

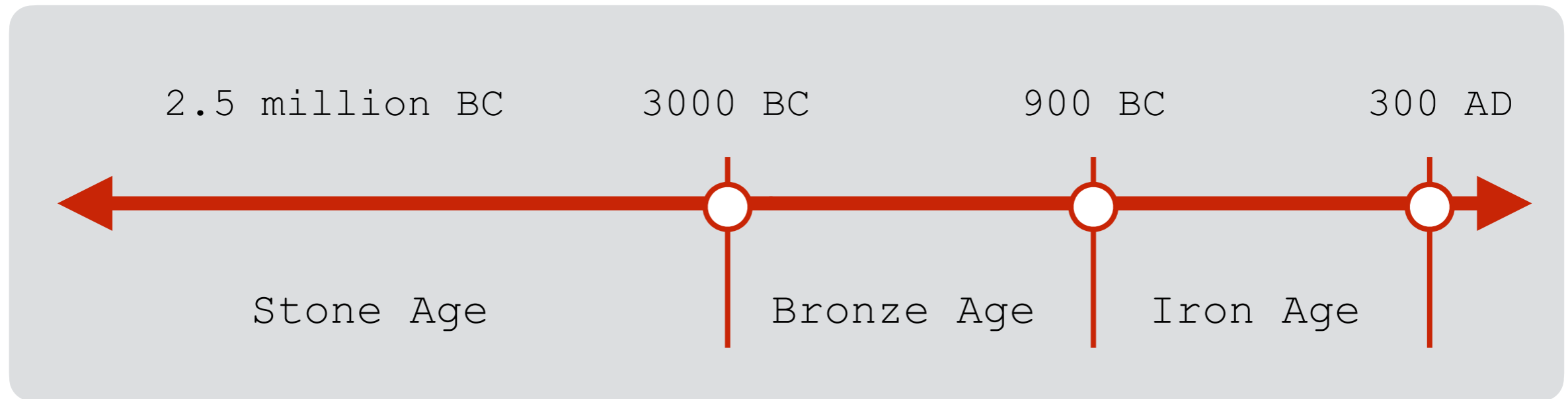
History of Architecture

Prehistoric Architecture



When did it start?

From Caves to Cities

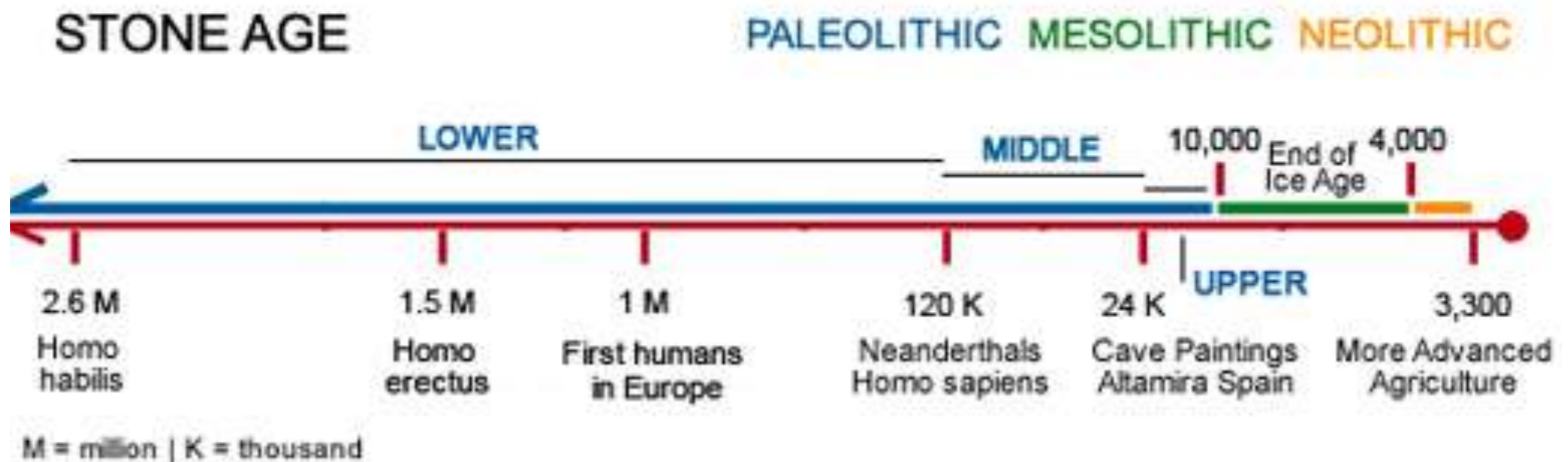


The Prehistoric age is divided into three main periods

- 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)

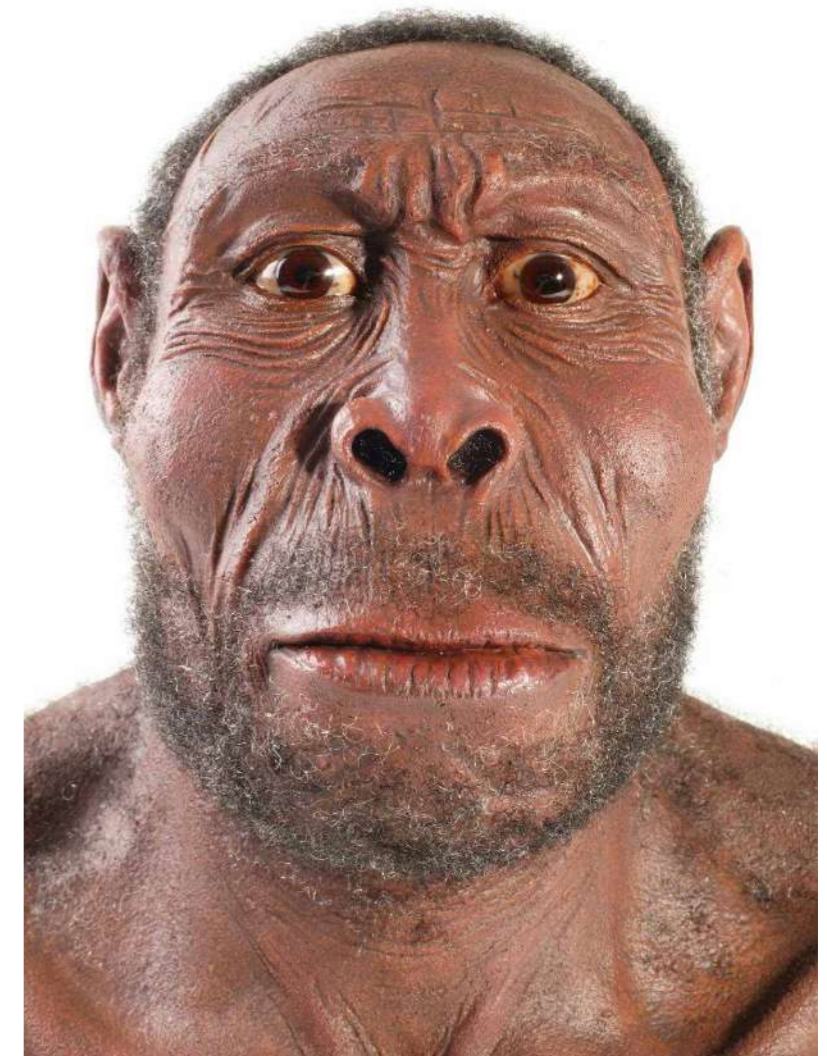
The earliest evidence of behavioural modernity first appeared. Developing other advanced cultural traits such as religion and art.

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

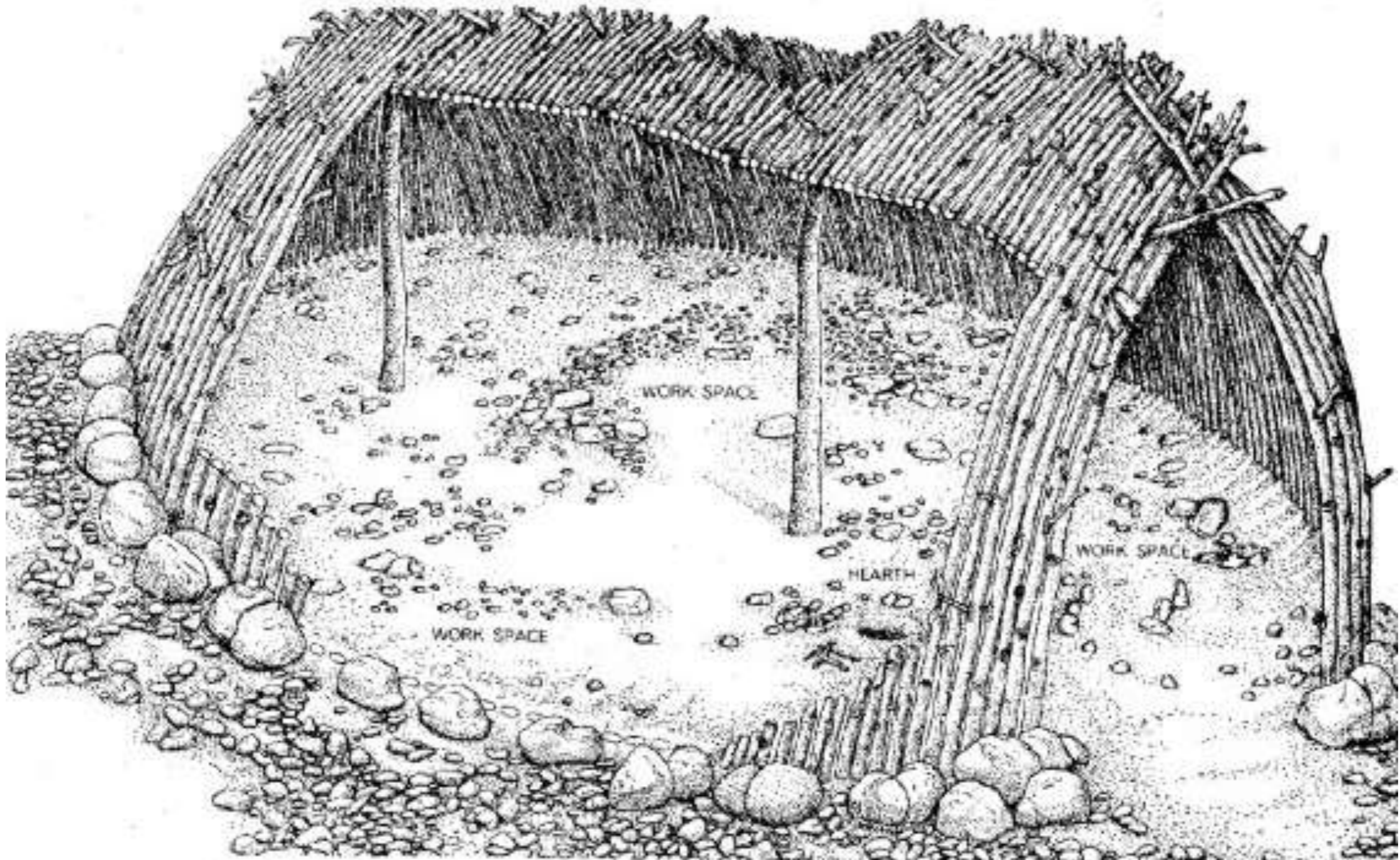
1. Lower Paleolithic

- 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)

