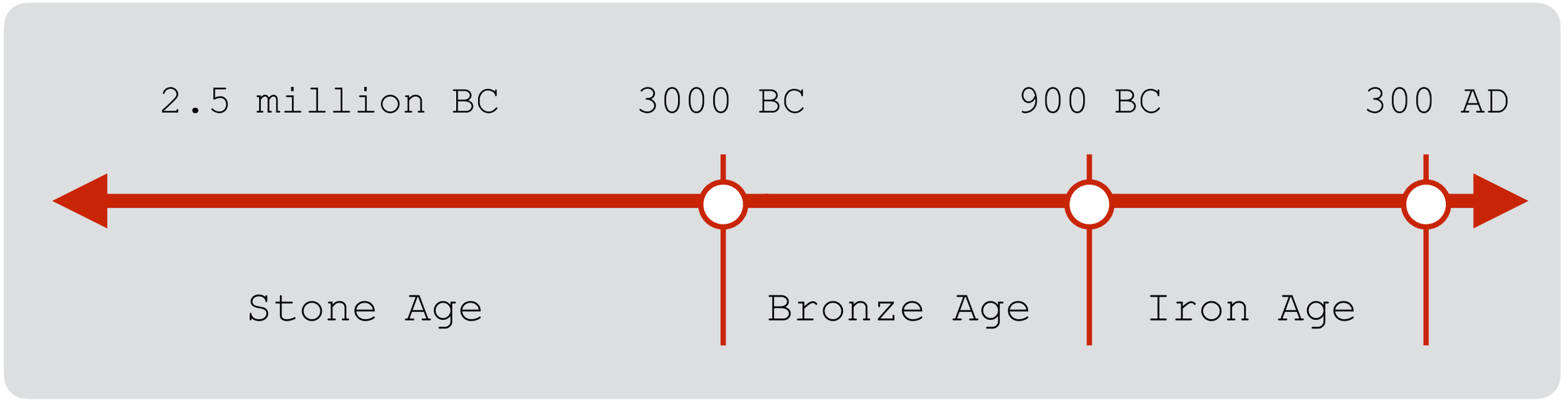
History of Architecture

Prehistoric Architecture

Sara Khasib

When did it start?

From Caves to Cities



The Prehistoric age is divided into three main periods

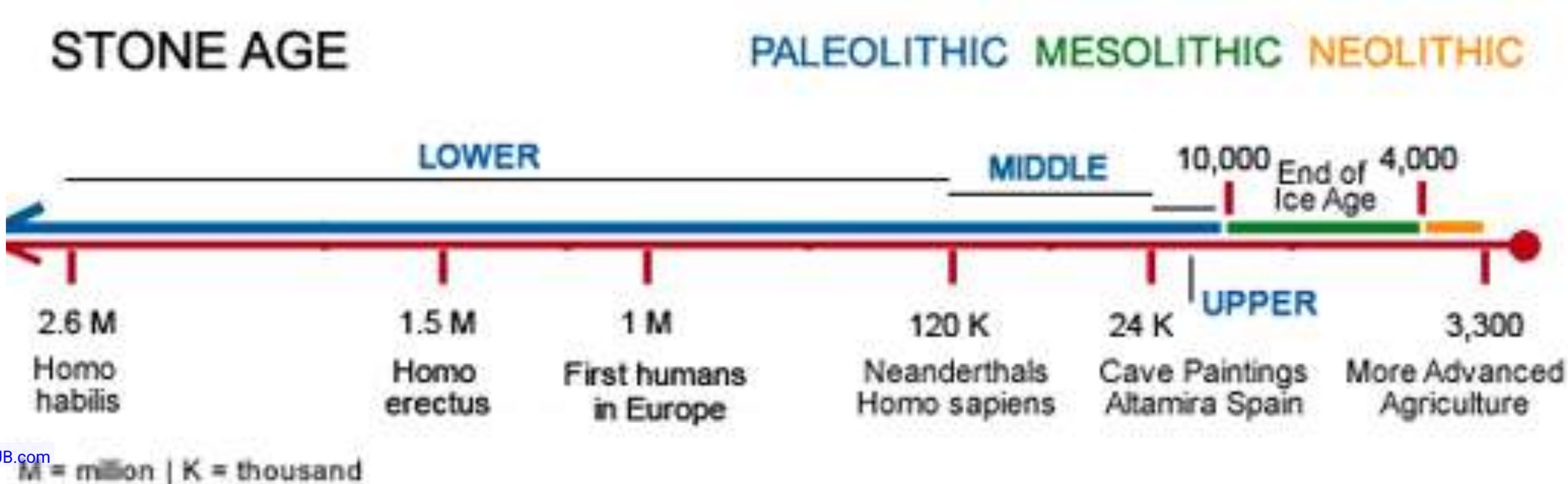
1. **Stone Age:** 2.5 million BC - 3000 BC
2. **Bronze Age:** 3000 BC - 900 BC
3. **Iron Age:** Started from 12th - 9th century BC

The Stone Age

1. **Paleolithic Period** (Old Stone Age)
   2,000,000 - 10,000 BC

2. **Mesolithic Period** (Middle Stone Age)
   10,000 - 4,000 BC

3. **Neolithic Period** (New Stone Age)
   4,000 - 3,300 BC



Paleolithic

Paleolithic

The Paleolithic period is divided into three main periods:

1. **Lower Paleolithic** (2,000,000 - 200,000 BC):
   Beginning with Homo habilis, and with the earliest stone tools.

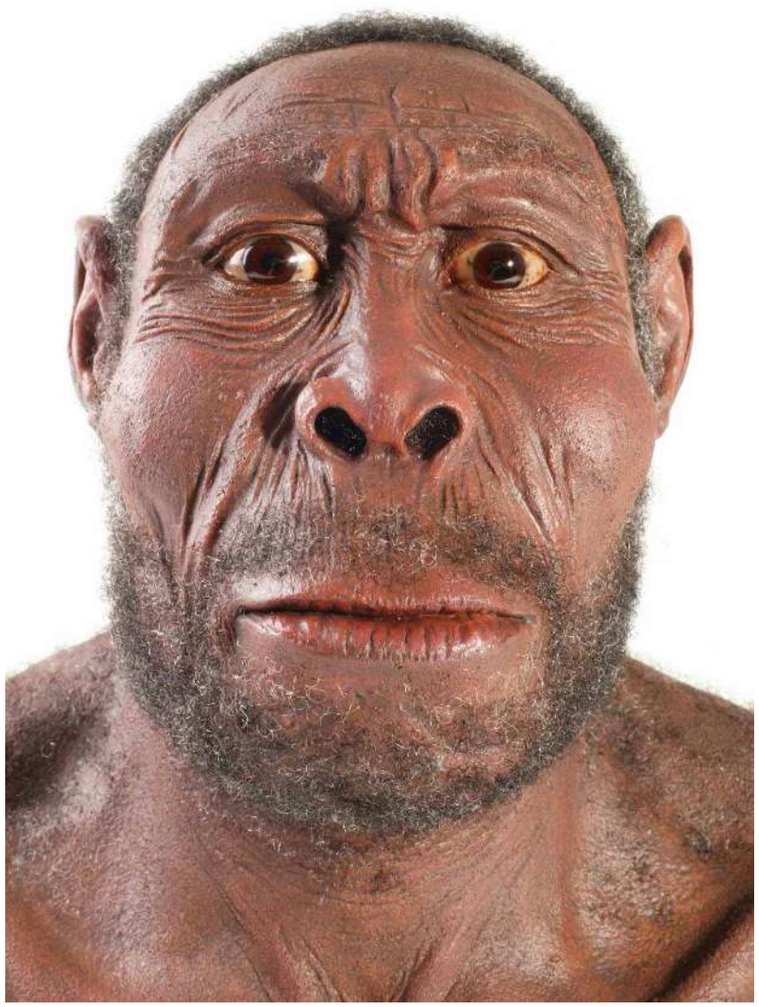
2. **Middle Paleolithic** (150,000 - 40,000 BC)
   The earliest evidence of behavioural modernity first appeared. Developing other advanced cultural traits such as religion and art.

3. **Upper Paleolithic** (40,000 - 10,000 BC)
   Has the earliest remains of organized settlements in the form of camp sites, some with storage pits

1. Lower Paleolithic

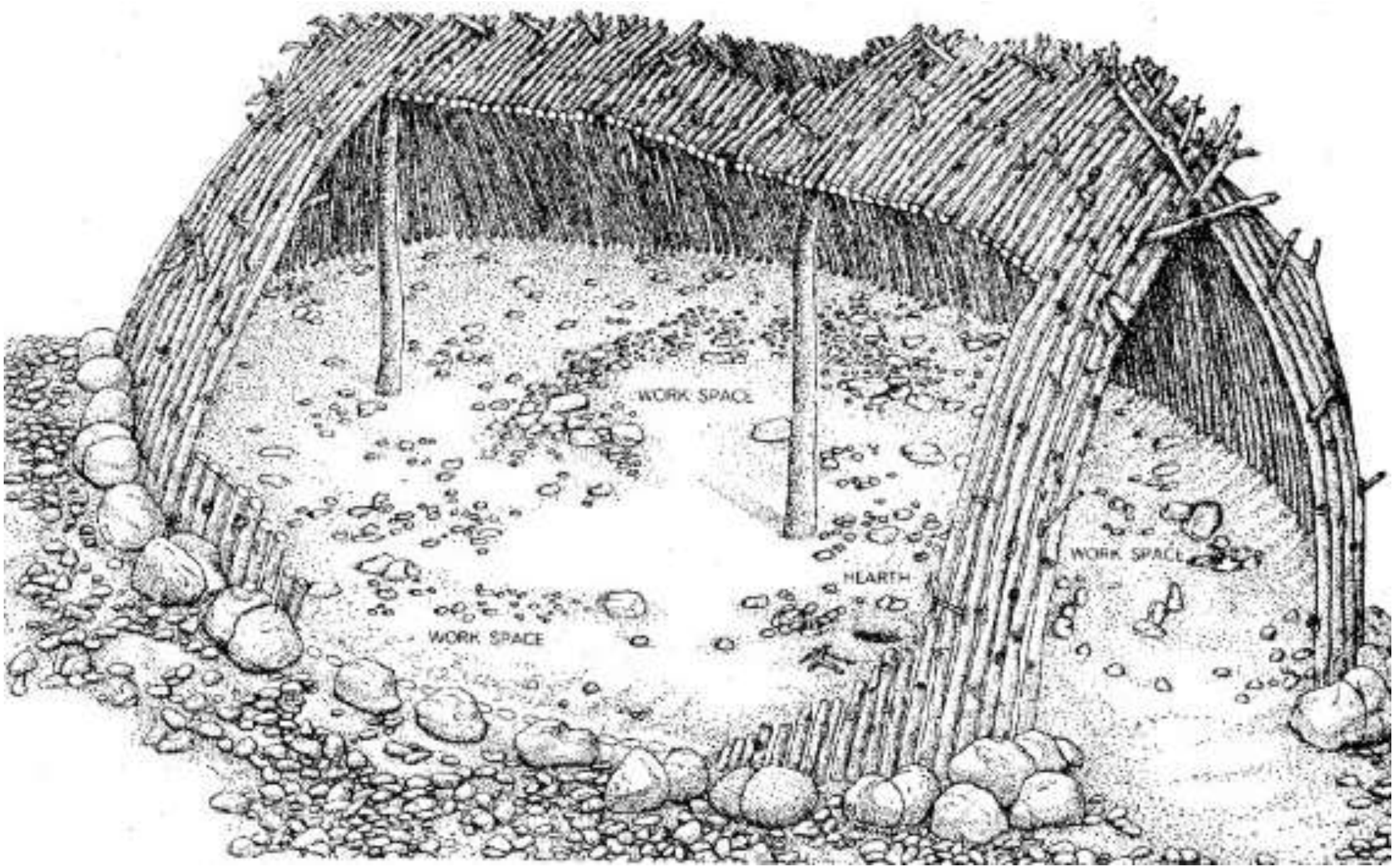
- 2 million years ago, beginning of Homo habilis species (handy man) in Africa, with the earliest stone tools

- 1.25 million years ago, Homo erectus species, adopted to different climates since they moved from Africa to Asia, China and Europe, they started using fire



Lower Paleolithic Dwelling:

