the Peopling of the Earth

1.2: The Neolithic Revolution & Early Agricultural Societies

1.3: The Development & Interactions of Early Agricultural, Pastoral, and Urban Societies

Big Ideas

- Hunting & gathering societies were relatively egalitarian, small, mobile and spiritual.
- Early humans spread out from Africa to the entire world and adapted to a variety of climates.
- After the last Ice Age, humans settled around available sources of grains and water forming larger populations and societies.
- Agriculture developed independently in many parts of the world.
- Agricultural societies became more varied, complex and socially stratified.
- Core and foundational civilizations developed around these centers of agriculture.
- Because of the Agricultural Revolution, larger and expanding civilizations resulted in more complex, urban, organized, and unequal societal structures.
- Power became increasingly consolidated in various forms of government.
- Civilization developed unifying cultures based on language, literature, laws, myths, religion, and monumental art.

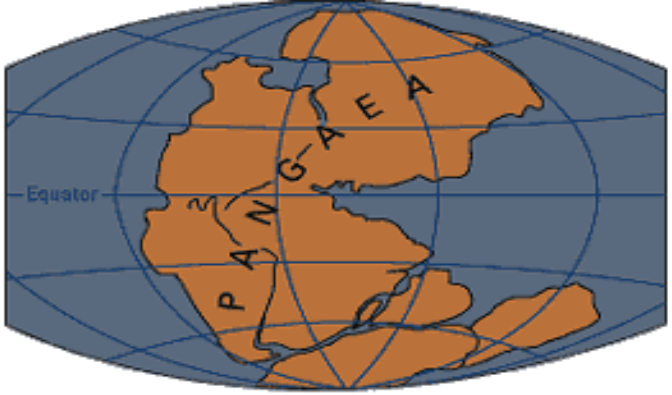
First some long history perspective.

For one unique and interesting viewpoint to show just how long it took the earth to develop and people to inhabit and spread, watch “15 Billion Years in 3 Minutes”:

http://www.youtube.com/watch?v=jRRJnssRQZk

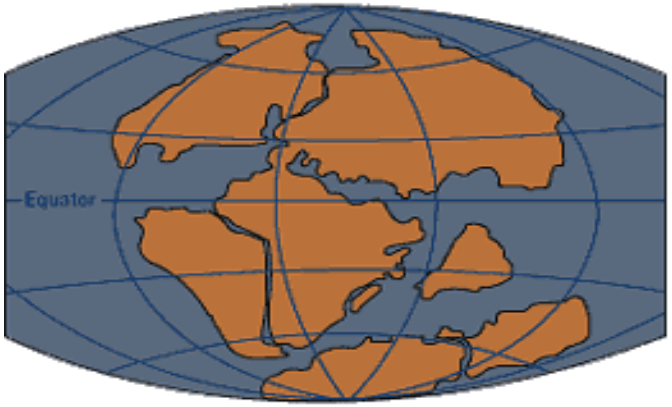
Also, “The History of the World in Seven Minutes” showcases just how quickly human history is progressing, exponentially:

http://www.youtube.com/watch?v=4pnmZalx9YY

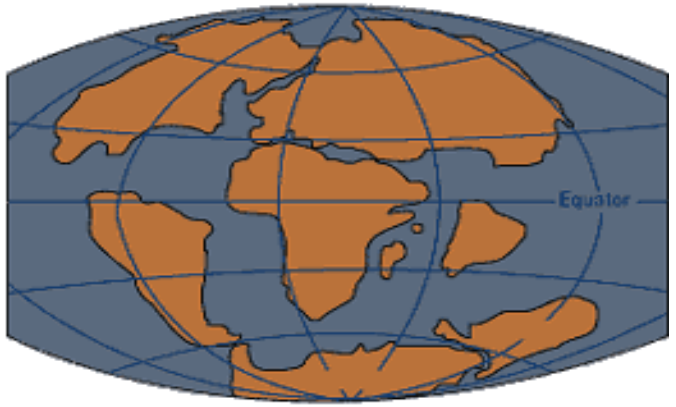


Permian Period
225 million years ago

Triassic Period
200 million years ago

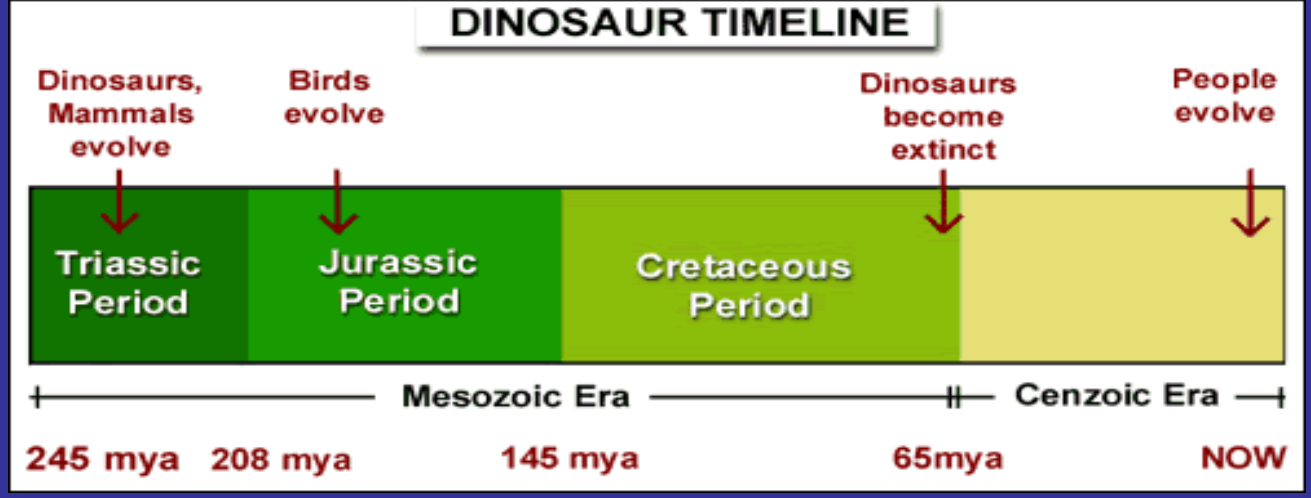


Jurassic Period
135 million years ago



Cretaceous Period
65 million years ago

Present Day


DINOSAUR TIMELINE
Dinosaurs, Mammals evolve
Birds evolve
Dinosaurs become extinct
People evolve
Triassic Period
Jurassic Period
Cretaceous Period
Mesozoic Era
Cenzoic Era
245 mya
208 mya
145 mya
65mya
NOW

1. How did the physical and cultural characteristics of hominids change over time, and how do scientists document and explain these changes?

2. How have changes in the environment influenced the physical development of the human species?

CHAPTER

1

CHAPTER OUTLINE

- Before Civilization
- Mesopotamia
- Egypt
- The Indus Valley Civilization
- Conclusion

DIVERSITY + DOMINANCE *Violence and Order in the Babylonian New Year's Festival*

ENVIRONMENT + TECHNOLOGY *The Iceman*

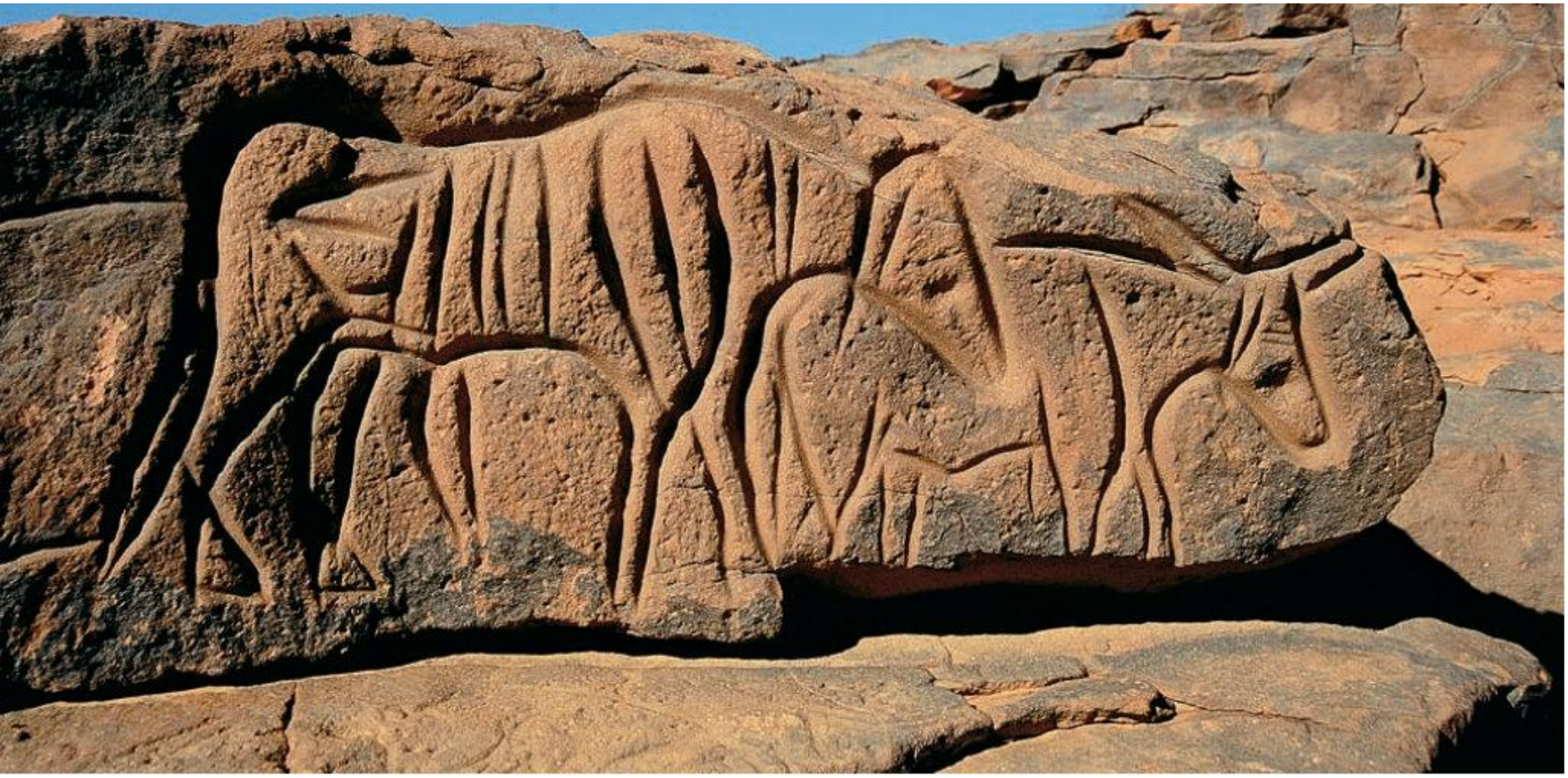
What is a civilization?

