

WELCOME



ARCH 1121 HISTORY OF ARCHITECTURAL TECHNOLOGY

# CLASS CONDUCT



- 1) PLEASE TURN OFF CELL PHONES, BLACKBERRY'S ETC. FOR THE ENTIRE DURATION OF THE CLASS.
- 2) PLEASE TURN OFF ALL IPODS, ETC.
- 3) PLEASE NO EATING OR DRINKING DURING CLASS.
- 4) PLEASE BE CONSIDERATE OF OTHERS, RESPECT IS KEY TO YOUR PROFESSIONAL CAREERS AND DAILY LIVES.
- 5) THE CLASS WILL START PROMPTLY ON SCHEDULE, PLEASE BE PREPARED.

# INTRODUCTION TO CLASS



Professor: W. Valdez

Email: [Wavearchitecture@gmail.com](mailto:Wavearchitecture@gmail.com)

- Syllabus Review.
- What is architecture, technology and ecology?
- How do we describe architecture?
- Prehistoric Architecture (Post and Lintel)
- Egypt and Mesopotamia Architecture
- The architecture of Crete, Greece, Rome and Pre-Columbian
- Early, Architecture of Europe, Africa, China, and Japan
- The architecture of the Middle Ages, the Renaissance, 18th and 19th Century design and the, modern movements.

# GRADING

There will be throughout the semester.

• Regular in class problems or quizzes or projects.	30%
• Writing assignments	20%
• A mid-term examination	15%
• A final exam or project	20%
• Notebooks	5%
• Class participation.	10%
• Vocabulary list	<u>        </u>
	+
	<u>        </u>
	100%

# Rhythm / Scale

In order to gauge architectural aesthetics we are required to consider the following:



Scale: Relationship between building size and human scale and surroundings.



Rhythm: Elements repeated (solids, voids, projections . . .)

# Light / Texture



Light: Natural or artificial



Texture: Create an effect of solid and stability

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# Color / Ornament



Ornament: Visual detail



Color: to differentiate parts of a building

# Acoustics / Site



Photo: Alexander Aptekar © 2010

Acoustics: sound within buildings by choice of materials



Site: Contrast or blend in with settings



# Space / Weight and Mass

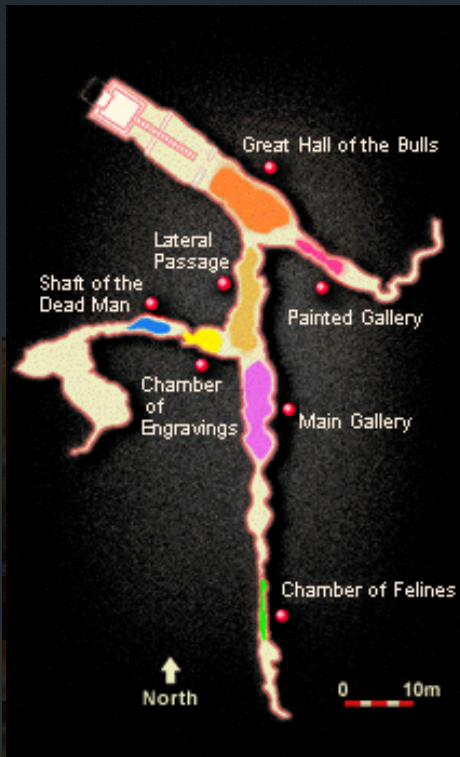


Space: Static or dynamic positive or negative, spatial flow



Weight and Mass: different periods have placed different values on weight and mass.

# Paleolithic Cave Paintings, Lascaux France; 15,000 BCE

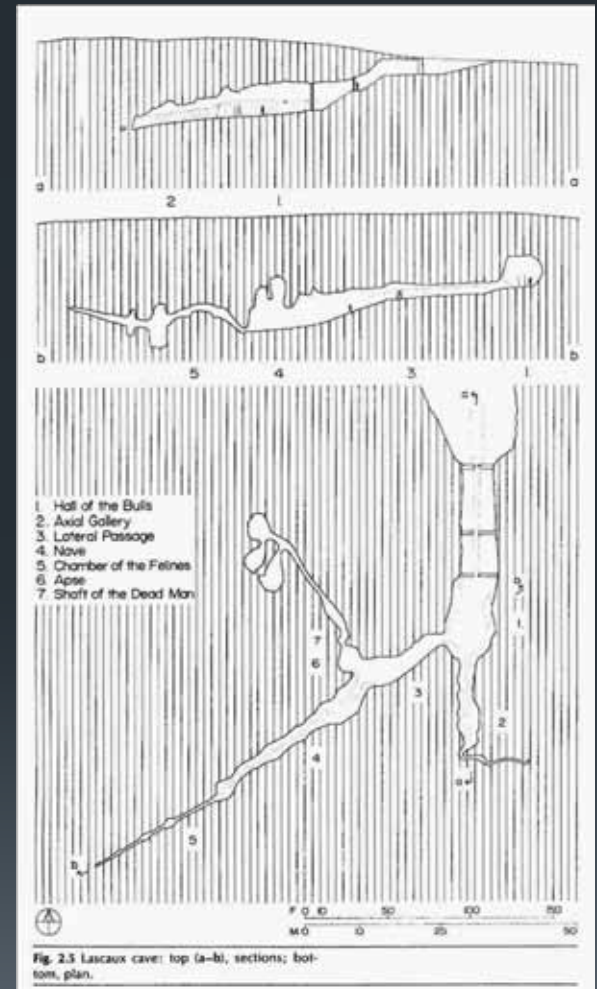
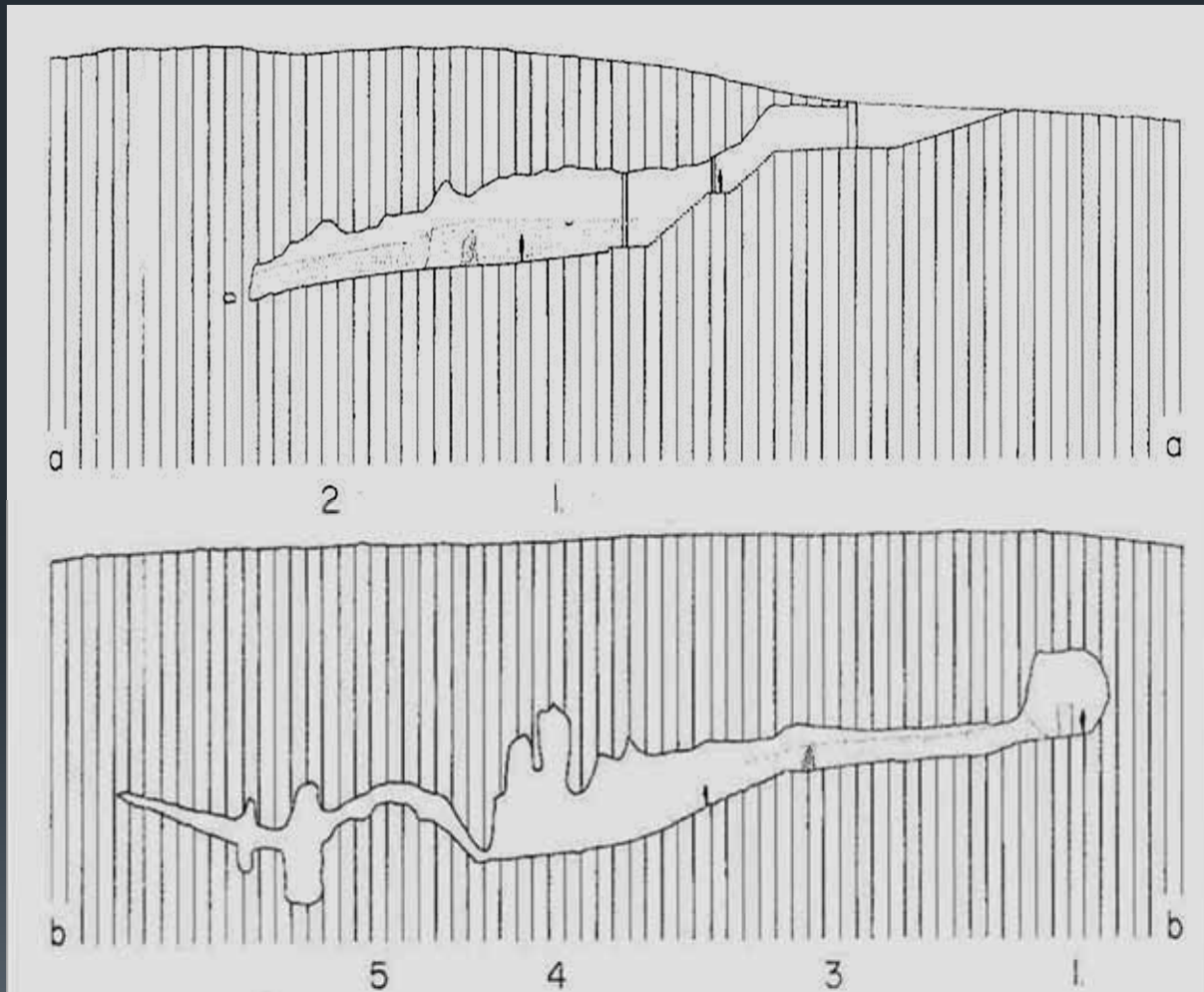