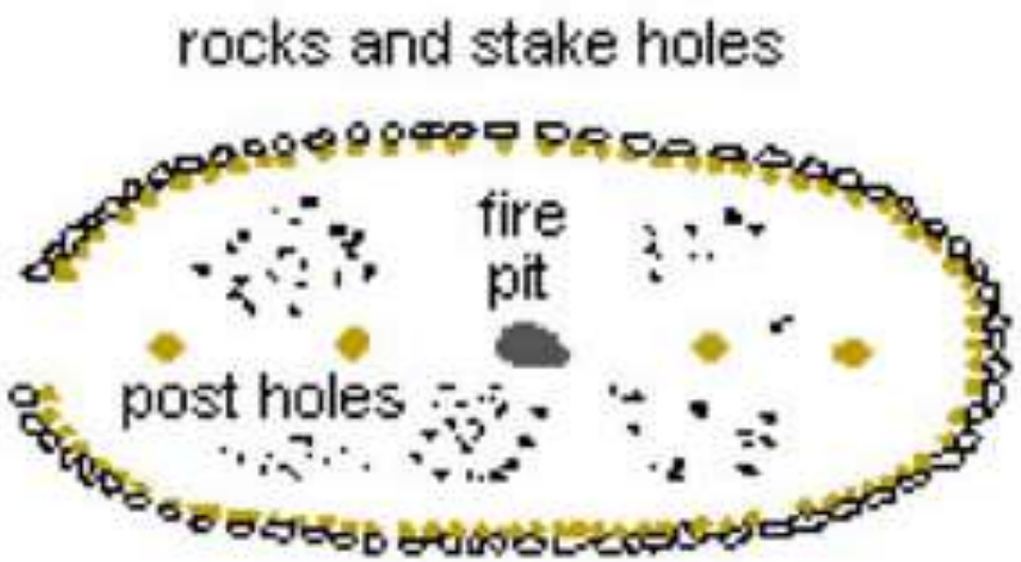
Terra Amata, Nice, France (400,000 - 300,000 BC)

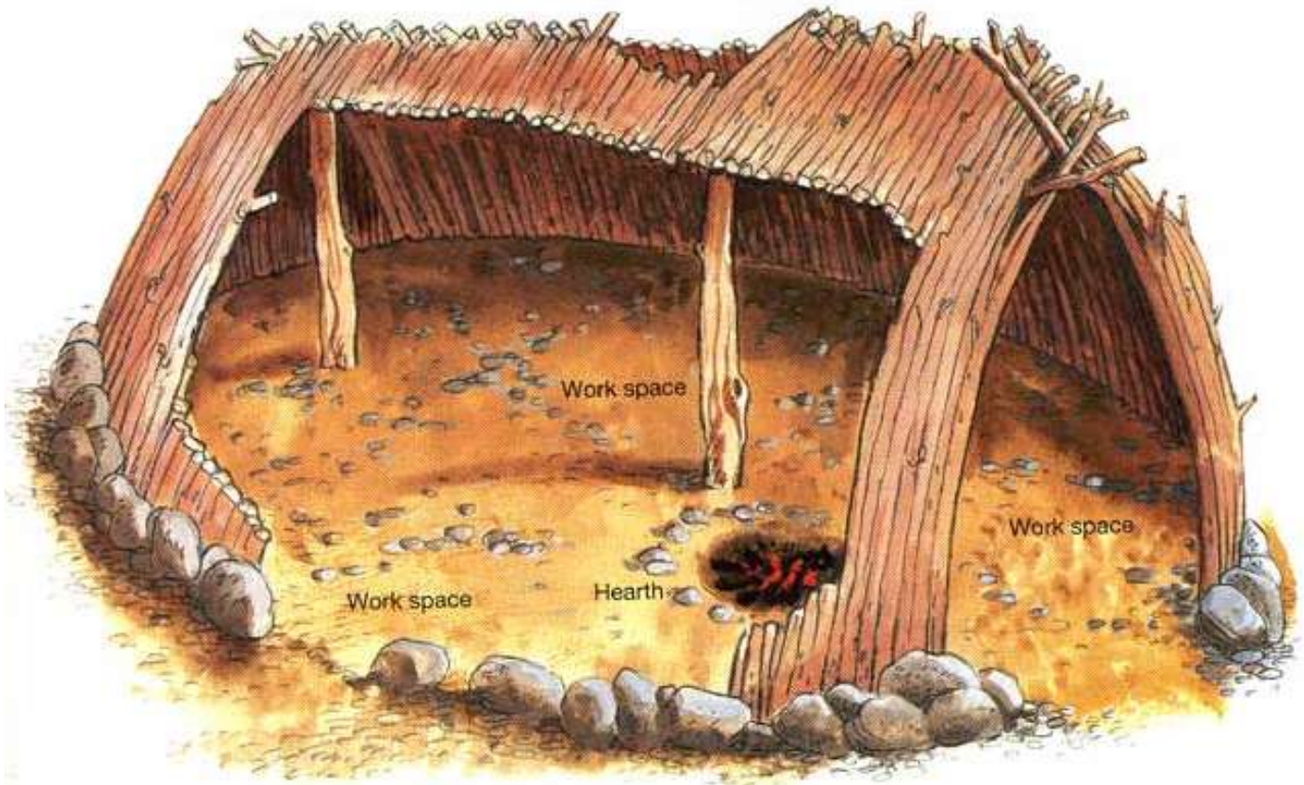


Terra Amata

- First fabricated shelter (considered first architecture)
- Camping place for springtime, visited annually
- The place had 21 hut, 11 of them were built each year in the same place

Terra Amata

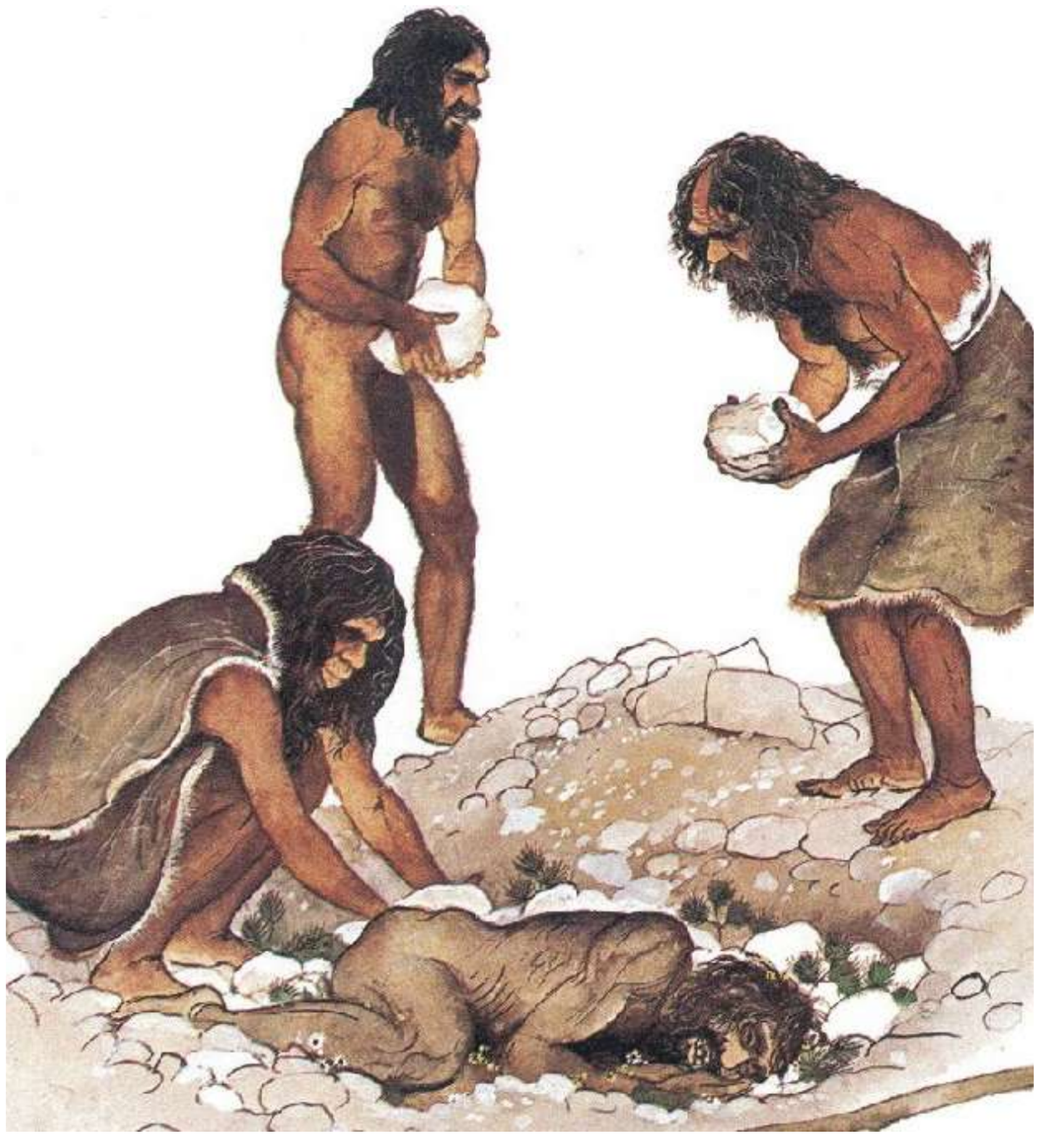




- Oval shape
- 7.9-14.9m length, 4-6.1m width
- Side walls made of palisade of branches
- The edges are defined with rocks
- Centre posts as a support
- A central hearth inside
- Evidence for a group gathering of community