1. **Cities** that served as administrative centers
2. **Political System** – control of a defined territory
3. **Specialization** – sig. # of people in non-food producing activities
4. **Status distinctions** linked with form of wealth
5. **Monumental building**
6. **Permanent record keeping**
7. **Trade** over long distance
8. Major advances in **Science & Art**

Culture Develops Before Civilization

Culture – learned patterns of action and expression

- Material objects (dwellings, clothing, tools, & crafts)
- Non-material values (beliefs, languages)



David Coulson/Robert Estall Photo Agency

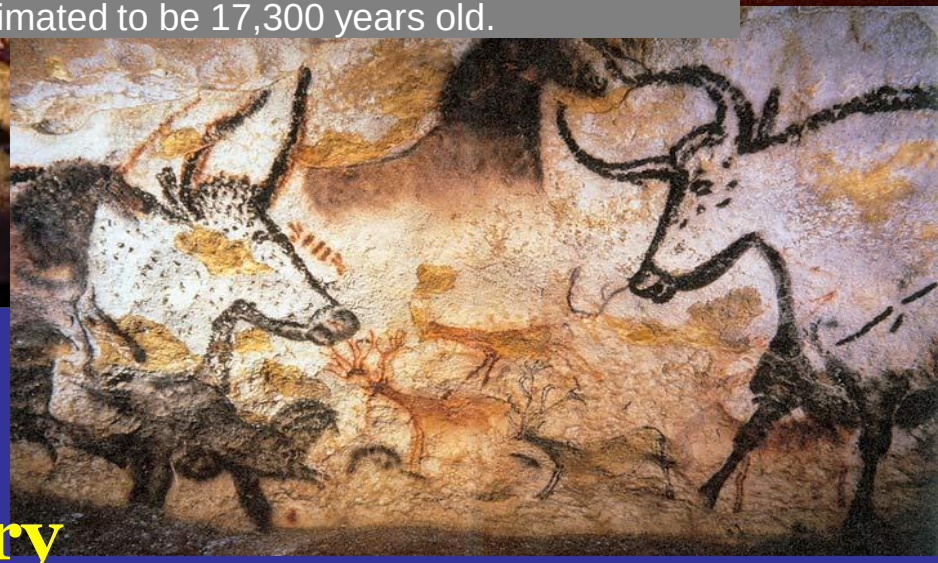
Engraving of Two Cattle in the Sahara, ca. 5000 B.C.E. Around 10,000 B.C.E. people settled in the central Sahara and began to engrave rocks with pictures of animals. The engravings display an expert knowledge of animal stance, movement, and anatomy.

Prehistory

The time before the written word.

30,000 year old spotted hyena painting found in the Chauvet Cave

Lascaux in southwestern France famous for its Paleolithic cave paintings. These paintings are estimated to be 17,300 years old.



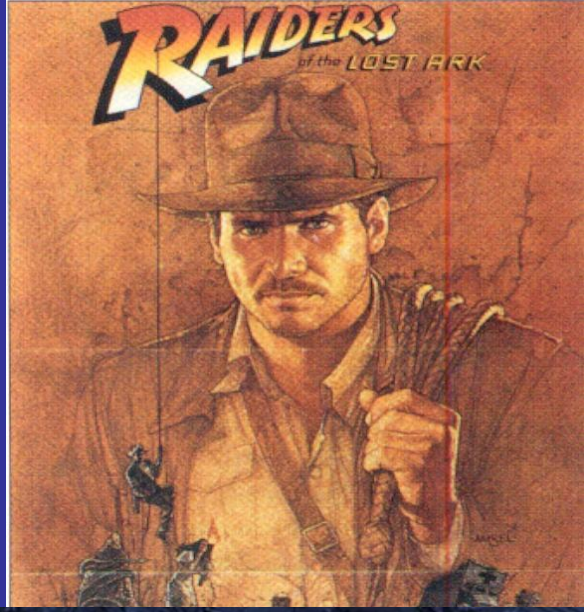
History

The study of past events & development, transmission and transformation of cultural practices and events.

How do we find our past?

Archaeology - study of past societies through an analysis of the items people left behind

Artifacts - tools, pottery, paintings, weapons, buildings & household items left behind by early people

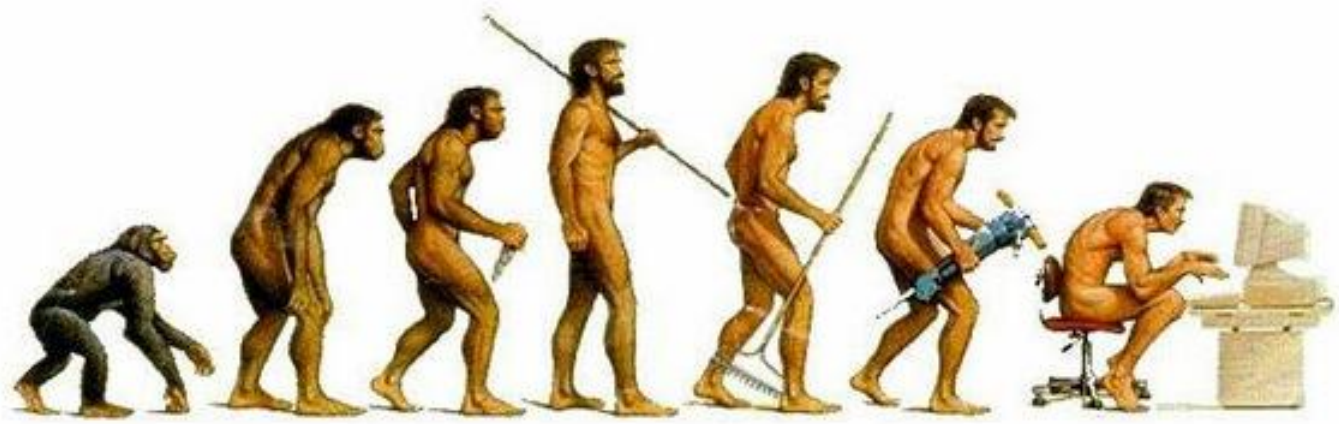


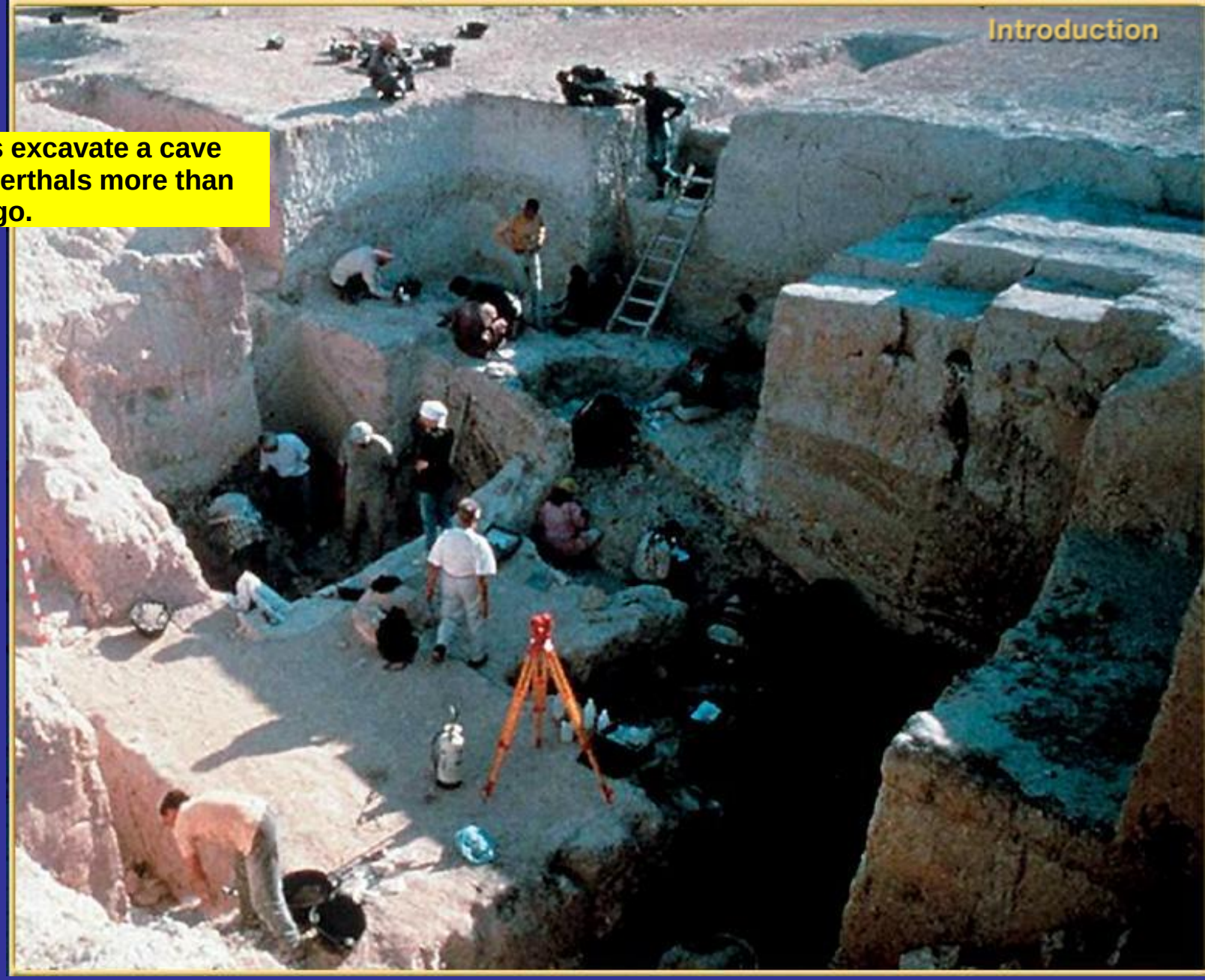
An archaeologist sifting for POW remains on Wake Island.