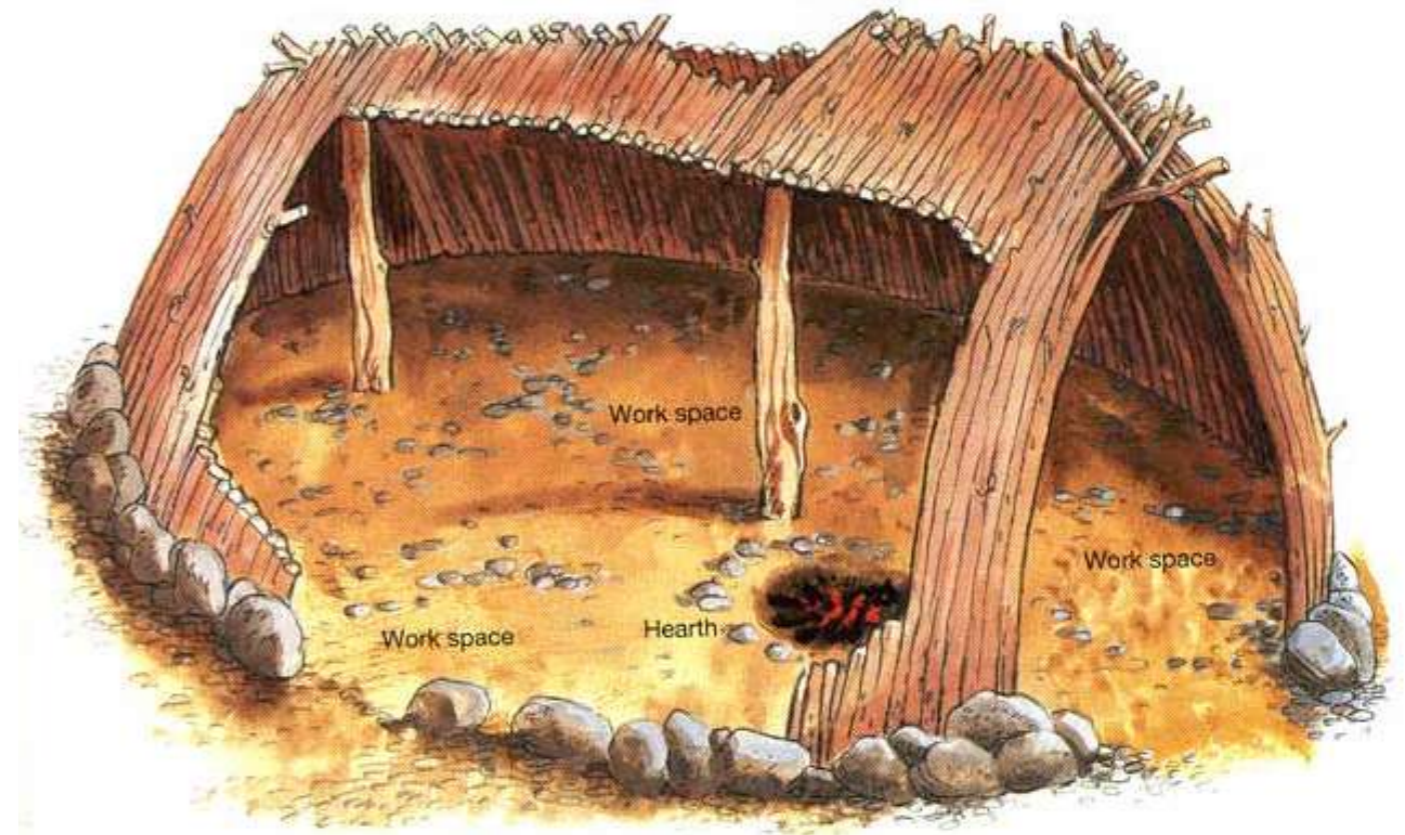
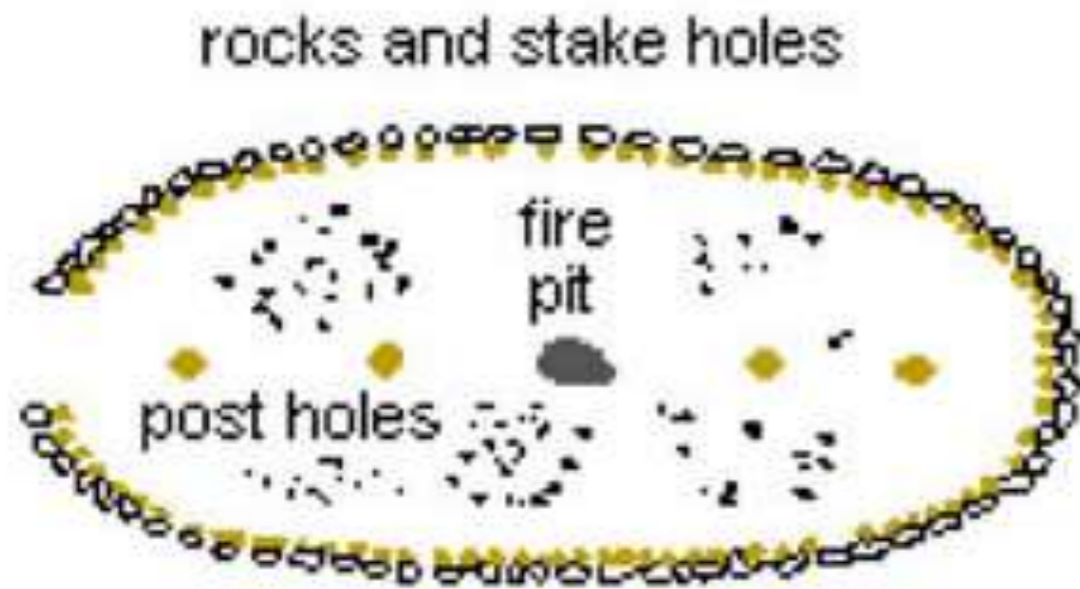