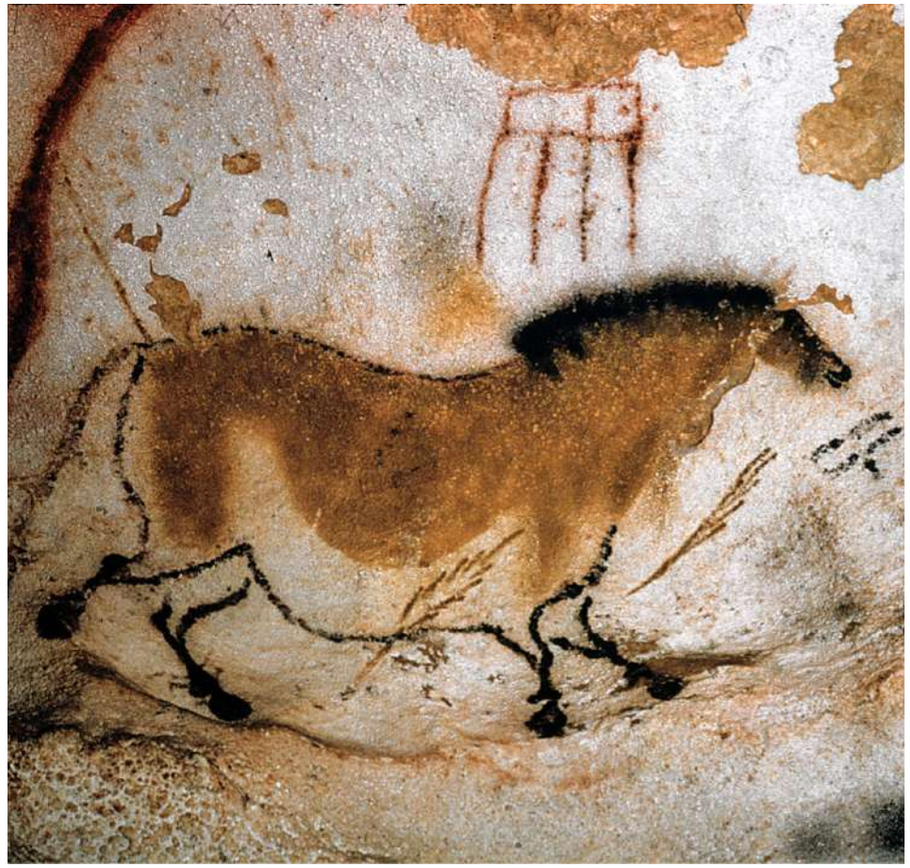
1. Middle Paleolithic

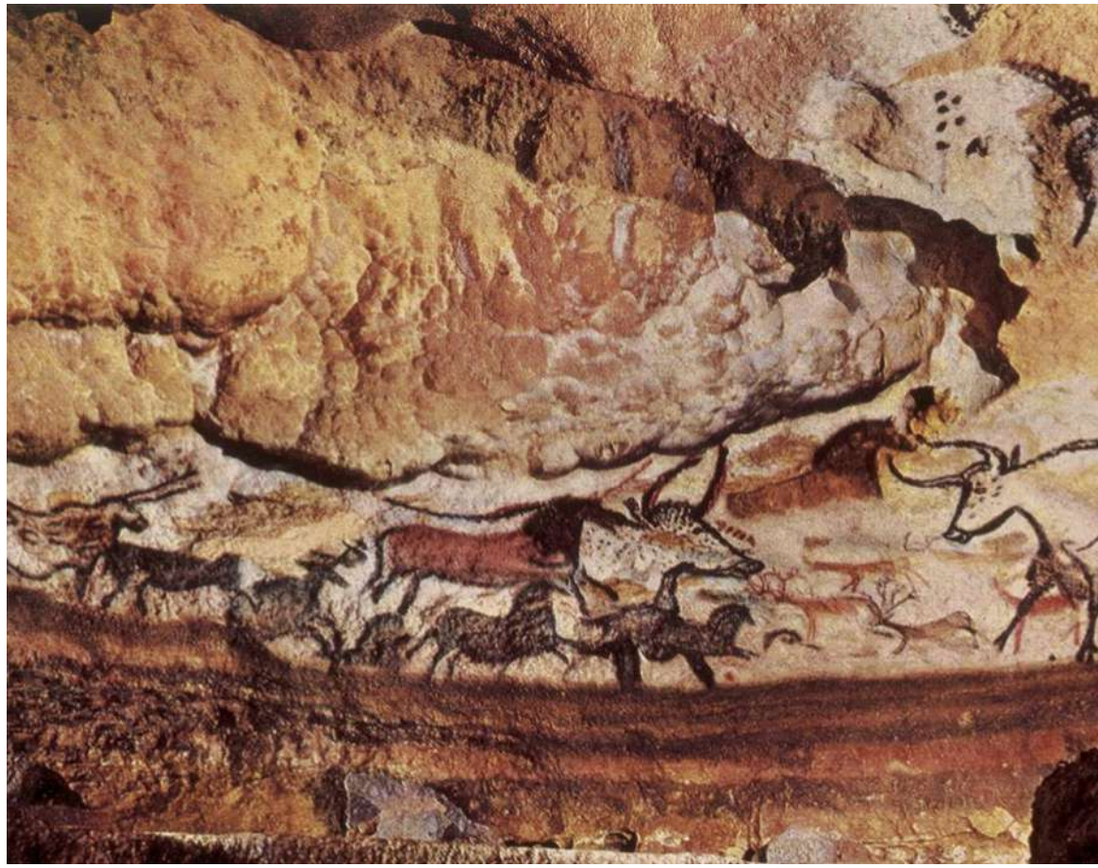
- Humans lived in caves and shelters
- Used more developed stone tools
- Developed other advanced cultural traits such as religion and art
- Burial of bodies is the evidence of religious beliefs; bodies laid on the east-west axis, perhaps an alignment with the movement of the sun



1. Middle Paleolithic

- Most compelling evidence of intellectual capacity is found in their visual work - paintings and sculpture
- Awareness of life cycle, renewal of life and spirits
- Fertility of man and woman
- Hunting



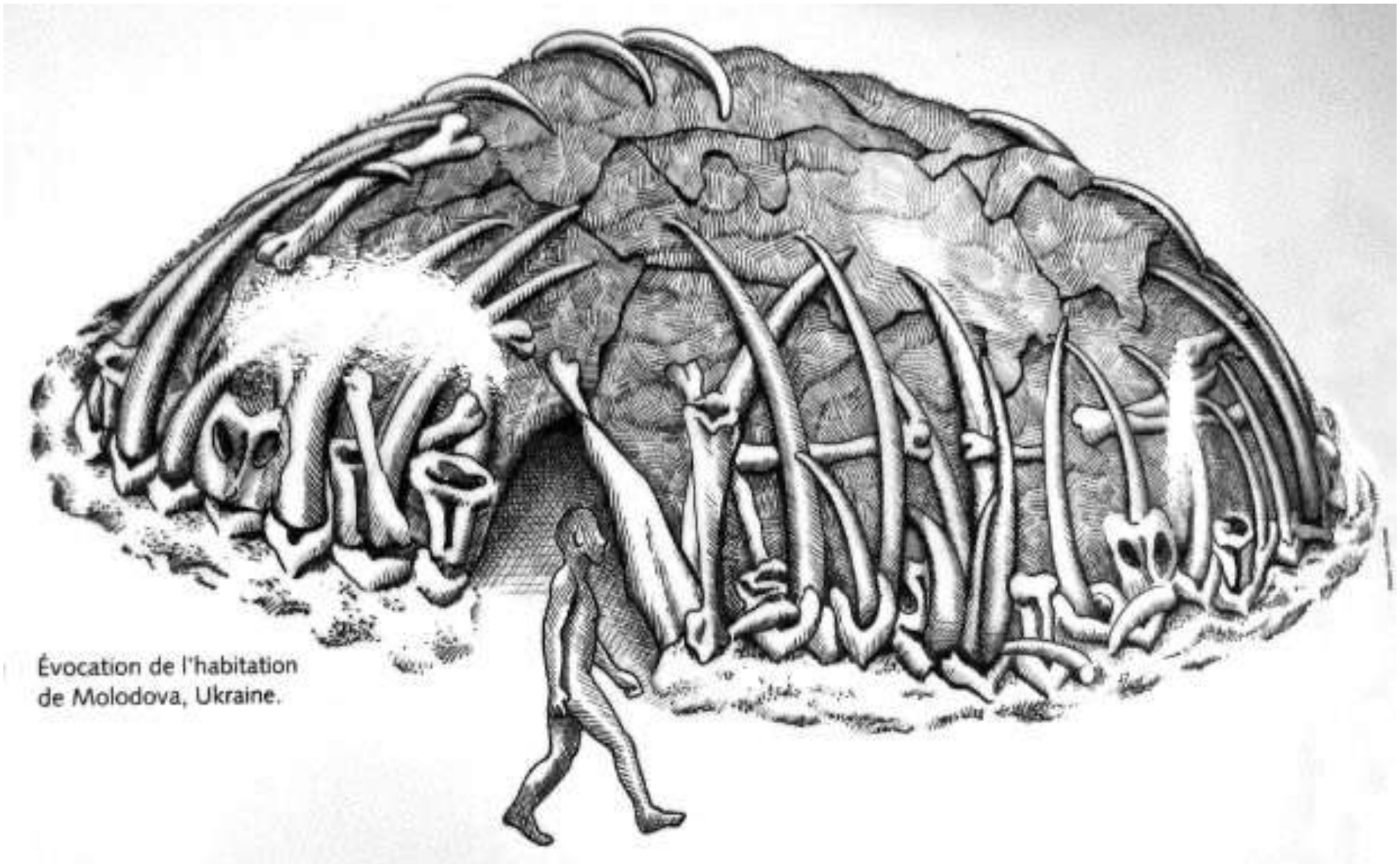


Cave painting at Lascaux, France

1. Upper Paleolithic

Dwelling:

Cro-Magnon Dwelling, Ukraine (46000 - 14000 BC)



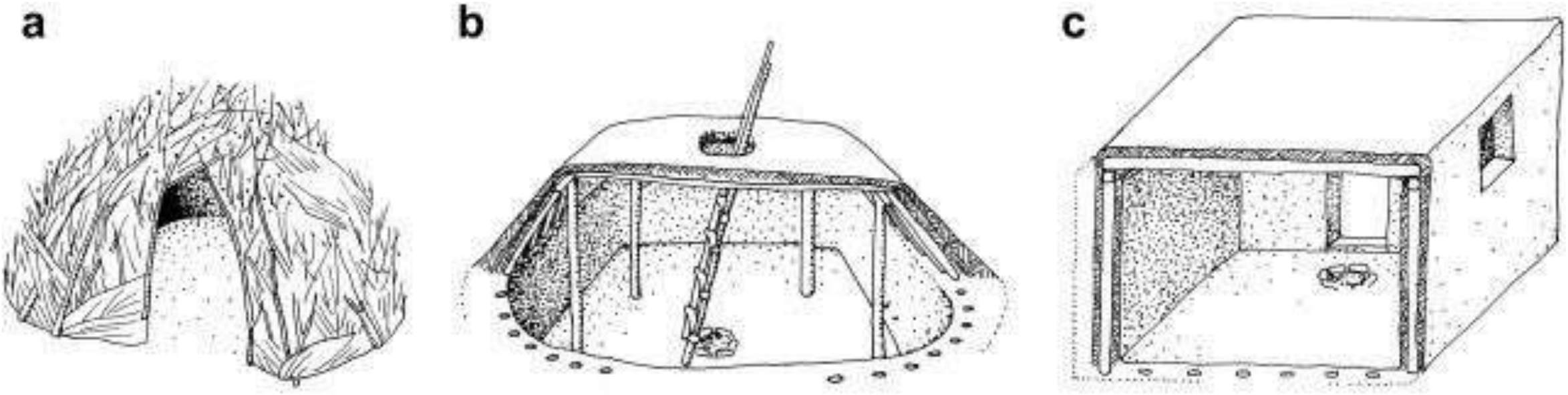
Évocation de l'habitation
de Molodova, Ukraine.

Cro-Magnon Dwelling

- Round plan, domed or conical shape
- Internal wood frames covered with hides
- Braced at the bottom with mammoth bones
- Designed to accommodate extended families
- Around 9.1m diameter

Mesolithic

Mesolithic

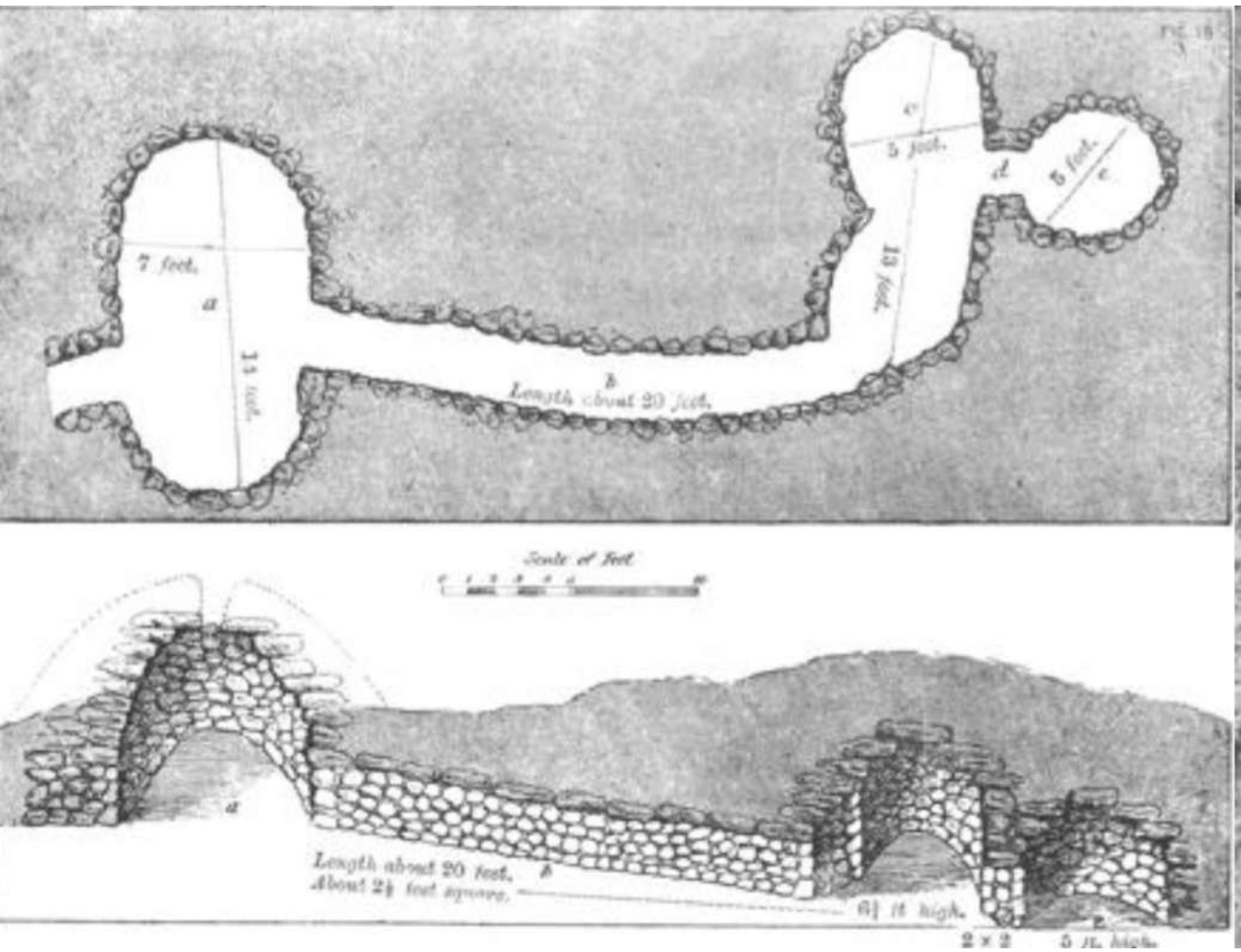


In the Mesolithic period people started to settle, architectural character changed from **circular building plans** to **trapezoidal** then **rectangular**

