

## **Examples of the first towns on earth: Jericho and Çatal Hüyük**

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- You will notice that the dates I give you today differ from those in the readings
  - Recall that radiocarbon dates do not correspond exactly to calendar years unless they are adjusted according to tree-ring measurements
  - It has become customary to use raw, uncalibrated radiocarbon dates for the early Neolithic
  - Mostly because some early, important excavations were published before people understood the need to calibrate dates
  - for the Neolithic, calibrated dates are up to 1000 years older than raw dates
    - (the older the site, the greater the correction required)
  - in order to make all the dates in this class fit on the same scale, I have calibrated the dates
  - I try to give you only calibrated dates in this class
    - try to use the dates presented here, rather than different ones you may find in the readings
    - but don't worry; I won't ask test questions that hold you responsible for knowing which dates to trust.
- As we saw last time, farming made it possible for people to live in settlements that ranged from just a few families to sizable towns: an important step towards civilization
  - this Neolithic village lifestyle was widespread, and persisted for thousands of years
- We have evidence from the Neolithic of several relatively large towns of many hundreds or even several thousand people
  - It is almost certain that we don't know of all of them
    - some probably remain to be found
    - others probably existed but have been buried, eroded away, or destroyed by later people living in the same place
  - That is, large towns probably developed in a number of places, at various times during those 5000 years of relatively stable Neolithic farming life
- Today we will look at two very early large towns that happen to have survived and been excavated, as examples of the first towns on earth: Jericho and Çatal Hüyük.
- Jericho
  - First, let's go to the "Fertile Crescent", about 11,000 - 8500 BC:
    - as we saw before, throughout the "fertile crescent", there were many small, semi-permanent or seasonal settlements of specialized foragers
      - now referred to as "Natufians"
    - One of these Natufian settlements is now called Jericho.
      - Jericho is located on the western edge of the Jordan valley in the Levant (Palestine)
      - the area now called the "West Bank" (of the Jordan river), which you hear mentioned often in the news.
      - The archaeological site and modern town of Jericho is located next to a spring that waters a moderate-sized oasis
      - Excavated in the 1950s by Kathleen Kenyon
  - The first people known to have lived by this spring were a typical band of Natufians

- probably 150 to 250 people
- they left a lot of grinding stones (“querns”)
  - grinding stones indicate heavy use of grains
- stone blades set in bone handles have “sickle gloss” from silica particles in grass stalks
  - indicates cutting lots of grass stalks, presumably for harvesting grain, or thatch roofing, or both
- animal bones indicate gazelle hunting seasonally
  - taking advantage of herds that would migrate past them every year
- burials show considerable variability in richness
  - some have no grave goods, others have stone bowls and *dentalium* shells
  - suggesting some social ranking
  - some of the richer burials are of children
    - suggesting that social rank may have been acquired by birth (ascribed status), rather than achieved
    - that is, that certain family lineages were richer or more prestigious than others
  - this development of economic differences is to be expected when people settle and can begin accumulating wealth
- one structure was unlike the other houses
  - it was smaller, lacked storage bins and firepits, and had a plastered floor
  - it was probably for some special function
    - maybe rituals?
    - since only one was found, maybe that function served multiple households
  - this was already a pretty complex society to be based on foraging
  - thanks to the especially favorable environment
- Around 8500 BC, the Natufians at Jericho, like others in the region, began to cultivate their own food
  - this begins the Pre-Pottery Neolithic A, or PPNA, at Jericho
- By the way, you may read other descriptions of Jericho that differ in various ways from what I present here
  - such as giving a much larger size of the site
  - this is largely because some authors do not distinguish between the PPNA remains and the later, bigger occupations at the same site
- PPNA at Jericho: 8500 - 7300 BC
  - The early farming village at Jericho was one of many similar ones in the PPNA, but it grew rapidly and became unusually large
    - Estimates range from 400 to 2000 inhabitants in the PPNA - more on this later
  - it was a dense cluster of houses with no streets or organized plan
  - the houses were circular or oval, 4-5 m (13-16 feet) across
    - slightly inward-leaning walls built of mud bricks on stone foundations
      - to protect the mud bricks from moisture in the ground
    - sunken floors plastered with mud
    - wooden doorjambs and a few steps with wooden treads leading down to the floor