Fossil - A remnant or impression of an organism from a past geologic age that has been preserved in the earth's crust.

Anthropology - study of human life and culture.

Anthropology is traditionally divided into four sub-fields
1. biological or physical anthropology,
2. social anthropology or cultural anthropology,
3. archaeology &
4. anthropological linguistics.



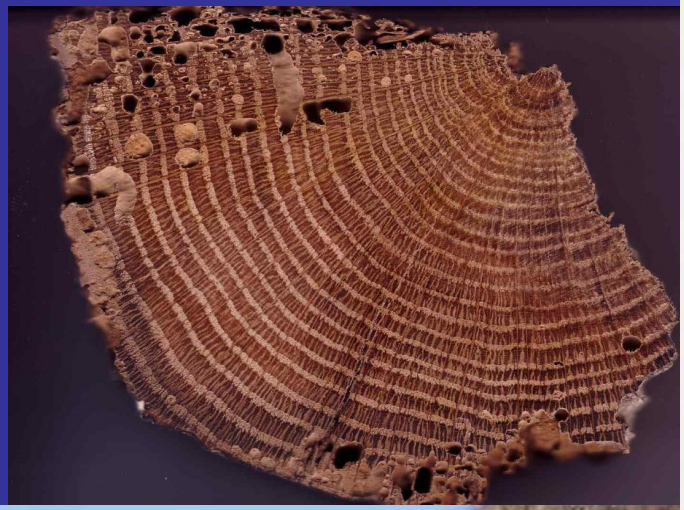


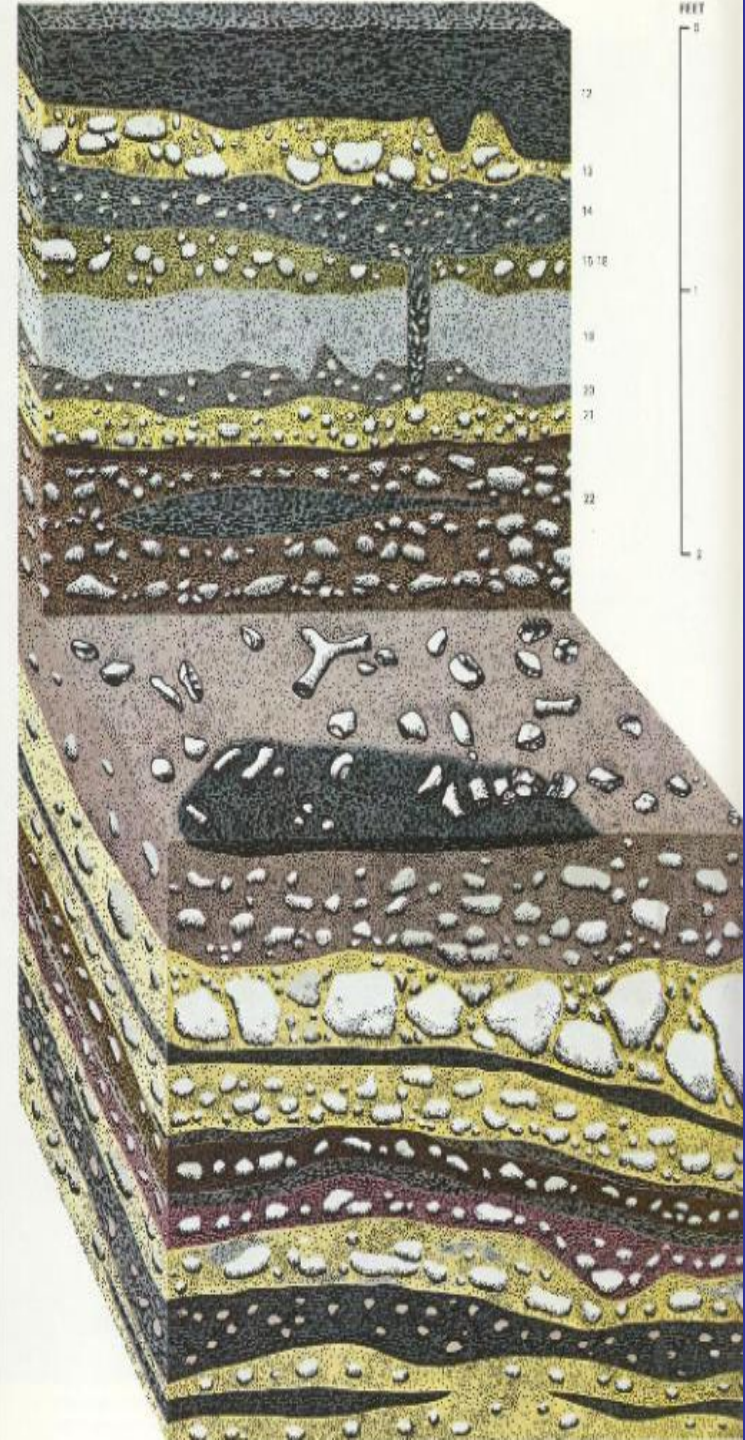
Archaeologists excavate a cave used by Neanderthals more than 60,000 years ago.

Methods of Dating

Simple

- Stratigraphic
- Tree Rings
- Road Cuts





Advanced Methods of Dating

Radio-Carbon Dating

determines an object's age by measuring the amount of C-14

Professor Gerry McCormac and Dr Paula Reimer have been involved in the creation of a new calibration curve, which extends back 50,000 years.

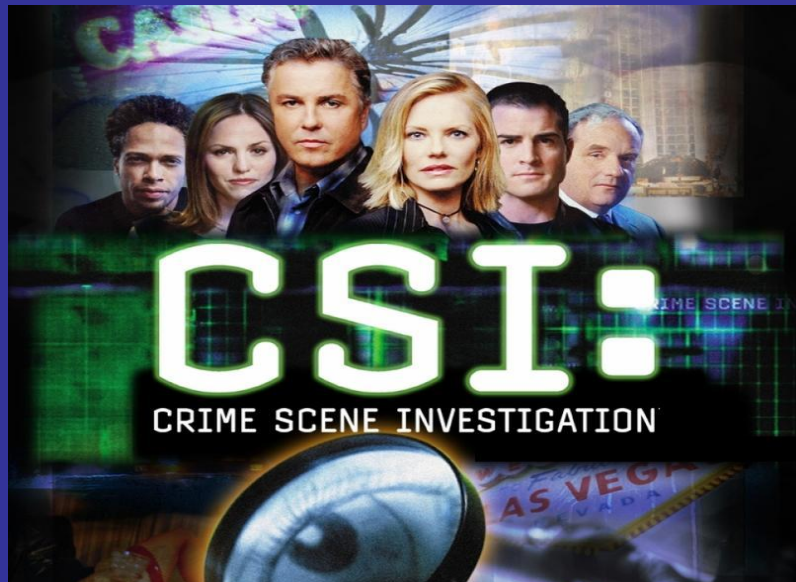
DNA Blood Molecules

May survive millions of years and yield DNA information

Thermoluminescence

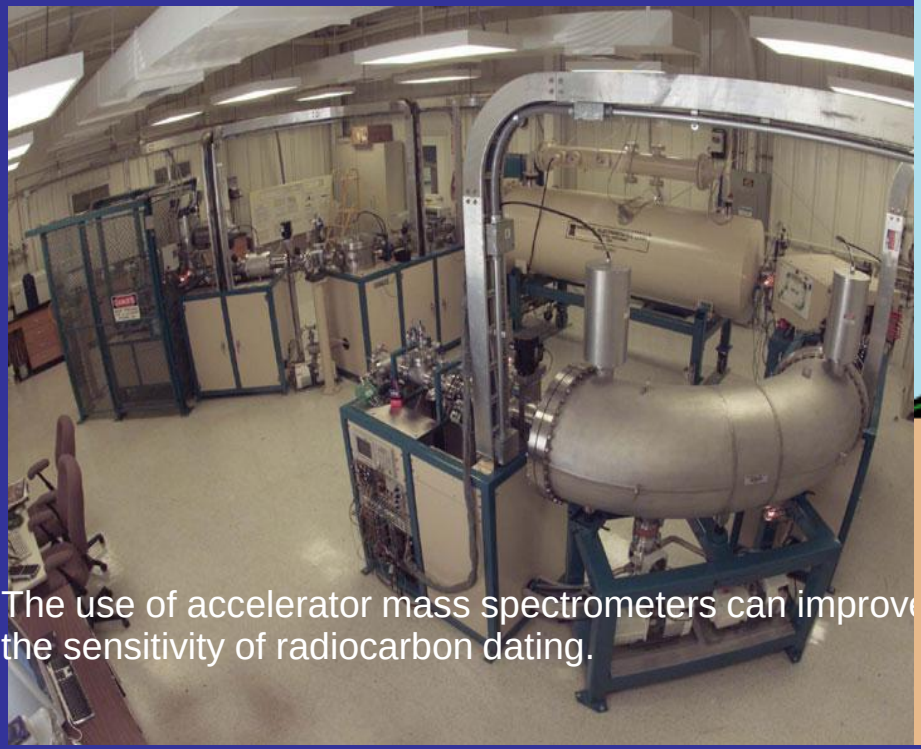
Determines an object's age by measuring the light given off by the electrons trapped in the surrounding soil