Mesolithic

Near East buildings technique transition:

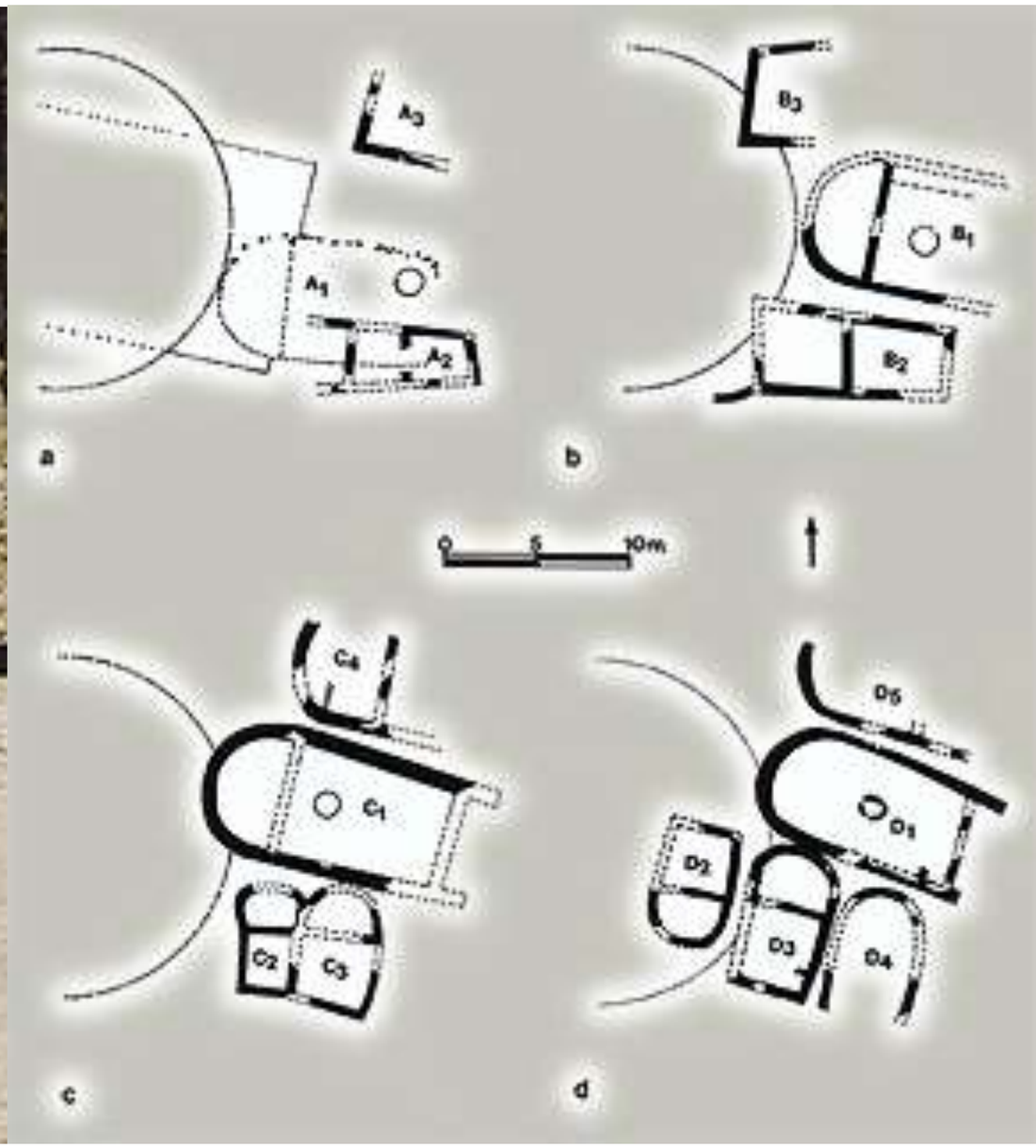
1. Semi-subterranean dry stone huts



Mesolithic

Near East buildings technique transition:

2. Apsidal houses in mud or stone



Mesolithic

Near East buildings technique transition:

3. **Rectangular houses in mud-bricks and tauf** (bricks of mud and straw)

Mesolithic

One of the main reasons of this transition towards rectangular buildings is the **development of mud bricks and clay**, it encouraged the precision of construction

Neolithic

From Villages to cities

During the years from Paleolithic towards Neolithic the patterns of human activities changed:

- Permanent settlement

- Development of agriculture

- Change in temperature led to change in architecture

- People lived together

- Social organizations became more complex

This life encouraged more **substantial buildings** and the growing society required various building types

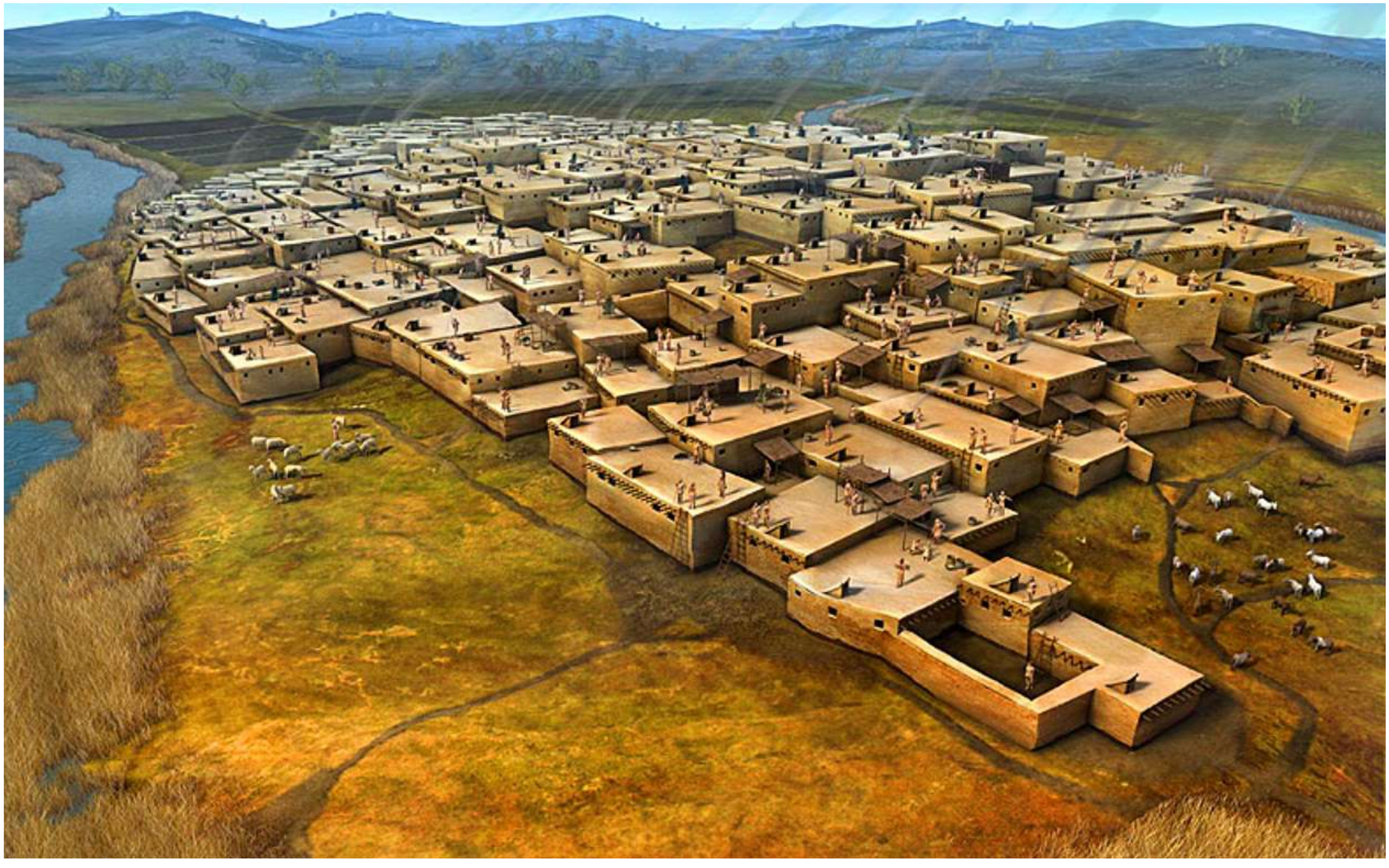
Neolithic Architecture Character

1. The packed clay walls were replaced by those constructed of **prefabricated units: mud bricks**. This represented a major conceptual change from the **free forms** of packed clay to the **geometric modulation imposed by the rectangular brick**

2. Settlements made up of numbers of **small detached**

Çatalhöyük, Turkey

(7500 - 5700 BC)



Çatalhöyük, Turkey

- The oldest and largest Neolithic city found

- 8000 residents

- Formed an agriculture and trade centre connected with the fertile crescent of Palestine and Mesopotamia

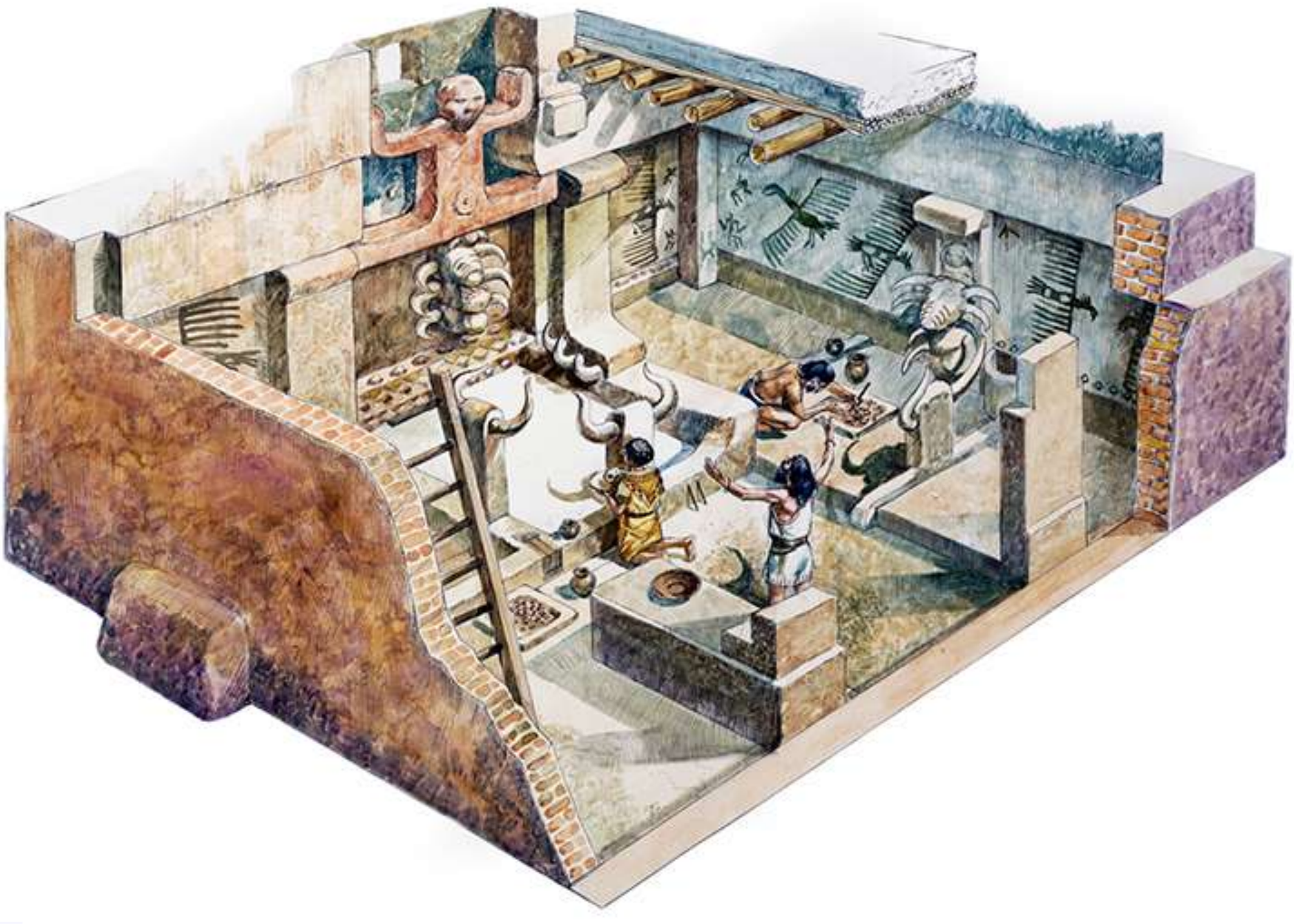
- Tightly clustered rectangular houses with occasional courtyards

