

ANTHROPOLOGY 202 Wednesday October 8, 2014

An Introduction to World Prehistory

VII The Emergence of modern humans: Late *Homo* or *Homo sapiens*



ANT 202 Wednesday October 8, 2014

STUDENTS WITH LAST NAMES S-Z

PLEASE

STAY FOR A DEMONSTRATION

AT THE END OF CLASS

ALL OTHER STUDENTS WILL BE DISMISSED

10-15 minutes Early!!



Go Cowboys!!!!





VII. The Emergence of Late Homo

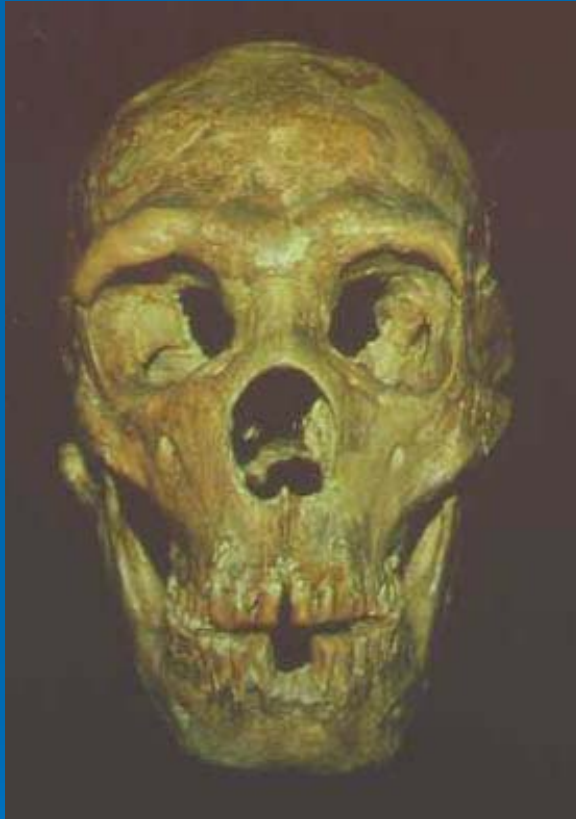
A. Species classification

Homo sapiens neanderthalensis 200,000-35,000 BP

Homo sapiens sapiens 100,000 BP-present

Homo sapiens idaltu 160,000 BP in Africa

*Homo sapiens
neanderthalensis*



*Homo sapiens
sapiens*



*Homo sapiens
idaltu*



Middle Homo

Late Homo

H. erectus

H. sapiens
neanderthalensis

H. sapiens sapiens

Brain

800-1000

1450-1850

1400

Brow ridges

Present

Present

Absent

Appearance

Robust

Robust

Gracile



“Mom! The kids at school say we’re a family of Nerdenthals!!!!.....Is that true?”



Neanderthals



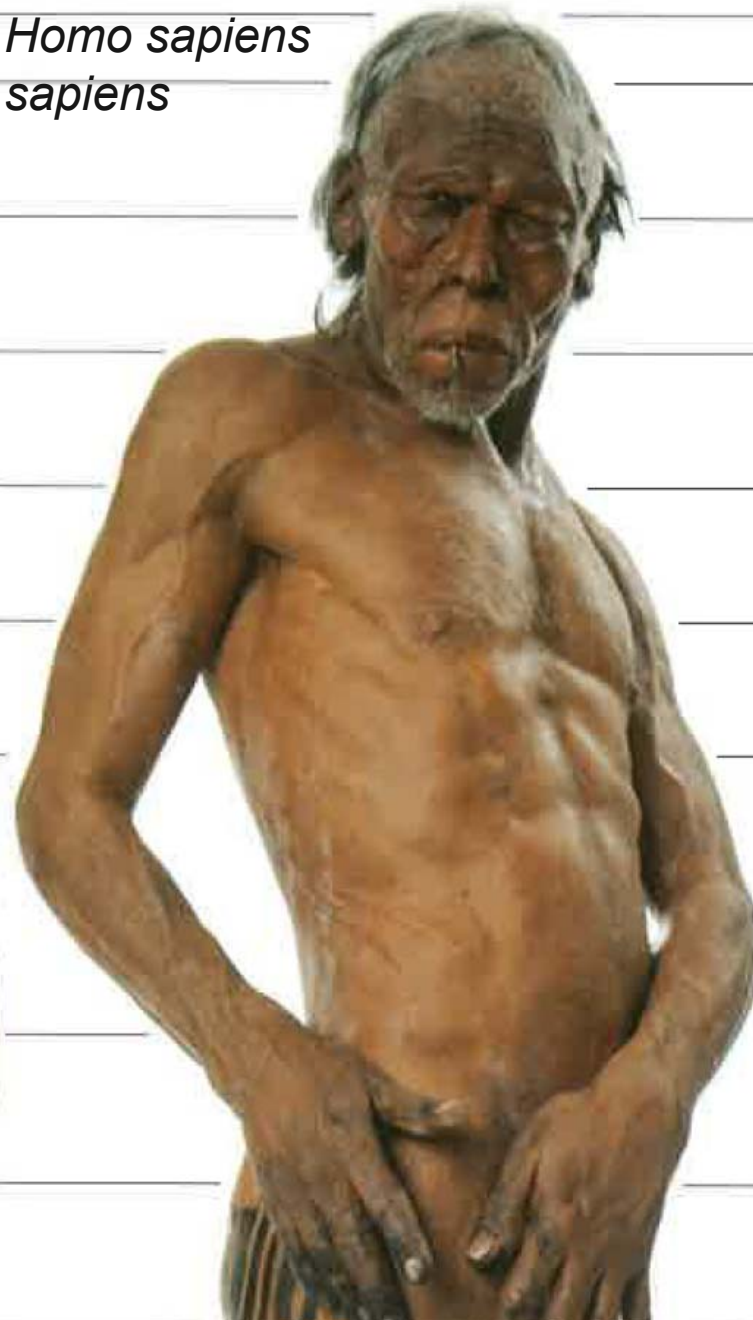
*Homo sapiens
neanderthalensis*



*Homo sapiens
sapiens*

*Homo sapiens
sapiens*

Homo sapiens neanderthalensis



175cm

170cm

160cm

150cm

140cm

130cm

120cm

110cm

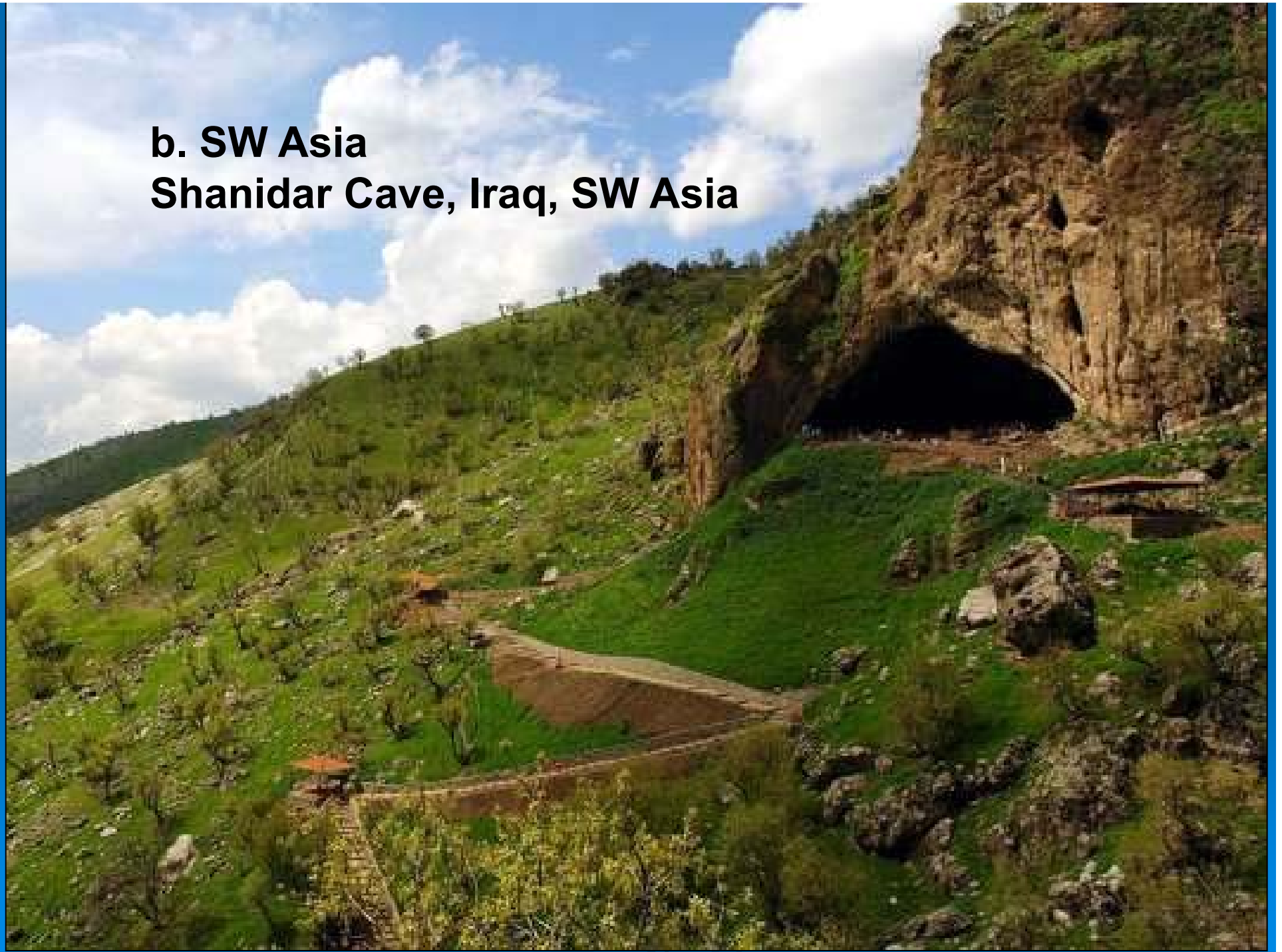
100cm

90cm

B. *Homo sapiens neanderthalensis*:
1. Sites



b. SW Asia
Shanidar Cave, Iraq, SW Asia









Wear on teeth: Neanderthals at Shanidar Cave A Third hand?



Intentional burial at Shanidar Cave indicated by pollen grains: Belief in After life?



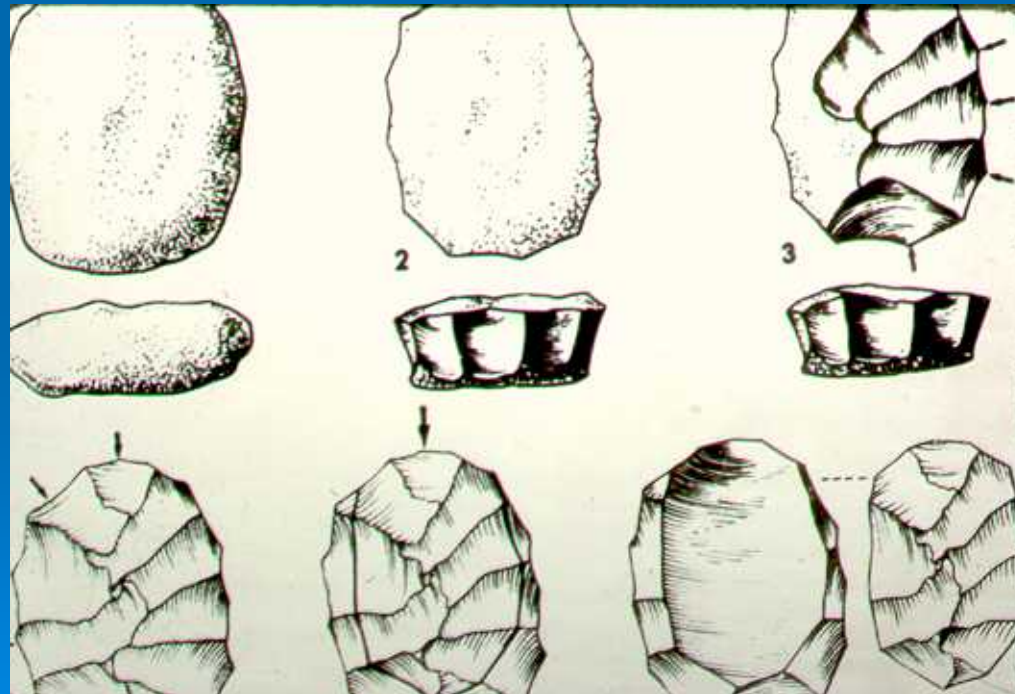
B. Homo sapiens neanderthalensis

2. Stone tools : Middle Paleolithic

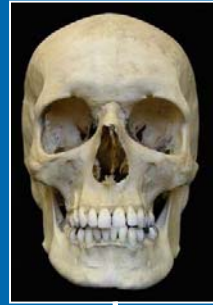
200,000-35,000 B.P. Mousterian technologies:

Greater use and modification of flakes

Levallois technique



Late *Homo*
Homo sapiens neanderthalensis



Late *Homo* (*Homo sapiens sapiens*)

Late *Homo* (*Homo sapiens idaltu*)



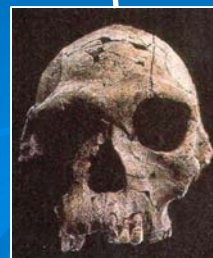
Homo
heidelbergensis

1 MYA



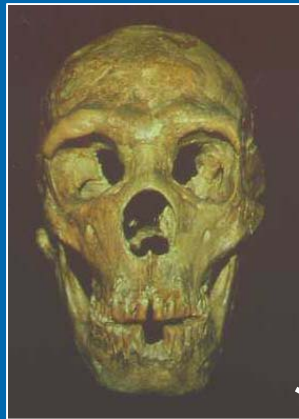
Middle *Homo*

2 MYA



Early *Homo* (*Homo habilis*)

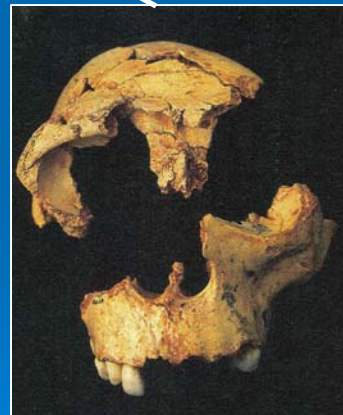
Late *Homo*
Homo sapiens neanderthalensis



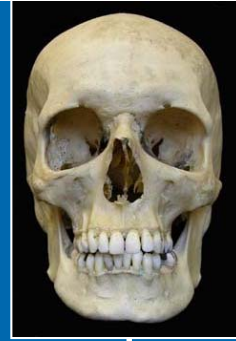
200,000-35,000
years

0.5 MYA

1 MYA



Homo
heidelbergensis



Late *Homo*
(*Homo sapiens sapiens*)
100,000 years

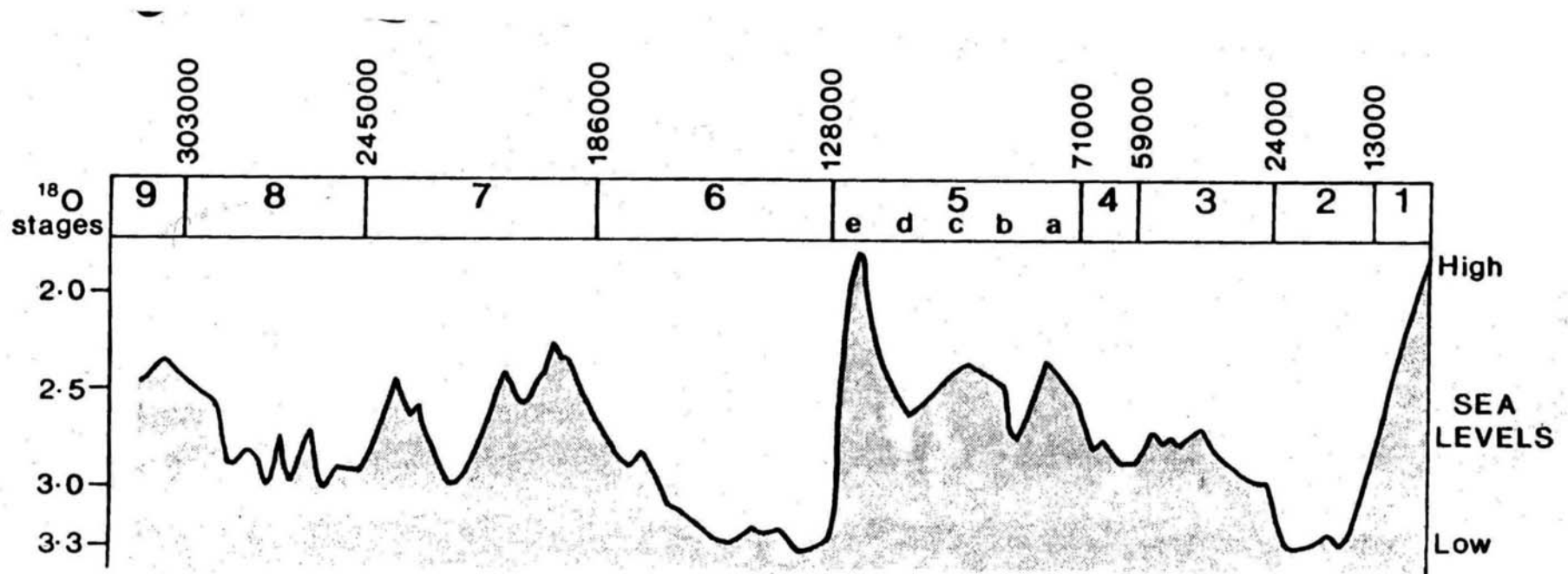


Late *Homo*
(*Homo sapiens idaltu*)
160,000 years

b. Environment
Neanderthals
In Glacial
Europe

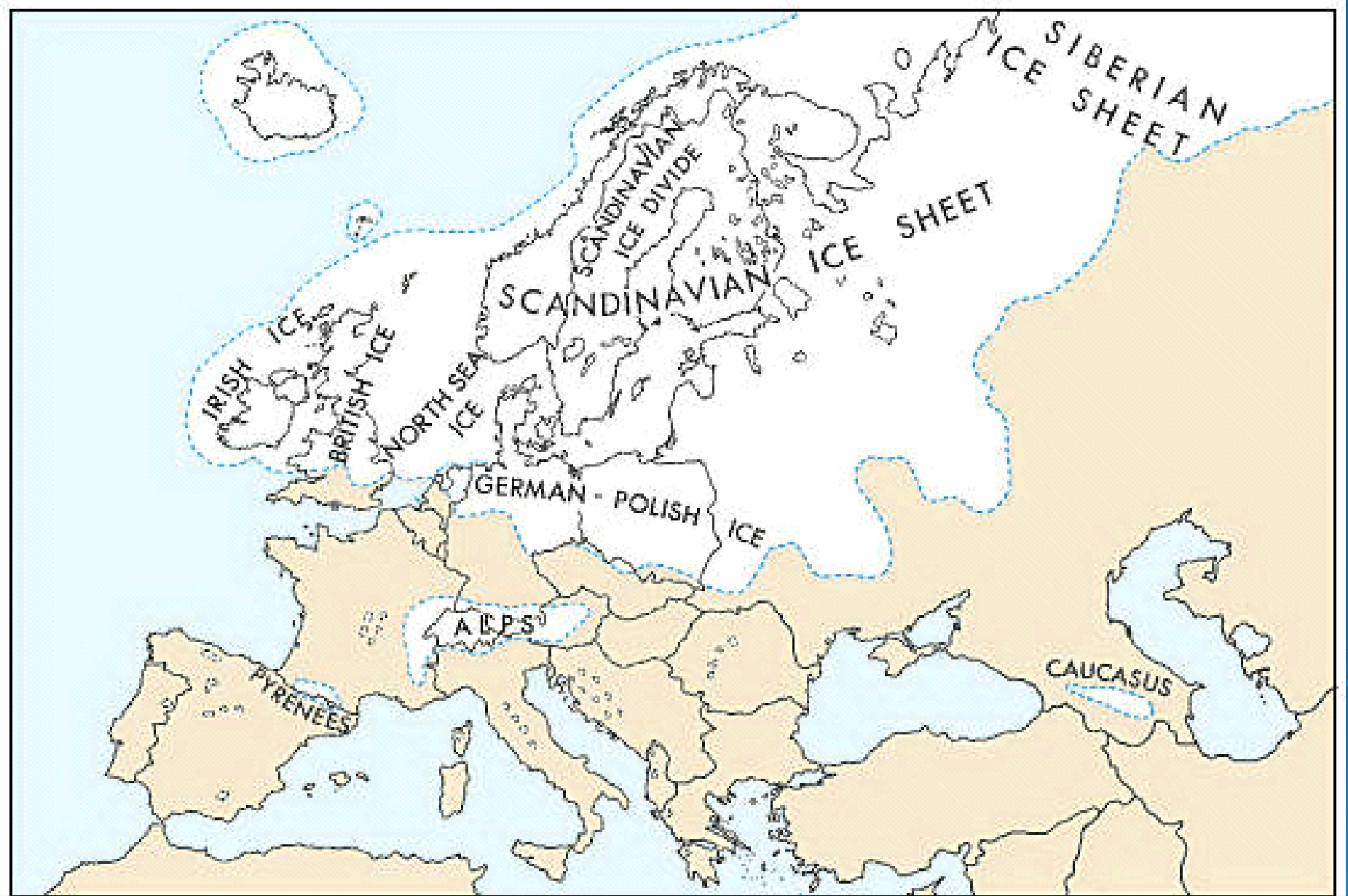


Paleoclimate and Oxygen Isotopes

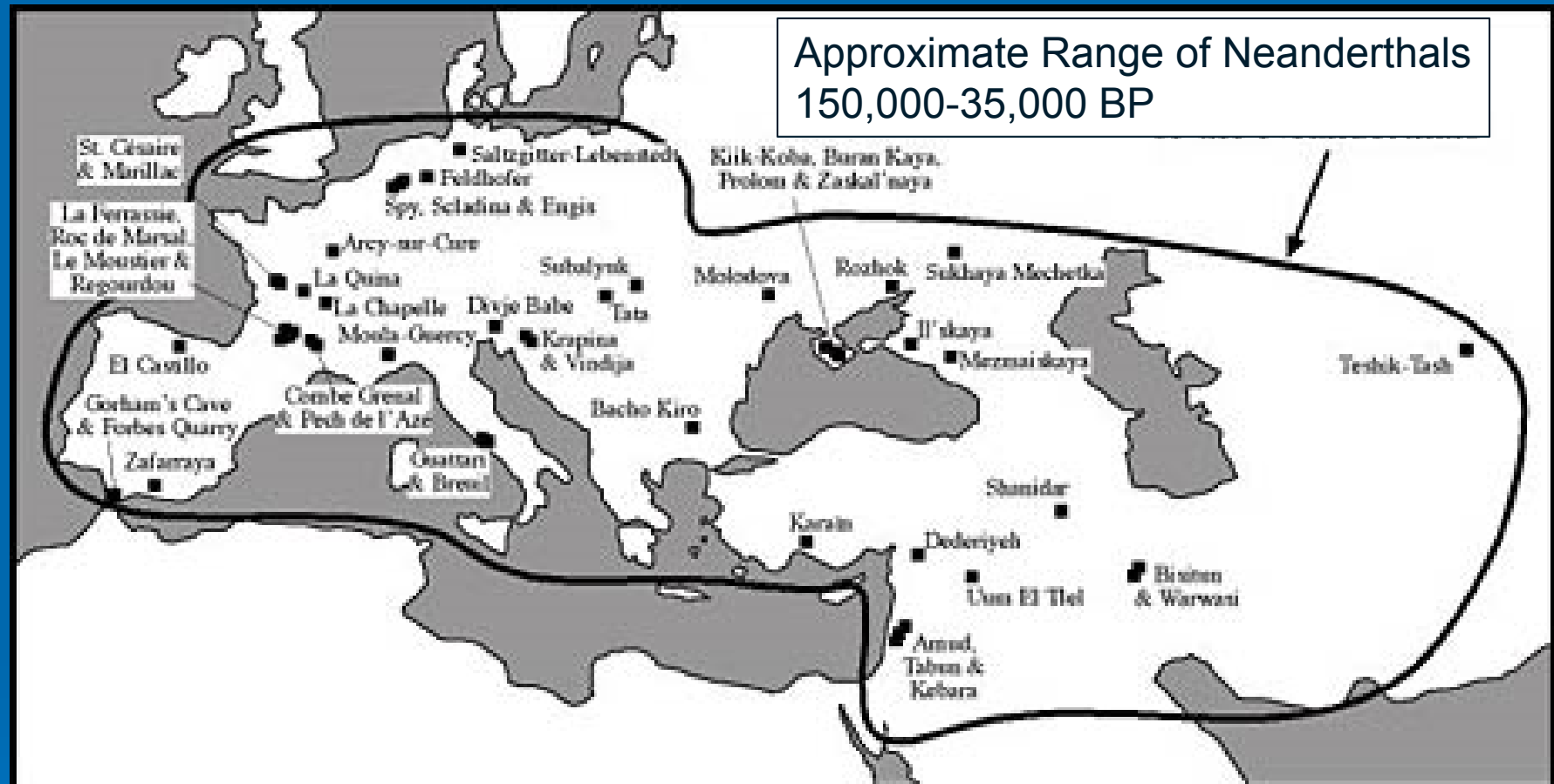


18 Ice and ocean levels, as recorded by the proportion of ^{18}O in this core, have greatly fluctuated over the past 300,000 years. The last interglacial (isotopic stage 5e) stands out as a brief episode of exceptionally large oceans. The maximum ice conditions (i.e. low sea levels) in stages 6 and 2 are more prolonged. During most of the past 300 millennia, however, the climate evidently rested between the two extremes of interglacial and full glacial.

