

Life got complicated in the early Neolithic: Jericho, Gobekli Tepe, Aşikli Höyük, Çatal Hüyük

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- As we saw last time, farming
 - made it possible for people in many environments (not just particularly favored ones) to live in settlements
 - that ranged from just a few families to sizable towns (not just small villages of settled foragers): an important step towards civilization
 - this Neolithic village lifestyle was widespread
 - Neolithic refers to this early agricultural lifestyle, prior to the adoption of metal tool technologies
 - and persisted for 4000 to 6000 years or so – longer in many places – before the first clear changes towards “civilization” took hold
- But the beginning and early stages of the Neolithic were not a simple, smooth development
 - instead, people in some places settled,
 - while others nearby remained mobile
 - some settled people depended mostly on foraging, with little or no farming,
 - while others began to farm for a good portion of their diet
- This period of diverse and changing adaptations also saw
 - the first large permanent settlements
 - and the first big group construction projects
 - with the coordination and leadership they imply
 - but again, highly variable from place to place
 - we will look at several well-known examples, but there are other cases of “anomalous” activities during this long transitional period
 - while most people were living in small farming villages
 - with simple social organization not much different from that of foragers
 - It is almost certain that we don't know of all of these early cases of coordinated group activities or large settlements
 - 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, towns and group organization probably developed in a number of places, in different ways, at various times during those thousands of years of relatively stable Neolithic farming life
- You might notice that the dates I give you today differ from those in other sources you might find
 - Recall that radiocarbon dates do not correspond exactly to calendar years unless they are adjusted according to tree-ring measurements, a process called “calibration”
 - the older the site, the greater the correction required
 - so this becomes less of a problem with more recent periods

- for the Neolithic, calibrated dates are up to 1500 years older than raw dates
- Like Diamond, I have calibrated all the dates here, so that everything falls in the correct order on a single time scale of calendar years
 - Many sources give uncalibrated dates for some of the sites we cover today, especially Jericho, so our dates do not agree
 - but don't worry; I won't ask test questions that hold you responsible for knowing which dates to trust.
- First example: Jericho
 - Jericho is located on the western edge of the Jordan valley
 - in the western portion of the Fertile Crescent known as the Levant
 - Jericho is in 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 area of farmland
 - Excavated in the 1950s by Kathleen Kenyon
 - Around 10,000 BC, early incipient farmers occupied Jericho
 - this was about the same time as people at Abu Hureyra had become significantly dependent on farming
 - this begins the time period called the Pre-Pottery Neolithic A, or PPNA, at Jericho
 - known because of impressions of domesticated wheat and barley in clay
 - PPNA at Jericho: 10,000 - 8500 BC
 - The early farming village at Jericho was one of many similar ones in the PPNA, but it became unusually large
 - 0.8 and 1.6 hectares
 - a hectare is 100 m x 100 m
 - about 2.5 acres
 - Current estimates suggest a population of perhaps 400 to 1000 people; most likely to the low end of that range
 - 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
 - sunken floors plastered with mud
 - probably domed roof of interlaced branches plastered with mud (wattle and daub), probably supported by some wooden beams
 - each household seems to have supplied most or all of its own needs
 - households had their own grain storage bins
 - their own grain grinding stones, etc.
 - 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
 - this was typical for the early Neolithic