- No streets

- Houses entries were by hole in the roof

- Houses built from timber frames and wall of mud brick, plastered and sometimes painted

Çatalhöyük, Turkey



Çatalhöyük, Turkey

Çatalhöyük, Turkey

Monumental Architecture

Monumental Architecture

Structure served as places for the **dead**

Places for tracking the course of **time** and understanding the **cosmos**

Funerary Architecture

Megalithic Structures

from the Greek mega; great, and lithos; Stone

A number of types of structures differ in size and spatial complexity:

1. Menhirs
2. Dysse
3. Dolmens
4. Passage graves
5. Long barrow grave

1. Menhires

- freestanding stone columns
- Erected vertically
- Set in circular patterns or parallel rows
- Marking a spot for some ritual purpose
- Celtic word means: long stone

2. Dysse

Small closed stone chambers

3. Dolmens

- Roof tomb structures, simple chambers of stone slabs covered with cap-stone

- Celtic word means table stones

- At least contains three vertical stone slabs supporting massive horizontal roof slab

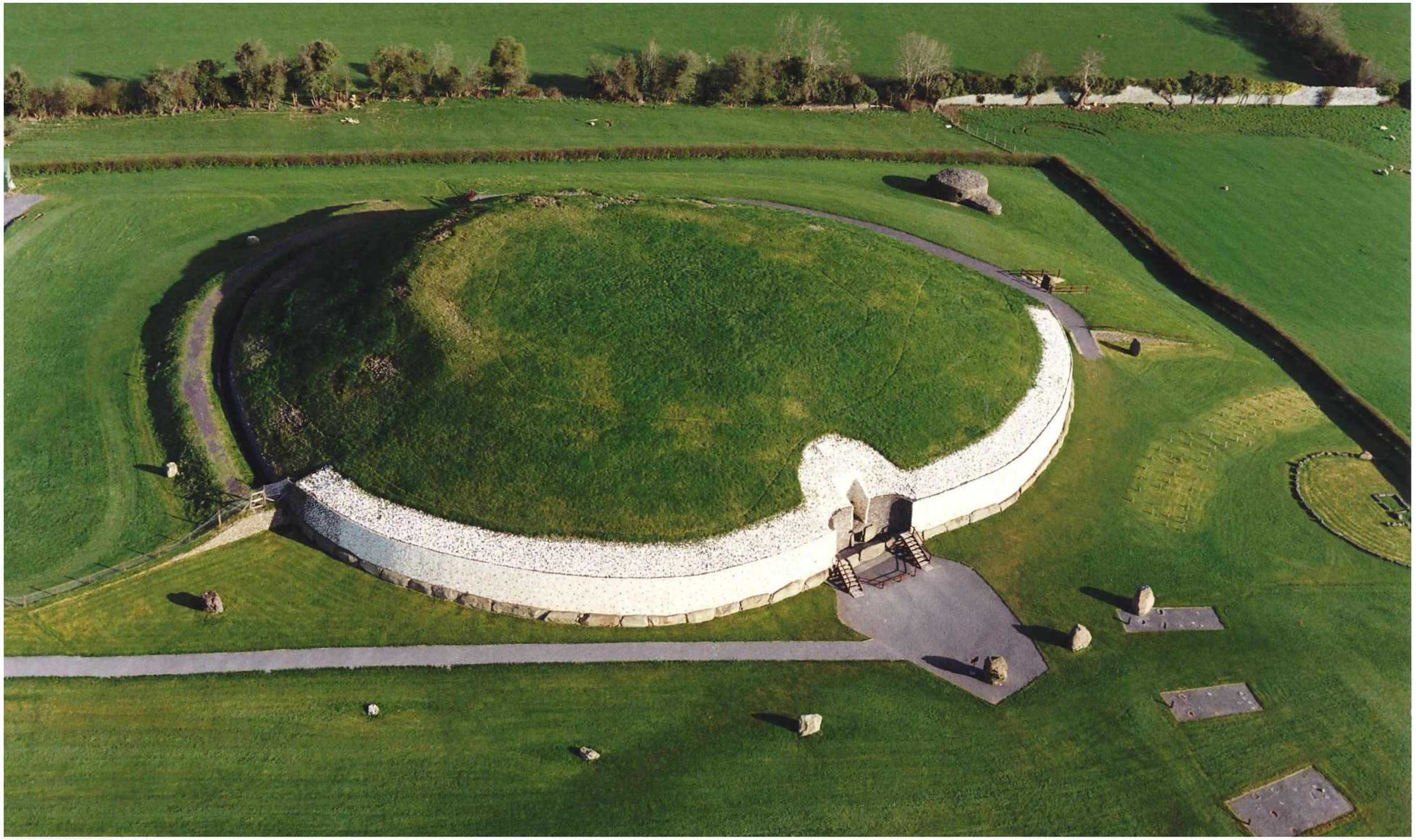
- Sometimes it is extended to form two parallel walls capped with roof slabs

4. Passage Grave

A clearly distinguishable passage led to a circular or polygonal inner chamber

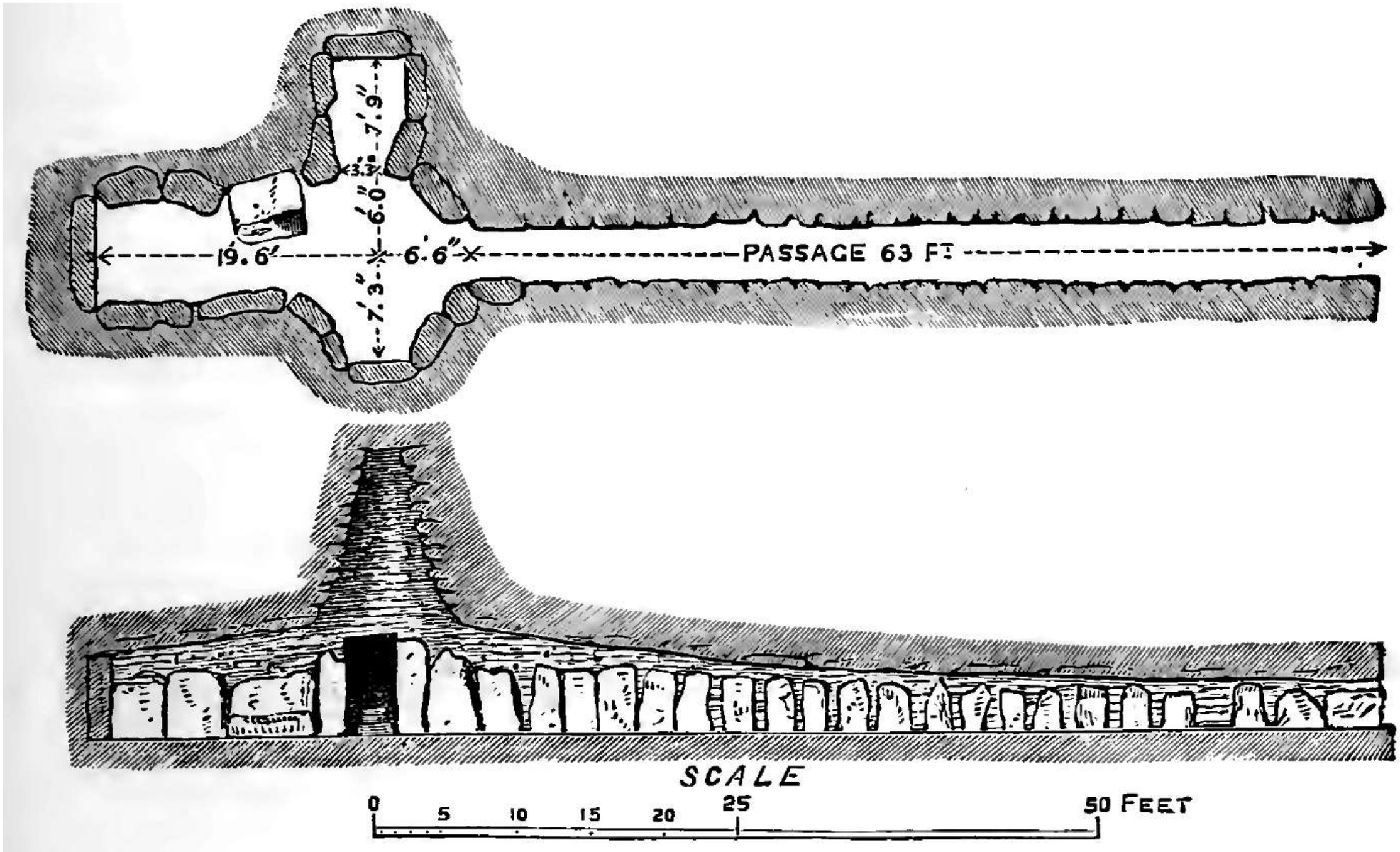
4. Passage Grave

The Newgrange Tomb, Ireland (3200-3000 BC)



4. Passage Grave

The Newgrange Tomb, Ireland (3200-3000 BC)



Plan and Section of Chamber in Newgrange Tumulus.

4. Passage Grave

The Newgrange Tomb, Ireland

- 19m length passage ends with domed inner chamber

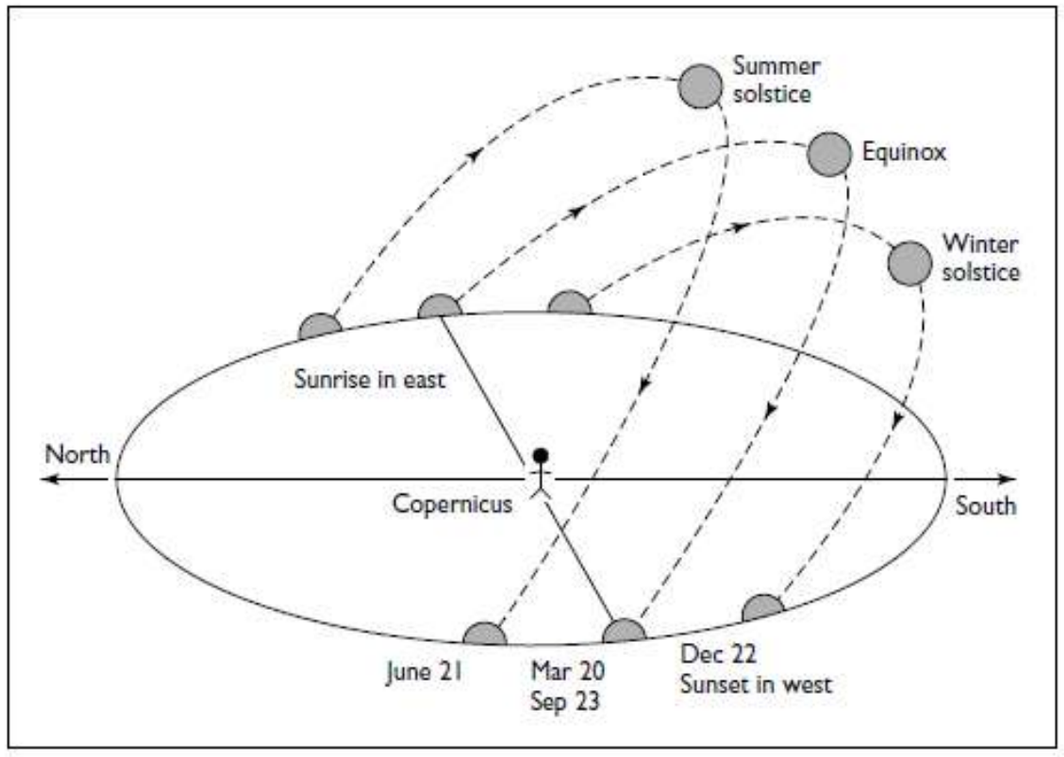
- The tomb oriented to the southeast

- The wall of the passage built with stones added each year on the morning of the **winter solstice**