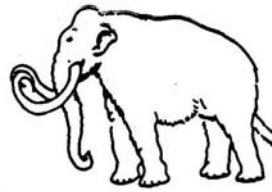
Distribution of Pleistocene Ice Sheets



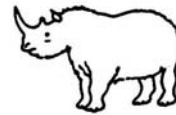
Approximate Range of Neanderthals
150,000-35,000 BP



Pleistocene Fauna (mostly Megafauna) of Europe



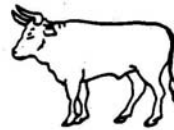
mammoth



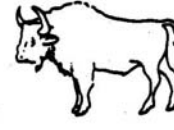
woolly rhinoceros



hippopotamus



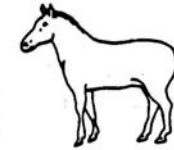
aurochs



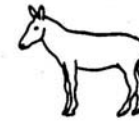
bison



musk ox



horse



steppe ass



giant deer



red deer



reindeer



fallow deer



ibex



chamois



saiga antelope



wild sheep



roe deer



gazelle



cave bear



brown bear



cave lion



leopard



lynx



wild cat



hyena



wolf



badger



fox/jackal



wolverine

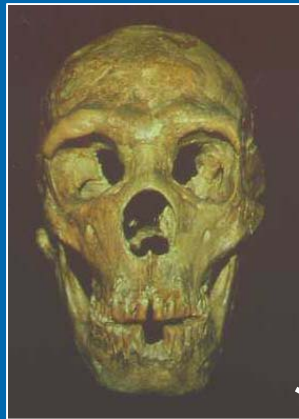




B. *Homo sapiens neanderthalensis*:
1. Sites



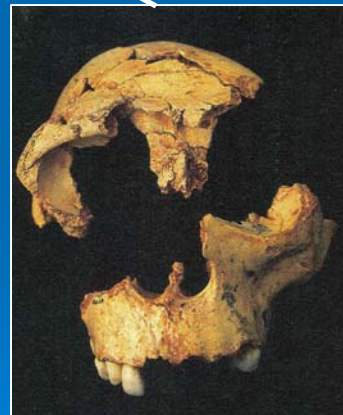
Late *Homo*
Homo sapiens neanderthalensis



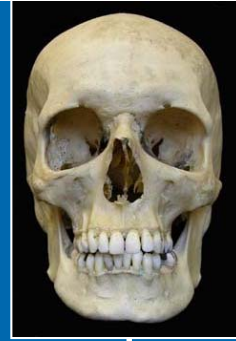
200,000-35,000
years

0.5 MYA

1 MYA



Homo
heidelbergensis



Late *Homo*
(*Homo sapiens sapiens*)
100,000 years



Late *Homo*
(*Homo sapiens idaltu*)
160,000 years

Homo sapiens idaltu

Middle Awash, Ethiopia's Afar Triangle, 1997 found by Tim White,



Big Brain (1450 cc)
Forehead

Europe

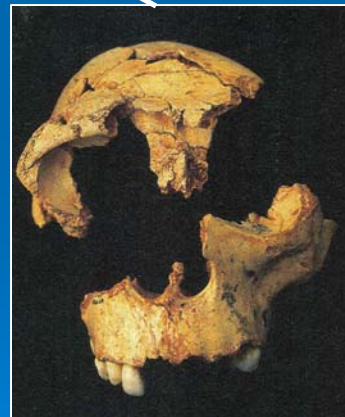
Late *Homo*
Homo sapiens neanderthalensis



200,000-35,000
years

0.5 MYA

1 MYA

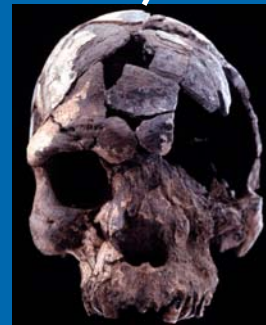


Homo
heidelbergensis

Africa



Late *Homo*
(*Homo sapiens sapiens*)
100,000 years



Late *Homo*
(*Homo sapiens idaltu*)
160,000 years

D. Anatomically Modern *Homo sapiens sapiens* (AMHS)



“Look at that... Give me the good old days when a man carried a club and had a brain the size of a walnut.”

Modern humans differ from premodern humans in their skulls and faces

- Modern human skulls are relatively high (measured from the ear aperture to the top of the braincase) and short (measured from a point roughly between the eyes to the far rear).
- In modern humans, the face tends to be short and flat, and it is tucked in under the forepart of the braincase rather than mounted in front of it.