Terra Amata

- 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



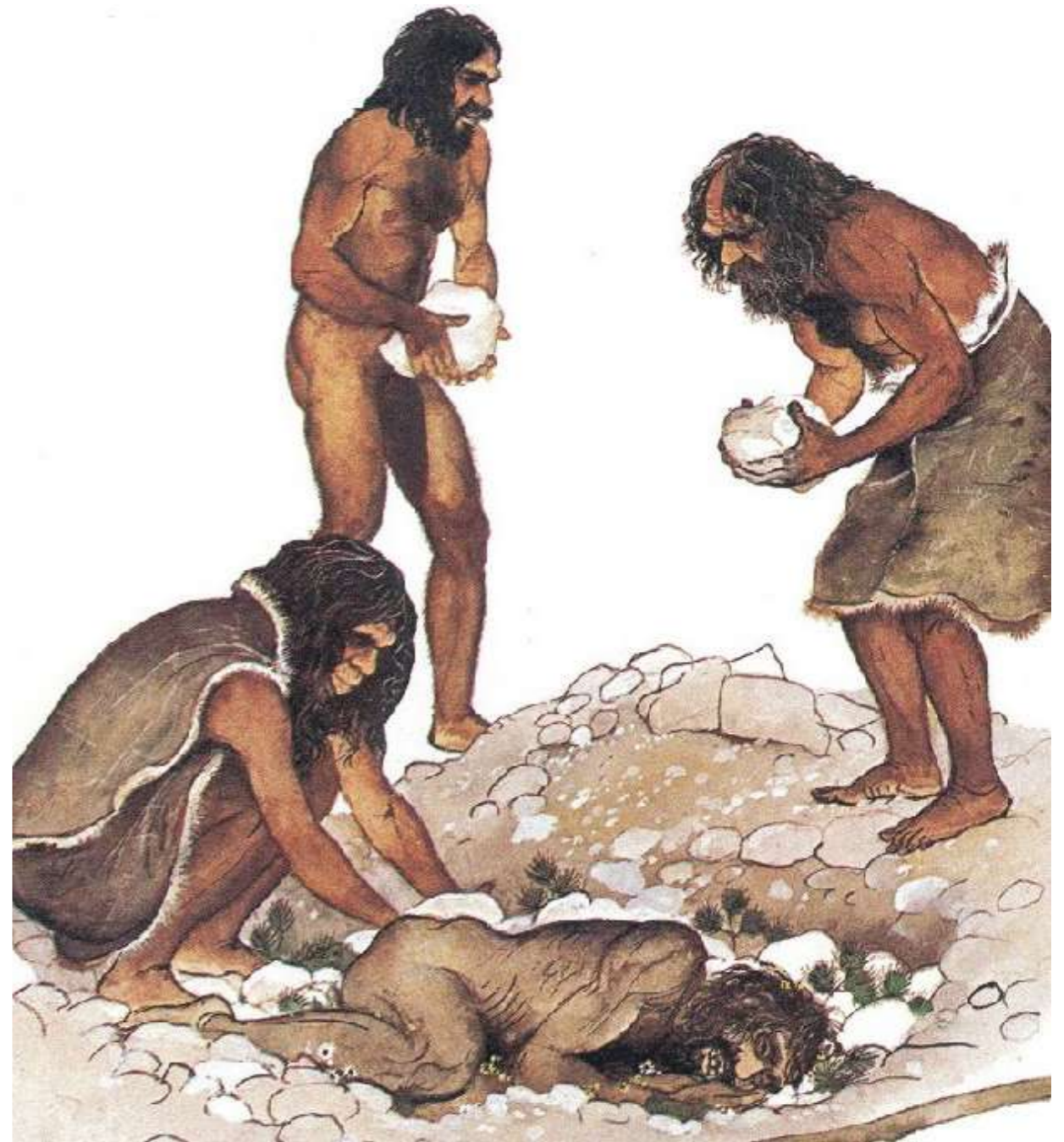
Terra Amata



- 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

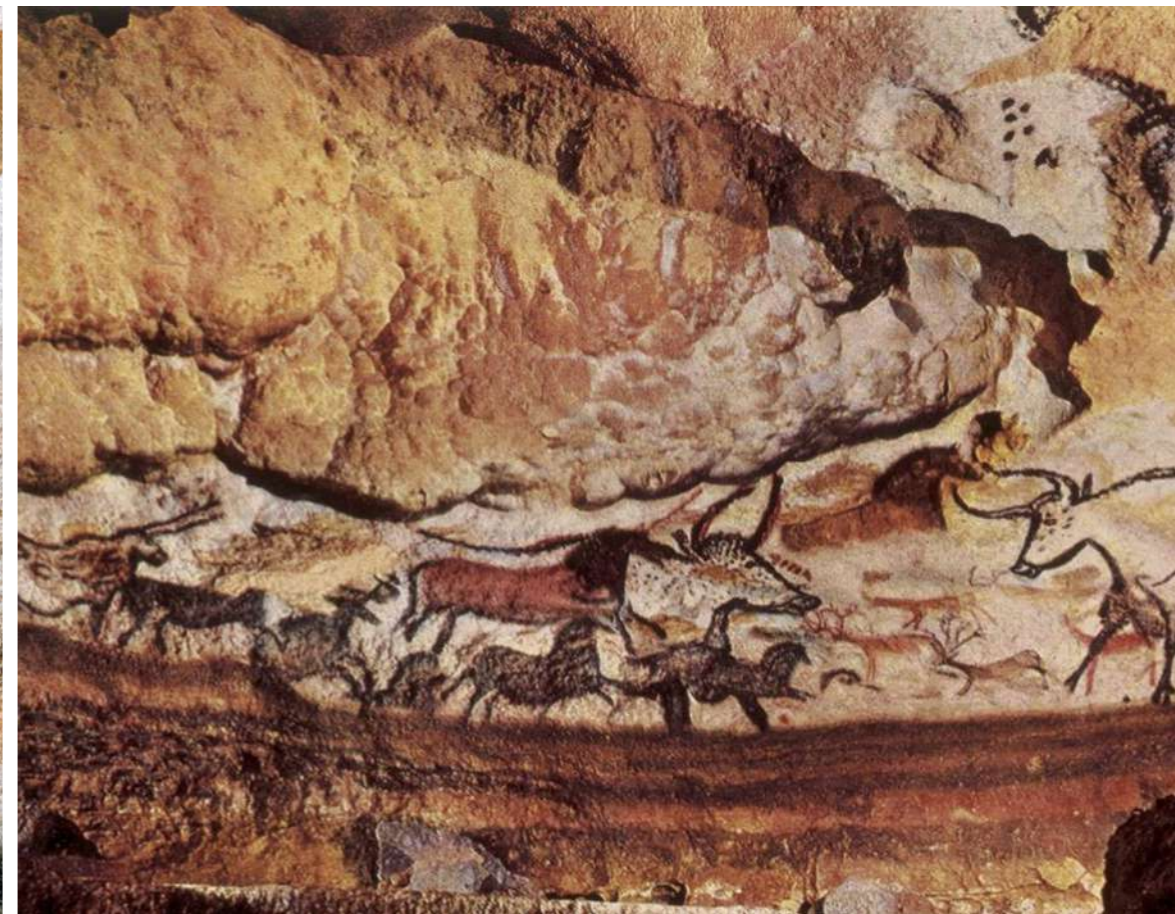
1. Middle Paleolithic

- 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**

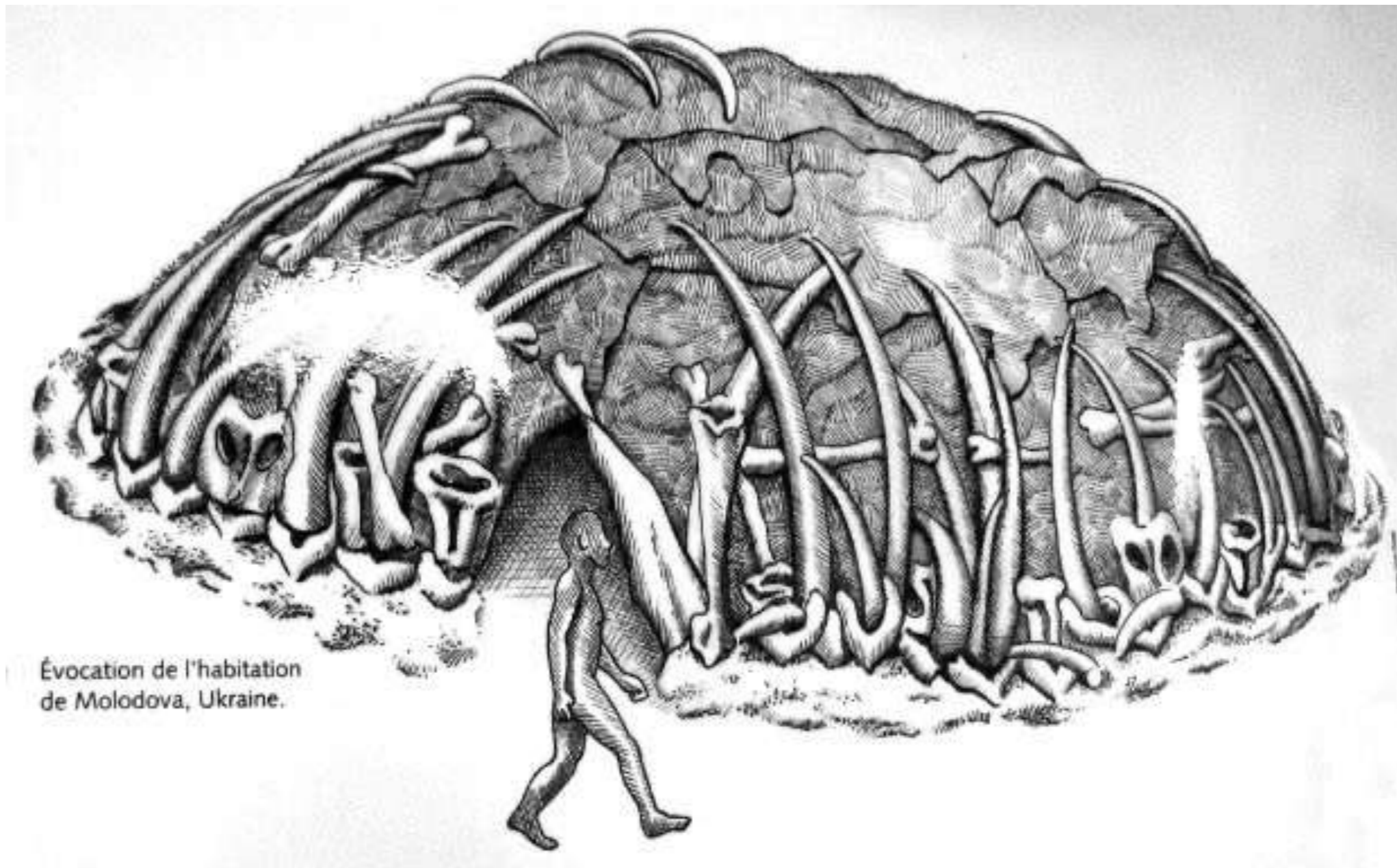


Cave painting at Lascaux, France

1. Upper Paleolithic

Dwelling:

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



Évocation de l'habitation
de Molodova, Ukraine.

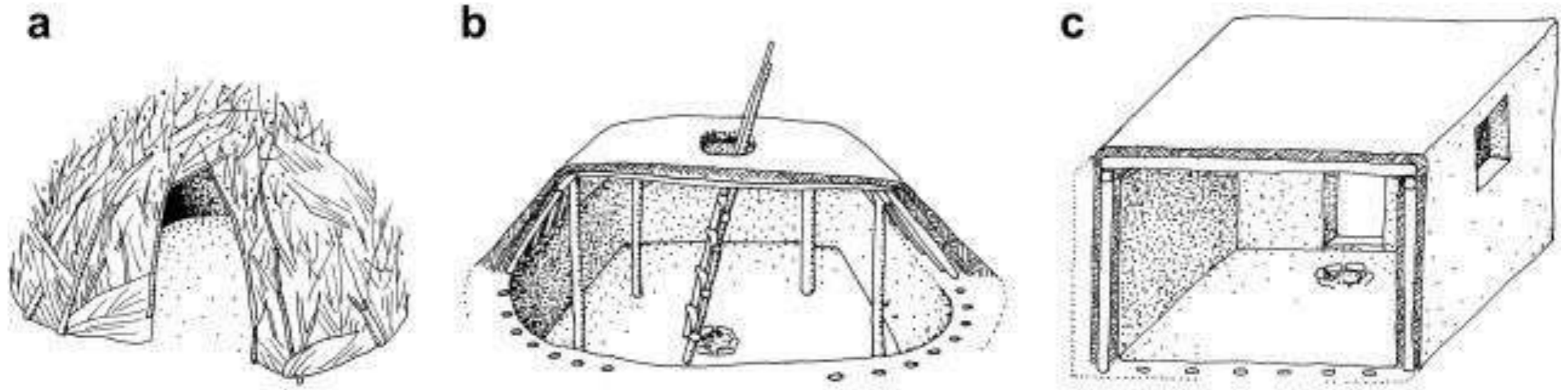
Cro-Magnon Dwelling

- 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

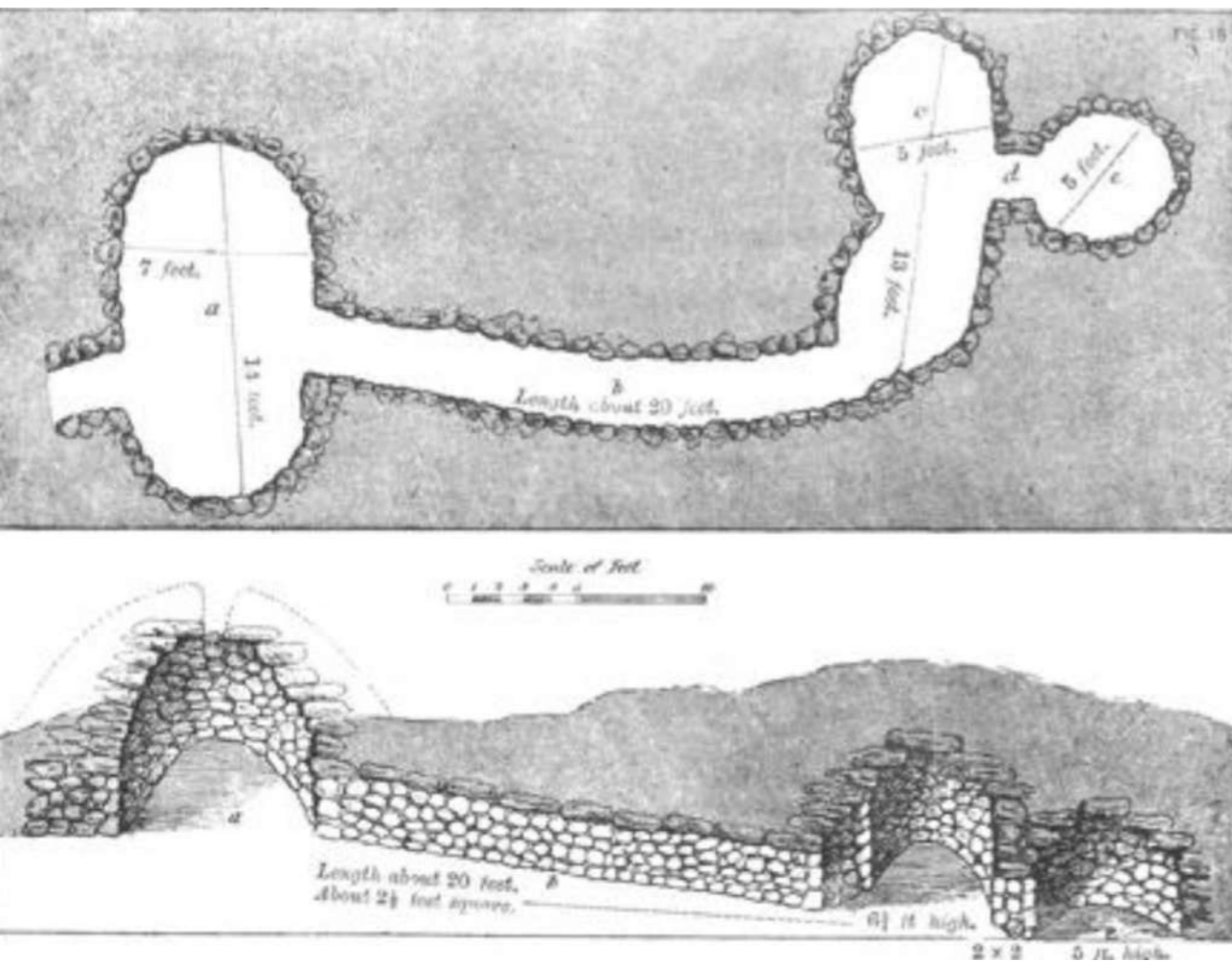


In the Mesolithic period people started to settle, architectural character changed from **circular building plans** to **trapezoidal** then **rectangular**