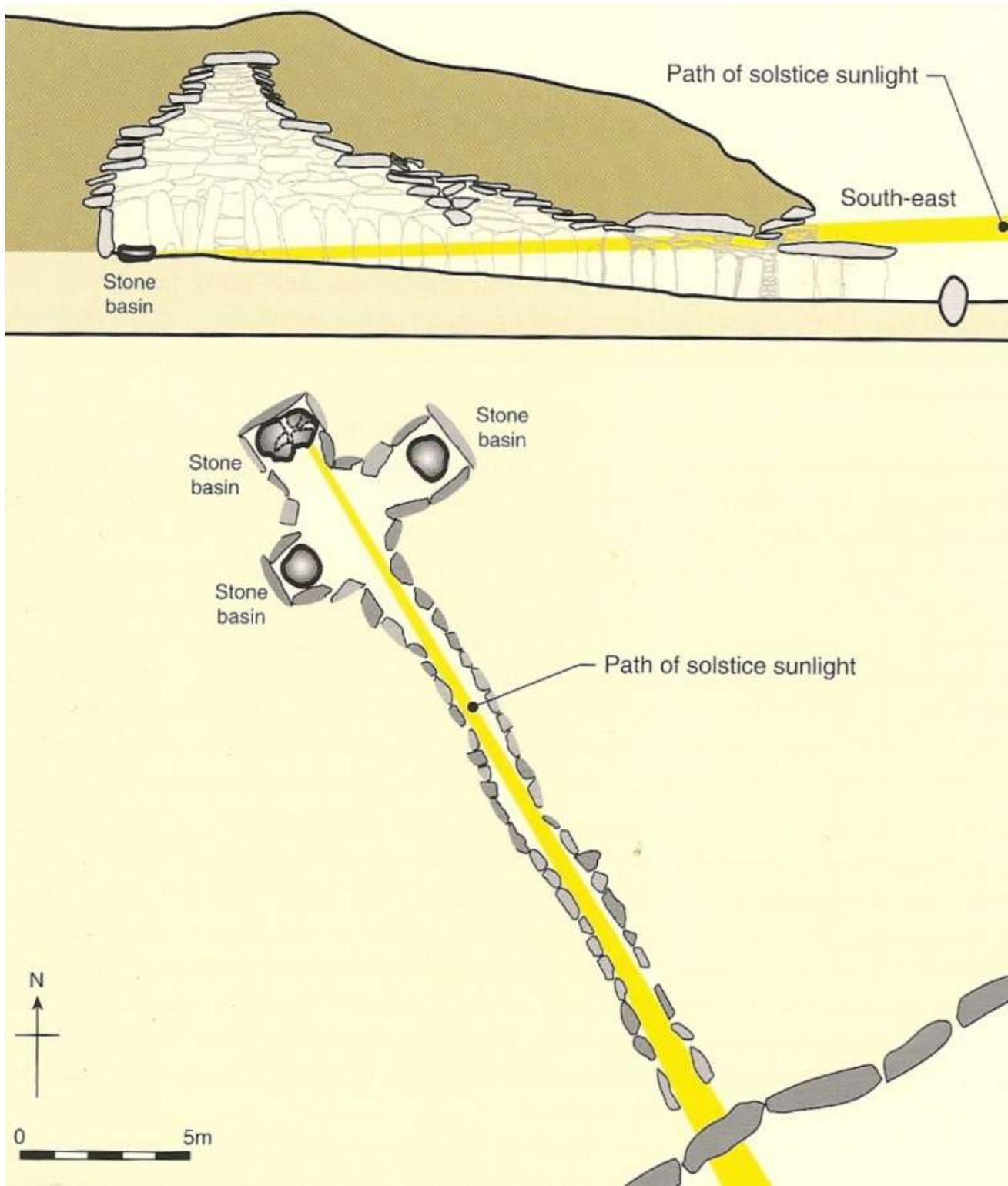
- Aligned in a way that a beam of light penetrate all the way to the back of the passage once a year on that day

4. Passage Grave

The Newgrange Tomb, Ireland

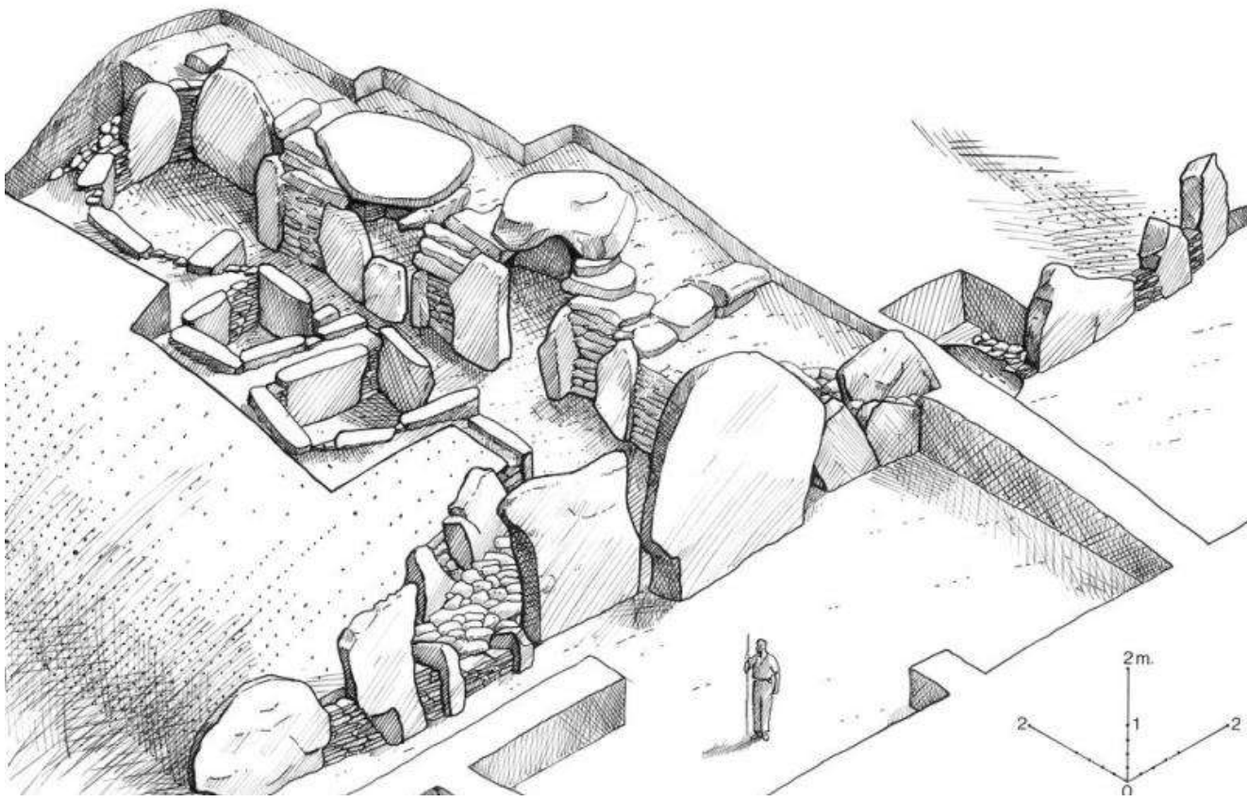


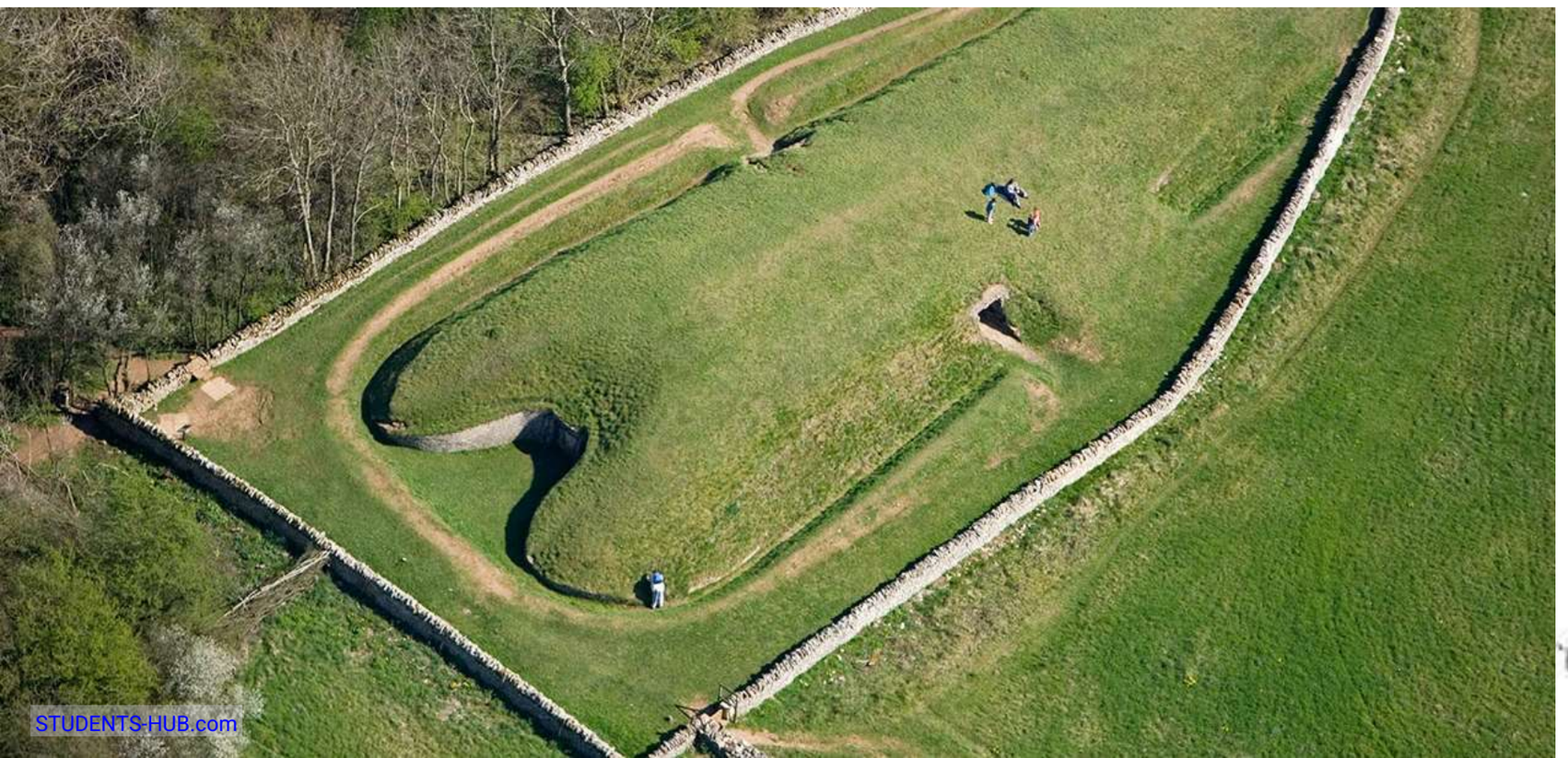
When completed, it was sealed at the entrance leaving narrows slit open at the tops, this opening worked as a '**channel of communication between the living and the dead**'