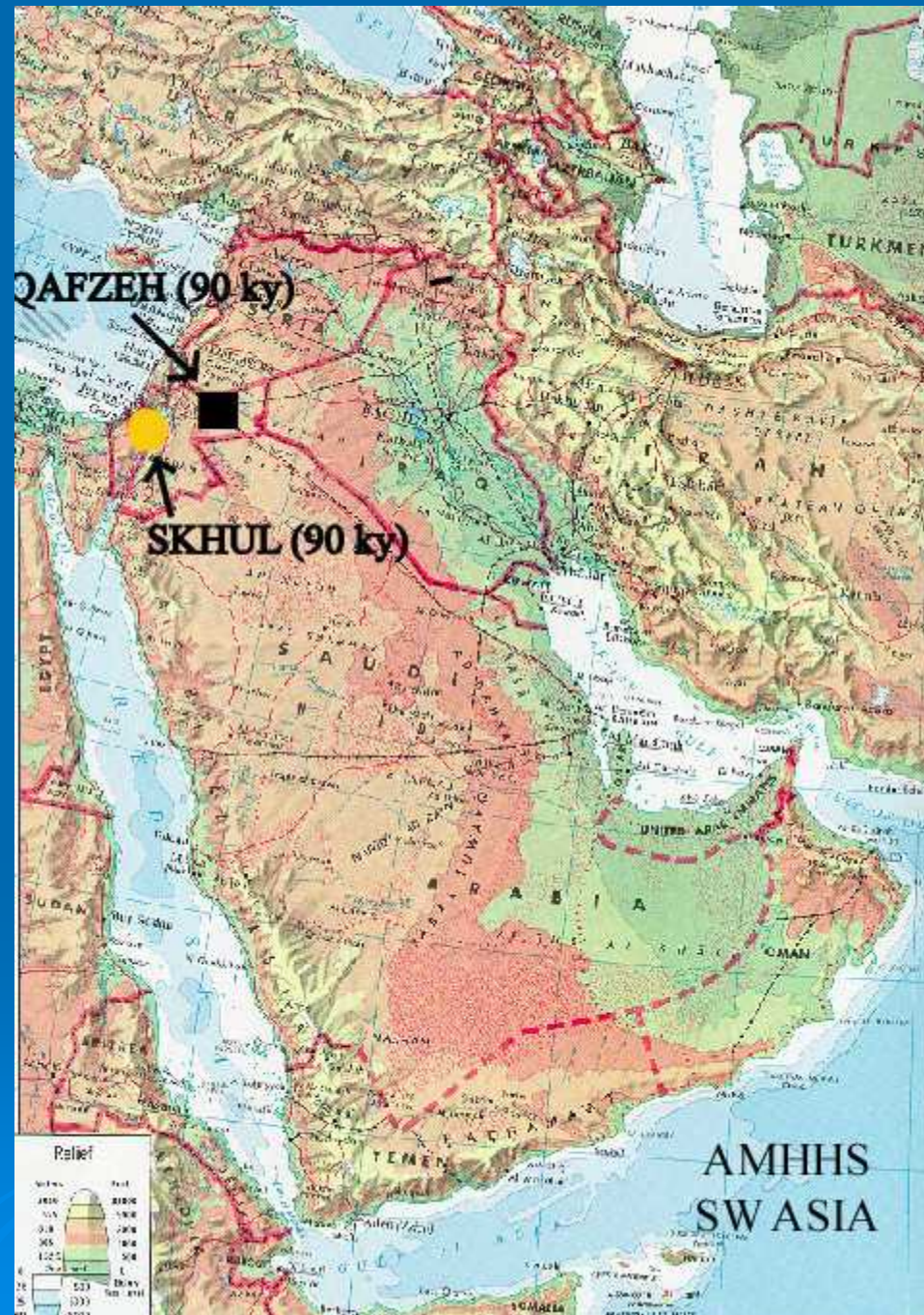


La Ferrassie Neanderthal

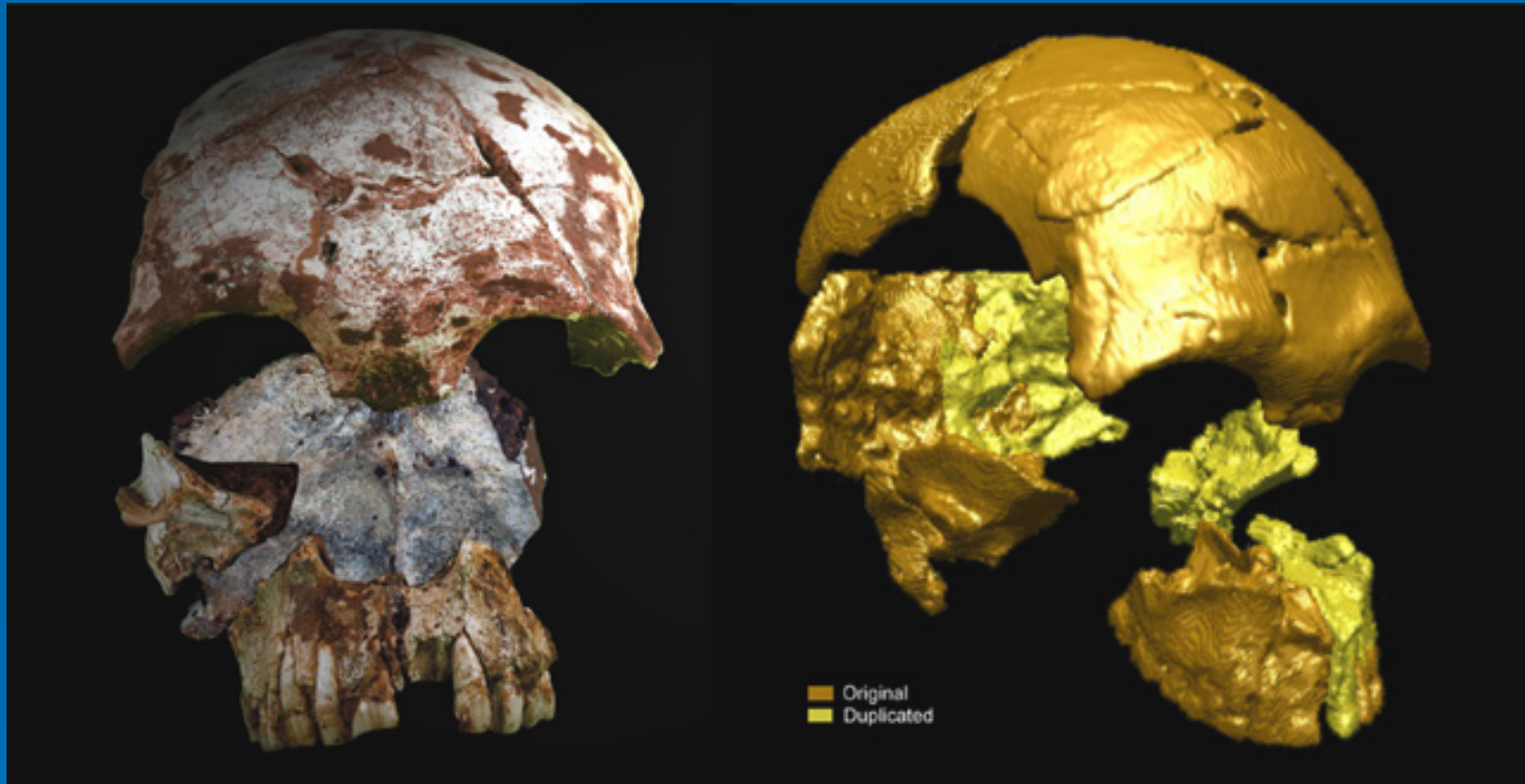


Abri Pataud Cro-Magnon

Homo sapiens *sapiens* Leaving Africa



2. 63,000 Year Old *Homo sapiens sapiens* found in Laos—reported 2012



3. Europe Cro Magnon After 35,000 Years ago

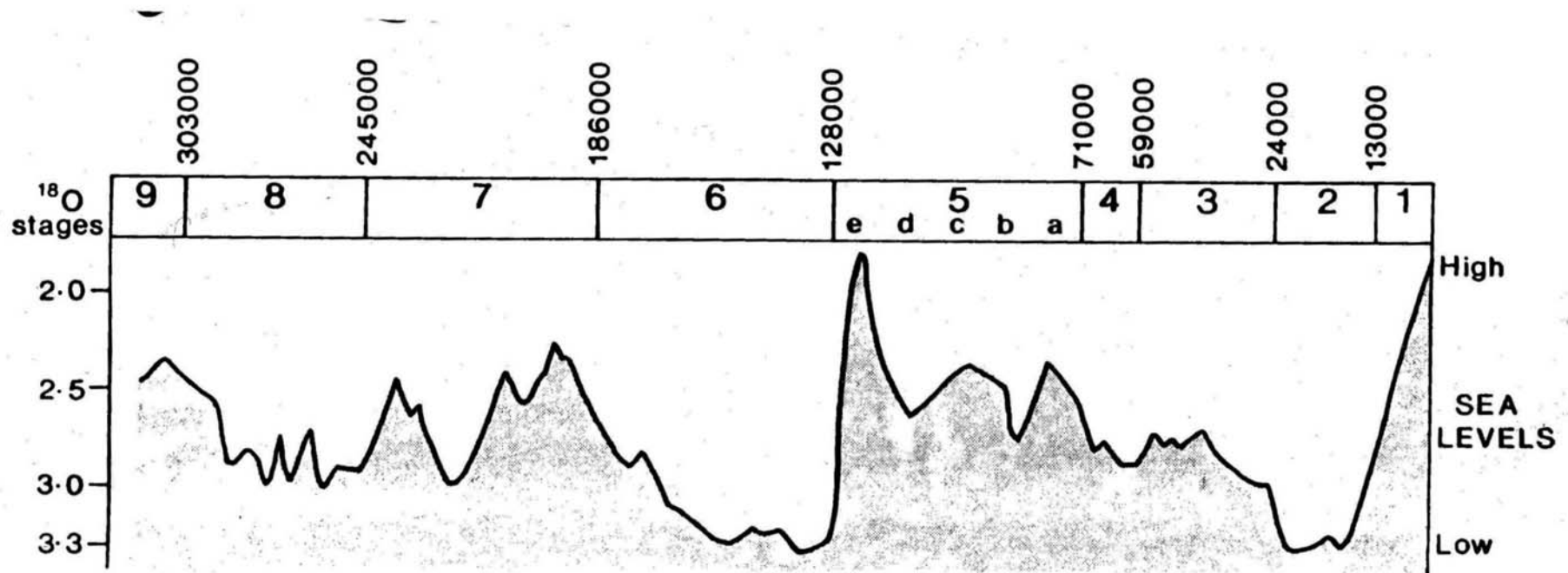




Homo sapiens sapiens
In Europe
Known as Cro Magnon
From finds made in France
19th century

3. Europe (Cro Magnon)

a. Climate and Environment



18 Ice and ocean levels, as recorded by the proportion of ^{18}O in this core, have greatly fluctuated over the past 300,000 years. The last interglacial (isotopic stage 5e) stands out as a brief episode of exceptionally large oceans. The maximum ice conditions (i.e. low sea levels) in stages 6 and 2 are more prolonged. During most of the past 300 millennia, however, the climate evidently rested between the two extremes of interglacial and full glacial.

3. Europe

b. Technology: the “Upper Paleolithic Revolution”
(35,000-12,000 years ago)

a. Extensive use of stone **blades**—



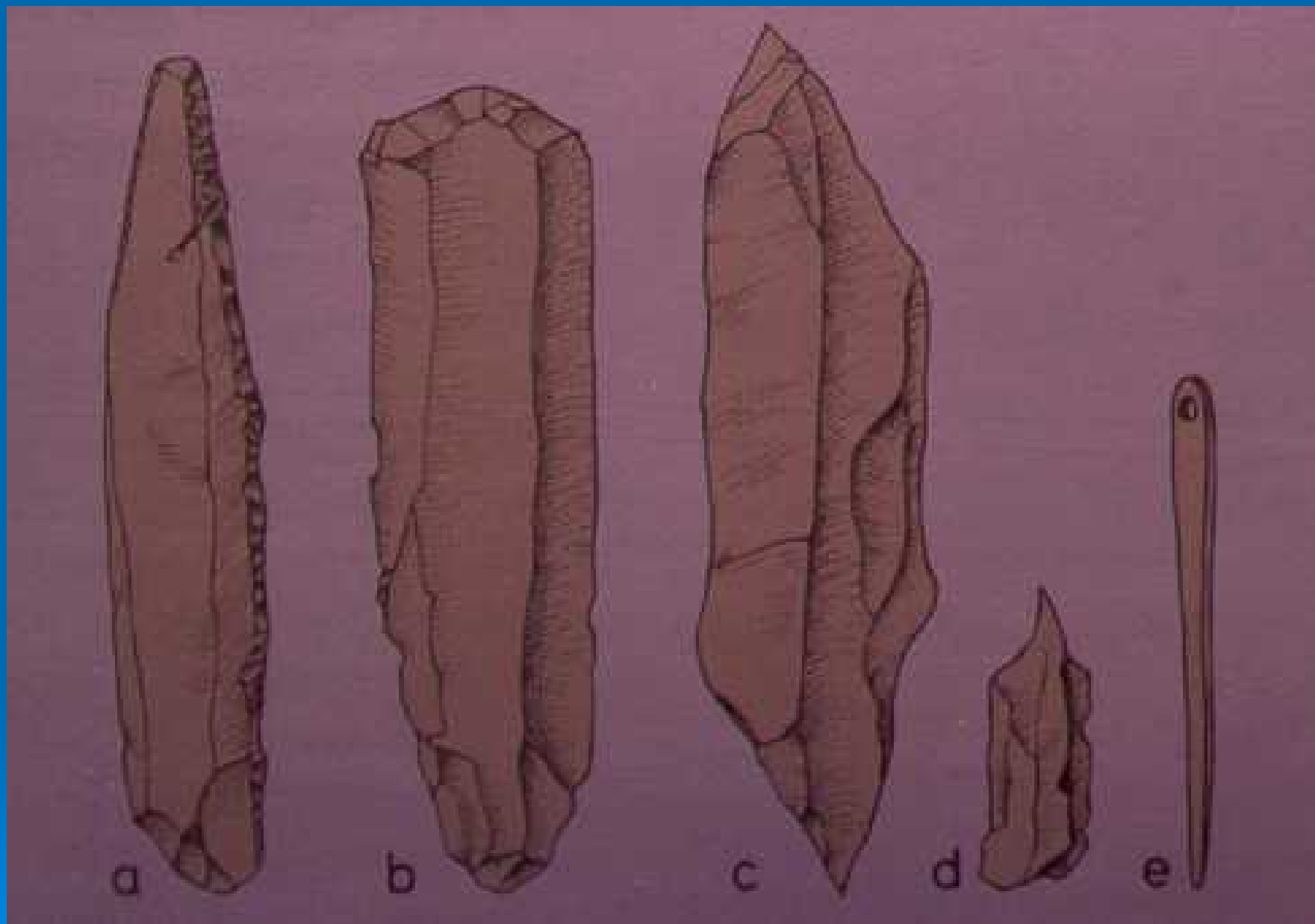


<u>Age</u>	<u>Dating</u>	<u>Technology</u>	<u>Species</u>
Upper Paleolithic	35,000- 12,000 BP	Blades+	<i>Homo sapiens sapiens</i>
Middle Paleolithic	200,000- 35,000 BP	Mousterian Levallois Modified Flakes	Neanderthal
Lower Paleolithic	1,800,000- 200,000 BP	Hand axes Choppers	<i>Homo erectus</i>
Basal Paleolithic	2.6- 0.2 MYA	Oldowan pebble tools Flakes	<i>A. garhii</i>

Technology and the “Upper Paleolithic Revolution” (35,000-12,000 years ago)

- a. Extensive use of stone **blades**—
- b. Manufacture of objects from a wider variety of raw materials including bone, ivory, and wood.





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- a. Extensive use of stone **blades**—
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- c. Greater specialization and standardization in tools and tool function
- d. increase in the number of tools that were used to make other tools.



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- iv. increase in the number of tools that were used to make other tools.
- v. Increase in hunting weapons: Spears, javelins, harpoons, clubs, stone missiles, throwing sticks, harpoons, bows and arrows and spear throwers



Species

Weapon technology

Homo erectus Few if any composite tools- Wooden spears
Hand axes

Species Weapon technology

Neanderthal Composite weapons Thrusting spears

Homo erectus Few if any composite tools- Wooden spears
Hand axes

Species Weapon technology

<i>Homo sapiens</i>	Composite Weapons	True Projectiles
Neanderthal	Composite weapons	Thrusting spears
<i>Homo erectus</i>	Few if any composite tools-	Wooden spears Hand axes

Technology and the “Upper Paleolithic Revolution” (35,000-12,000 years ago)