# Bull Painting, Lascaux Cave, France

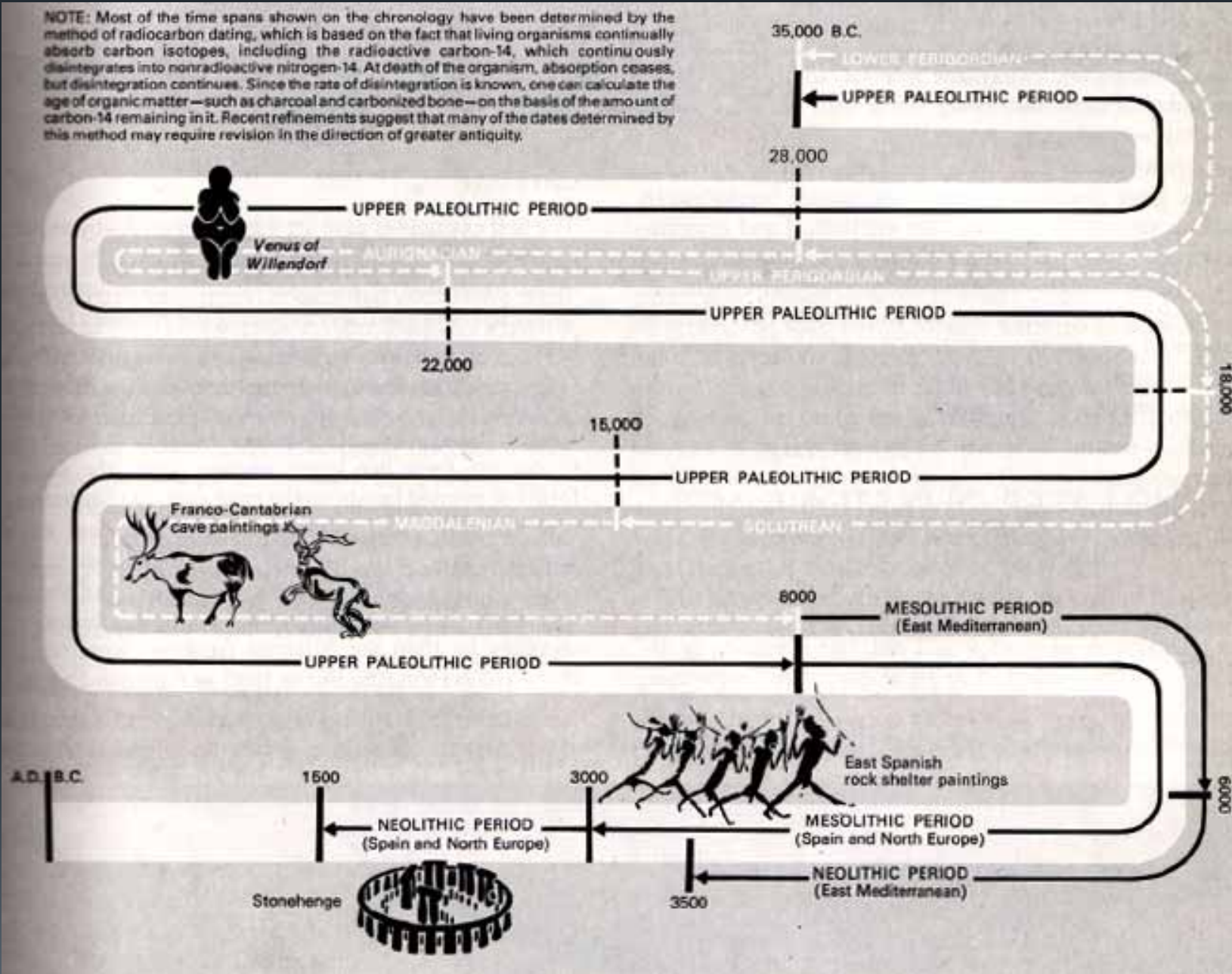


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# Cave at Lascaux, Plan and Sections



NOTE: Most of the time spans shown on the chronology have been determined by the method of radiocarbon dating, which is based on the fact that living organisms continually absorb carbon isotopes, including the radioactive carbon-14, which continuously disintegrates into nonradioactive nitrogen-14. At death of the organism, absorption ceases, but disintegration continues. Since the rate of disintegration is known, one can calculate the age of organic matter—such as charcoal and carbonized bone—on the basis of the amount of carbon-14 remaining in it. Recent refinements suggest that many of the dates determined by this method may require revision in the direction of greater antiquity.