Mesolithic

Near East buildings technique transition:

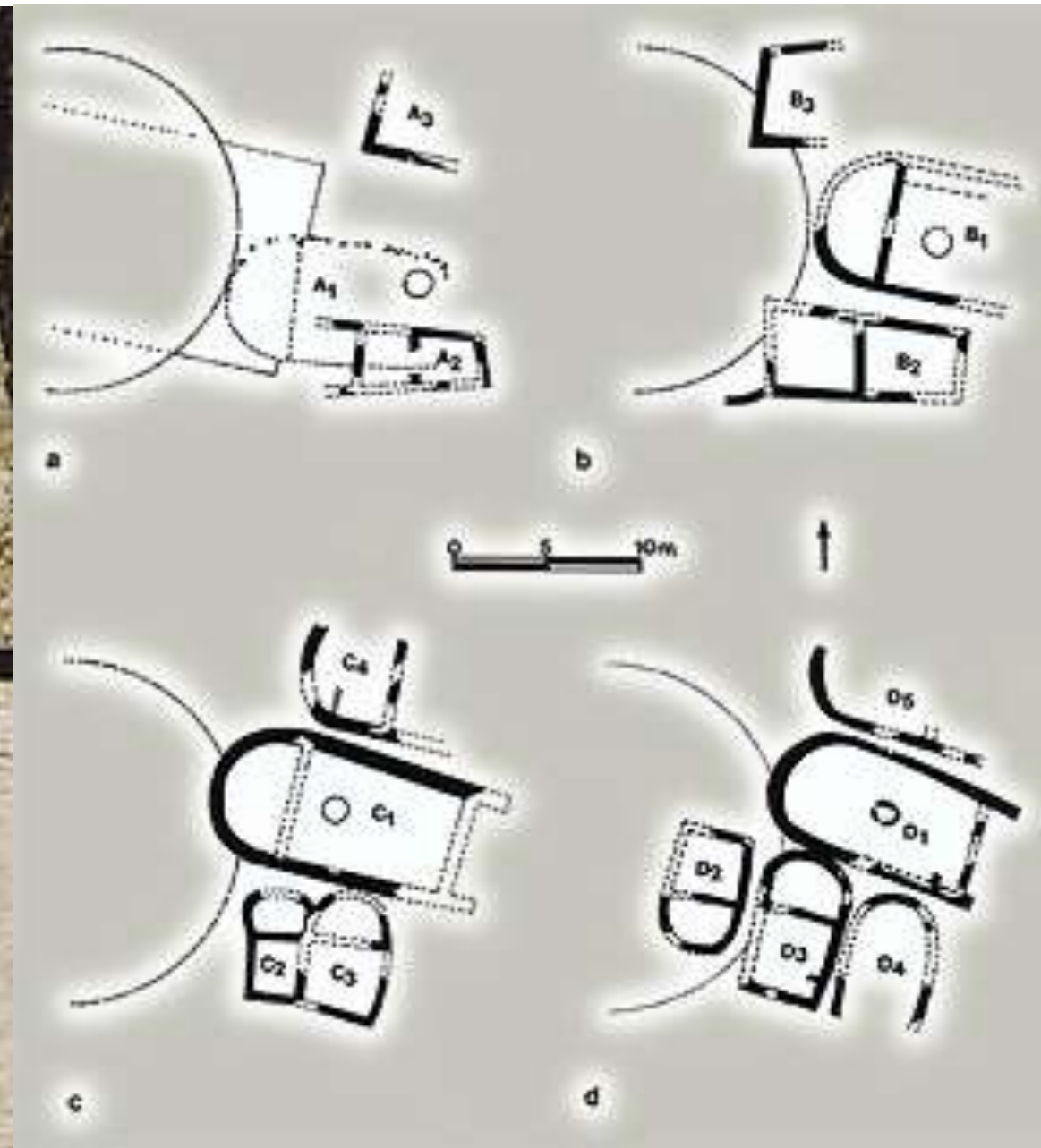
1. Semi-subterranean dry stone huts



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)

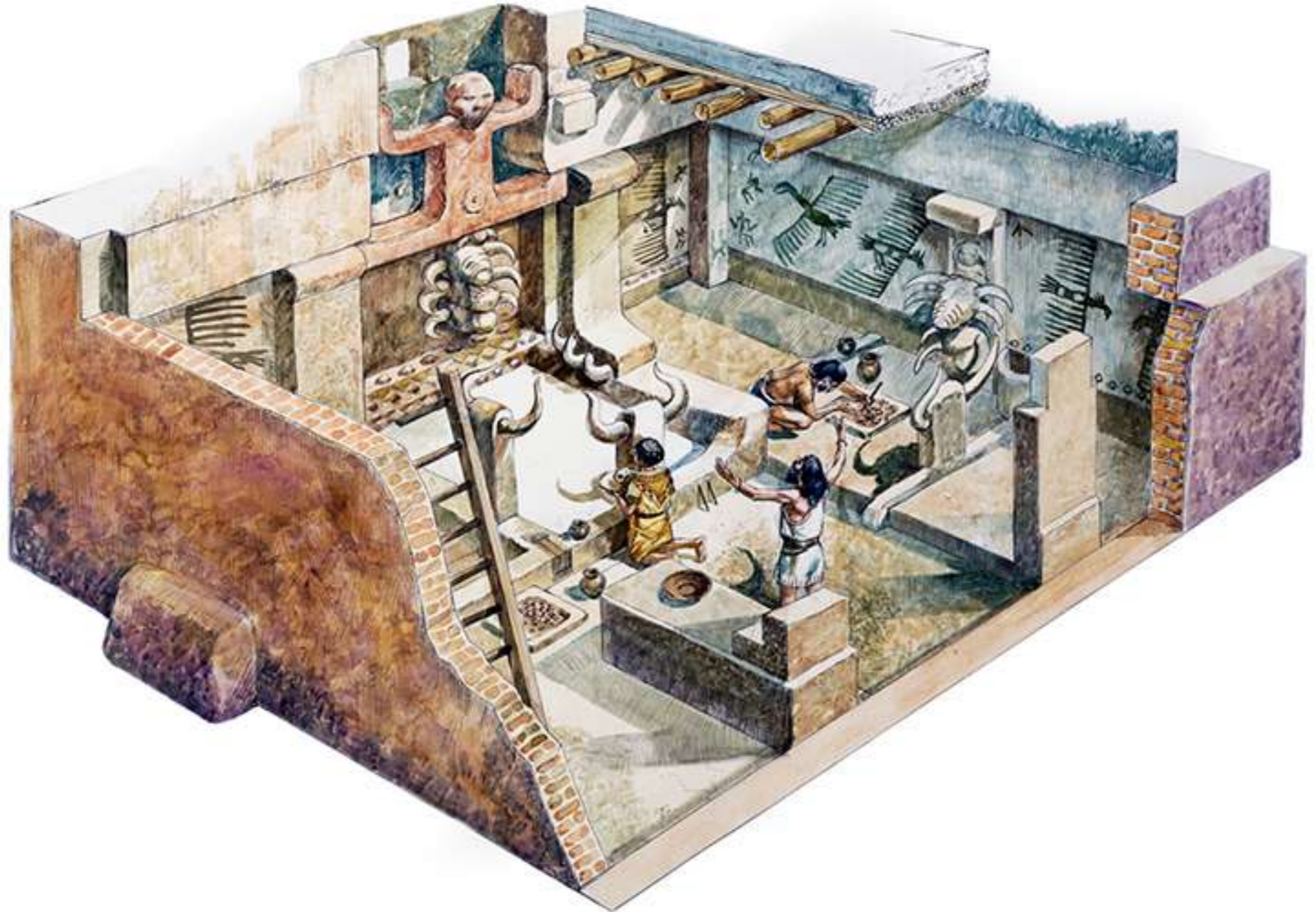


Çatalhöyük, Turkey

- 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 capstone
- 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