- probably domed roof of interlaced branches plastered with mud (wattle and daub), probably supported by some wooden beams
- Some divided into up to 3 rooms
- Grain storage bins associated with individual houses
  - each household still seems to have supplied most or all of its own needs
  - one family was pretty much like the next
  - that is, no families that specialized in making certain goods, trading, etc., unless it was very small scale and very part time.
  - so there was not much interdependence between families
- Then, around 8000 BC, after 500 years of settled farming life, the people at Jericho did something that was absolutely unprecedented: they built a wall around part or all of the town
  - as far as we know, no people on earth had ever built anything like this before
  - the first wall was at least 4 m (13 feet) high, 1.8 m (6 feet) thick at the base, built of stacked stones
    - it was actually higher than this, since the top has been eroded away. We don't know how much is missing
  - just inside the wall, they built a circular stone tower, 9 m (30 feet) diameter, 8.2 m (27 feet) high (plus an unknown amount not preserved)
    - a doorway at the base leads to an internal corridor and a stairway of 20 steps that led towards the top of the tower (the top is no longer there)
    - the step stones and roof stones of the passage are up to a meter long (about 3 feet) and almost as wide, hammered to shape
    - the interior was roughly plastered with mud; the outside might originally have been plastered, too
  - later, a large ditch or moat was cut into the bedrock outside the wall, 9 m (30 feet) wide, 3 m (almost 10 feet) deep
    - maybe to make the wall next to it effectively higher?
    - maybe to channel floodwater?
- Purpose of the walls and tower
  - probably defense
  - tower may have had some ceremonial/religious function?
  - possibly flood control
    - but then, why so tall? why the tower?
    - flooding *was* a problem, though
      - one excavation trench that was not near the wall found a 1.5 m deep gully from a stream that had flowed through the site
      - this channel silted up, later eroded down again, then silted up and eroded down a third time: at least three flooding events
- Implications of the town wall and tower
  - This construction was absolutely unprecedented
    - there could be earlier examples, but nothing similar has ever been found
    - as far as we know, no humans had ever built such a thing before, ever, anywhere
    - why did they do it? what does it mean?
  - if the wall was for defense, it implies a serious fear of attack by a large, powerful force

- implies serious warfare and probably war leaders with considerable powers
- regardless of the purpose, it implies the power to mobilize a great deal of labor
  - and implies project managers/directors/designers with power over others, even if that power was based only on charisma or persuasiveness
  - that is, implies some social status hierarchy
- also implies a lot of surplus wealth to support all the labor to build the walls
  - suggesting that some people may have had control of this surplus, while others did not, i.e. wealth and power differences
- but the PPNA burials all contain relatively few, simple goods; no burials of people with lots of wealth have been found
  - so were there higher-status leaders, or not?
  - maybe they just haven't been found yet?
  - maybe burials in this culture did not reflect a person's wealth or power?
  - or maybe the early leadership required to build the wall and tower did not fit our modern assumptions about social status
- As the mudbrick houses inside were abandoned, leveled, and rebuilt with new bricks, the inside surface rose
  - so the freestanding wall eventually came to be a retaining wall around an artificial mound
  - at various times in the PPNA, they added on to the wall and tower
- This continued for about seven hundred years, until the site was abandoned around 7300 BC.
  - no known reason for abandonment
    - no evidence of destruction or other catastrophe
    - some argue that the climate dried a bit and made the region unattractive to live in
  - So there was a PPNA town at Jericho for some 1200 years, walled for half that time
    - That is a long time, but London has been occupied twice as long
- Jericho was reoccupied a few centuries later by people of a different culture, called PPNB, and people lived there at many other times after that, but we won't follow the rest of that history here
  - The famous plastered heads from Jericho are from the PPNB occupation of Jericho
- “Fall of the walls of Jericho”?
  - the biblical story refers to the town of Jericho around 1200 BC, over 6000 years (!) after the PPNA wall was abandoned
  - the story might be based on an earthquake, since the region is tectonically active
  - but the known parts of the PPNA wall and tower show no signs of earthquake damage
  - and they were probably completely underground and long forgotten by biblical times
- The total area within the PPNA walls is not known exactly, since they were only exposed in a few places and one side of the mound had been destroyed by a road cut
  - but the PPNA wall probably enclosed between 0.8 and 1.6 hectares (2.0 to 4.0 acres)
  - about the same size of the open area of the SSU main quad
- PPNA population estimates range from 400 to over 2000 people
  - don't know the exact size of the site