- Then, after several centuries of settled farming life (say, very roughly 9600 cal BC), 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
 - the original wall and tower would have taken an estimated 100 men 104 days to build
 - if the population of the site was 400 people, they might have had 100 adult men available
 - so it would have taken the entire adult male population over three months to build the wall and tower
 - or a smaller group even longer
 - maybe spread out over several years? or...?
 - 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 wall 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
 - 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 and organize 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
- but even the richest PPNA burials 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
- at various times in the PPNA, they added on to the wall and tower, including adding the ditch cut into bedrock
 - this suggests that there were at least several occasions when a leader could organize this sort of work
 - that is, it was not a fluke of one extraordinary moment or charismatic individual, but part of the way society at Jericho was organized
 - even if maybe only occasional leaders were able to actually carry out big projects
- This continued for maybe seven hundred years, until the site was abandoned probably a few centuries before 8500 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
- “Fall of the walls of Jericho”?
 - the biblical story refers to the town of Jericho around 1200 BC, over 7000 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 completely underground and presumably long forgotten by biblical times
- Göbekli Tepe
 - During the PPNA (10,000-8500 BC) of the Levant, some people there and virtually all people in other regions were still mobile foragers
 - But for some reason, some also started to do things we don't normally associate with mobile foragers
 - The earliest and most dramatic example known so far: Göbekli Tepe
 - located a bit to the north of the Natufian area
 - at the foot of the Taurus mountains of southernmost Anatolia
 - around 9200 – 8800 cal BC, the people there had not yet settled down or started significant farming
 - as far as we know now...
 - plant and animal remains from the site include only wild varieties
 - people from a probably fairly wide region converged on a prominent hilltop called Göbekli Tepe
 - to build and use some dramatic, non-domestic stone structures
 - they carved T-shaped slabs out of the nearby exposed bedrock

- and stood them up in circular arrangements, so that that the above-ground part was about twice as tall as a person
- some of these had carved reliefs, or even 3 dimensional attached sculptures, showing animals and geometric figures
- the slabs may have held up a roof, although that is speculative
- around the slabs, the ground was packed into a smooth clay floor
- later, they stacked smaller stones to build thick walls that connected and encircled the slabs, forming enclosed circular spaces or large rooms
- the slabs and walls are very well preserved, because after a probably long period of use, the structures were intentionally filled in and buried
 - so the monoliths were not exposed to weathering for the following almost 11,000 years
- there is no sign of any significant number of people living at the site
 - although we can easily imagine a small group of permanent ritual specialists, caretakers, etc. living nearby
- the structures were clearly not for any practical purpose; they must have had some sort of supernatural uses
 - bones of many different wild species have been found there, suggesting that some may have been left at the site as offerings
 - nor is there any evidence yet that they were burial sites, although the excavator, Klaus Schmidt, suspects that some will ultimately be found in the earliest levels
- implications:
 - this site does not fit with the story I and Diamond have been telling you about the importance of agriculture and sedentism
 - it shows that some serious organization and expenditure of effort were occurring prior to the adoption of agriculture or sedentism
 - apparently due to some sort of religious or ideological reasons
 - why would mobile foragers happen to start doing these things right when agriculture was being adopted elsewhere?
 - if not because of a shift to farming, then why?
 - this is such a coincidence that I suspect that we will eventually find that the beginnings of agriculture actually were involved in some direct or indirect way
 - but for the moment, this site remains a surprising exception to the widely accepted theories you have been hearing so far
 - these foragers were able to accumulate enough surplus to
 - maintain at least a modest number of workers, for a modest span of time
 - probably at occasional intervals
 - to carve and place the monoliths, and later to build the fieldstone walls
 - the labor cost of the structures suggests that the site was probably able to draw devotees from a fairly large area
 - bringing together people from multiple foraging bands in a common purpose
 - maybe encouraging more complex social arrangements
 - they evidently had sufficient leadership to organize and execute the projects
 - archaeologists used to attribute major changes in economic and social organization to materialist causes, like shifting to farming