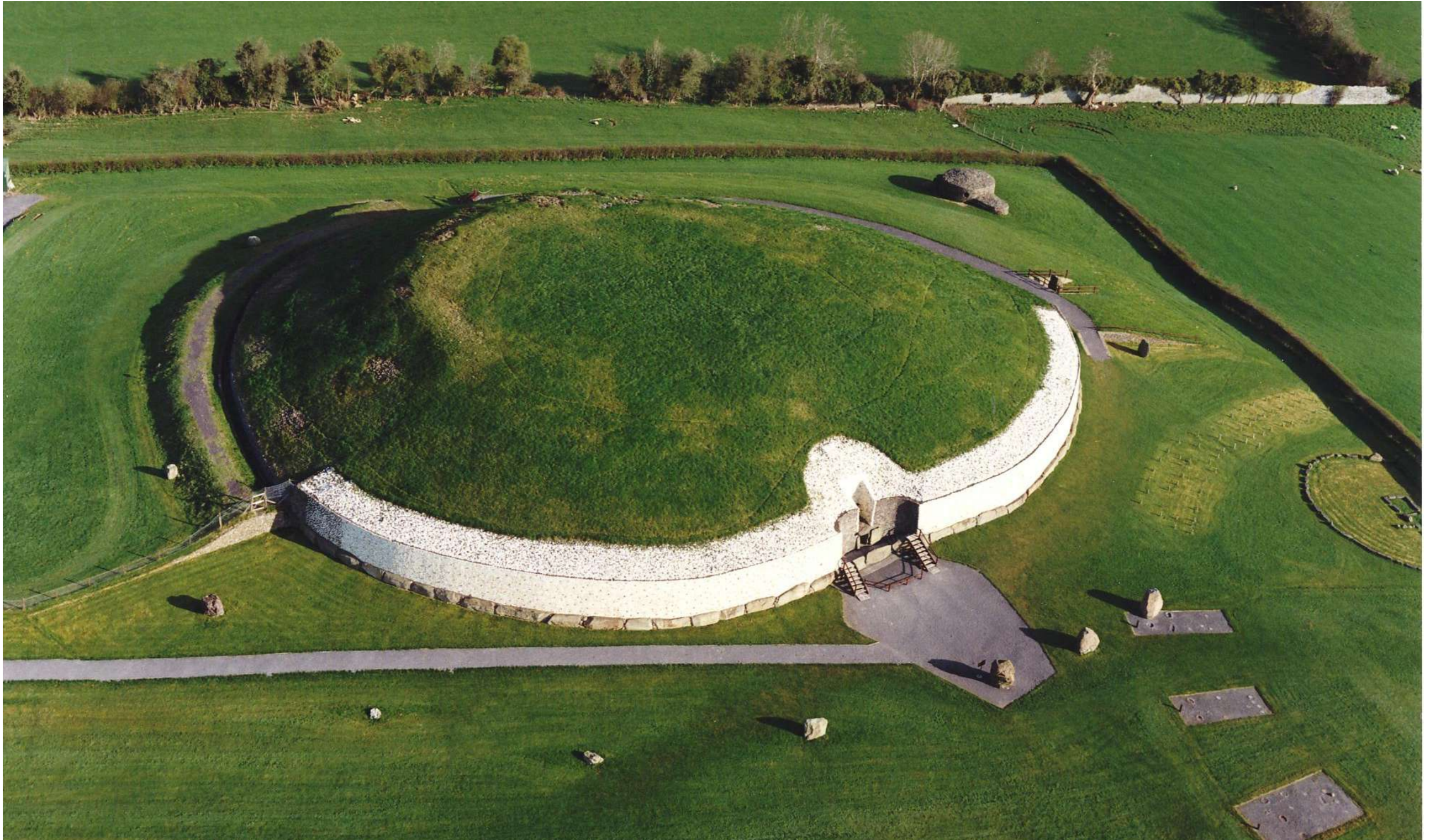
4. Passage Grave

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



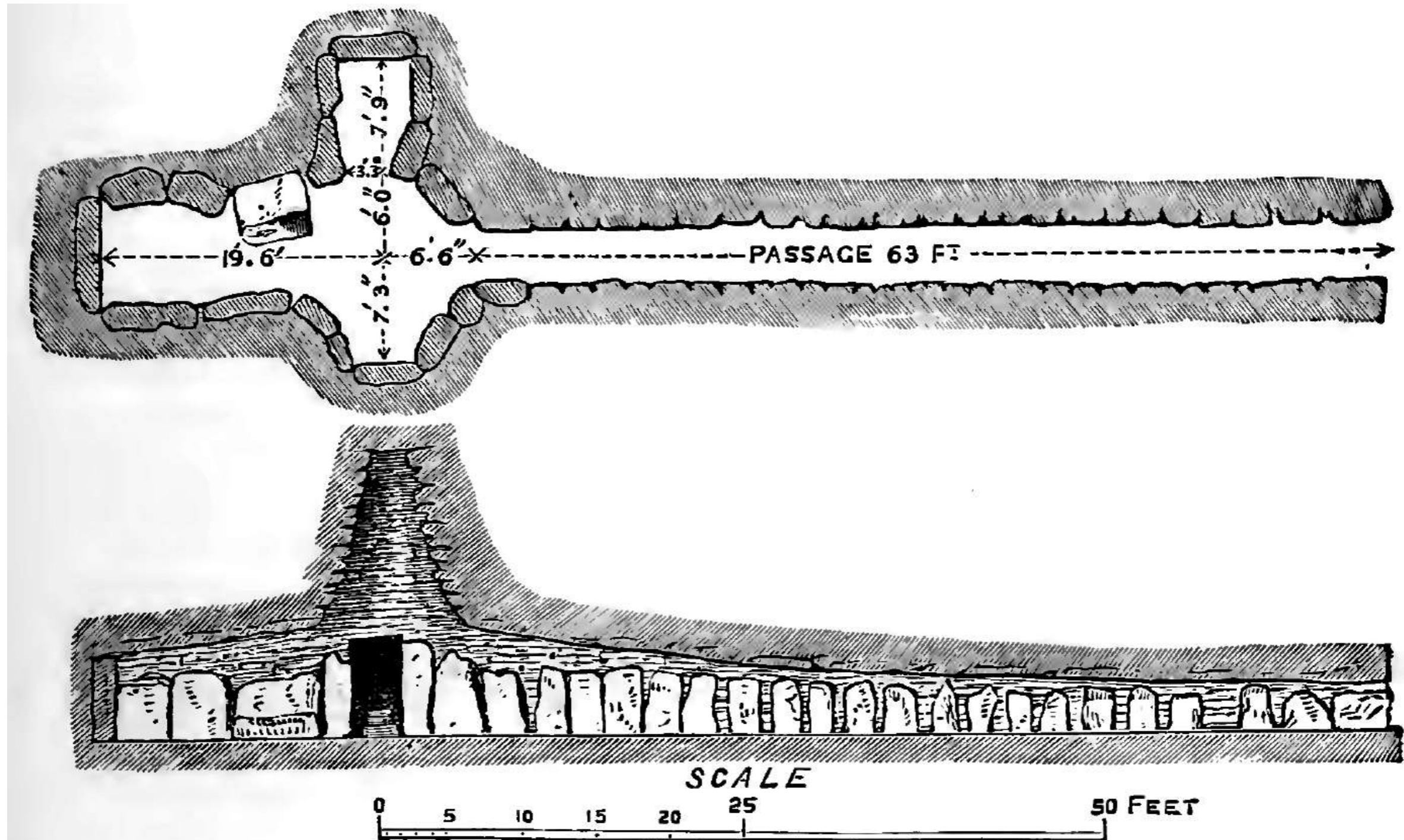
4. Passage Grave

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

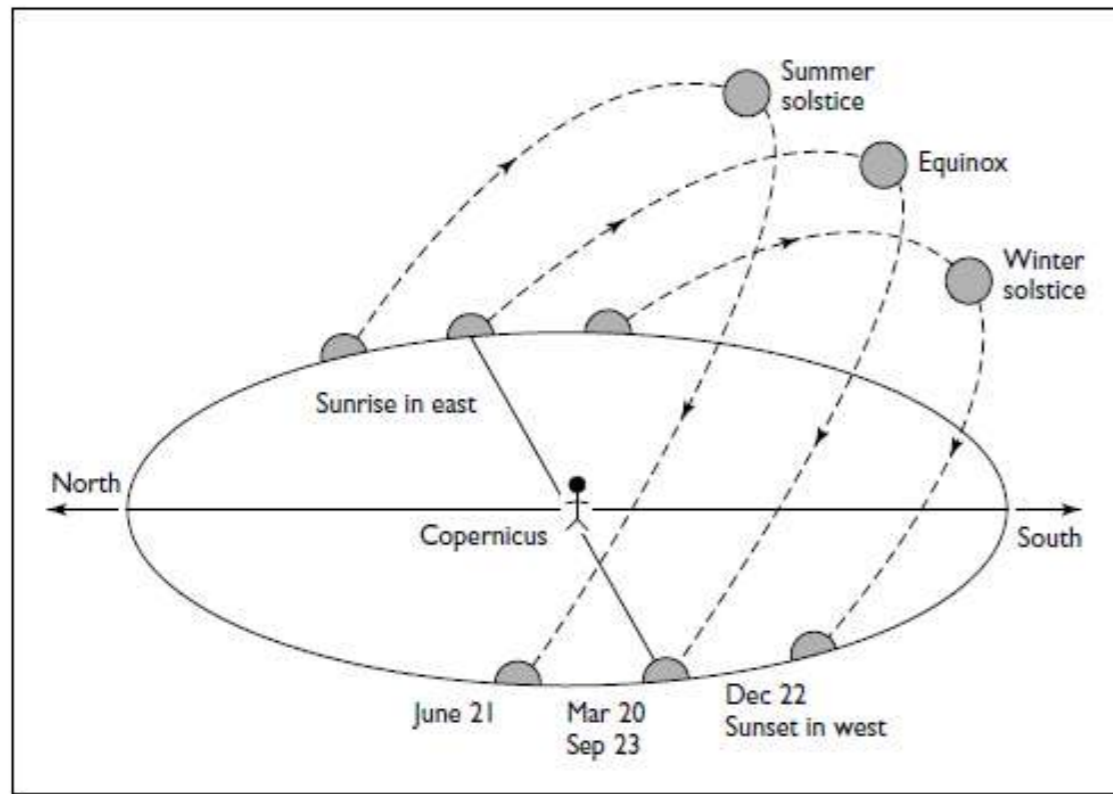
The Newgrange Tomb, Ireland