Thermoluminesc

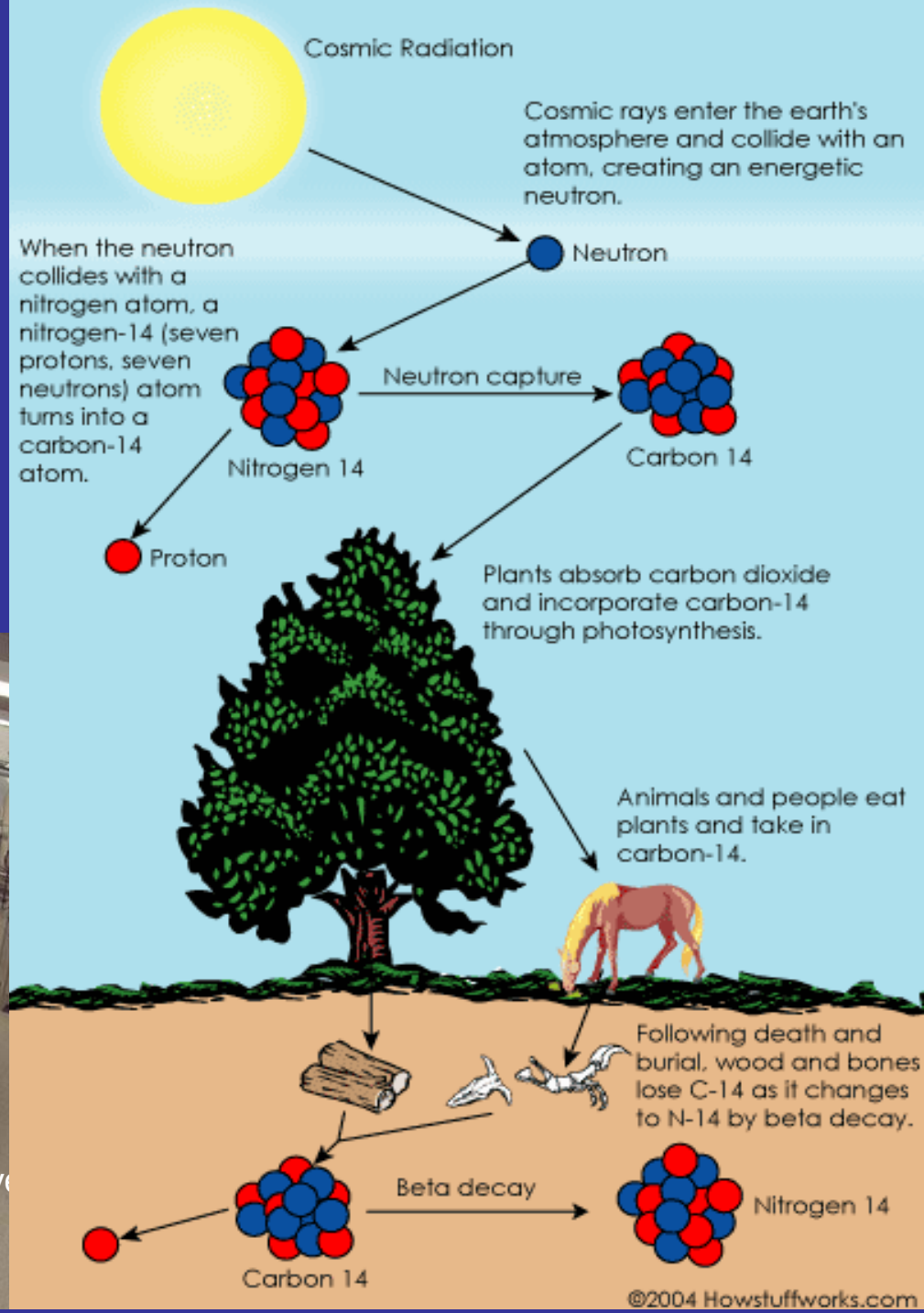


Carbon-14, 14C, or radiocarbon, is a radioactive isotope of carbon with a nucleus containing 6 protons and 8 neutrons.

Its presence in organic materials is the basis of the radiocarbon dating method pioneered by Willard Libby and colleagues (1949), to date archaeological, geological, and hydrogeological samples.

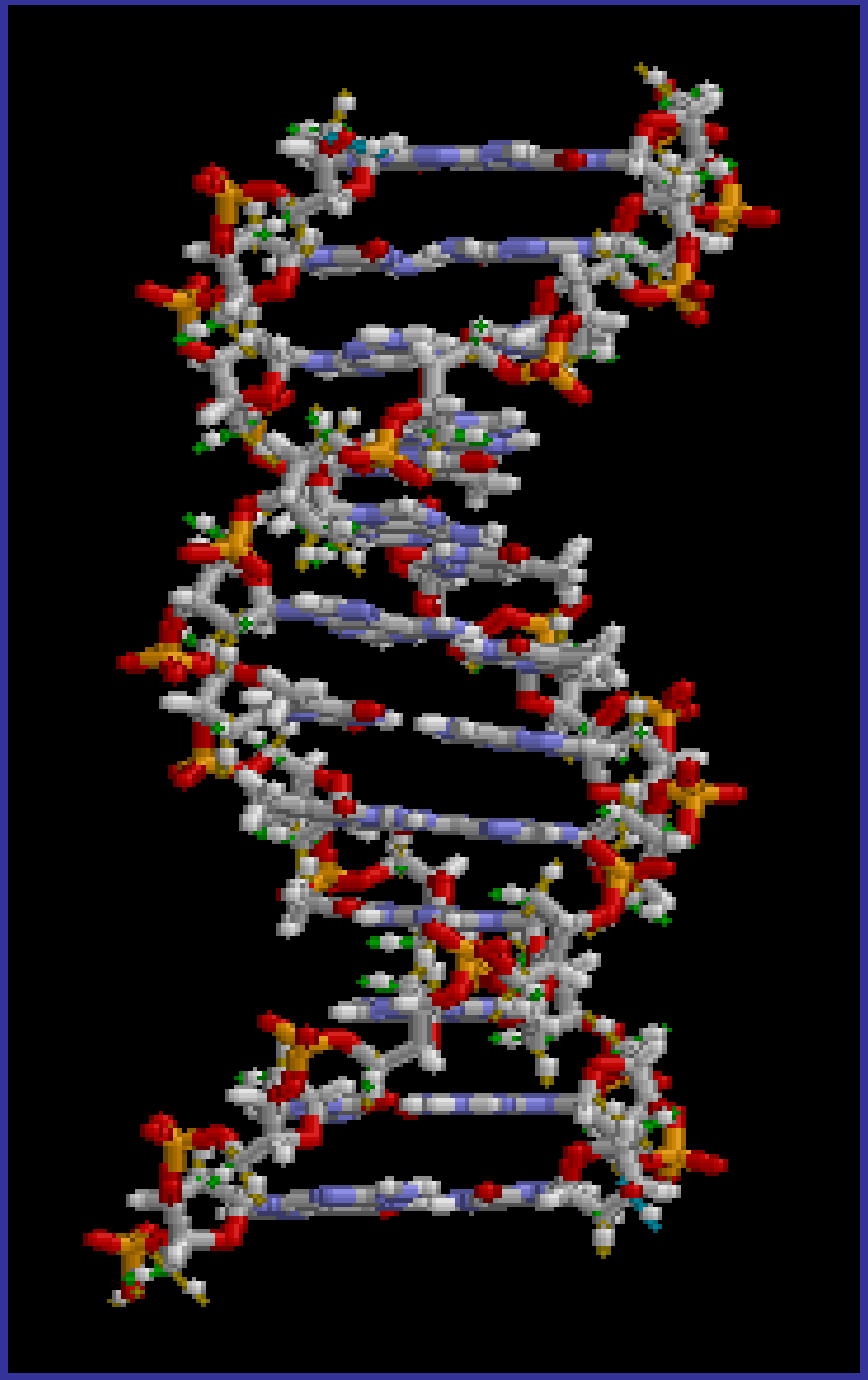


The use of accelerator mass spectrometers can improve the sensitivity of radiocarbon dating.

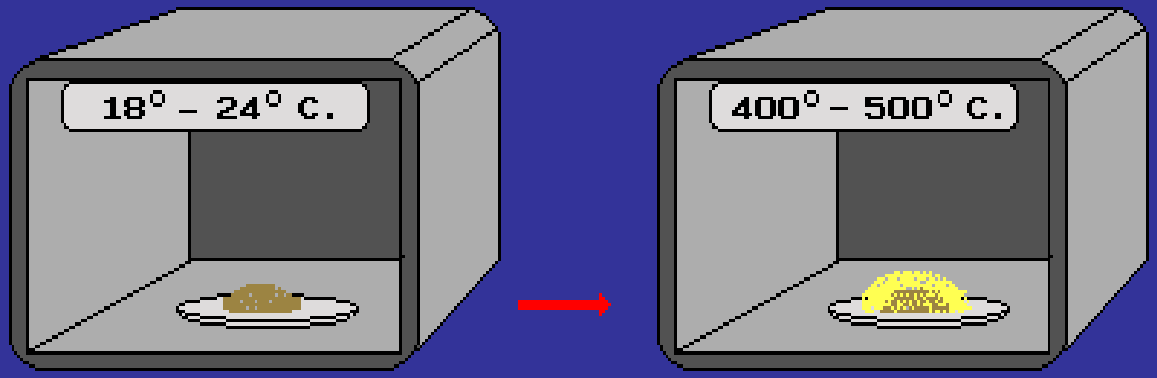


Deoxyribonucleic acid, or DNA, is a nucleic acid that contains the genetic instructions used in the development and functioning of all known living organisms (with the exception of RNA viruses).

Because DNA collects mutations over time, which are then inherited, it contains historical information, and, by comparing DNA sequences, geneticists can infer the evolutionary history of organisms, their phylogeny.



