1.1 Architecture as Second Nature: Sacred Caves and Primitive Huts

1) Two major themes in pre-history - Shelter and Symbol

- The act of dwelling for humans addressed at once the problem of creating shelter and the challenge of making a symbolic representation of their understanding of the world...

- Written language introduced circa 3000 BCE. As a result, discussions of pre-historical concepts of architecture and dwelling have a certain timelessness.

2) Broad characterization of the Stone Age as pertains to architectural development. Don’t be too concerned with archeaological or anthropological periods. Only a few of them will be of real concern to us, and as long as you know the basic time frames such as neolithic or bronze age, you’ll be fine.

Keep in mind that the Three-Age Chronology (Stone // Bronze // Iron) is a man-made academic concept from the mid-19th century, in effect also an artifact of mankind....

- Stone Age (use of stone tools)
  1. Paleolithic (old stone age)
     - Lower Paleolithic — 2,500,000 - 200,000 BCE
     - Middle Paleolithic — 300,000 - 28,000 BCE. Neanderthals, ritual burying
     - Upper Paleolithic — 50,000 - 10,000 BCE. 10,000 BCE coincides w end of last Ice Age; development of stone tools; Bering land-bridge to American Continent
  2. Mesolithic (middle stone age)
     - 10,000 - 6000 BCE. Begins w end of last Ice Age. Rising sea levels, new food sources
  3. Neolithic (new stone age - also referred to as late stone age)
     - 7000 - 3000 BCE. Shift from strictly hunting // gathering to agriculture as well; development of stone tools; pottery; more sophisticated complex settlements; Calcolithic Age included here (Copper Age)
  4. Bronze Age (copper mixed with tin yields much harder bronze for tool-making)
     - 3300 - 1200 BCE.
  5. Iron Age
     - 1200 - 500 BCE

3) Early settlements of dwellings. From cave-dwelling to proto-cities. With varying degrees of symbolic significance.

- Terra Amata, France — 380,000. Primitive Hut reconstruction. Paleolithic dwelling.

- Cro-Magnons - 40,000 BCE - Stone Tools - replace Neanderthals

- Cave paintings in Lascaux, France — 17,000 BCE. Paleolithic. Cave paintings and primitive displays of ritualistic elements such as skulls. Although not a “built work” as the cave pre-existed. Use of fire emerged and was used to clear animals from cave as well as create a hearth for cooking.

- Gobekli Tepe, Turkey — 11,000-8000 BCE. Mesolithic dwellings with ritualistic carvings, use of monoliths and megaliths as dominant elements within the dwelling chamber. A shifting from mere dwelling to symbolic relevance. Spaces oval in shape.

- Jericho, modern-day West Bank — 7500 BCE. Neolithic city considered
world’s oldest city. In the West Bank between Israel and Jordan, controlled by the Palestine National Authority. Ditch // defense wall // stair towers // circular houses.

- **KhiriKitia**, Cyprus — 6500 BCE. Neolithic city. Ditch // defense wall // circular houses. KhiriKitia’s defensive wall (with round houses on both sides) over time was transformed into a (paved) thoroughfare that traversed the city. This “first” paved street widened at one place creating a “first” public space with views to the river. Perhaps the first example of an urban public space.

- **Catalhoyuk**, Turkey — 7400 - 6000 BCE. Neolithic city. (Pronounced sha-TAL-hyuk) Cellular dwellings entered through roof. Hearths. Courtyards between dwellings. Not round dwellings but orthogonal. Wooden frames infilled with mud. Clearly defined ritualistic objects and shrines found during excavations such as bull’s heads. Ancient mirror found of polished obsidian (stone) indicating a sense of self-consciousness within the culture.

4) **Types of Primitive Huts** by construction method

- **Mongulu Huts** — Baka Pygmies of Cameroon. Neolithic - present. Primitive Huts of nomadic people. Temporary structures lived in and then abandoned. Wood frames in circle covered with sheathing of leaves.

- **Tipi** — Indigenous American (Plains Indians). Neolithic - 19th century. Primitive Hut reusable. Temporary dwelling that was broken down, moved, and reused at the next location, dragged on a **travois**. Smoke opening, entry opening, sheathed in hides.

- **Wigwam** — Indigenous American (Eastern Indians). Neolithic - 18th century. Primitive Hut that was semi-permanent in villages. Wooden frame sheathed in wood and leaves. Example shown had an exoskeleton.

- **Longhouse** — similar. Part of Eastern Indian village as public meeting chamber.

- **Bone Hut** — Modern-Day Ukraine — 15,000 BCE. Neolithic. Primitive Hut structure made of tusks of animals such as mastadons.

- **Cave House** — Loess Plateau of China — 1000 BCE - present. Houses carved from dense soil called Loess. Courtyard dug first, followed by adjoining chambers. Good thermal performance due to the structure of earth (slows down thermal loss and gain making a more constant temperature).

- **Rammed-Earth Houses** — Fujian Province, China — 12th-15th centuries CE. Hakku people and round storied houses called **tulou**.

- **Skara Brae**, Orkney Islands, Scotland — 3000 BCE. Neolithic. Drylaid stones used in compression to create thick substantial walls, figural chambers (mostly round) dug into the earth, pathways connecting chambers. Stones generally thought to be found in a usable state (not dressed or chiseled with tools). Roofs thought to be hides placed on whalebone rafters. Places of ritual and veneration.

- **Ain Ghazal**, Jordan — 6500 BCE. Neolithic. **Sack walls**. Two walls of stacked stone are then infilled between with rubble and mud.

- **Trulli Houses** of Puglia — 5000 BCE to 19th century. **Corbeled stone roofs**. Drylaid, stacked stone roofs created in a conical form which gains complete stability when capped with a **capstone**.

5) **Four types of structural configurations** that evolve from primitive structural systems

- **Post and Lintel (trabeated)**
- **Corbelling**
- **Cantilever**
- **True Arch**