- 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

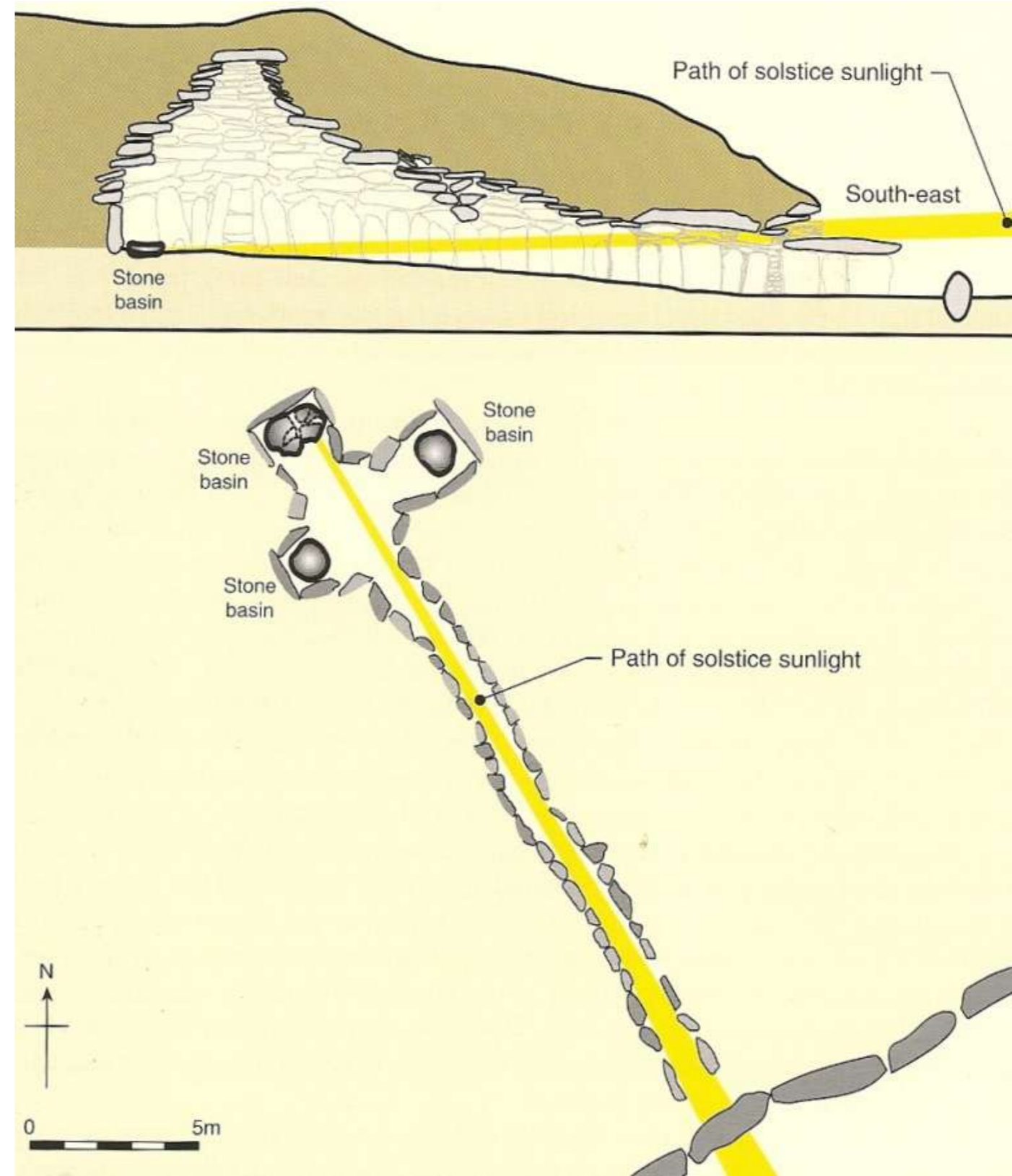


4. Passage Grave

The Newgrange Tomb, Ireland

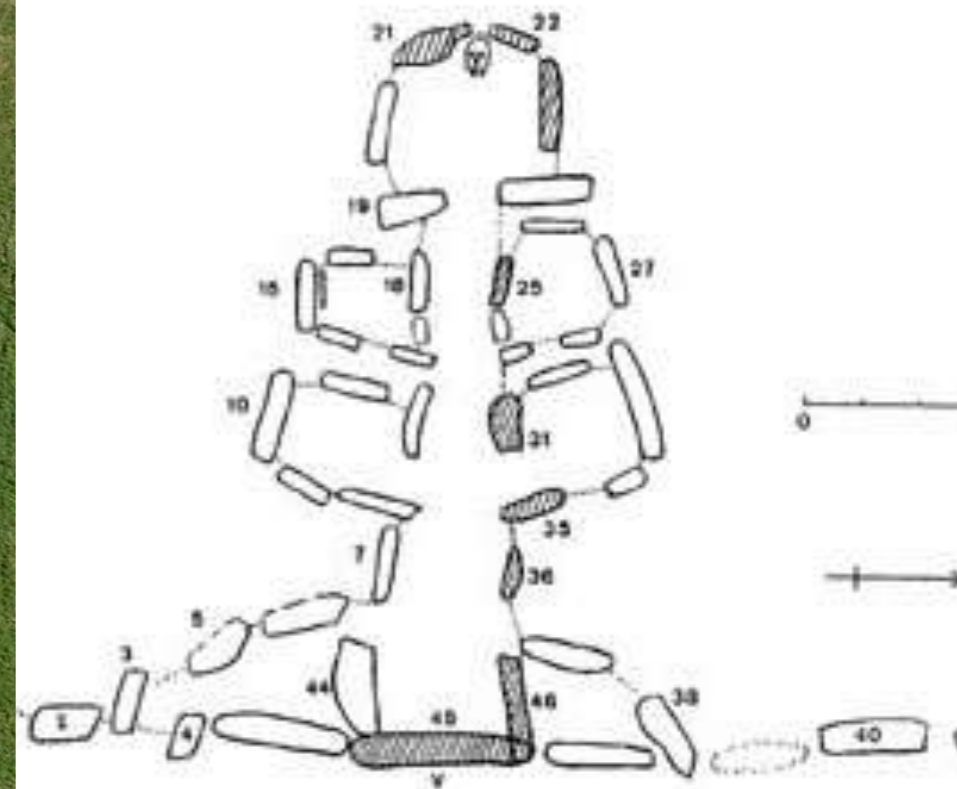
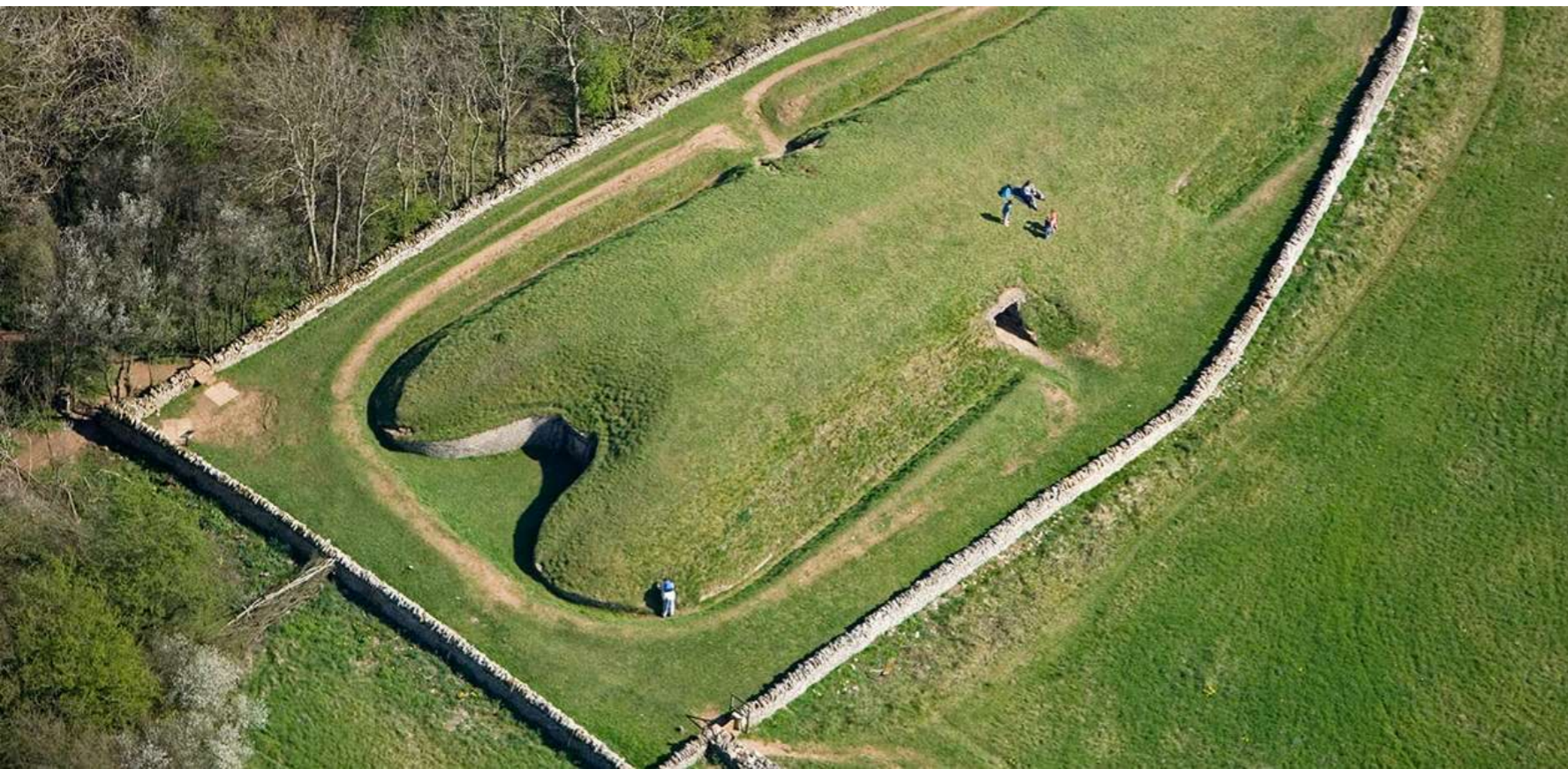
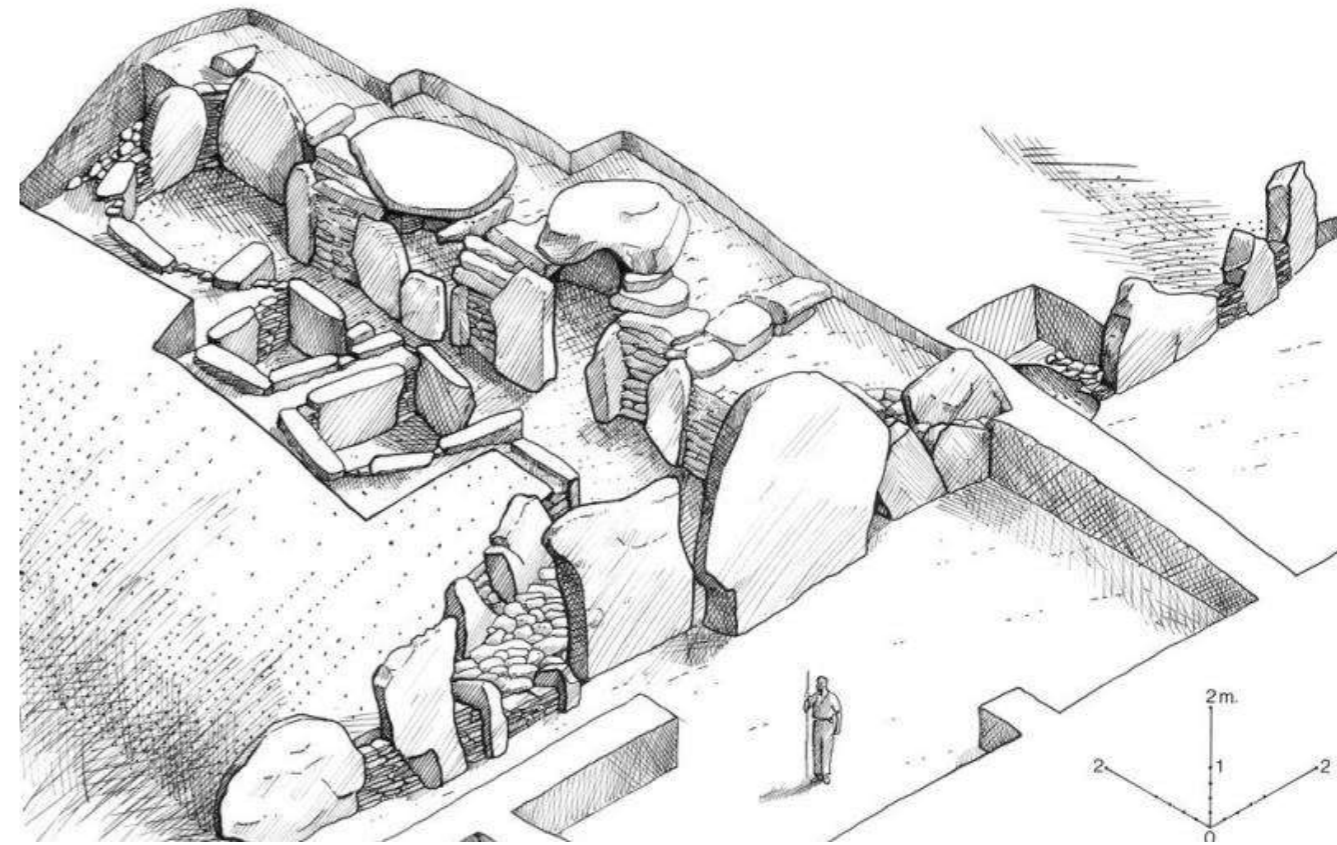