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# Prehistoric Architecture



Fragile tent-like structures of poles covered with hides or thatched reeds.

Hunters and gatherers / Nomads / Migratory Predator

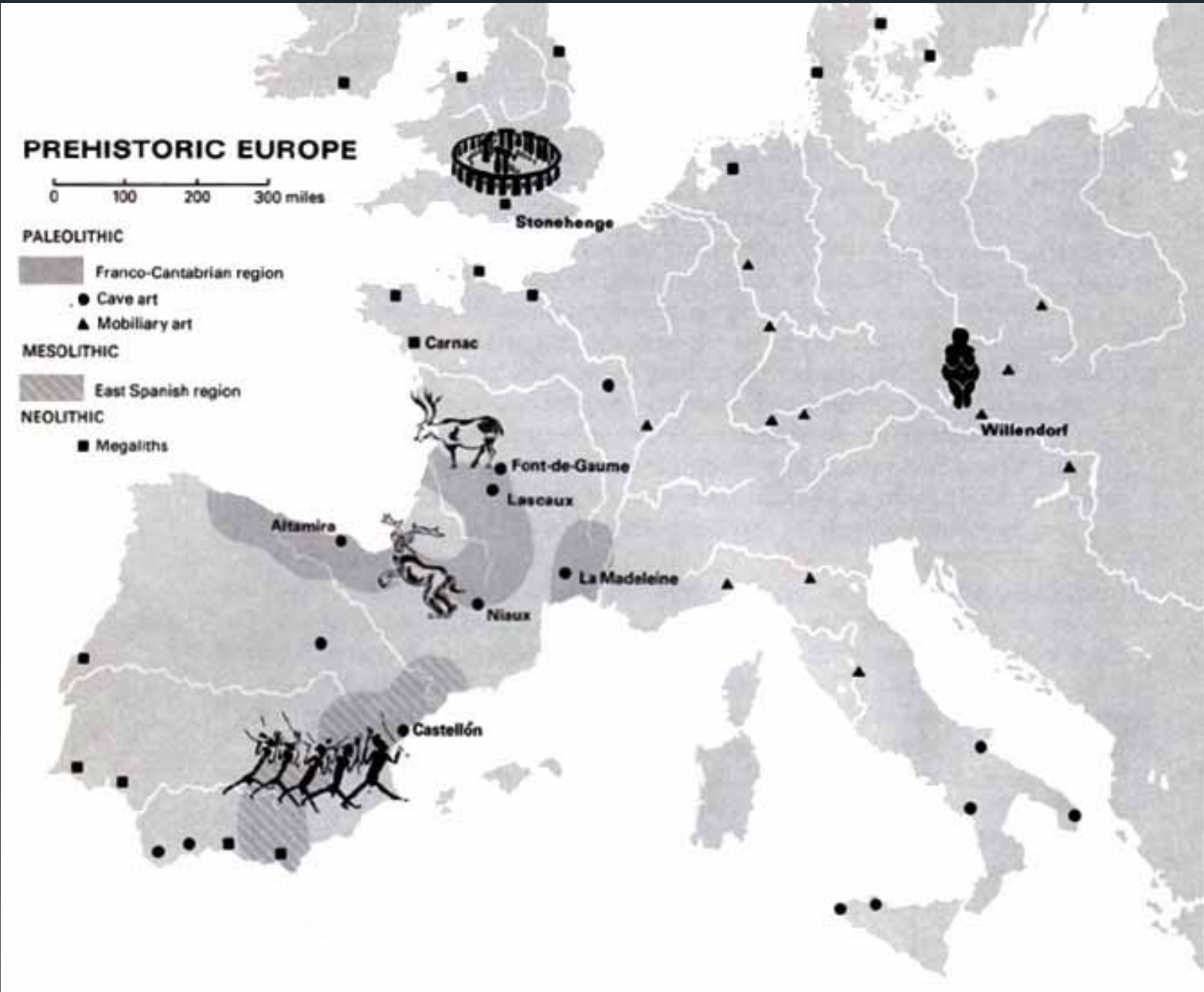
Nomadic housing - permanent structures were impractical, looking for sources of food

The Stone Ages:

Paleolithic – 750,000 to 13,000 BCE

Mesolithic -13,000 to 8,000 BCE

Neolithic – 8,000 to 2,500 BCE

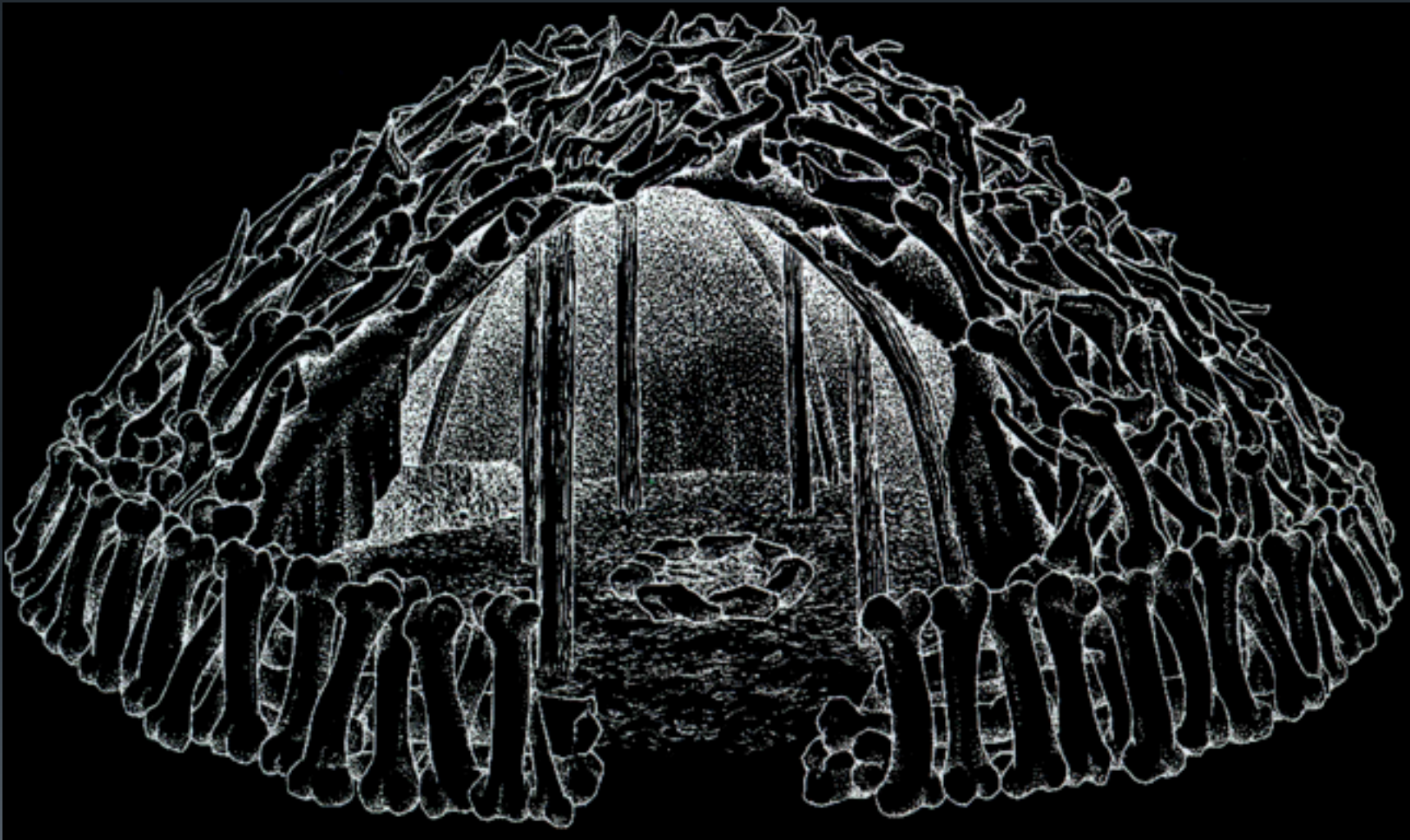




- **Environmental Impact in prehistoric times:** little effect on the environment, little use of materials; adapted life style to the environment.
- **Ecology** - study of relations between organism and the environment.
- **Ecosystem** – system of influence between organisms and their surroundings.



# Neolithic Hut



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# The Strong Man's house Scotland



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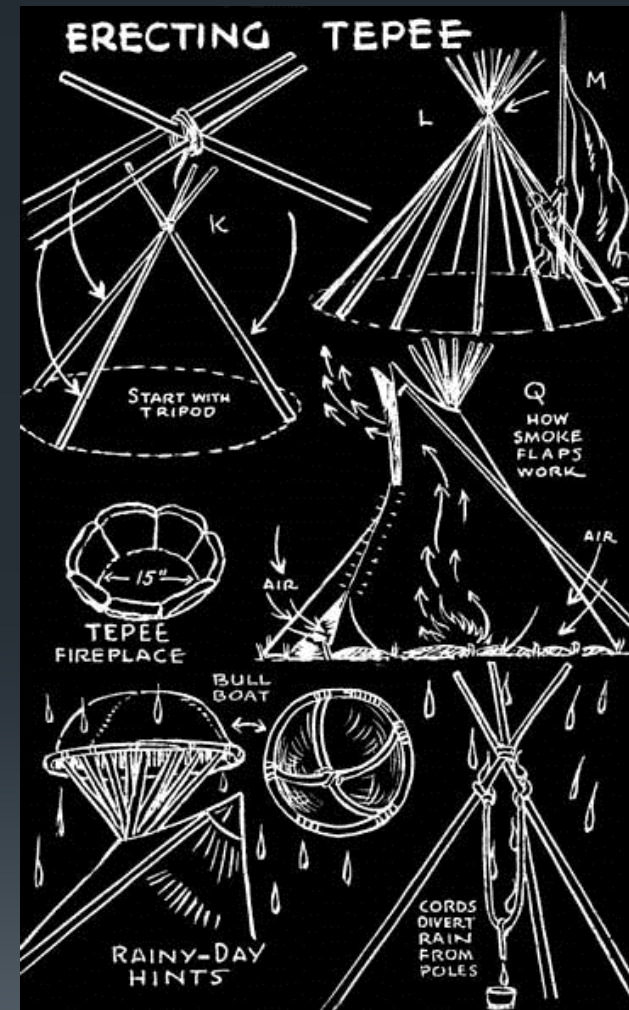


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# Blackfoot Indian Teepee, Montana: 1900



Source: *The House Book*, Phaidon Publishers, 2005



Wildwood Wisdom By Ellsworth Jaeger 1945

# Inuit Igloo, New Foundland, Canada: 3000 BCE



Source: *The House Book*, Phaidon Publishers, 2005.

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# Kyrgyz Yurt, Xingiang, China: Unknown to Present



Source: *The House Book*, Phaidon Publishers, 2005.



wiki by Aloxe



# Maasai Enkang Hut, Kenya: Unknown Duration



Source: *The House Book*, Phaidon Publishers, 2005.



wiki by Jerzy Strzelecki

# Mad'han "Madrif", Tigres-Euphrates Delta

Dates: 1000 BCE to present

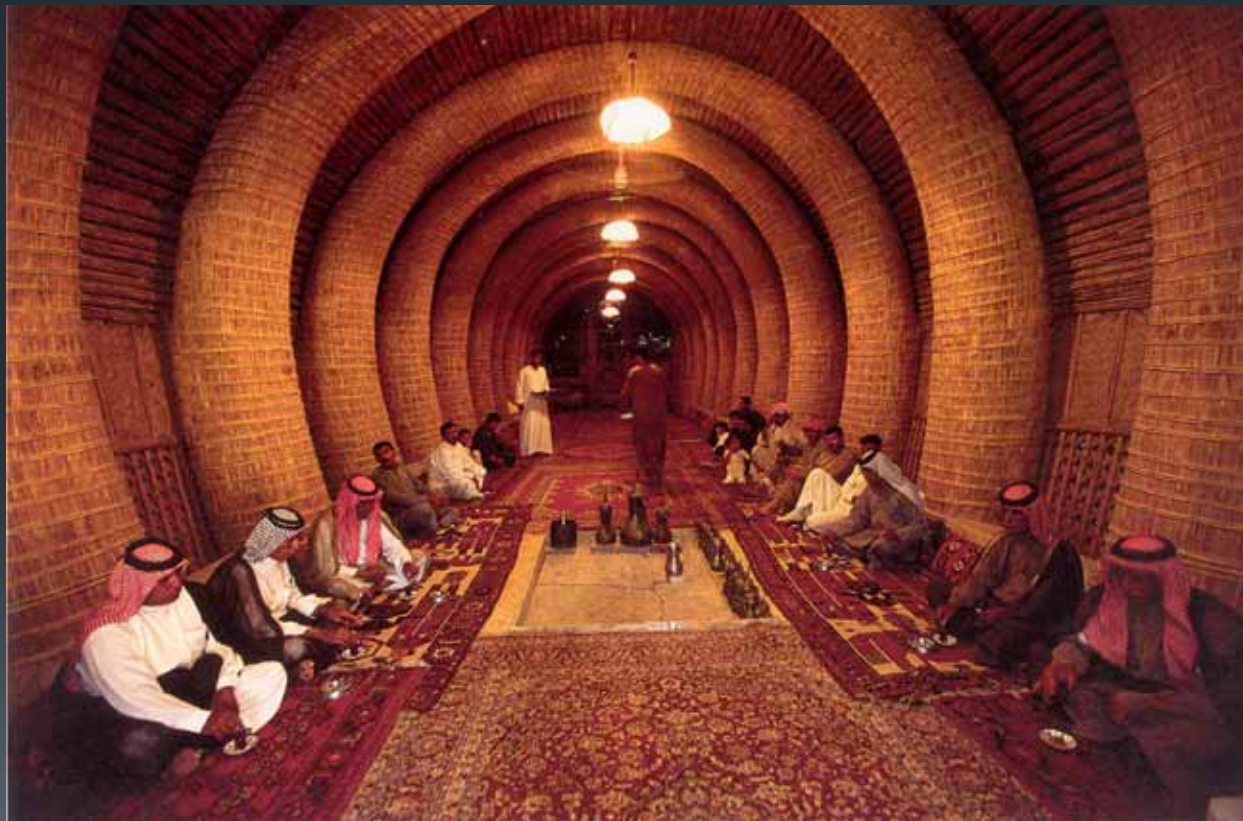


Source: *The House Book*, Phaidon Publishers, 2005.

