

2022-01-21 - Lecture 02

- 1) Syllabus - Rules, requirements, and expectations. Writing is essential for this course.
- 2) Concepts of Architecture - We will discuss ways of thinking of architectural form that will be particularly helpful in this course as well as further courses in architectural history.
 - **Solid & Void**
 - **Positive & Negative**
 - **Additive & Subtractive**
 - We describe spatial concepts in terms of **space** and **objects**
 - All art forms and creation forms seem to have these attributes, including architecture, art, sculpture, photography, literature, poetry
 - A designed object is called a **Platonic Solid**, per Greek philosopher Plato
 - A designed space is called a **Platonic Void**, per Greek philosopher Plato
 - Plan of the Chateau de Montbrun - **Space** shaped by thick masonry walls (material)
 - Plan of the Villa Savoye - **Space** shaped by structure and walls
 - Plan of the U.S. Capitol by Thornton - **Space** shaped by masonry walls into figural shapes
 - Section of the U.S. Capitol by Latrobe - Same concept but shown in *section*
 - Interior central space of the Villa Rotunda - **Space** shaped by thick masonry (material)
 - Plan of the Villa Rotunda - Omnidirectional villa with symmetry on all four sides
 - Aerial view of the Villa Rotunda - We see this villa is an **object** building in landscape
This image might also be described as a **platonic solid in a void**
 - Nolli Plan of Rome - Ambiguous: **Urban space** is shaped - yet building is an **object**
The Piazza of St. Peter's - the large oval-shaped urban space - might be thought of as a **platonic void** (a designed void)
 - Aerial view of St. Peter's in Rome - Shaped **space** - **object** building
 - A suburban city showing **object** buildings in an undefined **space** (not a designed space)
 - Michelangelo sculpture - Subtractive (from material) creating an **object**
 - Caro sculpture - Additive (of material) creating an **object**
- 3) Describing architecture by **Style** of building detail as a function of its time period
- 4) Describing architecture by **Type** of building use (Typology)
- 5) Consider Terra Amata and Ste. Chapelle. **How did we get here?**

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1.1 **Architecture as Second Nature**; Sacred Caves and Primitive Huts. Recreating the forms of nature using natural elements.

- 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 archeological 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 **dwelling**s. 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.
- **Khirokitia**, Cyprus — 6500 BCE. Neolithic city. Ditch // defense wall // circular houses. Khirokitia’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. One has to wonder that at the time humans became self-conscious they questioned their very existence and other sorts of cosmic inquiry.

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. Dry laid 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**. Dry laid, stacked stone roofs created in a conical form which gains complete stability when capped with a **capstone**.
- 5) **Four major structural innovations** that evolve from primitive structural systems
- > **Post & Lintel** (*simple trabeation*) — a.k.a. **Post & Beam** — a column is a post
 - > **Corbelling** (*corbelled*)
 - > **Cantilever**
 - > **True Arch**
 - > **The Cruck** also was discussed (the large curving vertical beams similar to an arch)