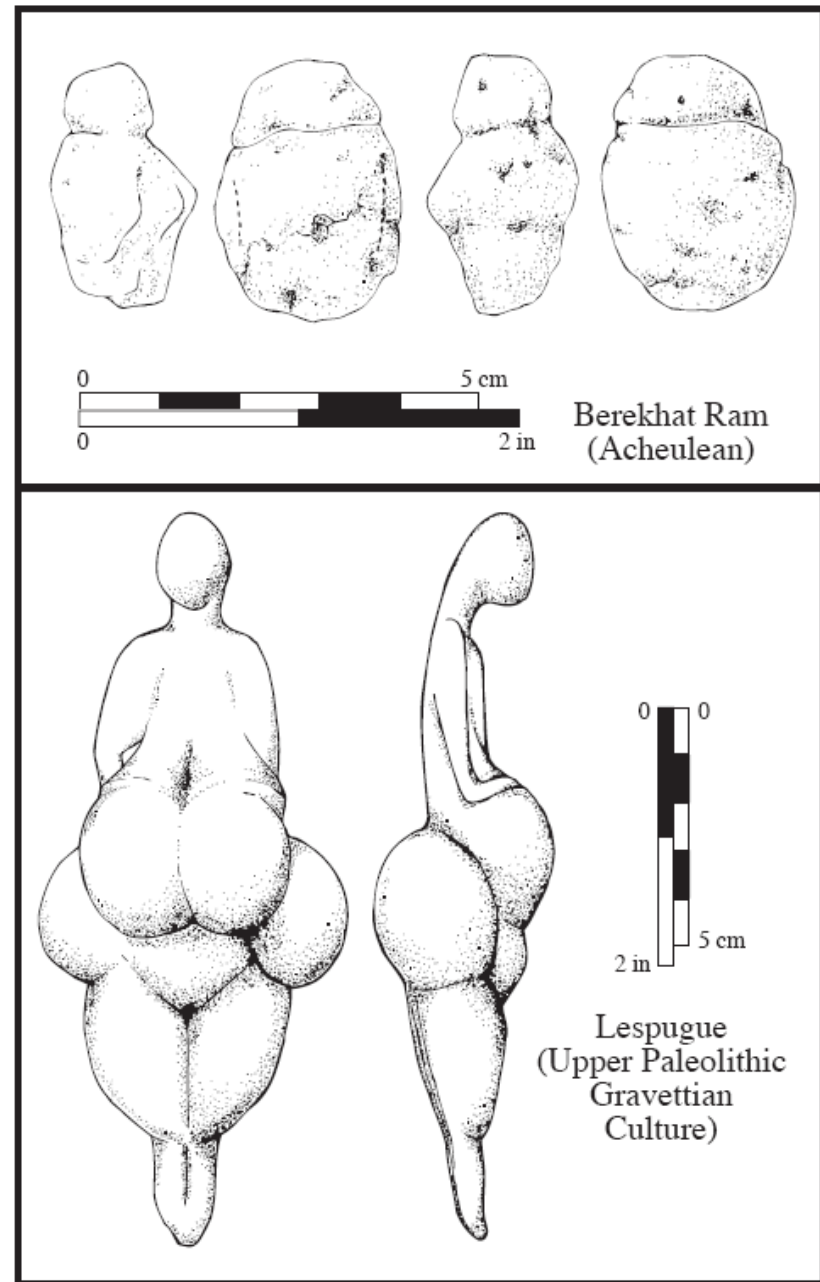
- a. Extensive use of stone **blades**—
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- f. Grinding tools first developed

Technology and the “Upper Paleolithic Revolution” (35,000-12,000 years ago)

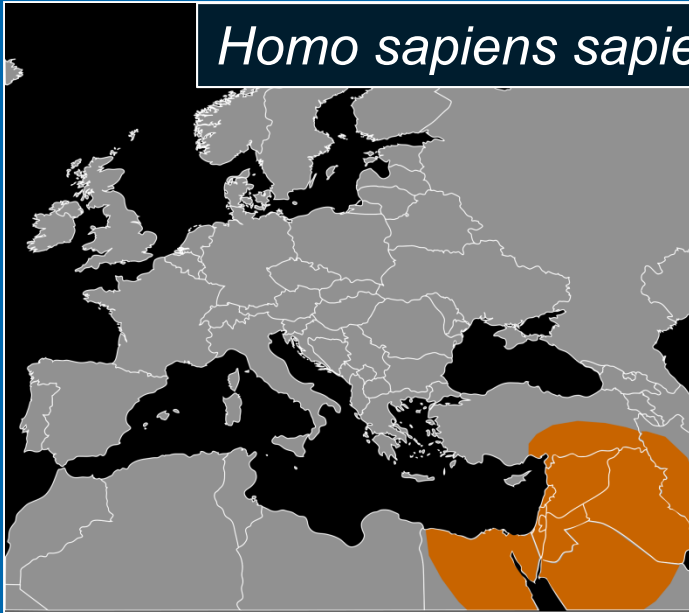
- i. Extensive use of stone **blades**—
- ii. Manufacture of objects from a wider variety of raw materials including bone, ivory, and wood.
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- v. Increase in hunting weapons: Spears, javelins, harpoons, clubs, stone missiles, throwing sticks, harpoons, bows and arrows and spear throwers
- vi. Grinding tools first developed
- vii. Long-distance trade (shells and stone)
- viii. Fantastic art:

Art that dates before 50 ka is rare and equivocal

- ◆ The oldest widely cited example is a small volcanic pebble from the Berekhat Ram handaxe site (Syrian/Israeli border) on which deliberately incised lines set off a possible head and arms. The pebble is between 280 and 250 ka.
- ◆ To some archaeologists, the Berekhat Ram pebble anticipates human figurines that fully modern Upper Paleolithic Cro-Magnons produced in Europe beginning about 35 ka.



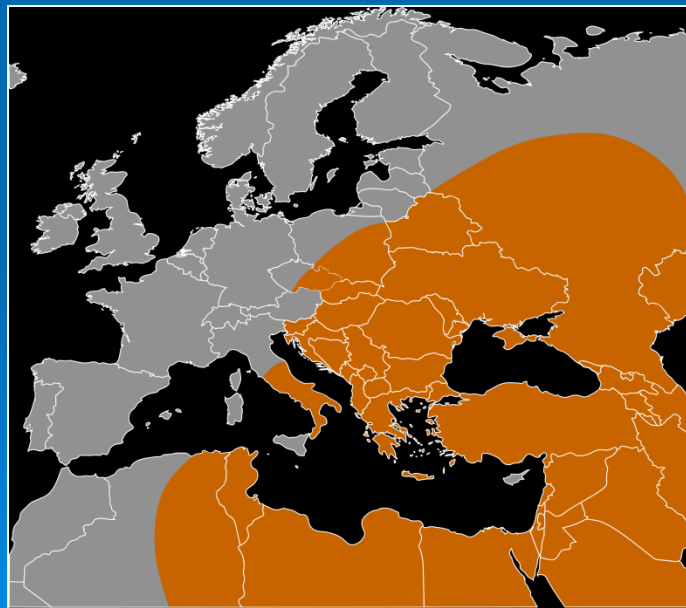
Homo sapiens sapiens Colonization of Europe