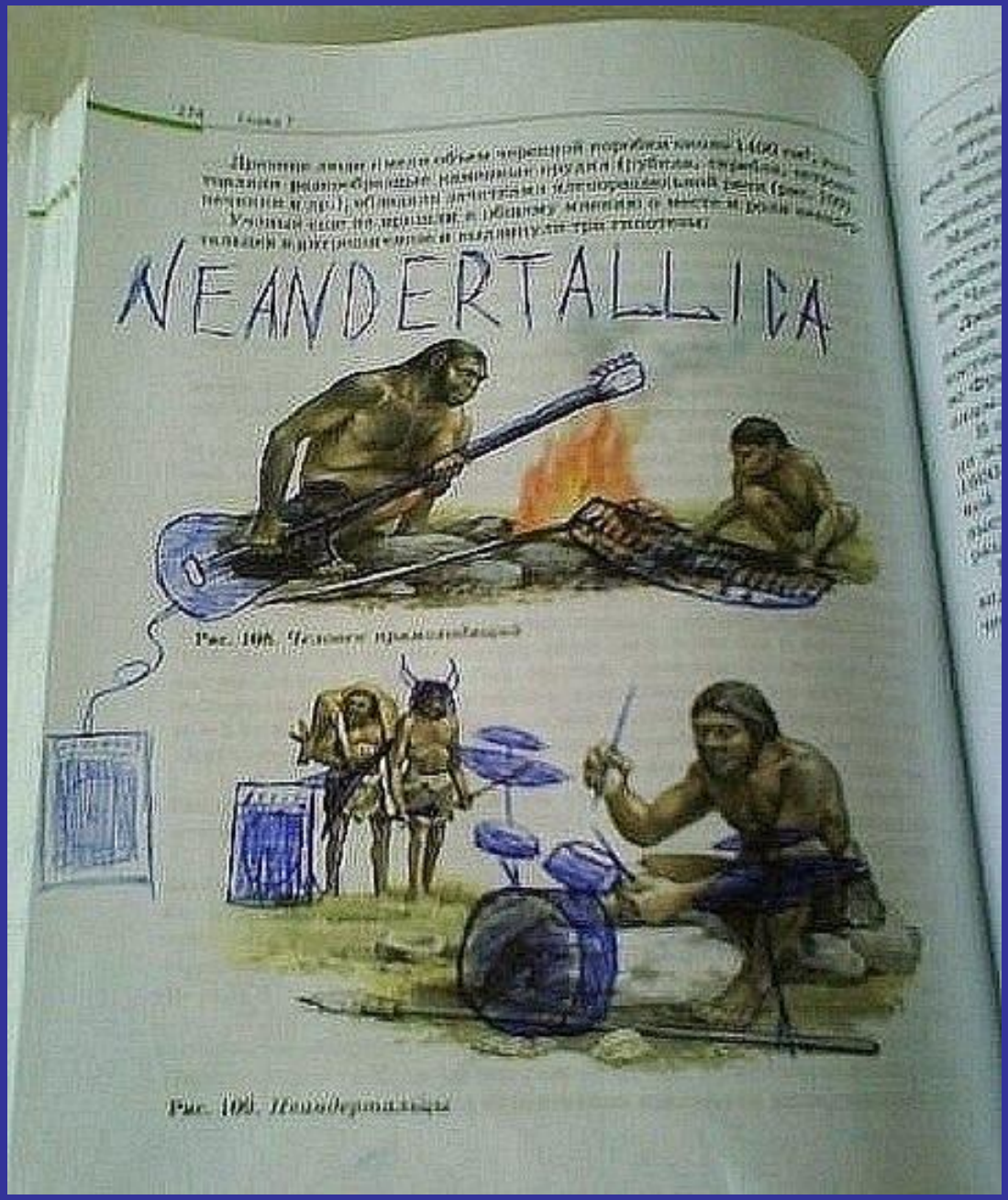
a ground up sample is placed in a special oven



heat is raised rapidly resulting in an energy emission from the sample

Energy charged electrons progressively accumulate over time. When a sample is heated to high temperatures in a laboratory, the trapped electrons are released and return to their normal positions in their atoms. This causes them to give off their stored energy in the form of light impulses (photons). This light is referred to as **thermoluminescence** (literally "heat light").


Red Sea
YEMEN
CHAD
SUDAN
ERITREA
Khartoum
Gulf of Aden
Addis Ababa
CENTRAL AFRICAN REPUBLIC
ETHIOPIA
SOMALIA
Lake Albert
UGANDA
KENYA
Lake Edward
RWANDA
ZAIRE
BURUNDI
Lake Tanganyika
TANZANIA
Indian Ocean
ANGOLA
Lake Malawi
ZAMBIA
ZIMBABWE
MOZAMBIQUE
NAMIBIA
BOTSWANA
MADAGASCAR


NEANDERTALLICA

Reminder – Guiding Question

1. How did the physical and cultural characteristics of hominids change over time, and how do scientists document and explain these changes?

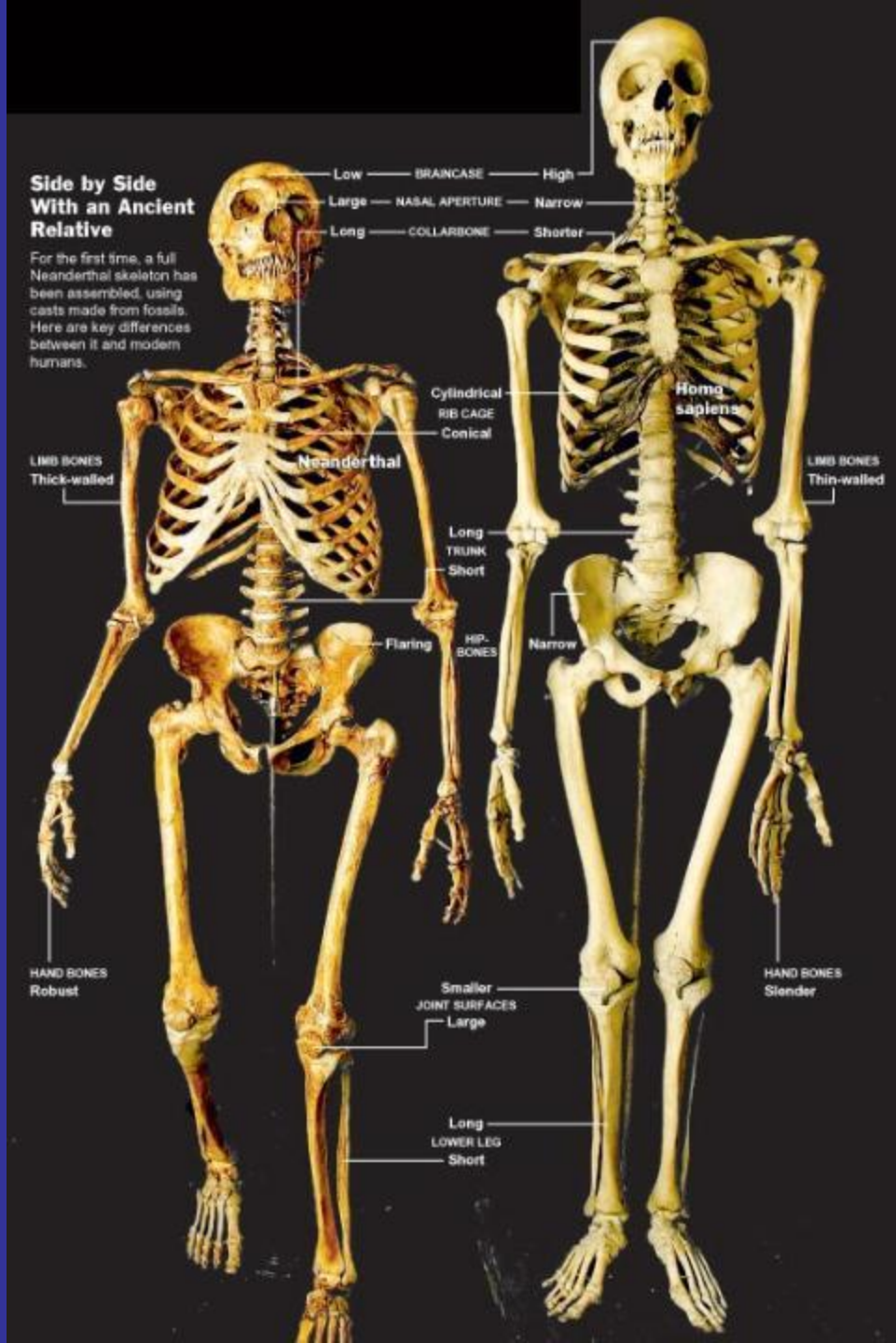
Homo Sapiens Sapiens

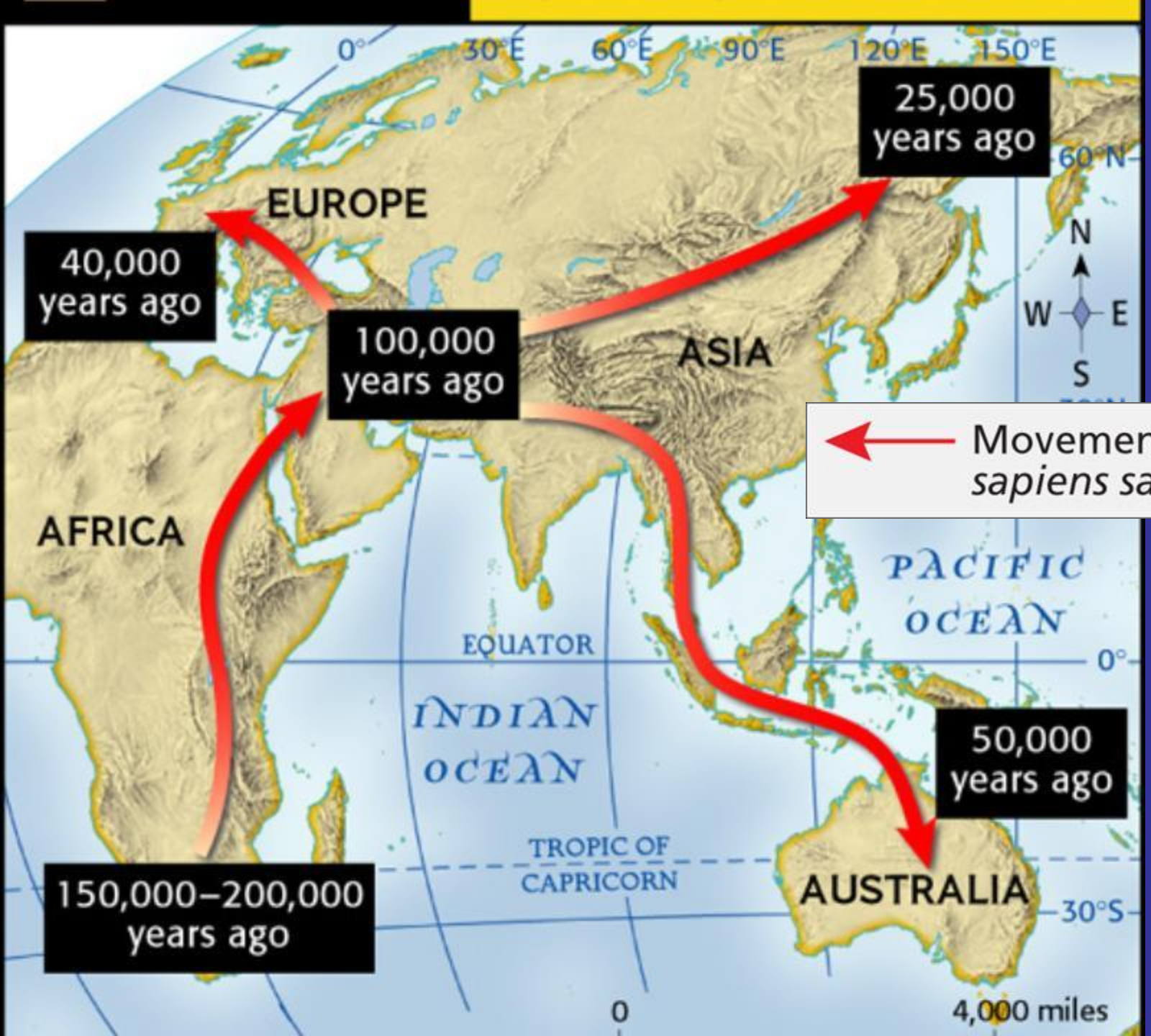
"wise, wise human being"
a species that appeared in Africa between 150,000 & 200,000 years ago