When completed, it was sealed at the entrance leaving narrows slit open at the tops, this opening worked as a '**channel of communication between the living and the dead**'



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)

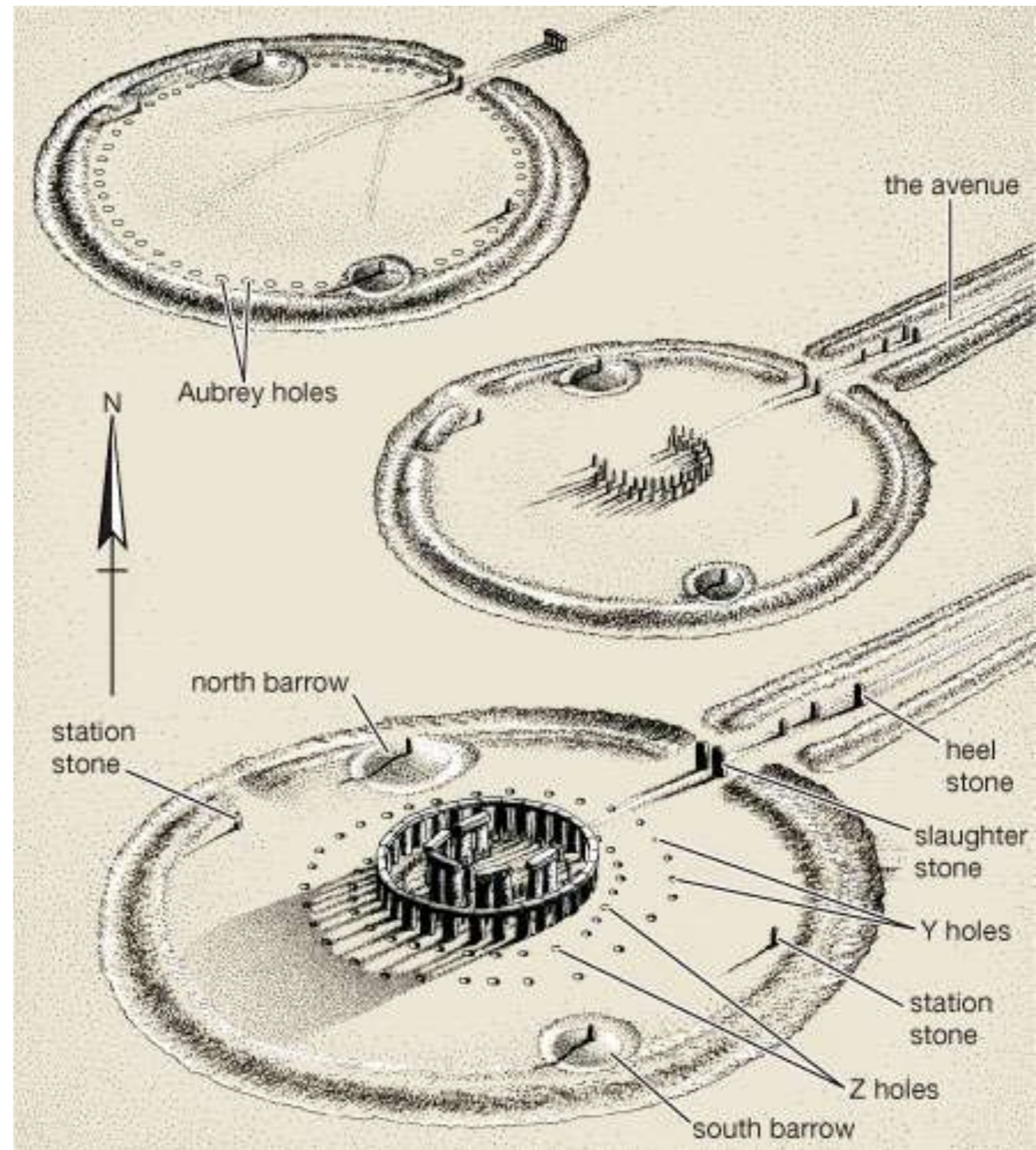


Stonehenge, England (3000-1500 BC)

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



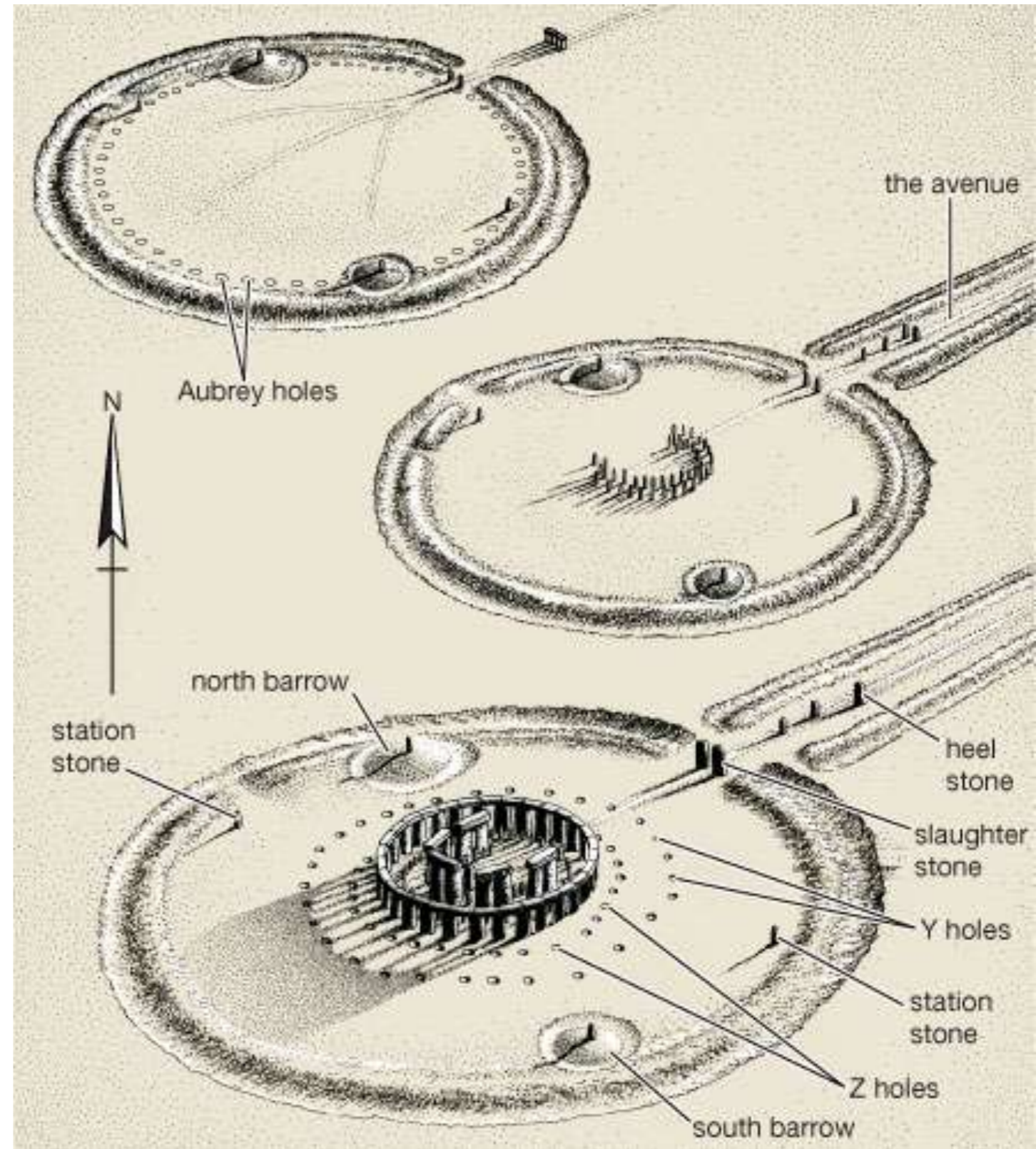
Stonehenge, England (3000-1500 BC)

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)