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## The Mudhif (Reception House),

The Mudhif (Reception House), were used as prototype for later constructions. Social and Administrative life of the community was organized through meetings in rooms such as these. 20<sup>th</sup> C and earlier.



# Thule "Qamaq" Houses, E. Canadian Arctic

Dates: 1<sup>st</sup> documentation circa 16<sup>th</sup> century.

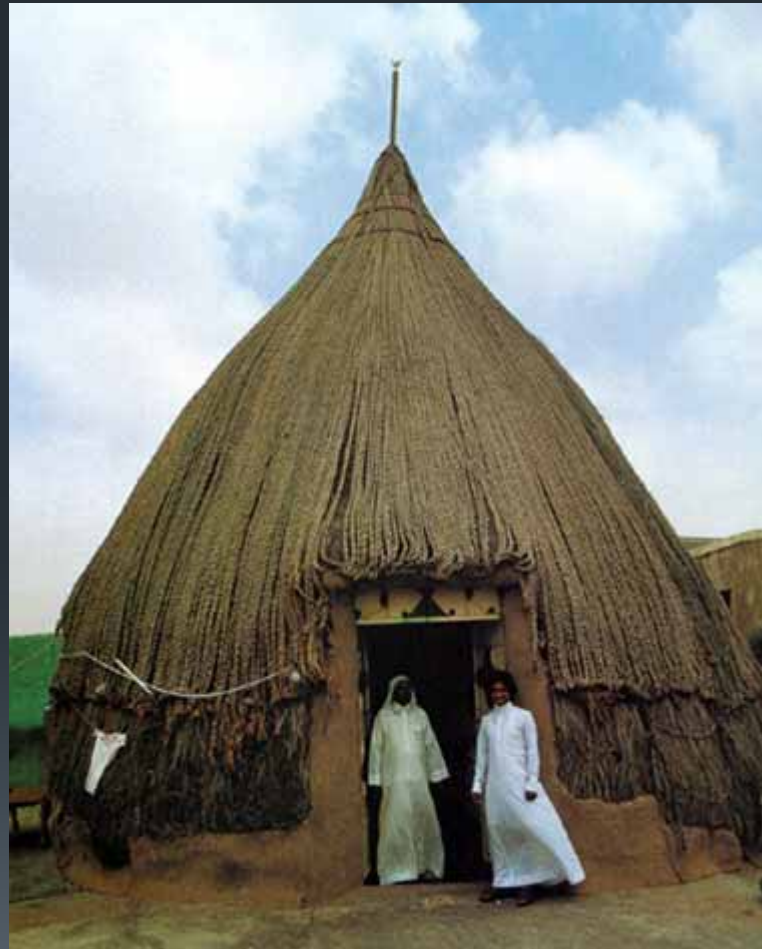


Source: *The House Book*, Phaidon Publishers, 2000

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# Tihama Farmers, "Usha Huts",

Saudi Arabia/Yemen Dates: 1500 BCE to present.



Source: *The House Book*, Phaidon Publishers, 2000

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# Toda "Mund Huts", Tamil Nadu, India Dates: Early 17<sup>th</sup> century to present.



Source: *The House Book*, Phaidon Publishers, 2000.

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# Idlib, Syrian Farmers: 6000 BCE to present



Source: *The House Book*, Phaidon Publishers, 2000

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# Sami "Goatte", Finland. Dates: Traditional Housing



Library of Congress # LC-DIG-ppmsc-06257

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# Galician Celts Palloza, Galicia, Spain: 200 BCE



Source: *The House Book*, Phaidon Publishers, 2005.

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# Provencale Farmers, "Dry Stone Borie", France

Dates: 1<sup>st</sup> Century BCE.



Source: *The House Book*, Phaidon Publishers, 2005.

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# Moussa Broche, Shetland Islands, Scotland: 600 BCE



flickr by duncan

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# Loess Han Cave House, Shanxi, China: 500 on



Source: *The House Book*, Phaidon Publishers, 2005.

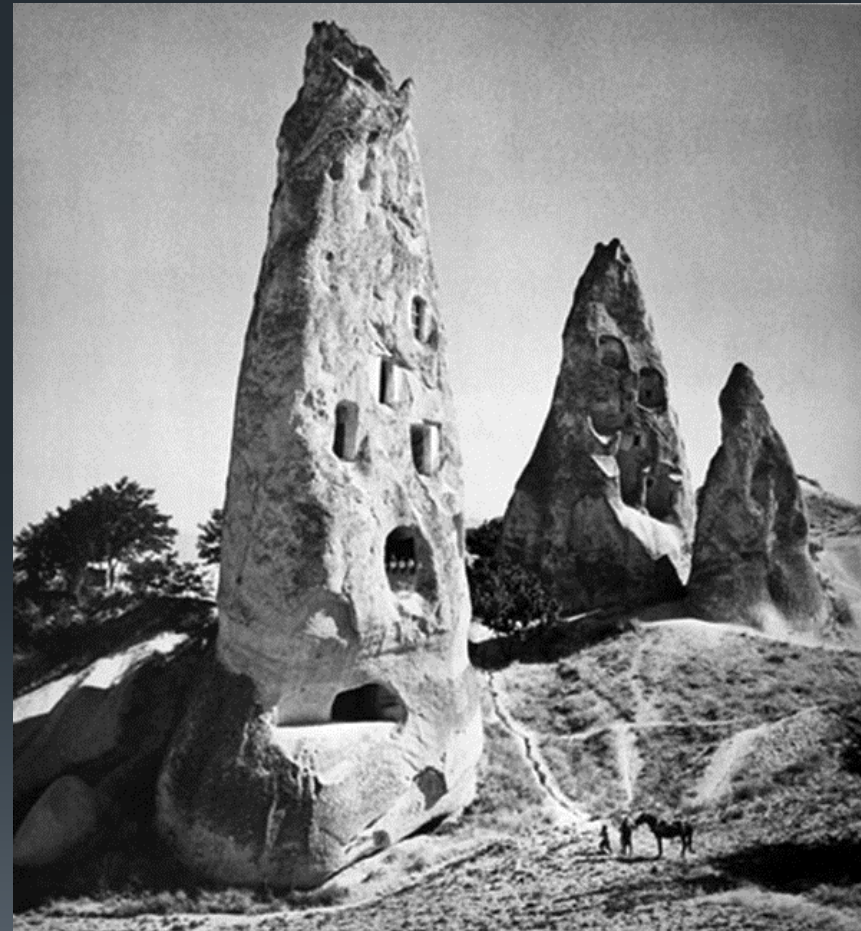
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# Anchorites Tufa Pinnacle, Cappadocia,

Turkey Dates: 600 BC to present



flickr by Alaskan Dude



Source: *The House Book*, Phaidon Publishers, 2005.