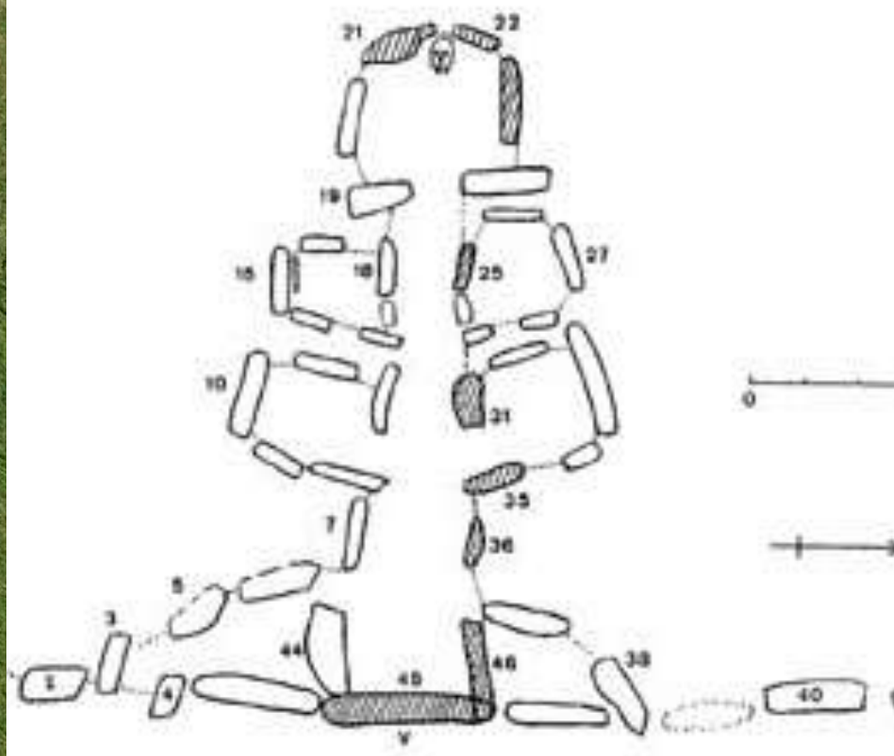


5. Long barrow Grave

Rectangular or trapezoidal mounds, with an entrance leading to a large oblong chambers







Non-Funerary Architecture

Non-Funerary Architecture

- Monumental structures, also named **megaliths**, were built in stone for more **symbolic or ritualistic architecture**

- While one or two individuals were capable of building a wood-framed and hide-covered house in a couple of days, a stone structure required more labour, attention and time

- Specialized workers to quarry massive stones

- Transporting the stone to building site

- Construction would take months, years, or decades

Stonehenge, England (3000-1500 BC)

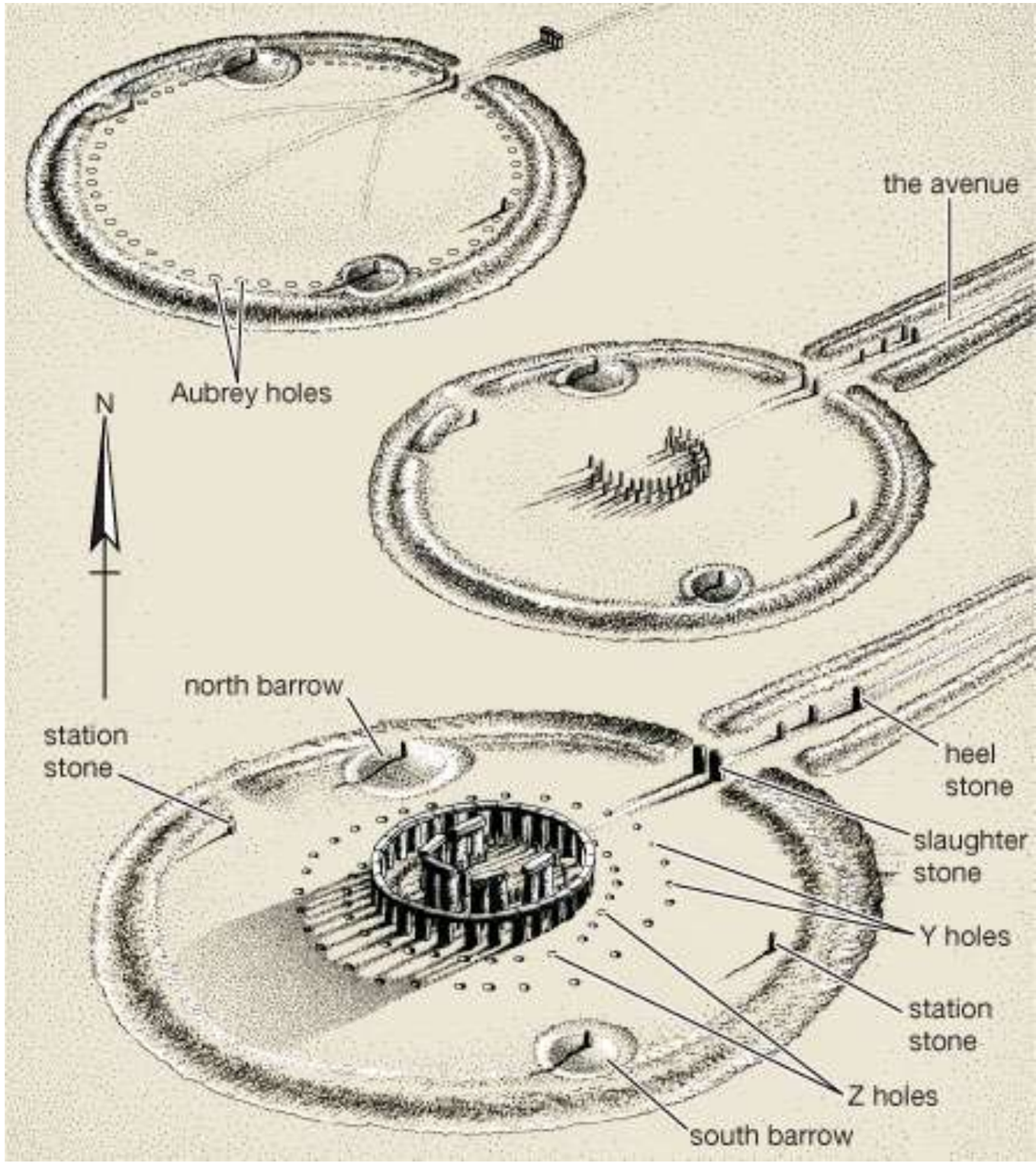
Stonehenge, England (3000-1500 BC)

The Stonehenge was built in 3 major stages over a period or more than 1200 years:

1. Marking out the location (3100-3050 BC):

- a rope fixed to a central stake used to draw a circle (97.5m diameter) making a ditch

- Two parallel entry stones on the **northeast** of the circle



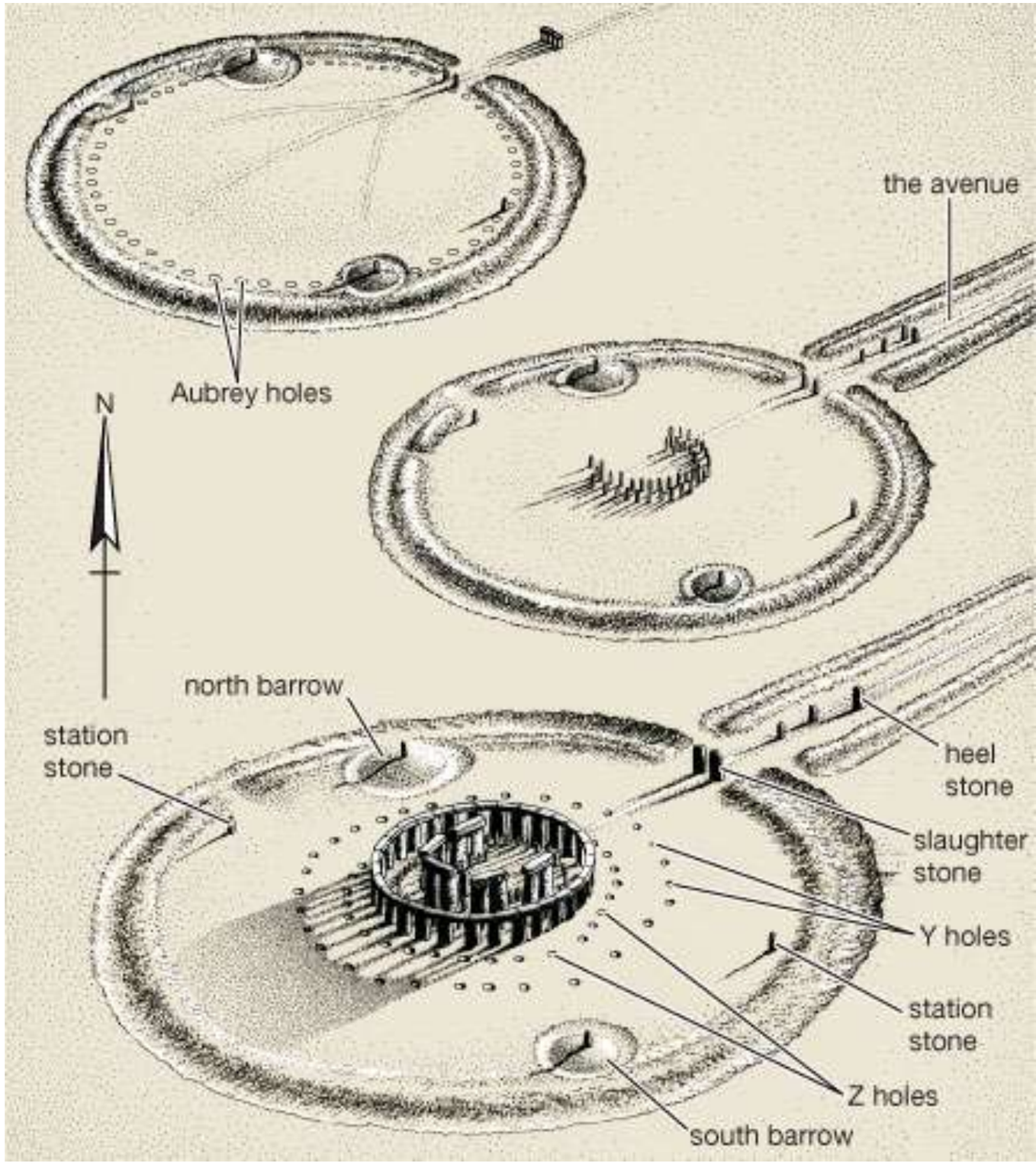
Stonehenge, England (3000-1500 BC)

2. The second phase (2100-2075 BC)

Crescent of 80 bluestone pillars were erected inside the circle to form what was to be two concentric circles

3. The third phase (2000-1500 BC)

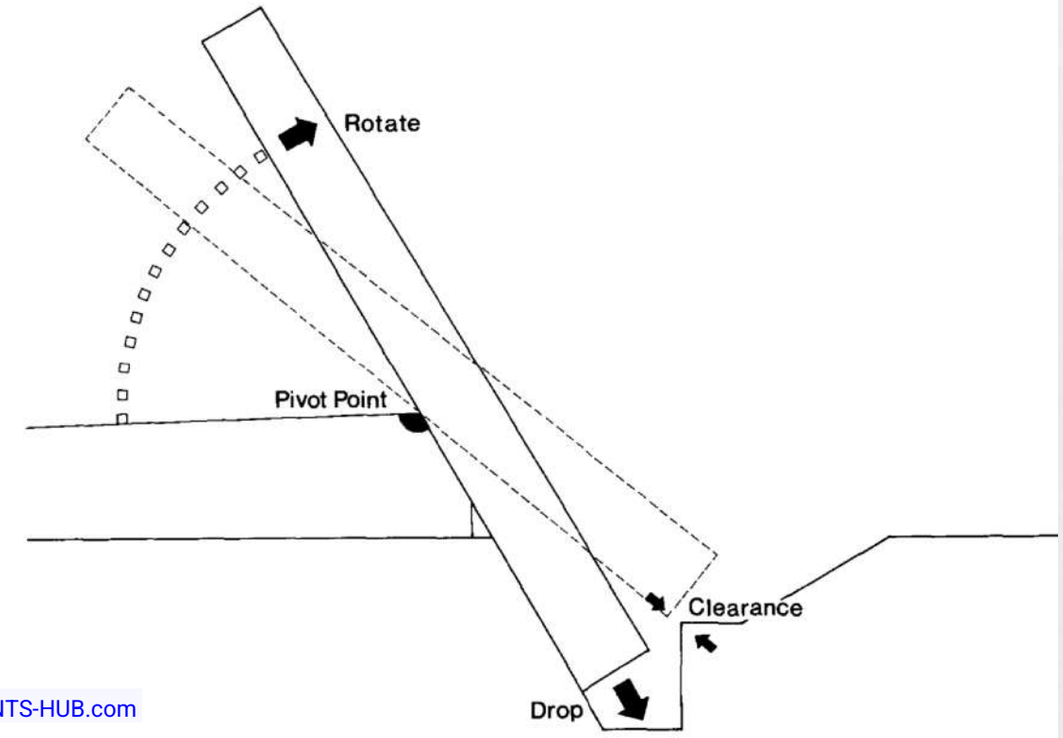
Sandstone raised to form a **circular colonnade (up to 9m high)** closing the horseshoe. About 20 bluestone were erected in an approximate oval setting within the sandstone horseshoe