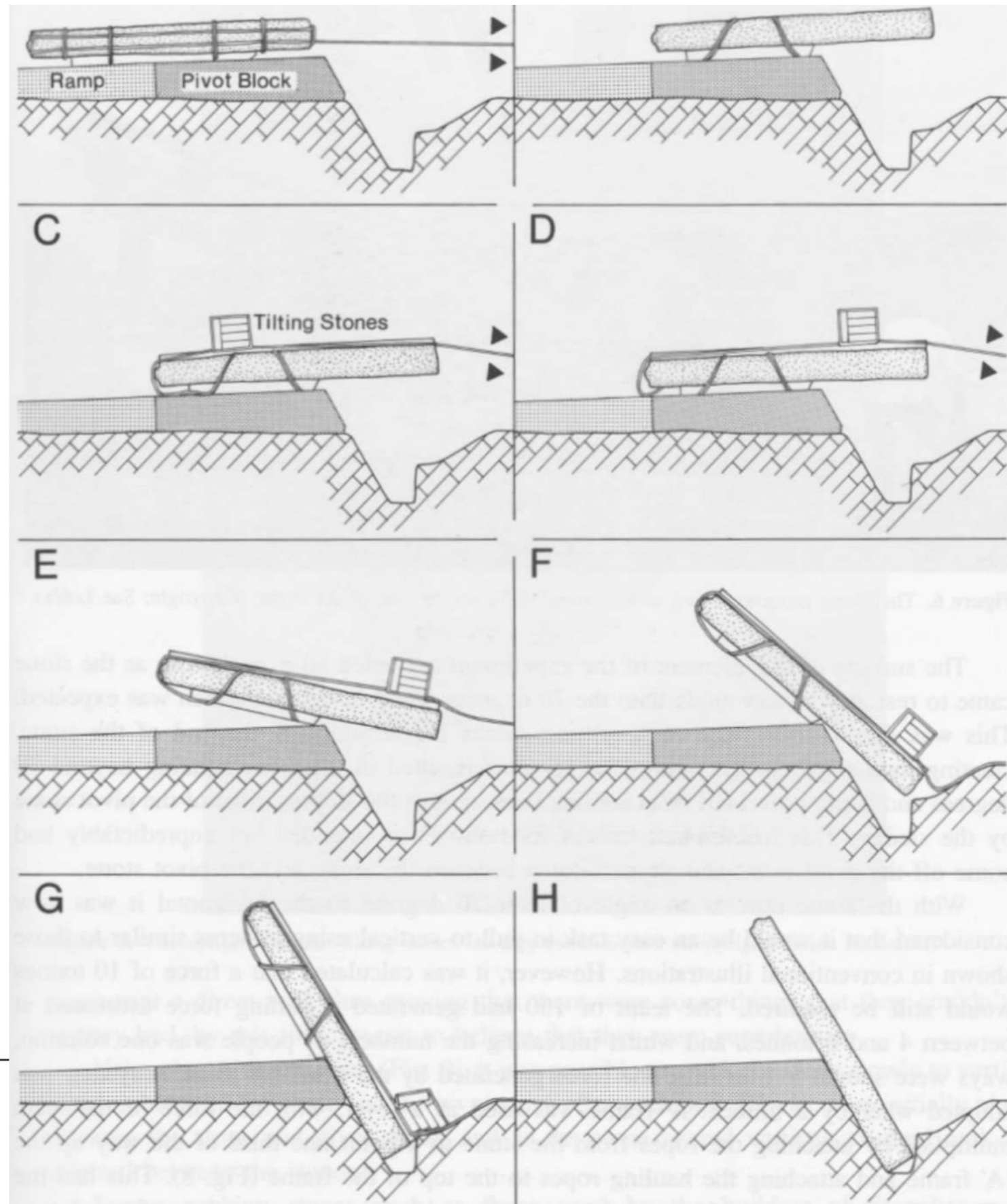
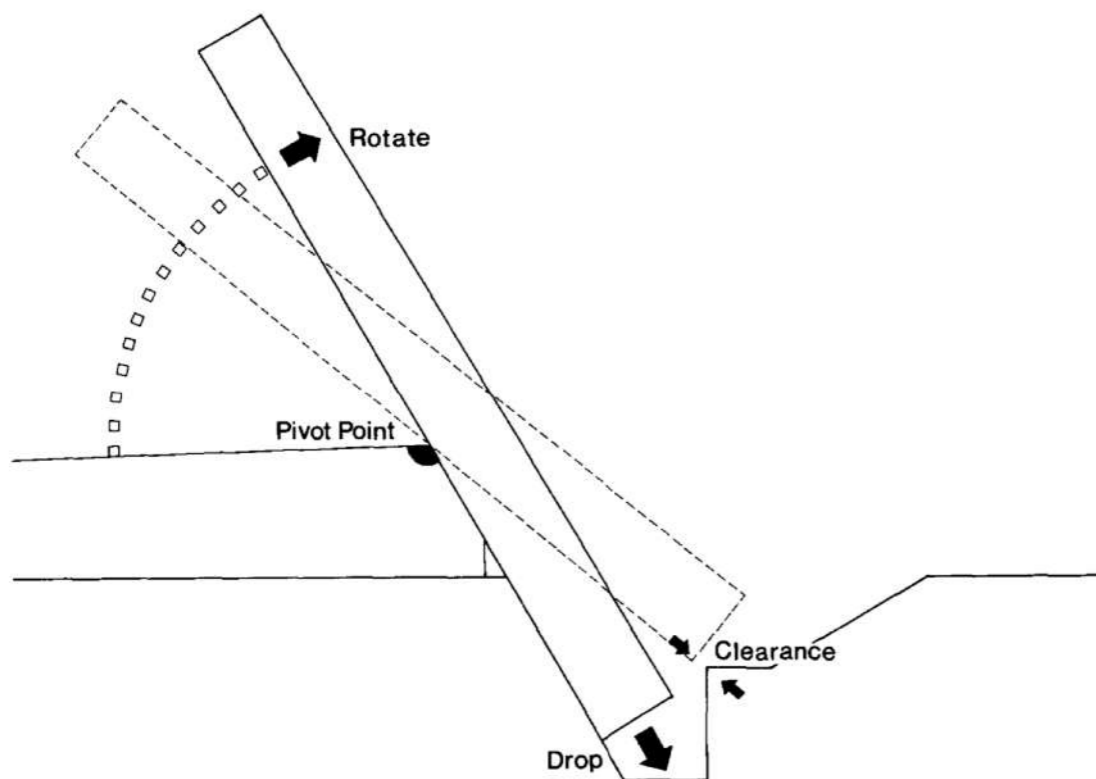
Sandstone raised to form a **circular colonnade (up to 9m high)** closing the horseshoe. About 20 bluestone were erected in an approximate oval setting within the sandstone horseshoe



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)

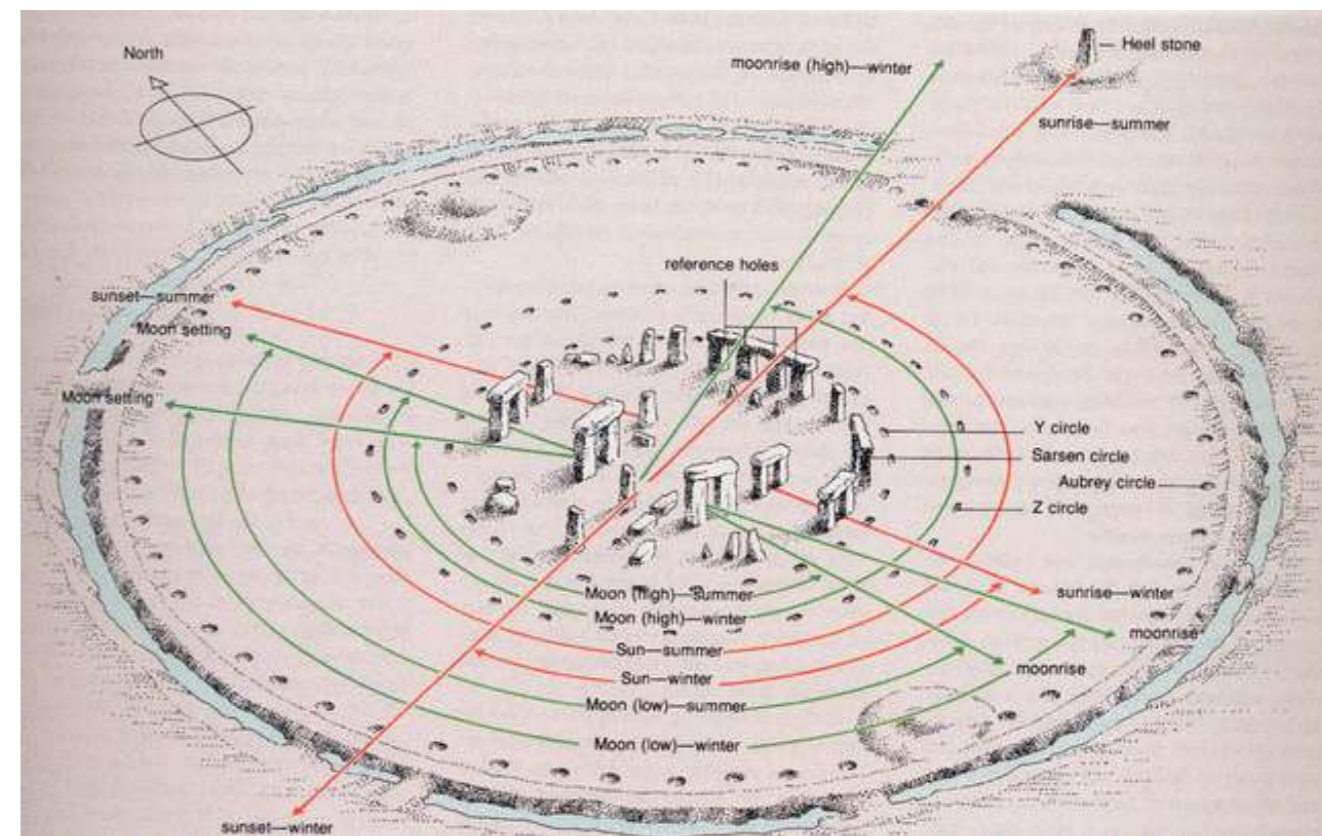
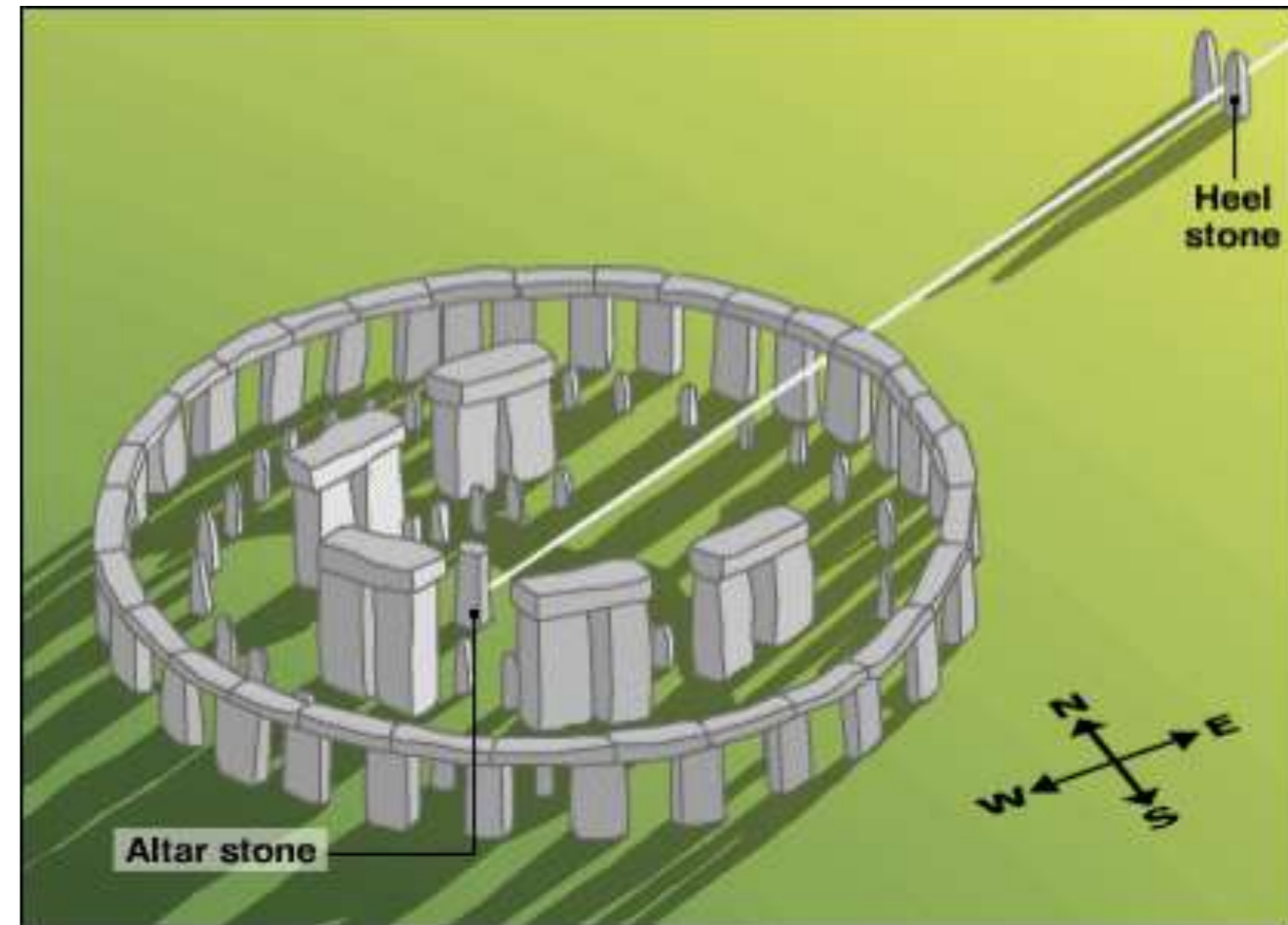
Building Stonehenge required detailed **social organisation** and cooperation of a high order over an extended period

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