- don't know if entire area was occupied, or if some spaces were open for public use, animals, etc., or if some people lived outside the walls
- don't know if entire area was occupied at the same time
- towns in the region in the 1950s of that size range held about 750 to 1500 people
- Some hints of religious ritual and complex ideas about the dead
  - greenstone amulets (or charms, or votive offerings, or ??)
  - special treatment of heads of some dead
    - bodies buried in pits below the floors of houses
      - sometimes with the head removed
    - skulls were collected and left in carefully arranged groups placed in holes in walls, buried below house floors, or buried below structures that might be storage bins
      - one example has several skulls in a circle, all looking inward
      - another has three groups of three, all looking in the same direction
      - below one possible storage bin was the burial of a complete infant, plus several infant skulls with the neck vertebrae
        - the neck vertebrae indicate that the heads were removed while there was still soft tissue on the body, rather than being taken from old burials where the bones would no longer be attached to each other.
  - all this special treatment of human remains could have many meanings
    - the heads might imply reverence for ancestors
    - which suggests the possibility of inherited, family status
    - maybe chiefly or aristocratic families with prestige or social standing that gave them some power over others
    - like to organize projects such as building the wall...
- What led to Jericho's precocious development of the PPNA?
  - Jericho was probably not the only town of its kind at this time
  - Jericho's early development was not due to special farming potential; although it is a good spot, it is nothing extraordinary
  - Maybe trade?
    - since some minerals and shells from distant sources are found there, possibly imported for use in Jericho, or for trade to other places
      - obsidian and various green stones from Anatolia
      - turquoise from Sinai
      - cowry shells from Red Sea
      - but not in great quantities, nor as manufactured goods
    - and since Jericho is near Dead Sea sources of special resources that could have been traded for products from distant places
      - salt
      - bitumen (a tar-like material useful for sticking things together like small stone blades in their handles, and for waterproofing things like basketry)
      - sulfur (a bright yellow mineral useful as a pigment and possibly for medicinal or ritual purposes)
  - but others argue that these materials are available in many places, so Jericho was not particularly favored in this regard, either

- Was PPNA Jericho a city?
- Was the society at PPNA Jericho a civilization?
- Çatal Hüyük
  - located in Anatolia, where a river breaks up into branches in an inland delta, forming a marsh
    - notice that Çatal Hüyük is far, far away from Jericho
  - First settled some time before 7400 BC
    - (usually given as 6500 bc, the lower case "bc" indicating an uncalibrated radiocarbon date)
    - Notice that this is more or less when PPNA Jericho was being abandoned; Çatal Hüyük is later than the first walled town of Jericho
    - there was no direct connection, although both shared some of the same general cultural traits that were widespread throughout Anatolia and Southwest Asia
  - First excavated in early 1960s (1961-1963, 1965) by James Mellaart
  - More is being excavated now (the current excavation project has an interesting web page; you can get there from a link on the class web page)
  - Incredible preservation
    - the current excavators think this is because they quickly ran out of fuel needed to prepare the the good, hard material widely used at this time for plastering floors
    - and began using a softer mud plaster that required replastering every year or even more often
    - every replastering sealed in evidence from the previous year and gradually raised the floor level
  - much of the neolithic site is not covered by later occupations
  - Remarkably stable, relatively unchanging culture during 1000 years of occupation (to about 6400 BC, calibrated)
  - Rectangular flat-roofed houses stuck together with back-to-back walls, something like a southwestern pueblo, stepping up the side of the mound.
    - one story tall, some possibly with a light structure on the roof
    - Walls made of mud bricks filling spaces between massive squared oak posts
    - Generous-sized rooms average 6 by 5 m (20 by 15 feet)
    - Small windows high in the walls
    - No ground-level doorways
      - Entrance from roof only, by climbing down a ladder
    - Possibly arranged for defense
      - that might explain the lack of doors and only high, small windows
    - Small side rooms entered only from main room through small doorways, contained storage bins possibly for grain
    - Raised bench around 3 sides of room, apparently for sleeping and activities (burials underneath, too)
    - Hearths and raised, plastered “ovens”
    - Traces of plant fiber mats on floors
    - Walls plastered in cream color, often with paintings in red, yellow, brown, blue, green, purple, and gray; mica included may have added glitter