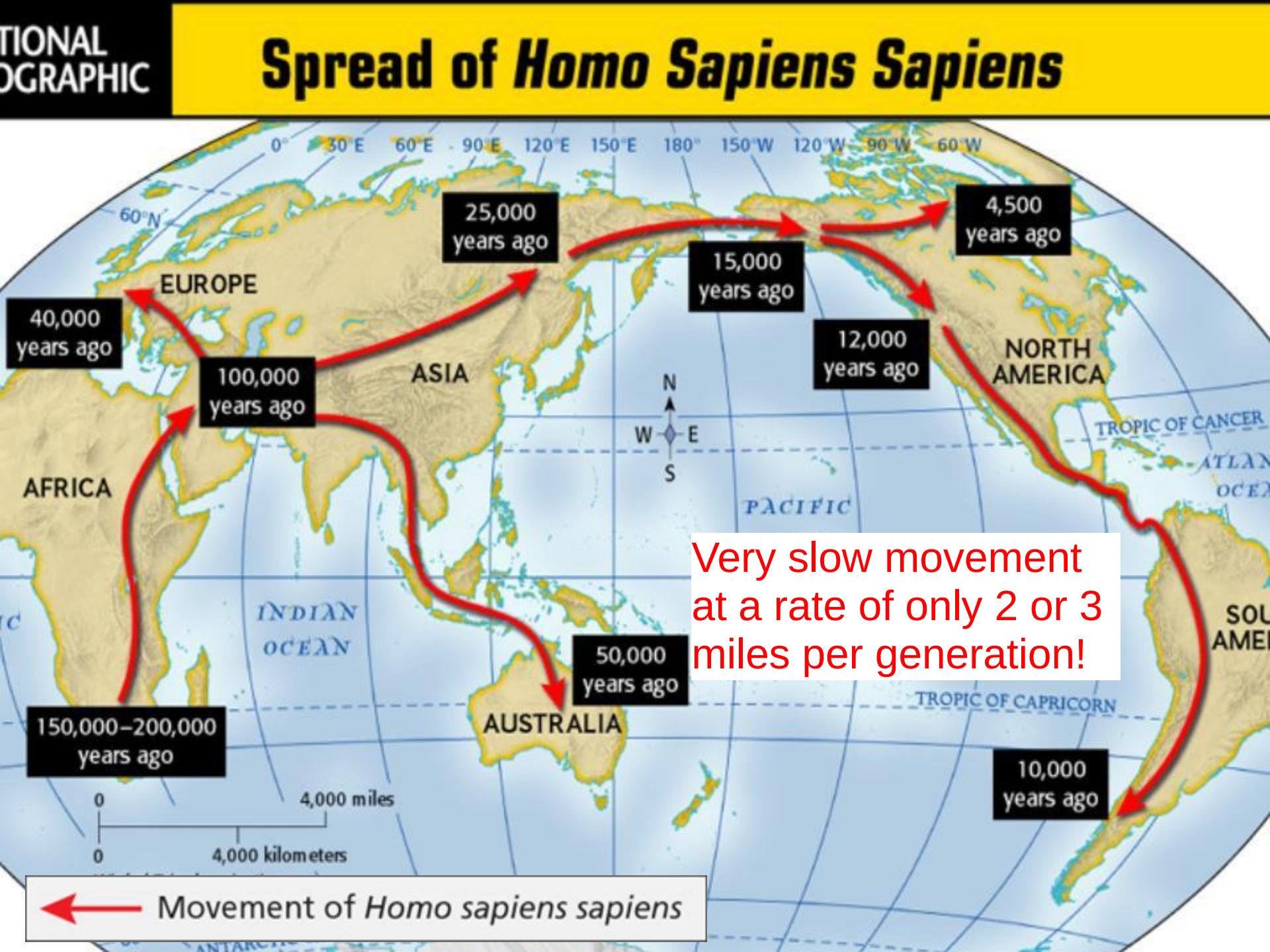
1st anatomically modern humans

WE BELONG TO THIS GROUP TODAY.

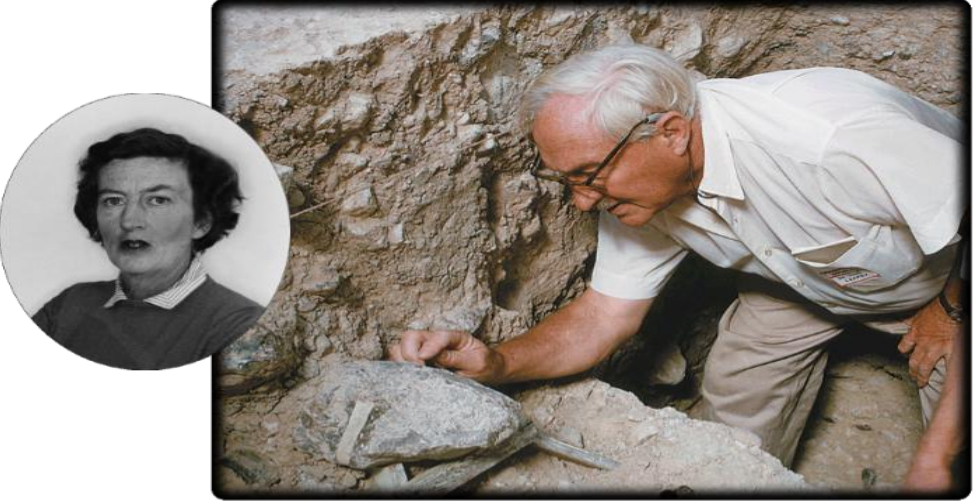
By 10,000 BC members of this group could be found throughout the world. All humans today, whether they are European, Australian Aborigines, or Africans belong to this same subgroup of human beings.




0°
30°E
60°E
90°E
120°E
150°E
60°N
25,000 years ago
EUROPE
40,000 years ago
100,000 years ago
ASIA
N
W
E
S
Movement of *Homo sapiens sapiens*
AFRICA
PACIFIC OCEAN
EQUATOR
0°
INDIAN OCEAN
50,000 years ago
TROPIC OF CAPRICORN
150,000–200,000 years ago
AUSTRALIA
30°S
0
4,000 miles



Very slow movement at a rate of only 2 or 3 miles per generation!



Louis and Mary Leakey, digging for fossils in 1961.

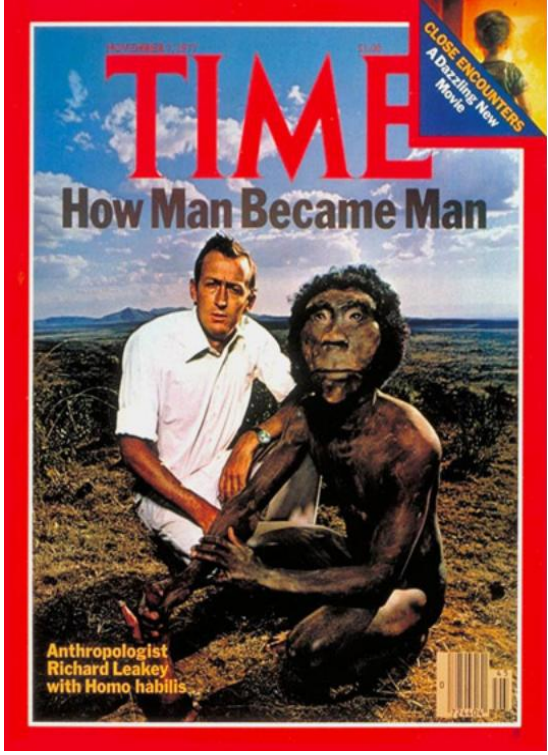
Mary Leakey made a remarkable discovery. She jumped into her Land Rover and raced across the African plain back to camp, where she shouted to her startled husband, "I've got him! I've got him!"

They had discovered the world's oldest known human." (page 18)

Their son Richard also followed in their footsteps.

The Leakey Legacy

"Theories on prehistory and early man constantly change as new evidence comes to light." **- Richard Leakey**



2004: The skull of Homo floresiensis (above, left), a newly discovered species of human, next to a modern human skull (above, right).

Fully adult, H. floresiensis "Flo" was barely three-feet-tall and had a skull the size of a grapefruit.

2009: Found near the Awash River in Ethiopia, an almost complete fossilized female skeleton named "Ardi" took nearly 15 years to prepare.