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# Early Cave Settlers, Seljuk,

Turkey Dates: circa 30,000 BCE



Source: *Istanbul Archeology Museum.*

- Karain, Turkey:  
Human habitation dating back to the early Paleolithic age (150,000-200,000).



wiki by Klaus-Peter Simon

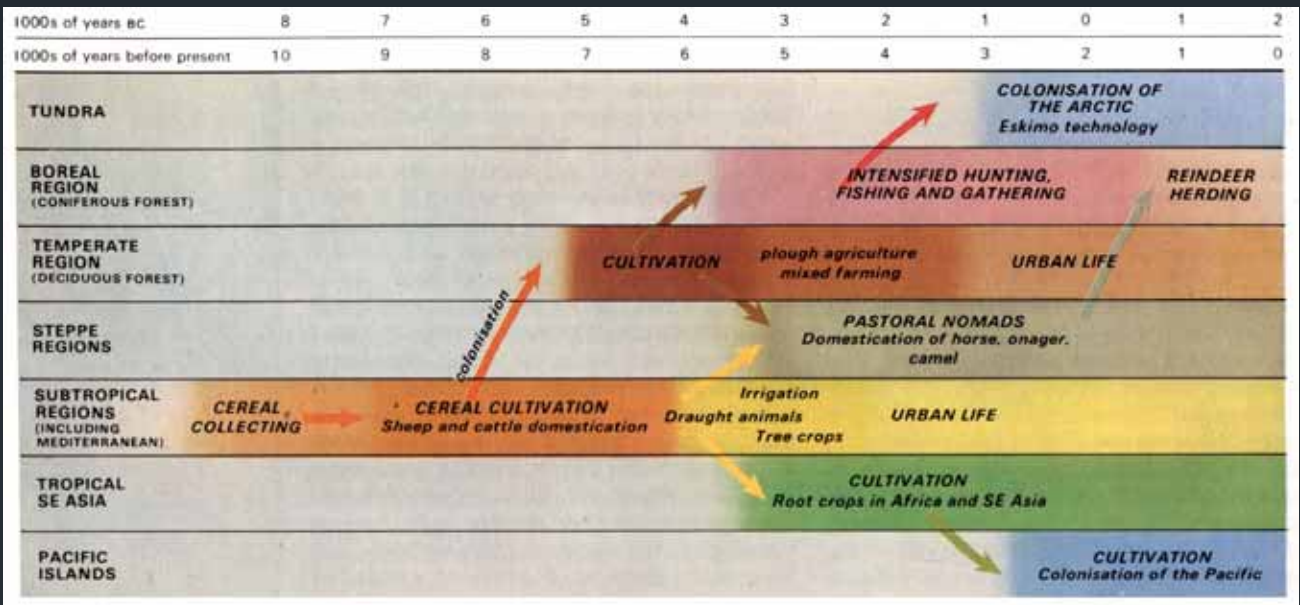
# Primitive Farming Culture, Seljuk,

Turkey Dates: circa 8,000 BCE



Source: *Istanbul Archeology Museum.*

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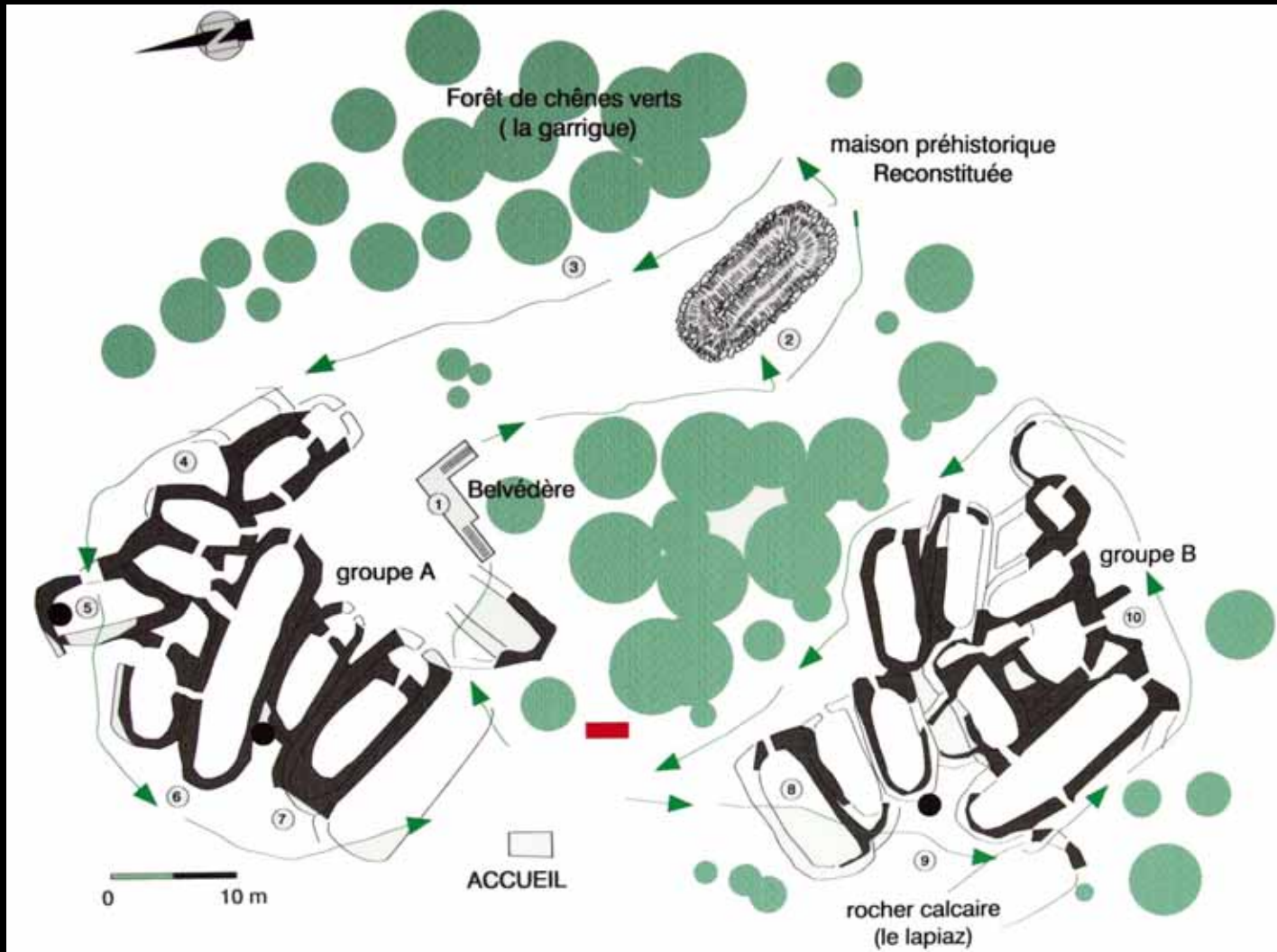
# Primitive Farming