- Some walls have low reliefs modeled on them in mud plaster
- Some paintings seem to imitate complex geometric designs similar to modern Anatolian kilims (Turkish rugs)
- Rooms were kept clean, trash dumped outside in abandoned houses and spaces in between
- Formation of site:
  - rooms built and used
  - replastered and repainted repeatedly
  - eventually abandoned and allowed to partially fill with trash, or rebuilt immediately
  - walls knocked down to partially fill room, new walls built using stubs of old ones as foundations
- Religion
  - of the forty rooms excavated by the original project, over 1/4 were sufficiently decorated that Mellaart called them "shrines"
    - although the current excavators feel that there was simply a range of decoration, from plain to elaborate, rather than two distinct kinds of rooms
  - repeated repaintings of wall designs; Mellaart suggests maybe annually
  - aurochs (wild ox) imagery
    - “bucrania” (the horns and top of skull of a cow or similar animal) on walls, pillars, and in rows on benches
  - reliefs on walls
  - stone and clay female “statues”, showing young woman; woman giving birth to child, ram, or bull; older woman; possibly variants of a single deity
  - a few male “statues” as well
  - Mellaart felt that much of the imagery at Çatal Hüyük represented human females, suggesting some beliefs about fertility or female deities
    - the recent work has found a better preserved example of one of these motifs, and it had the head and paws of an animal, maybe a leopard, rather than a human
    - so it looks like the prevalence of human female imagery at Çatal Hüyük may have been overstated
  - in some burials, the condition and positions of the bones indicate that the body was exposed to the elements until little flesh was left, often without its head, and then the bones were buried in a room or shrine
    - this is probably what the wall paintings of birds and headless bodies represents
    - the recent excavations have found only intact burials, and the excavators suggest that Mellaart may have been mistaken about his burials
  - human heads or crania were set up in shrines, in baskets beneath ox heads, etc.
    - one with cowry shells placed in eye sockets, like the roughly contemporary PPNB ones at Jericho
  - much has been written about what all this symbolism might mean
    - for our purposes, the important point is not the content of the beliefs, but rather that:
      - a lot of effort and space was devoted to some kinds of rites
      - these efforts were scattered among many separate, modest rooms not very different from living spaces

- as opposed to just one or a few temples where many people would have gathered and a few would have presided
- so this religion would have been practiced by families or many individual specialists, probably part-time, rather than a single, powerful institution
- Your basic SW Asian neolithic subsistence:
  - farmed wheat (emmer, einkorn, and bread varieties), barley, pea
  - gathered nuts: almonds, acorns, pistachios
  - probably herds of sheep and cattle (but possibly hunted)
  - hunting of wild oxen, red deer, wild ass, etc.
- Trade
  - lots of obsidian, often said to have been the source from which came much of the obsidian used in western Anatolia, Cyprus, and the Levant
    - except that the source is about 180 km (about 110 miles, maybe 5 days on foot) away; “control” cannot have been very tight
    - Caches of up to 23 obsidian spear points buried in bags below floors: storage of wealth?
  - What they got in exchange:
    - flint from Syria
    - Shells, especially *Dentalium*, from Mediterranean
    - possibly copper?
- Many craft items and lots of waste from craft production found (cut bone fragments, stone flakes, etc.)
  - pottery, but rare and simple; plain cooking pots; minimal painted lines, no plastic decoration
  - stone beads, figurines, and vessels
  - grinding equipment
  - greenstone axes and adzes
  - bone rings, hooks, etc.
  - native copper and lead beads (“native” metals are rare finds of natural metal flakes or chunks ready to be hammered, versus ores from which metal can be extracted by heating under special conditions)
  - ochres and other pigments
  - wooden cups, platters, boxes
  - seals made of pottery, possibly for applying paint to textiles, or for body painting (not used on clay, like later seals)
  - exceptional flaked stonework that could only have been made by skilled specialists
  - ground obsidian mirrors, very labor-intensive
  - woven wool textiles, maybe as complex as modern Turkish rugs, if the wall paintings are representations of them
  - i.e. clearly at least part-time craft specialists, probably some degree of interdependence and exchange for products made by others
    - this is much more marked at Çatal Hüyük than at Jericho
- Social status differentiation
  - by sex
    - burials of both sexes contained textiles, wooden vessels and boxes