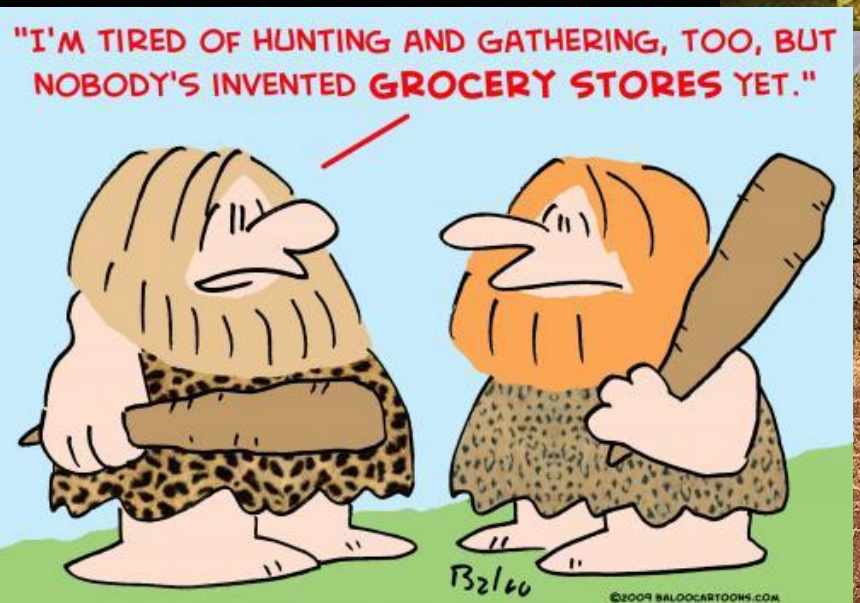
Paleolithic Age

(Old Stone Age) lasted until 10,000 yrs ago, 3,000 yrs after the last Ice Age

Humans used simple stone tools

Nomads -
moved from place to place

Foragers: Hunting & Gathers



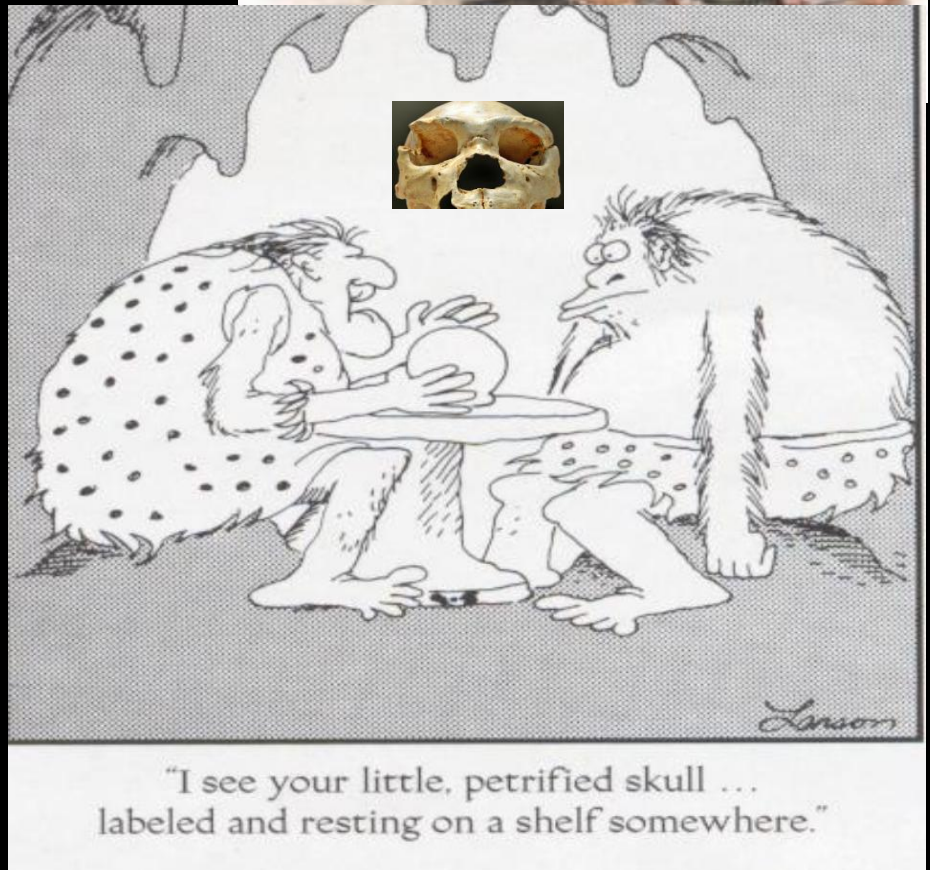
Two Hadza men return from a hunt. The Hadza are one of the few contemporary African societies that live primarily by foraging.

Roles of Paleolithic Men & Women

Equality may have existed among men & women because both had such large roles in food production.

Men – physically stronger did most of hunting.
Women – most of the gathering and cooking

Began building simple shelters in areas that lacked natural ones (like caves)



Neolithic Age "New Stone" 10,000 years ago

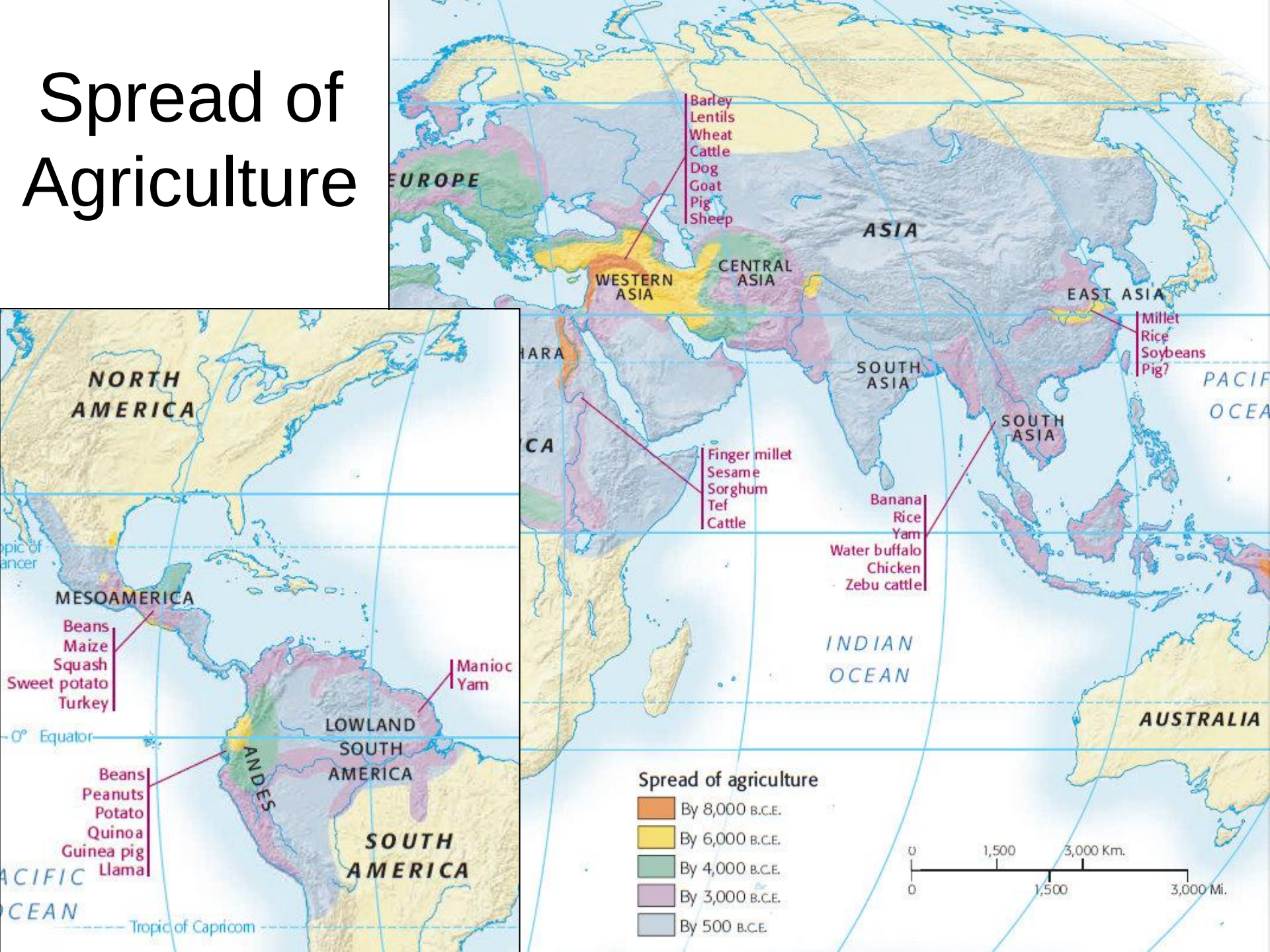
Agricultural Revolution: The dramatic change from food gathering to food production. Systematic Agriculture and domestication of animals gave humans the ability to acquire food on a regular basis

Dramatic change, allows humans to forgo nomadic lifestyle

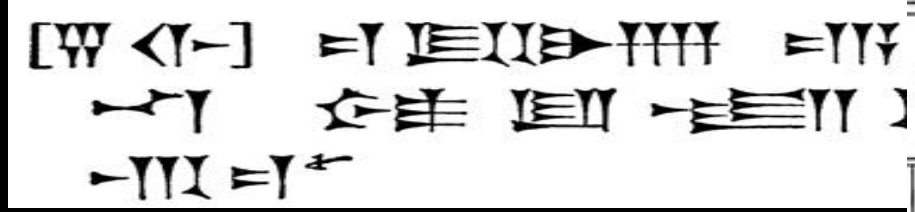
Transition first occurs in the Middle East region. Selection of high yield grains by women, like barley, wheat and lentils improves living conditions. This allows populations to increase.