- now, many are looking at ideological, cognitive, or cultural explanations for these early group projects and large settlements
 - as Schmidt says of Göbekli Tepe, “temples first”
 - these theories are much harder to test archaeologically
 - are they going to be supported in the coming years?
 - or will evidence supporting more materialist explanations turn up and swing the intellectual tide back?
- Now let’s turn to evidence of larger settlements
- A bit later in the Neolithic, larger, denser towns began to develop in a few places
 - some of the best studied, earliest examples are from Anatolia
 - again, these are examples from different regions of some ways that different societies in different places were changing in the early Neolithic
- Aşikli Höyük
 - a moderate-sized mound of accumulated debris of buildings and garbage, composed of many layers of remains of roughly rectangular mudbrick houses
 - 3.5 to 4.0 ha in area
 - ballpark 3-4 times the area of Jericho
 - mostly the upper levels have been excavated, since those would have to be destroyed to get to the lower ones
 - these upper levels are dated to 8200-7500 cal BC
 - the lower, earlier levels look similar in the few places that they have been exposed
 - but apparently have not been radiocarbon dated yet
 - the upper, later levels were occupied by people with a mixed foraging and farming subsistence base
 - they got more than half of their diet from wild grains, other wild plants, and hunted wild animals
 - but they also farmed three varieties of domesticated wheat, as well as barley
 - a collection of independent houses pressed one up against the other
 - each probably occupied by a nuclear family
 - few streets or alleys as we usually think of in a town
 - instead, access to most rooms must have been from the roof
 - no ground-level doorways, and few open spaces for doorways to open onto
 - a few open lots or plazas between houses were used to dump garbage, and probably as outdoor, sunlit working areas for butchering animals, chipping stone, working bone, etc.
 - many of these activities were probably also done on the flat roofs
 - the houses were built, renovated, eventually abandoned, and then a new one built directly over the walls of the old one, or stepped slightly to adjust the sizes of the rooms
 - suggesting that the lots may have been owned by individual families, passed down, and reused, without much ability to affect all the other family lots that hemmed them in
 - many rooms have hearths, suggesting that they were residential
 - at least some had woven mats on the floor, leaving impressions in the clay below

- there are a few storage bins and probable storerooms in some of these rooms, as expected for sedentary foragers or farmers
- many grinding stones, as expected for foragers gathering wild grain and farmers harvesting domesticated grain
- modest quantities of tools and other artifacts, but not fine or numerous enough to imply that people specialized in making them
 - they made and used lots of obsidian cutting tools for working leather, wood, and bone
 - the region has many outcrops of good obsidian
 - obsidian from this area is also found in the Levant and on the island of Cyprus
 - so residents of Aşıklı Höyük may have been involved in trading obsidian to distant locations
 - lots of bone tools and implements
 - awls for working leather?
 - hooks and fasteners, maybe for clothing?
 - stone, bone, tooth, and native copper beads
- there is an street, paved with pebbles, in the southern end of the excavated area
- the street separates the regular houses from a complex of several larger, more substantial rooms
 - with much thicker walls on unusual stone foundations
 - thick floors that were made from a paste of ground volcanic tuff that were painted red or yellow at different times, and polished
 - the walls and a built-in bench were also painted red
 - with a nearby large hearth or oven
 - two burials under the floor
 - one with a young woman and an old man
 - the other with a young woman and an infant
 - this may be a ritual structure that served much of the community
 - since there is only one known
 - or it might be a residence for a few privileged people
 - or both
- implications
 - Aşıklı Höyük was a good-sized, dense village
 - roughly 3-4 times the area of Jericho, with houses packed even more tightly, so population probably in the low 1000s
 - supported by a mix of foraging and farming, apparently with more of the diet from wild foods than from farmed ones
 - Again, this does not fit perfectly with the neat story you have been hearing from me and Diamond about food production
 - although we both have been careful to say that foragers can become sedentary in favorable environments
 - so, maybe agriculture is not the only, or even the main, reason for people to settle into large villages
 - this is also being suggested at Çatal Hüyük, as we will see
 - maybe large villages were not results of agriculture, but come before it