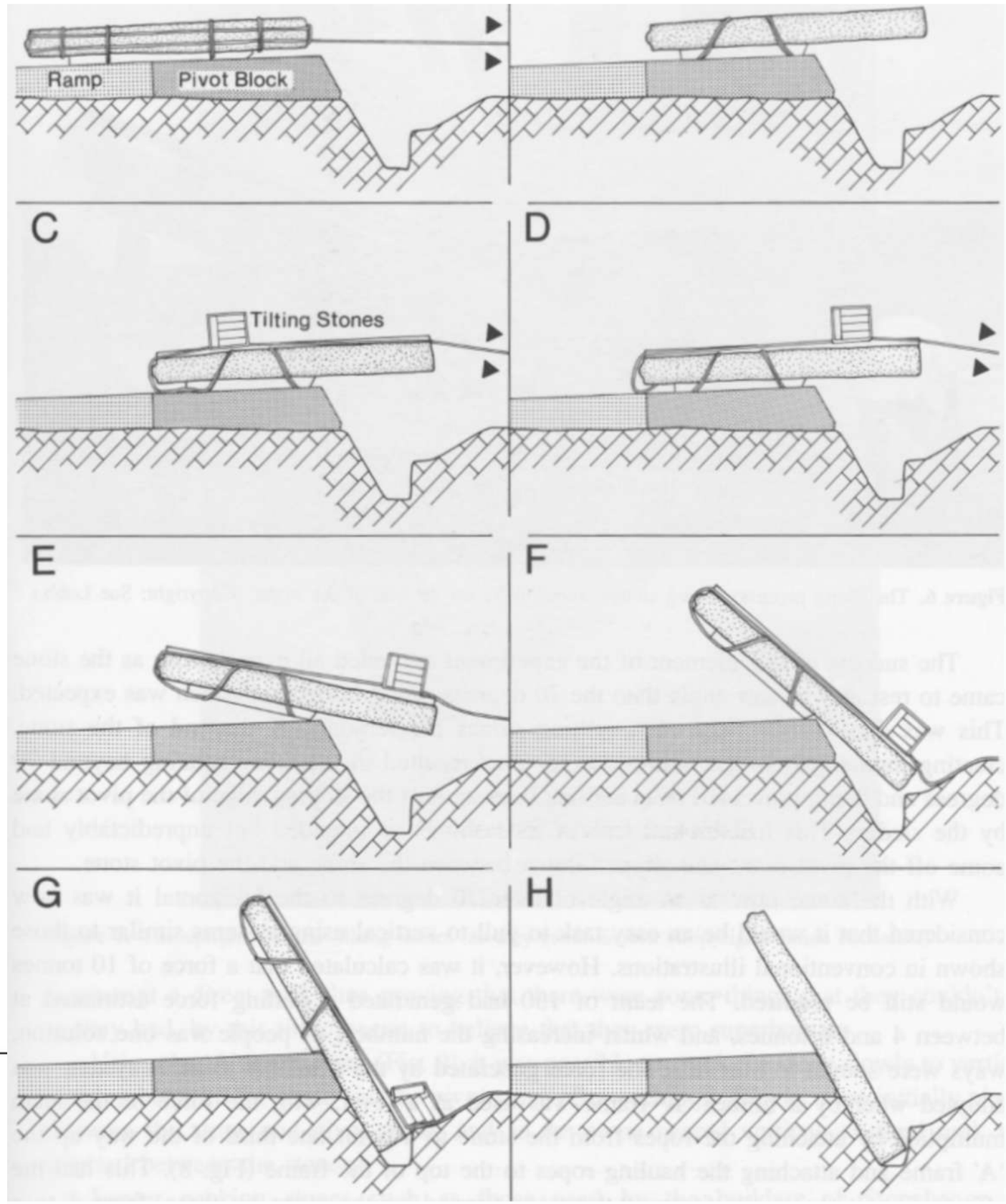


Stonehenge, England (3000-1500 BC)

Construction Methods

Around 1100 workers over a period of seven weeks needed to move each individual stone (from 380 km)





Stonehenge, England (3000-1500 BC)

Building Stonehenge required detailed **social organisation** and cooperation of a high order over an extended period

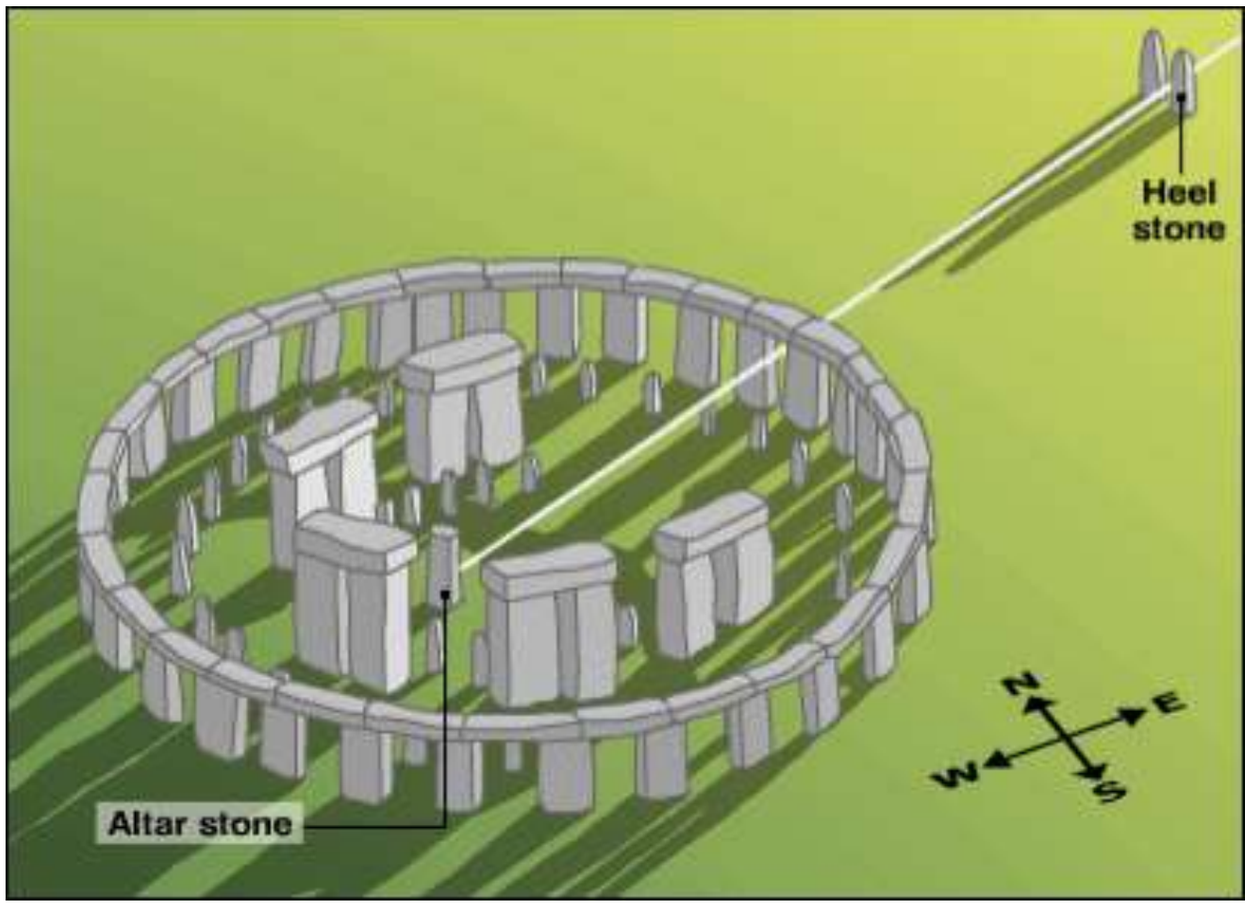
What was it for?

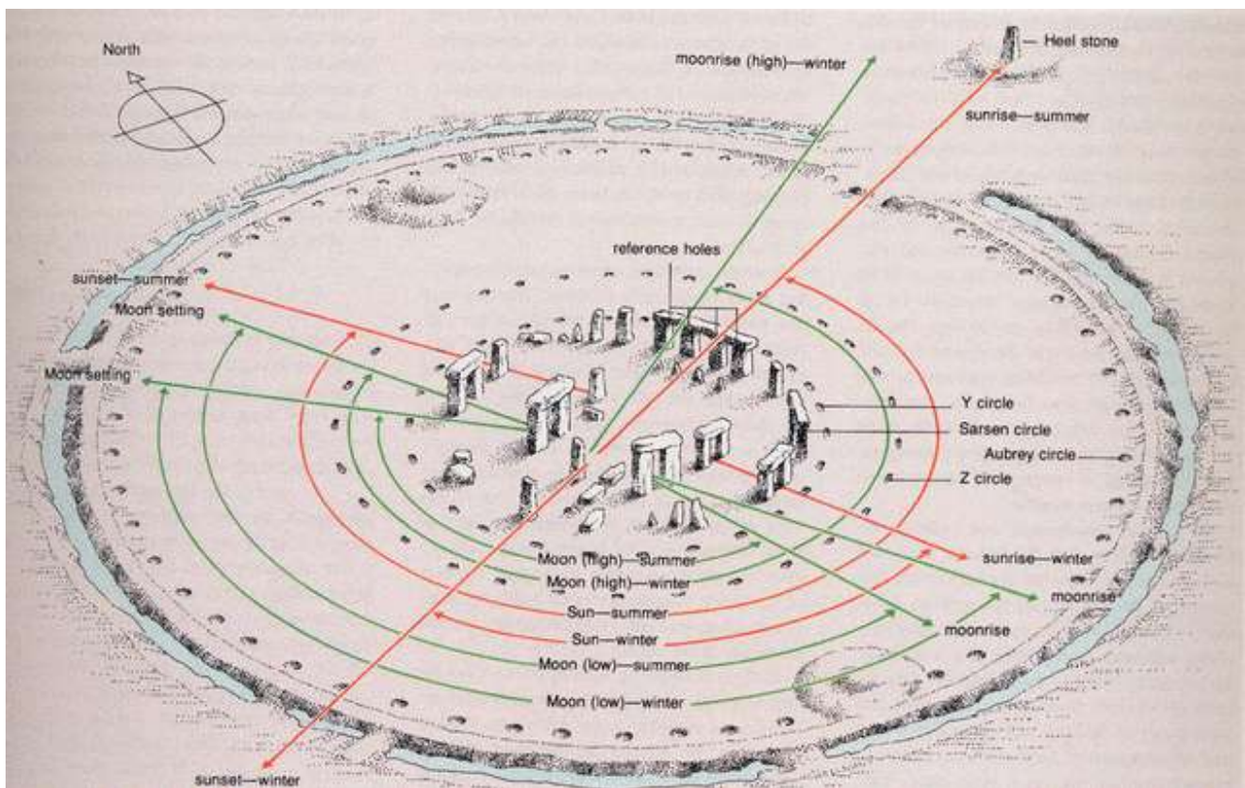
Stonehenge, England (3000-1500 BC)

The Stonehenge was used as **astronomical observatory**

- The alignment of the heelstone with the stones in the centre is done for the **summer solstice**, the sun would have risen directly over the heelstone

- Other alignments suggested that it had been used to **mark the phases of the eclipses of the moon**





Stonehenge, England (3000-1500 BC)

It was a tribal expression of identity

worked as a gathering place where each year the recurring cycle of the sun and of life was celebrated by people

Next lecture

Architecture of Mesopotamia