The Times Atlas of World History ©1980 Hammond incorporated



# Cambous



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# Skara Brae Prehistoric Village, Orkney Islanders, Scotland: 3000 - 2500 BCE



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# Skara Brae Prehistoric Village



flickr



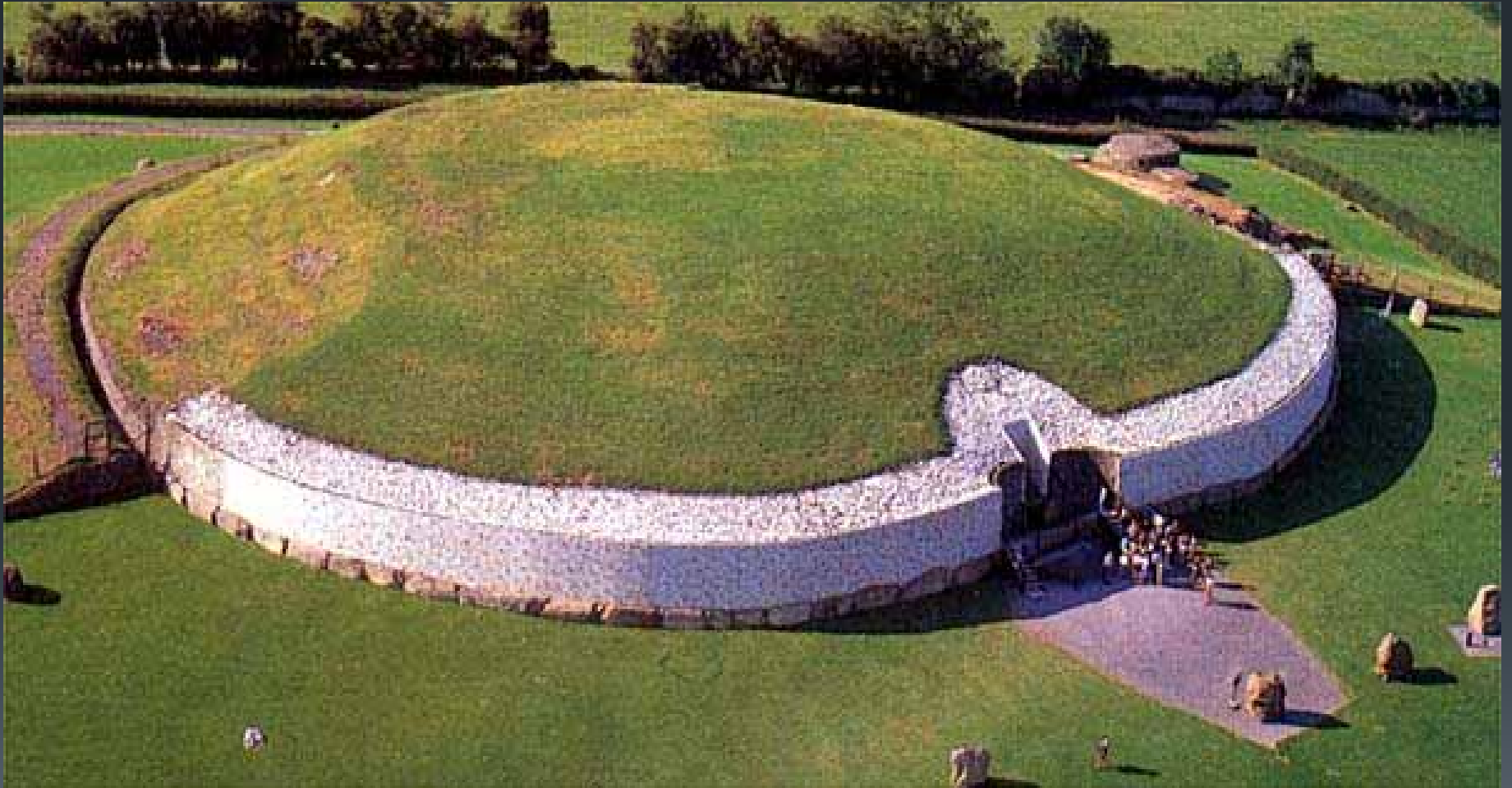
# Skara Brae Prehistoric Village



wiki by Dr. John F. Burka

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# Newgrange, Ireland: 3200-2500BC



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# Giants Tomb, Italy: 2300 BC

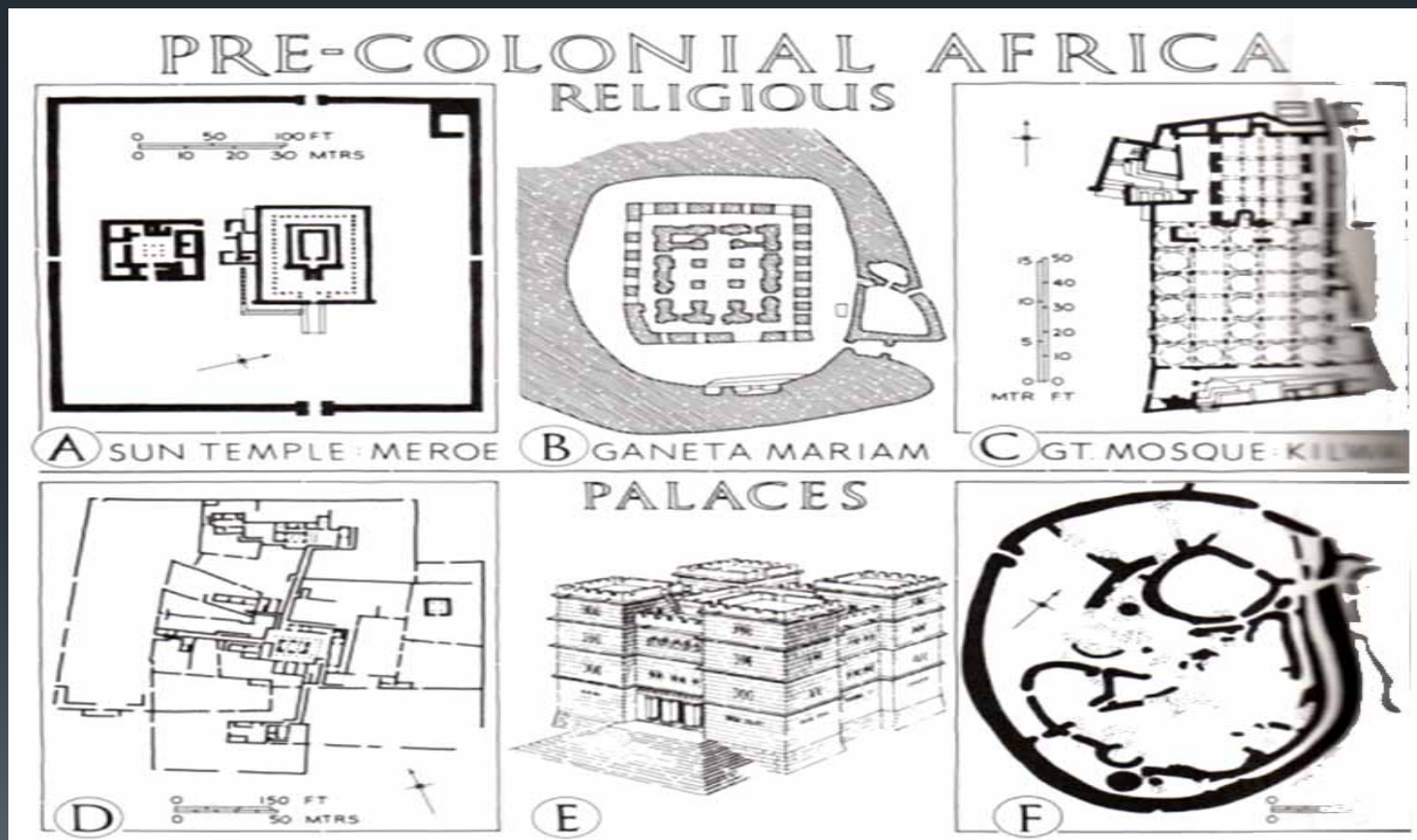
- The entrance has a carved stone slab, a horizontal lintel, and a carved arch above.