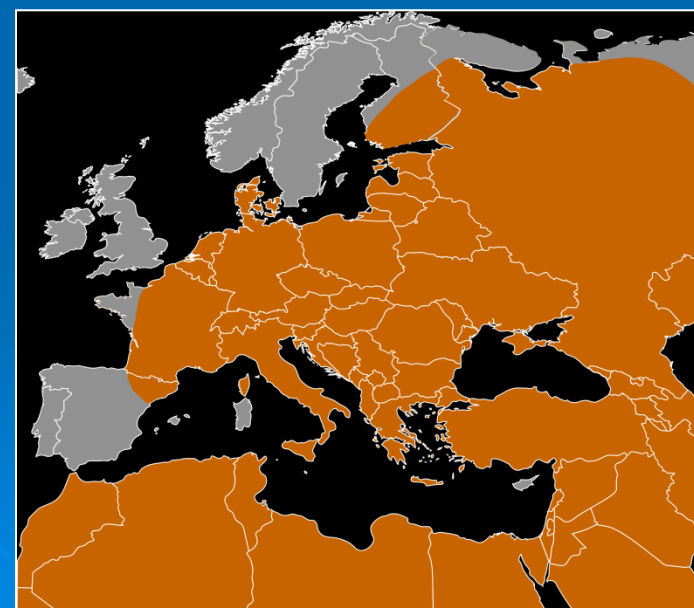
37,500 BP



35,000 BP



32,500 BP



30,000 BP

B. Europe

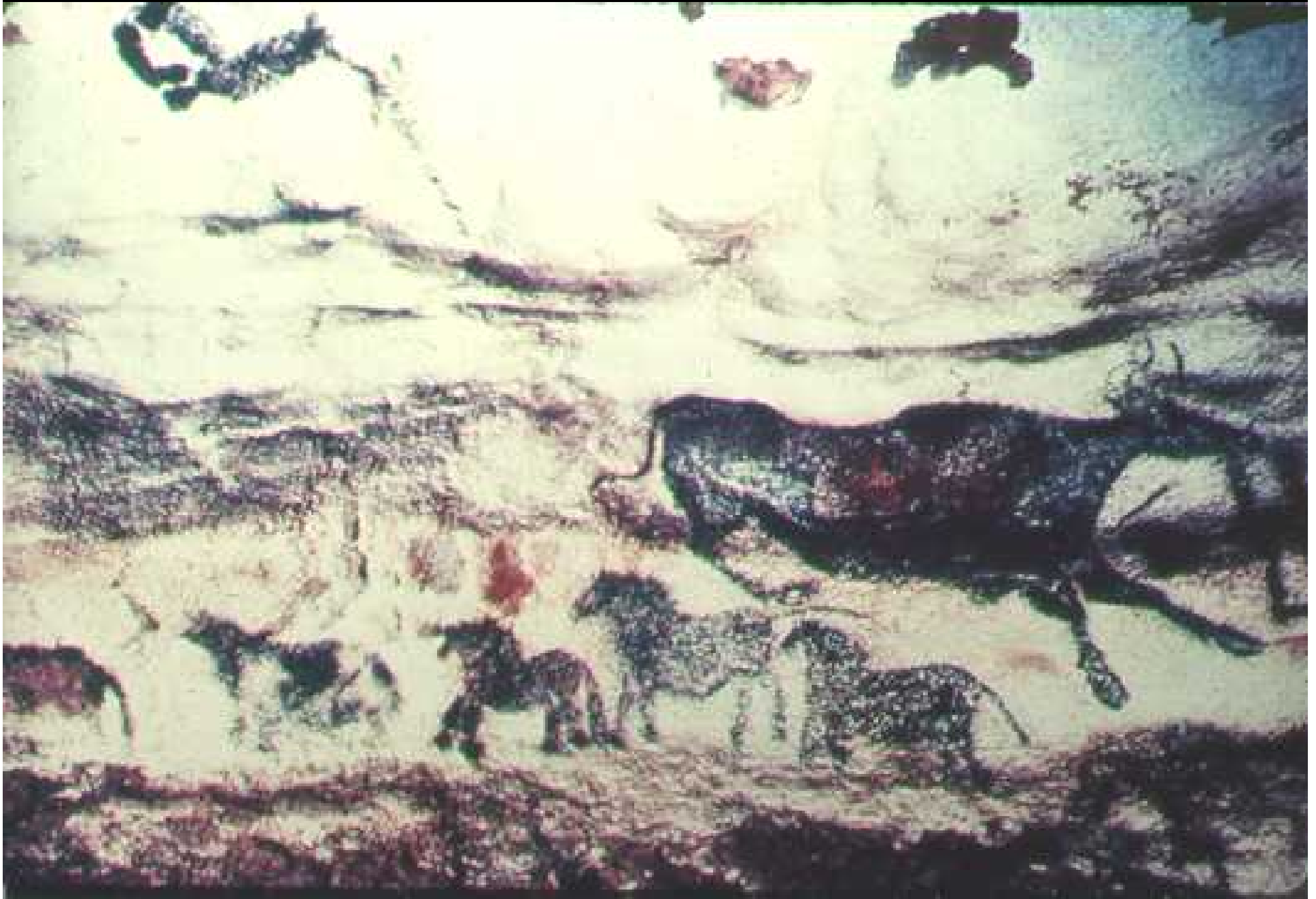
2. Important Sites



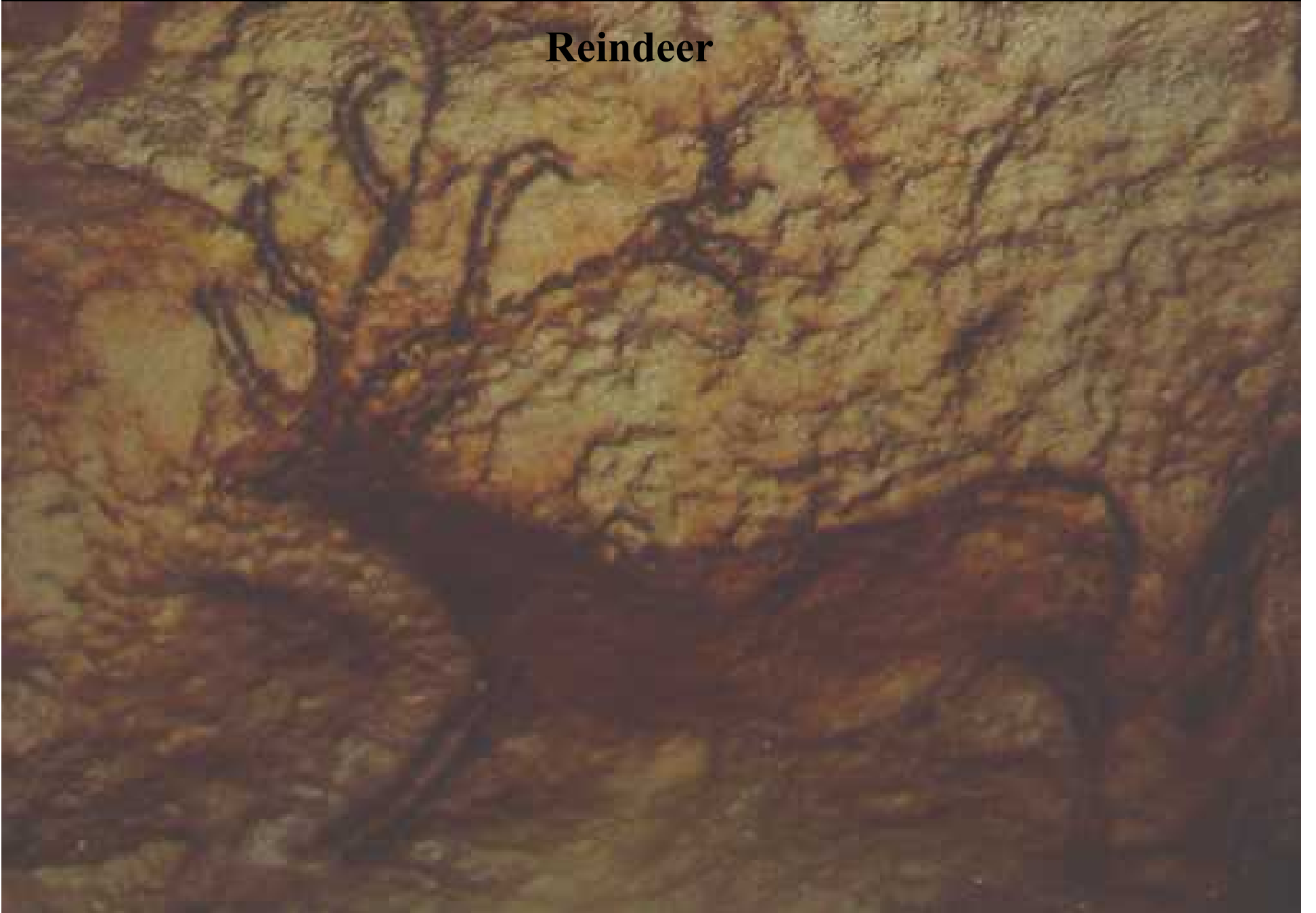
Great Art: Lascaux Cave, France



Cattle and small horses



Reindeer



Wild ox



Horse, bull, and reindeer



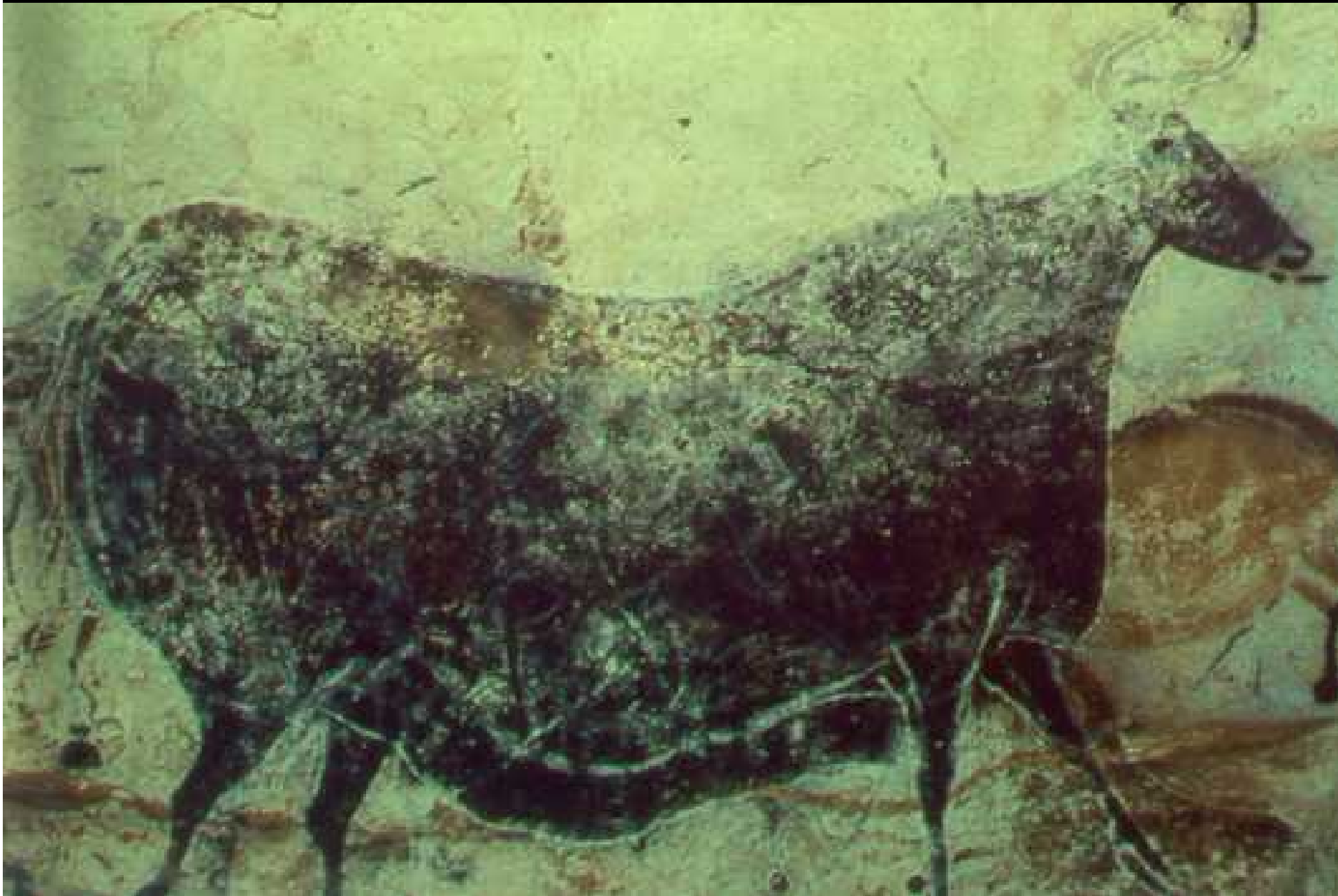
Bull and horse



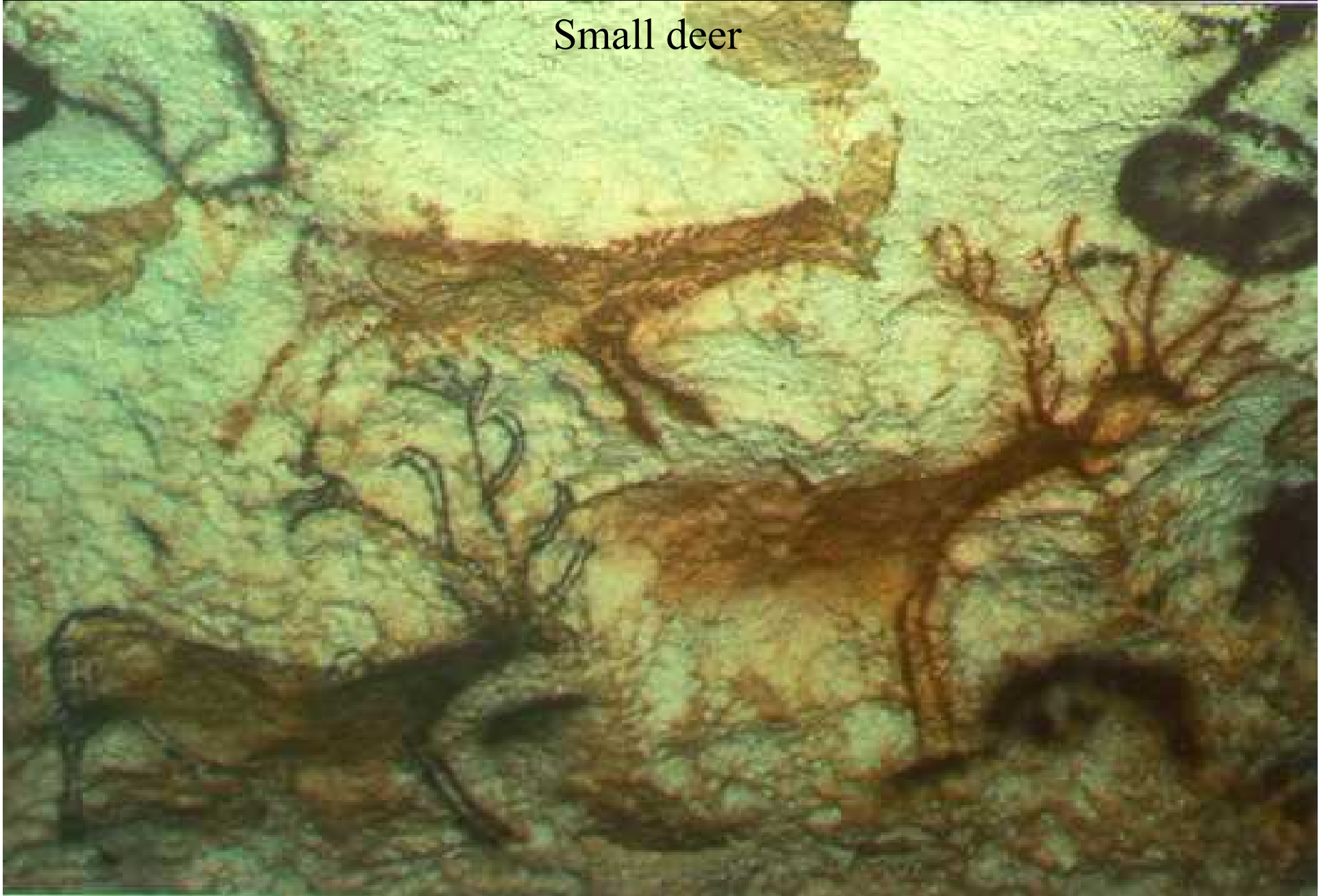
Bull and
tiny reindeer



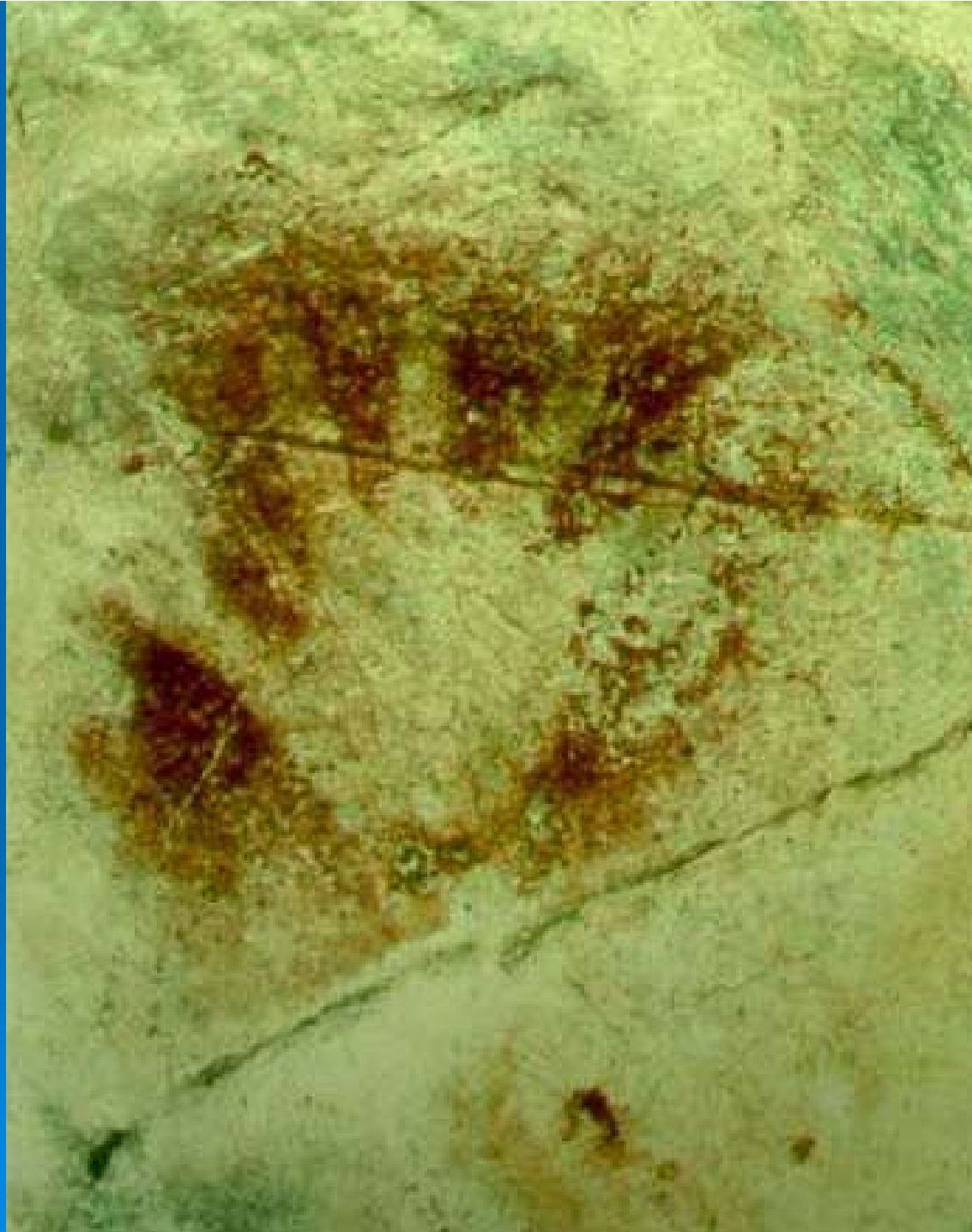
La Vaca Noire

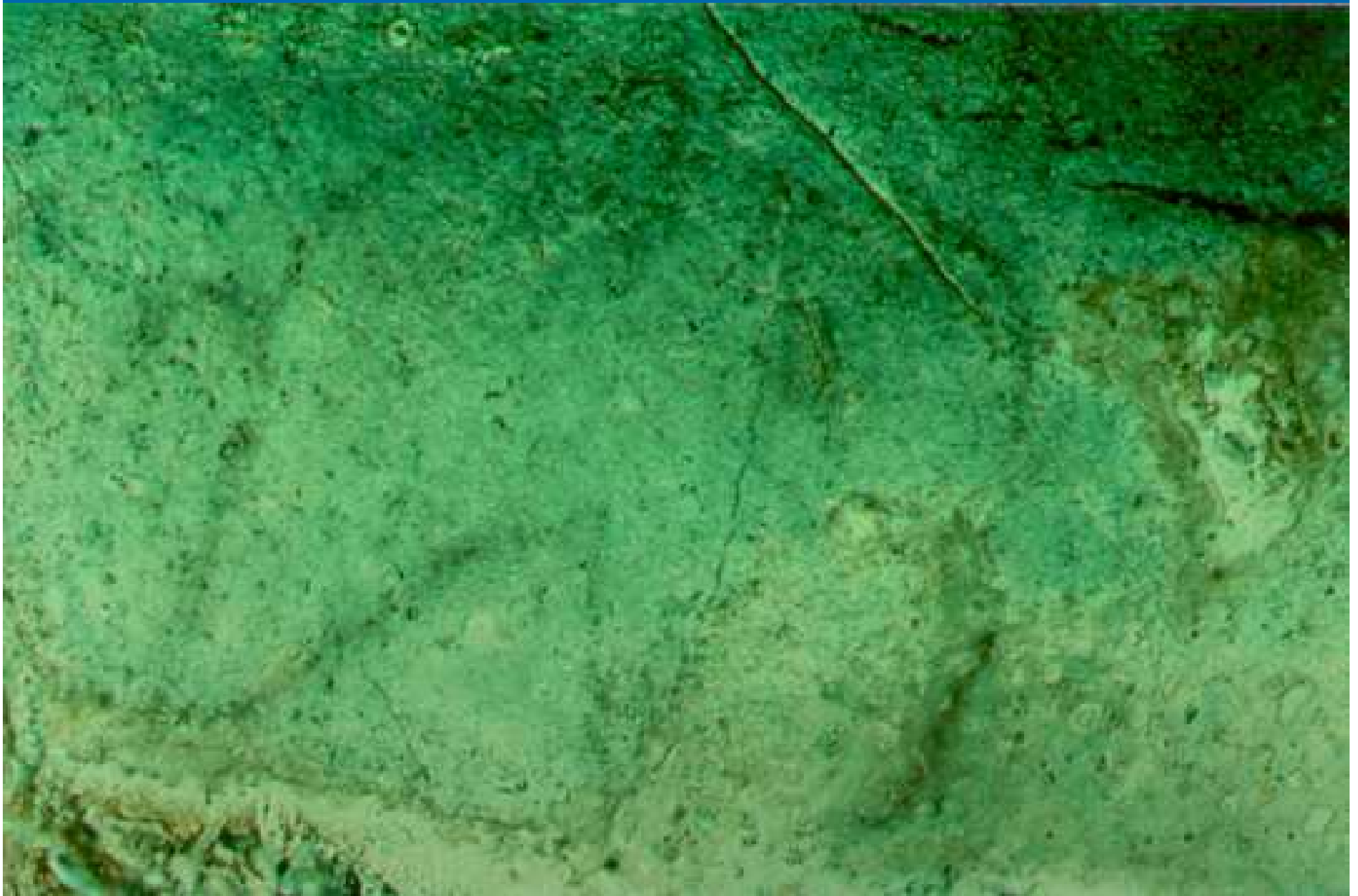


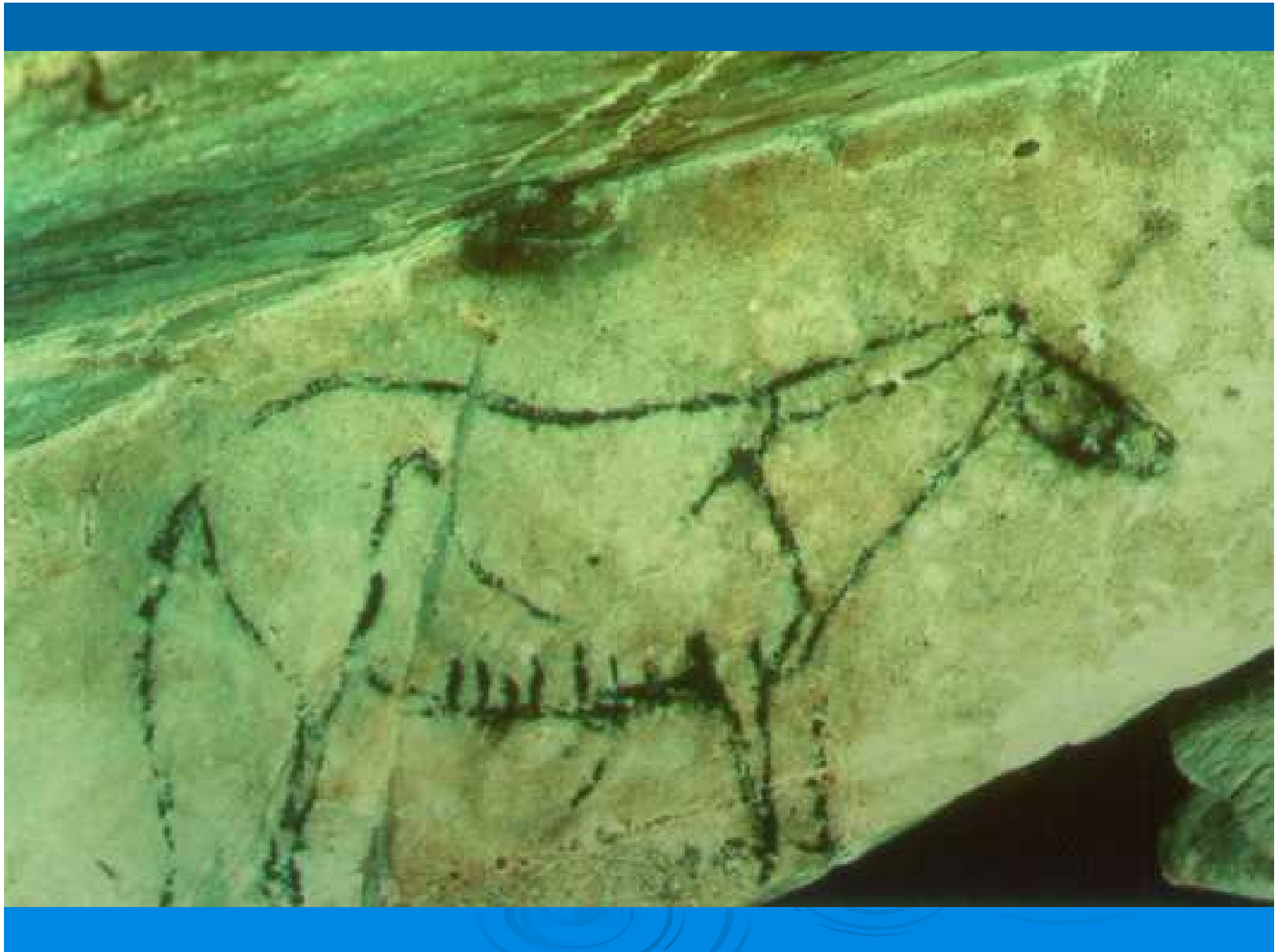
Small deer