Skara Brae, Scotland shows evidence of home furnishings in Europe's most complete Neolithic village

Spread of Agriculture



Neolithic Age

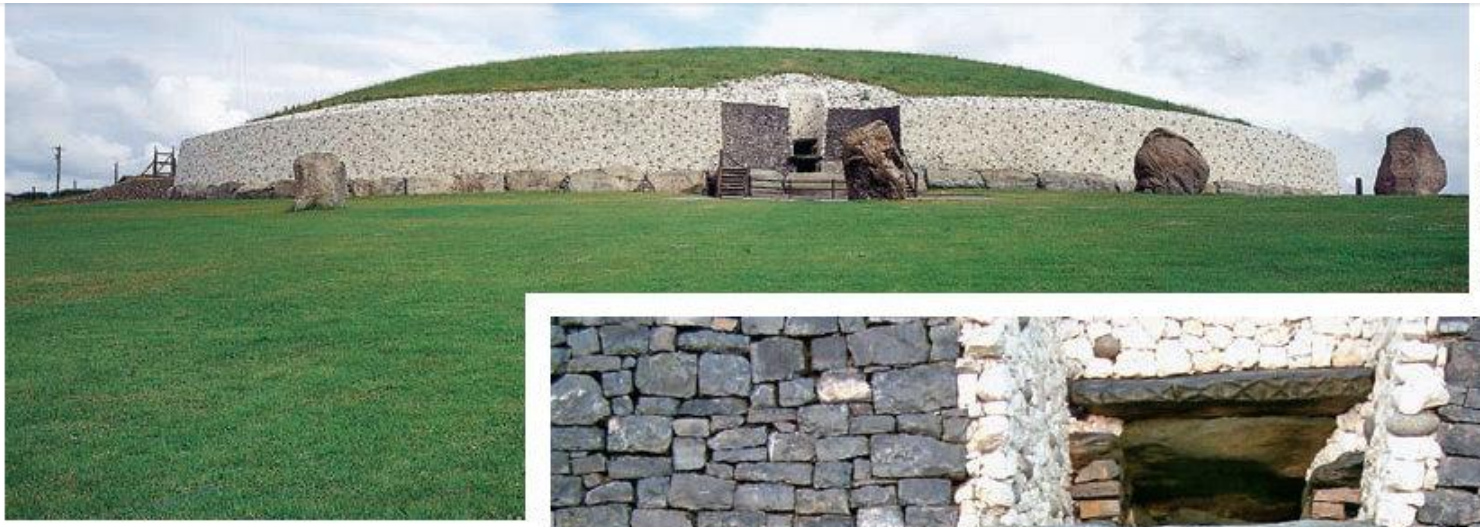


MEANING	OUTLINE CHARACTER, B. C. 3500
The sun	
God, heaven	
Mountain	
Man	
Ox	
Fish	

1. Pottery
2. **Use of metals marked a new level of human control over their environment**
3. Earlies form of writing - **Cuneiform** developed

Megaliths arose – Stonehenge: Archaeologists have believed that the iconic stone monument was erected around 2500 BC

Passage-Tomb at Newgrange, Ireland



G. Dagli Orti/The Art Archive

Passage-Tomb at Newgrange, Ireland Dating to around 3200 B.C.E., Newgrange is one of the oldest and most impressive Neolithic stuctures. A wall of white quartz stones rises above a row of horizontal megaliths on either side of the entrance, from which a passage leads to a spacious interior chamber. For several minutes each year, at sunrise on the winter solstice, the chamber is illuminated by a shaft of light which passes through the "roof-box" above the entrance.

www.knoweth.com

Neolithic Age

Mastered the art of farming, had complex societies & created armies to protect walled cities

One early city - **Catal Huyuk, located in present day Turkey.** They built mud-brick homes. Catal Huyuk means Forked Mound.

High point from 6700 to 5700 B.C.

Archaeological excavation and conservation by an international team started in 1993 under the direction of Dr Ian Hodder of the Çatalhöyük Research Project, Stanford University.

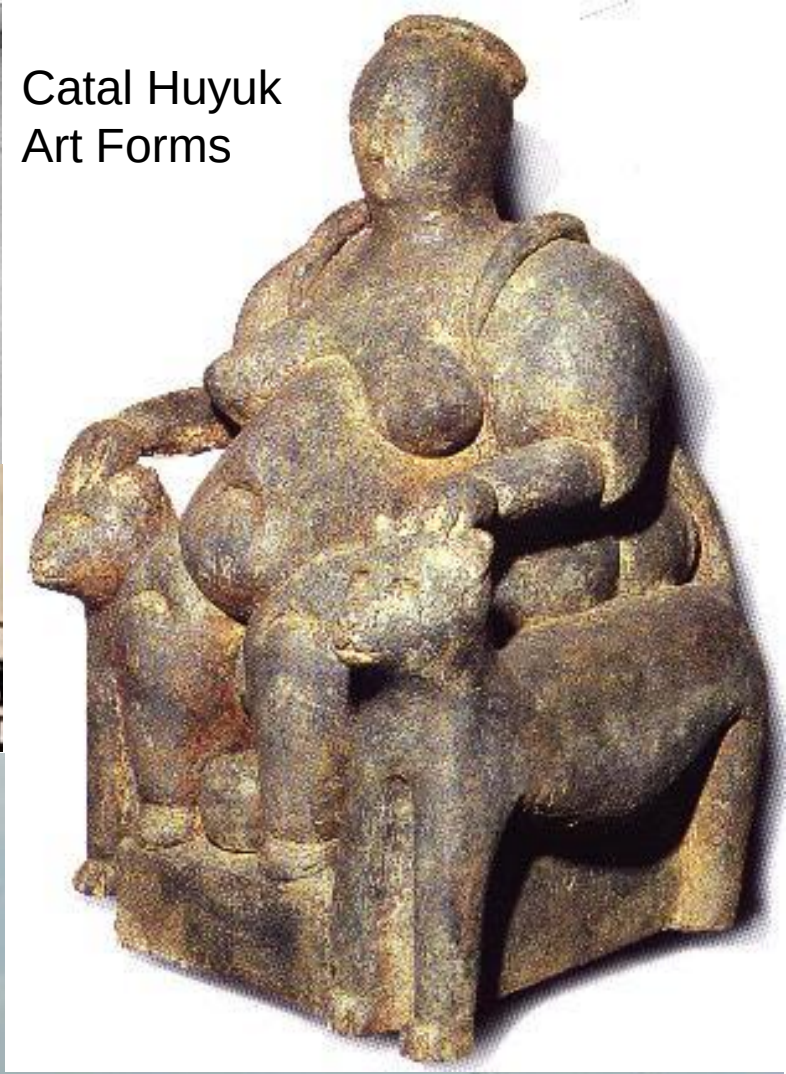
Residents entered cities with ladders.

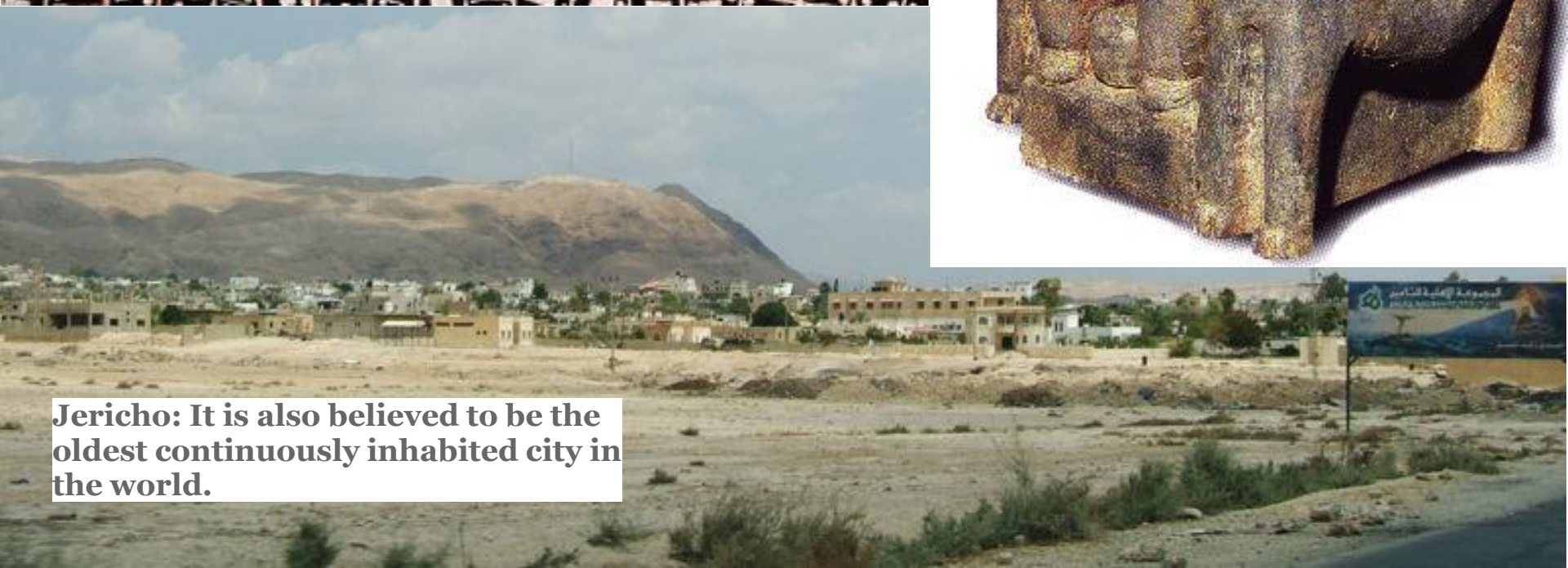
Catal Huyuk could have looked similar to this graphic.

Lineage Groups or Kinship Units traced descendants through Matrilineal or Patrilineal


2 Early Neolithic Towns
Catal Huyuk
& Jericho
ANATOLIA
Çatal Hüyük
Euphrates R.
Tigris R.
MESOPOTAMIA
SYRIA
AKKAD
Babylon
Nippur
Uruk
SUMER
Ur
Wheat
Barley
Peas
Lentils
Sheep
Pigs
Goats
IRANIAN PLATEAU
PALESTINE
Jericho
Giza
Memphis
SINAI
EGYPT
Wheat
Barley
Cattle
Desert Nomads
ARABIA
Persian Gulf
OMAN
Thebes
(Karnak)
Nile R.
Red Sea
NUBIA
ARABIAN DESERT

Catal Huyuk
Art Forms





Jericho: It is also believed to be the oldest continuously inhabited city in the world.