- and then the large, dense population pushed people into more farming
- if farming was not the cause, what caused people to jam into these large settlements?
- maybe adopting even just a little agriculture is enough to encourage people to settle in permanent villages
- but why not small, dispersed ones, so everyone could be close to their land?
- implications of the complex of special-purpose buildings
 - maybe these were group efforts for ritual purposes
 - if the buildings served most or all of the people at the site
 - or maybe they imply a few higher-status people
 - if the buildings were mostly for their personal use
 - or both
 - maybe the buildings did serve most of the population, but were connected to a few who lived in them, ran the rituals in them, or whatever
- again: did these things result from adding agriculture to the foraging strategy?
 - or did they result from settling in large, dense villages?
 - or did they cause that?
- Çatal Hüyük
 - located in Anatolia, where a river forms a rich, marshy delta in an inland basin
 - far from the Levant
 - but only five day's walk from Aşıklı Höyük; the same general cultural tradition
 - First settled some time before 7400 BC
 - perhaps 1000 years after Aşıklı Höyük was founded
 - and only shortly after Aşıklı Höyük was abandoned; or maybe even overlapped slightly
 - Çatal Hüyük basically carries on a tradition very much like that at Aşıklı Höyük
 - but Çatal Hüyük was three to four times larger in size, and probably in population
 - and had different, more elaborate ritual practices
 - but, oddly enough, shows *less* evidence of social stratification and/or group coordination
 - Total area of mound is 13 ha (33.5 acres)
 - roughly ten times the size of PPNA Jericho
 - over three times the size of Aşıklı Höyük
 - over 6 times the open area of SSU's main quad
 - Population of Catal Huyuk estimated to have fluctuated between 3,000 and 8,000 people
 - Mellaart estimated 10,000, but most people consider that too high
 - First excavated in early 1960s (1961-1963, 1965) by James Mellaart
 - More is being excavated now (the current excavation project has excellent web pages; click the link on the class web page)
 - Remarkably stable, relatively unchanging culture during over 1000 years of occupation (to about 6200 BC, calibrated)
 - subsistence based on a mix of foraging and the usual SW Asian Neolithic crops and animals
 - gathered nuts: almonds, acorns, pistachios
 - hunted wild oxen (aurochs), red deer, wild ass, etc.
 - farmed wheat (emmer, einkorn, and bread varieties), barley, pea
 - probably kept herds of sheep and cattle

- Similar to Aşikli Höyük: independent rectangular, flat-roofed houses jammed together
 - 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
 - Entrance from roof only, by climbing down a ladder
 - This arrangement might have been for defense
 - but as at Aşikli Höyük, no known town wall, few weapons, etc.
 - Small storerooms, probably for grain, accessible via a small doorway from a main room
 - Raised bench around 3 sides of room, apparently for sleeping and activities
 - Hearths and raised, plastered “ovens”
 - Traces of plant fiber mats on floors
 - Walls plastered in cream color
 - many interior walls have geometric paintings, animals, or scenes 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
 - Rooms were kept clean, trash dumped outside in abandoned houses and spaces in between
 - The site formed much as Aşikli Höyük did:
 - rooms built and used
 - replastered and repainted repeatedly, sealing in layer over layer of murals and floors
 - eventually abandoned and allowed to partially fill with trash, or rebuilt immediately
 - old walls eventually leveled off and new walls built using as foundations
- Religion
 - rooms vary from plain to highly decorated with probably natural and supernatural imagery
 - some wall paintings may be related to burials below the floor immediately below them
 - 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 figurines, showing young woman; woman giving birth to child, ram, or bull; older woman; possibly variants of a single deity
 - a few male figurines as well
 - a recent find is a familiar fat female on the front, but a skeleton on the back!
 - illustrates how hard it can be to infer ideology from objects
 - human heads or crania were set up in shrines, in baskets beneath ox heads, etc.
 - some with modeled plaster faces, one with cowry shells placed in eye sockets
 - this was a widespread practice at this time in many parts of Southwest Asia
 - 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:
 - ritual activity was widely scattered among many separate, modest rooms that were also living spaces
 - suggesting that ritual and religion were handled at the level of the family, kin group, or maybe the immediate neighborhood