Cantabria, Spain









Pech Merle, France





Grotte de Chauvet 36,000 BP



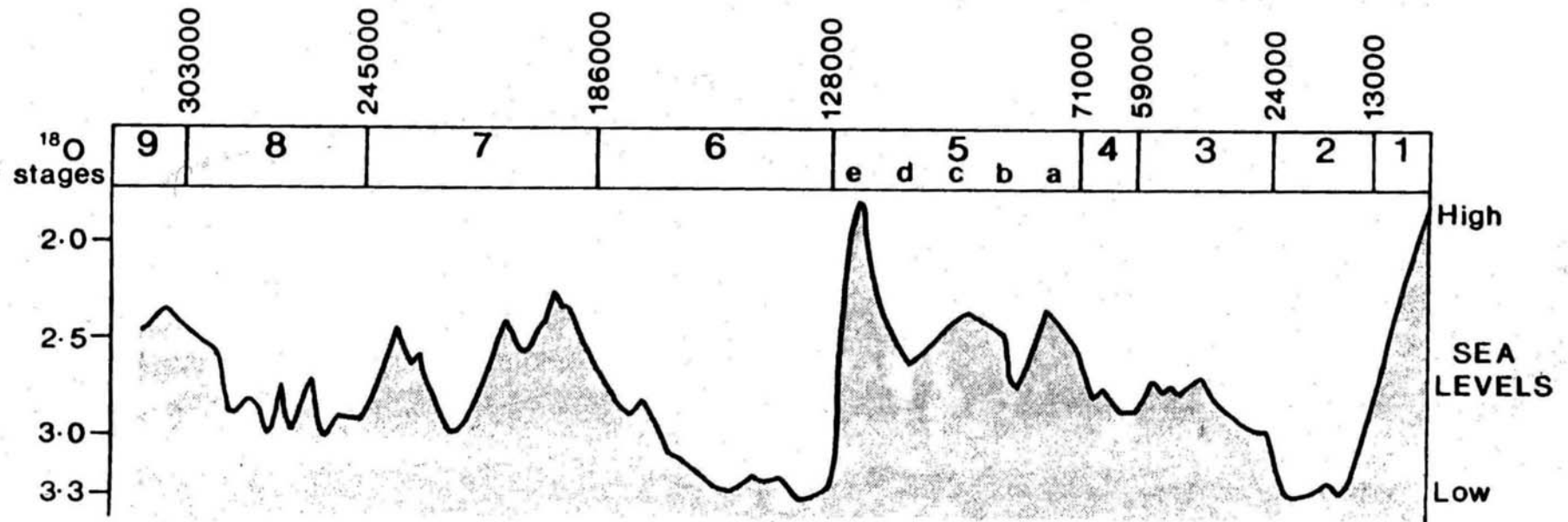


Grotte de Chauvet 55 Bear Skulls



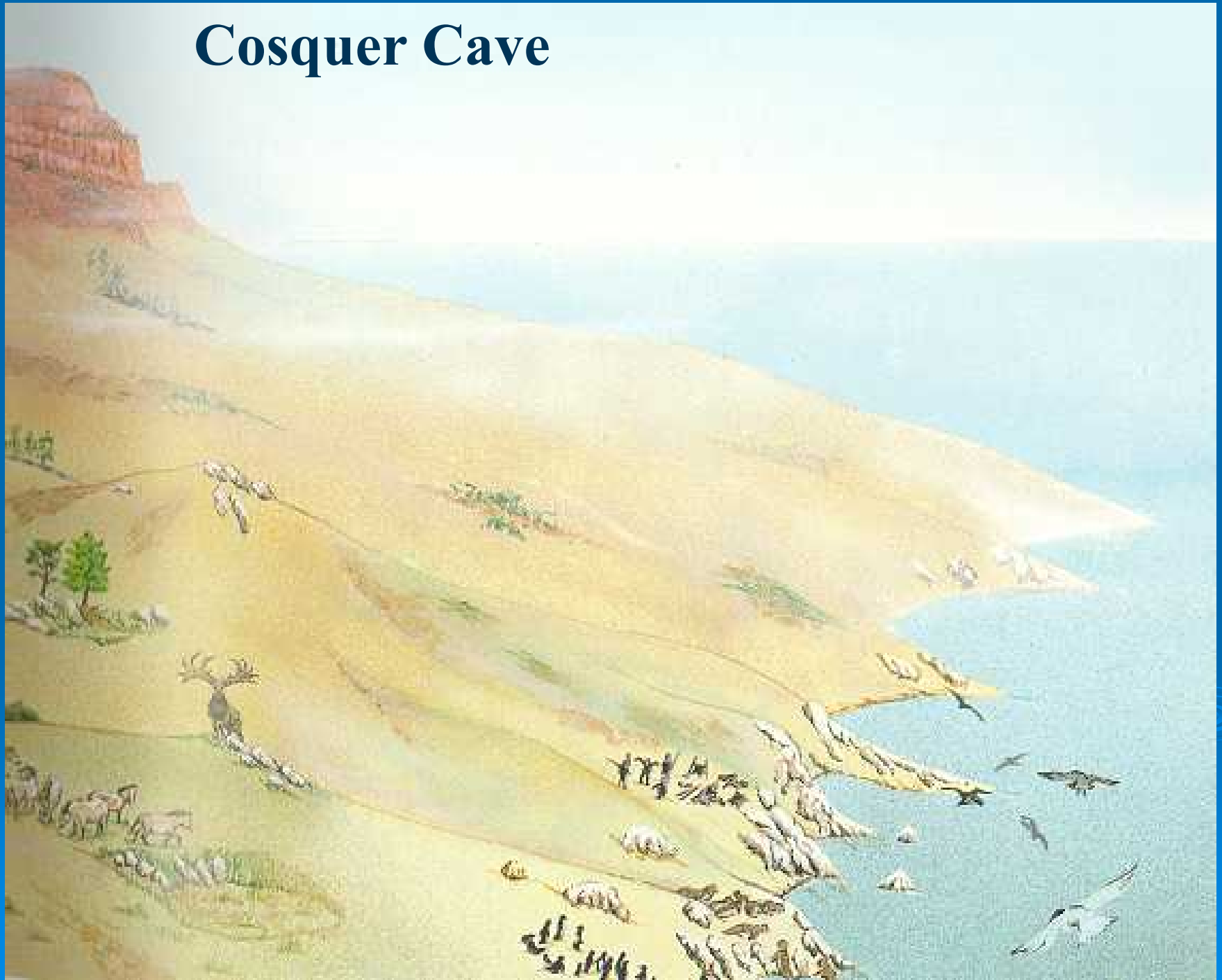
Cosquer, Cave French Mediterranean 27,000-19,000 BP





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Cosquer Cave















Venus figurines: Upper Paleolithic, Europe,
25,000 years B.P.







Lifeways Important Sites



Abri Pataud Rock Shelter, France

Reindeer Hunting 32,000 B.P.



Lifeways Important Sites



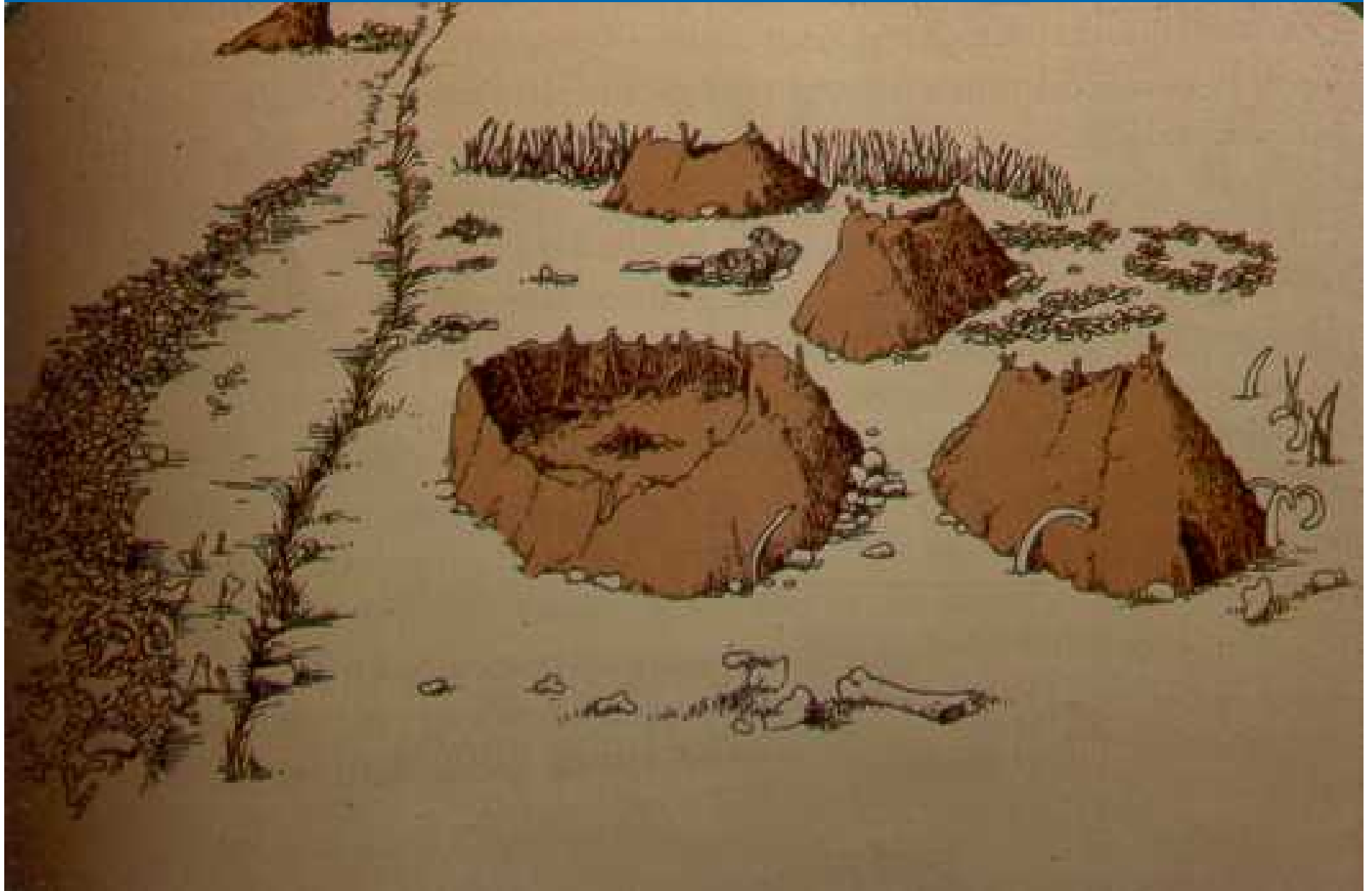
**Dolni Vestonice,
Czech Republic,
Mammoth bones,