# African Architecture

- Characterized by strong, sophisticated conceptual forms
- Rhythmical and abstract



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# King Ezanas obelisk, Aksum, Ethiopia: c. 400 CE

- Carved from single pieces of stone
- Some were up to 100' high
- Likely burial monuments
- Christian empire, remained power- full until 7<sup>th</sup> c CE



[commons.wikimedia.org](https://commons.wikimedia.org) by Jialiang Gao



[www.flickr.com](https://www.flickr.com) by herr\_hartmann

# Church of St. George, Lalibela, Ethiopia: 1200 CE

- One of 13 churches Rock-Hewn Churches at Lalibela
- Greek crosses 82'x82' by 98'
- A new Jerusalem response to the capture of Jerusalem Muslims in 1187



[commons.wikimedia.org](https://commons.wikimedia.org/wiki/File:Church_of_St._George,_Lalibela,_Ethiopia.jpg) by Pzbinden7



[www.flickr.com](https://www.flickr.com/photos/herr_hartmann/) by herr\_hartmann

# Oualata (Walata), Mauritania: 1200-1300

- Architecture made from stone and covered with adobe.
- Decorated with curvilinear patterns.
- Houses have two stories, flat roofs and interior courtyards.



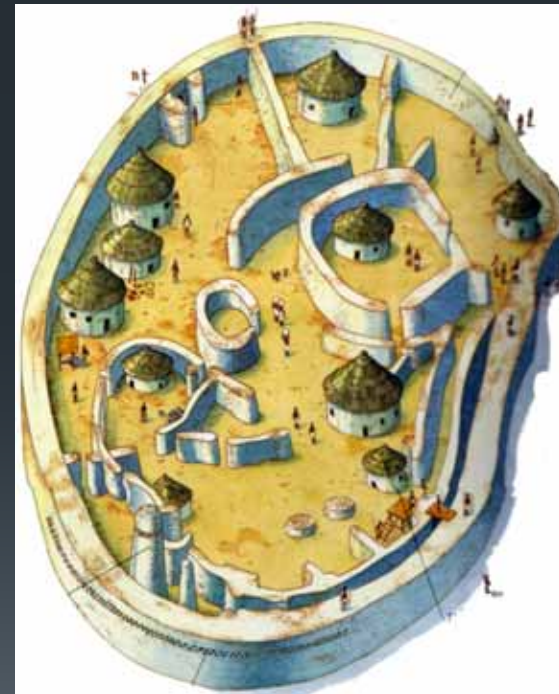
# Qualata (Walata), Mauritania: 1200-1300

- Oasis town terminus of trans-Saharan trade.



# Great Zimbabwe, Zimbabwe, 1200-1450

- Oldest monumental stone structure south of the Sahara
- Massive stone masonry, without mortar.
- At its peak 25,000 inhabitants cover a radius 150 miles



Source: Platagenet Sommerset Fry, *History of the World*, 2005

# Great Zimbabwe, Zimbabwe, 1200-1450



[www.flickr.com](http://www.flickr.com) by Dave Laird

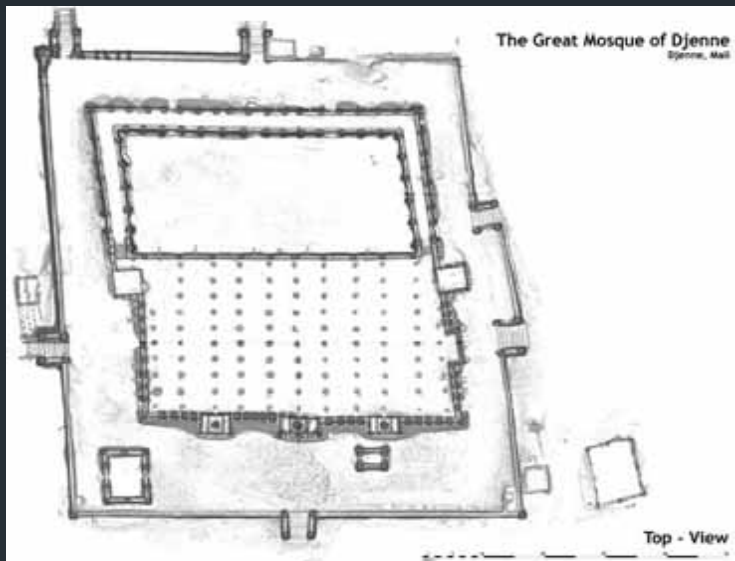


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# The Great Mosque of Djenné, Djenné, Mali:c.1250



- Central mosque of the powerful Songhai empire that controlled northwestern Africa for 200 years
- 245 ft x 245 ft on a platform 9' above marketplace
- Made with sun-baked mud bricks (called ferey), a mud based mortar, and are coated with a mud plaster.
- Toron or bundles of palm trees project 2' from a scaffolding, which permits continual renewal.



# The Great Mosque of Djenné, Djenné, Mali: c.1250



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# The Great Mosque of Djenné, Djenné, Mali: c.1250



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# Readings

Pages 1-14, *A World History of Architecture*, Fazio, Michael, Moffet & Wodehouse



Photo: Alexander Aptekar © 2009

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