- rather than having a shared, group facility 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
- note that this seems to be different from the earlier town of Aşıklı Höyük
 - where there was virtually no evidence of ritual activity in the houses
 - but there was a special purpose room complex that may have been a ritual center for the whole town
- this is a reminder that we should not think in terms of linear progress from simpler to more complex social organization
- Trade
 - As at Aşıklı Höyük, they used lots of obsidian tools
 - Catal Huyuk is four or five days' walk from the good obsidian sources, though, so this material must have been traded for or gathered on special trips
 - caches of up to 23 obsidian spear points buried, probably in bags, below floors
 - more than one household would need
 - this looks like storage of wealth, intended for exchange
 - maybe people at Çatal Hüyük traded obsidian with others to the west, even further from the source
 - or maybe this exchange was local or even internal to the town
 - Other exotic goods, maybe acquired by exchanging obsidian:
 - flint from Syria
 - Shells, especially *Dentalium*, from the Mediterranean
 - native copper, from unknown but possibly distant sources
- Many craft items and lots of waste from craft production found (cut bone fragments, stone flakes, etc.)
 - but little that reflects highly specialized skills or large-scale production; all probably made in farming households by part-time craft workers who also farmed
 - simple, scarce pottery; 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
 - exceptional flaked stonework that appears to have been for show, probably made by unusually skilled craftspeople... part-time specialists?
 - two exceptional flint knives with carved bone handles are examples of this sort of showpiece
- ground obsidian mirrors, very labor-intensive

- woven wool textiles
 - if the geometric wall paintings imitate textiles similar to modern Turkish rugs, as some suggest, then the weavers may have made some very elaborate textiles
- i.e. clearly at least part-time craft specialists, probably some degree of interdependence and exchange for products made by others
 - much more so than at Jericho, and somewhat more so than at Aşikli Höyük
 - but little evidence of any large-scale production of any craft good
 - no specialized craft workshops
 - instead, craft production debris is scattered among many houses
 - probably no full-time specialization
 - instead, all done by families that foraged and raised their own food
- Social status differentiation: relatively little
 - relatively little social status differentiation
 - except that some rooms are more decorated than others.
 - How much wealth would that imply, though?
 - some differences in burial goods 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, eyes, belt fasteners
 - suggesting hunting, maybe fighting; fasteners suggest more warm clothing, possibly needed for hunting in winter
 - but also clay seals... why? body painting?
 - wall painting of bearded figures hunting suggests that hunting was done by men
 - the richest burials may tend to be in houses with the most decoration.
 - Maybe that suggests some status differences
 - or that involvement in ritual was related to slightly greater wealth (cause, or effect?)
- 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?
- Implications
 - this was a large settlement of forager-farmers with probably some part-time specialization, but only minor differences in wealth and status
 - again, this does not fit neatly with the standard story about agriculture and sedentism
 - where is the full commitment to agriculture that such a large town suggests?
 - where is the expected social complexity, with specialists supported by surplus food farmed by others?
 - where are the expected differences in wealth and power?
 - where are the coordinated group activities and leadership?

- without these things, why would many thousands of people jam together into a single, dense settlement, when living more spread out and closer to their fields would seem much better?
- the excavators are now suggesting that maybe some non-economic factors caused people to settle in this large, dense town, maybe changes in ideas about nature and culture
- but these are very hard to test
- The point of these four examples from the early Neolithic
 - agriculture, sedentism, group coordination and leadership, and social and economic complexity are tied together in complex ways
 - some tend to encourage the others
 - it may be difficult to separate causes from effects
 - still, we do know some relationships among these factors that probably apply in many cases
 - these causes and effects probably played out in different ways in different places and times
 - but at least we are pretty sure that the processes leading to complex societies and civilizations must have involved these factors, and in ways we can get a rough idea of
- The overall pattern:
 - The first farming and domestication probably started around 10,800 to 10,500 BC at places like Abu Hureyra in the Levant
 - Small villages of people practicing some agriculture became increasingly common in Southwest Asia from about 10,000 BC on
 - around 9000 to 5000 BC, in various places, some of these villages grew larger
 - with more complex social, economic, and religious arrangements
 - at the same time, some people who were still mobile foragers also began organizing and supporting impressive collective efforts, as at Göbekli Tepe
 - these varied new social forms were widely scattered in both space and time, and relatively independent of each other
 - some lasted a long time, but none developed into unequivocal “civilization”
 - Neolithic village life in the Levant and Anatolia seem to have mostly reached stable configurations, and generally did not get larger or more complex after that
 - it wasn’t until around 5000 BC that societies in a formerly peripheral area developed a kind of organization that was not stable, but continued to get bigger and more complex, eventually producing cities and civilization
 - the area was Mesopotamia, and we will look at that later