25,000 years B.P.**

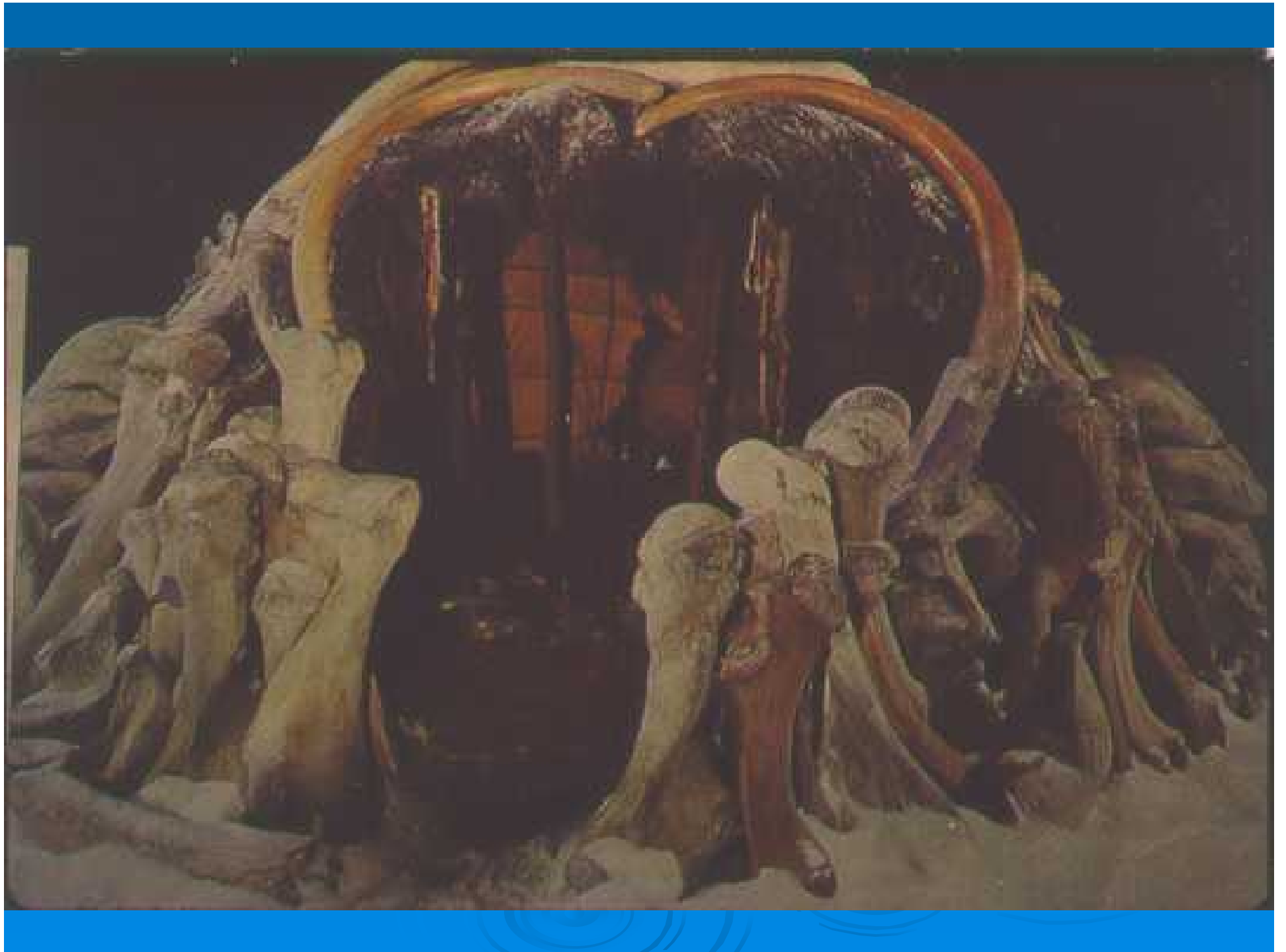


Human burials



Dolni Vestonice Upper Paleolithic Houses







D. Theories about the evolutionary relationships

1. The Out of Africa: Proposes that *Homo sapiens* evolved from Middle *Homo* (*Homo erectus*) in southern Africa and spread out from. Stringer and Gamble 1993

2. Multi-regional theory: Suggests that *Homo sapiens sapiens* evolved from Middle *Homo* in a number of places and the populations all interbred so that modern human beings are all similar. Wolpoff et al. 1984, Alan Thorne

Neanderthal Genome Green et al. 2010