- female burials: jewelry, bone spatulae and spoons, obsidian mirrors, baskets with red pigment powder
  - but also adzes, which are heavy woodworking tools, for tasks like squaring up beams
- male burials: maceheads, flint daggers, obsidian points, bone hooks and eyes, belt fasteners
  - suggesting hunting, maybe fighting; fasteners suggest more warm clothing, possibly needed for hunting in winter
  - but also clay seals... why?
- wall painting of bearded figures hunting suggests that hunting was done by men
- by religious role?
  - burials outside shrine rooms tend to have only a few personal ornaments
  - burials in shrine rooms often have more goods, including tools, utensils, etc. -- things beyond what the deceased probably carried on them in life
  - suggests that ritual activities were associated with access to more goods, that is, higher status
    - did ritual activities bring people high status, or did high-status people do rituals?
    - or were high-status people just more likely to be buried in the ritual places?
  - the burials with the most goods are of females in “shrine” rooms
    - combined with all the female imagery in the shrines, this suggests that some women may have had the preeminent roles in religious life
    - and a high material status to go with it
    - some people see this as evidence of a matriarchal society (one in which women hold most political power)
      - does it necessarily mean that?
- Total area of mound is 13 ha (33.5 acres)
  - roughly ten times the size of PPNA Jericho
  - over 6 times the open area of SSU’s main quad
- Population estimates vary widely, from 1,650 to 10,000
  - Unknown whether excavated area is representative of whole site
  - Unknown what portion of the whole mound was occupied at any given time
  - Unknown how much space might have been open, for gatherings, ceremonies, market, animals, etc.
  - Unknown what fraction of rooms might have been abandoned at any give time
  - Some shrines were probably not living spaces (Mellaart includes them in his population estimate of 10,000)
  - Fairservis reading suggests “something less than 3,000”, which I find reasonable
  - The recent project at Çatal Hüyük estimated around 5,000
    - based on estimates of density of houses across the site, made by scraping the surface to find walls
    - and a guess of 4 people per house, with full occupation
    - they have also suggested that it fluctuated between 3,000 and 8,000 people
- Adult burials average 34 years old for men, 30 for women, but some individuals lived past 60
- several sites contemporary with Çatal Hüyük are known

- all considerably smaller
- could Çatal Hüyük have been a special-purpose site that served others, maybe specializing in religious, craft, or other activities?
- Were the people at Çatal Hüyük living in a civilization? or a city?
- The overall pattern:
  - Small farming villages were common in Southwest Asia from about 8500 BC on
  - around 8000 to 5000 BC, in various places, some of these villages grew larger
  - with more complex social, economic, and religious arrangements
  - these were widely scattered in both space and time, and relatively independent of each other
  - they were isolated flashes of complexity, or social experiments
  - some lasted a long time, but none developed into unequivocal “civilization”
  - Our examples of Jericho and Çatal Hüyük represent early steps in the direction of civilization, but they reached stable configurations and did not get larger or more complex after that
  - it wasn't until around 5000 BC that one of these societies developed a kind of organization that was not stable, but continued to get bigger and more complex, eventually producing cities and civilization: the Sumerians in Mesopotamia