

## Boncuklu 2021

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Researchers have long debated how sedentary life and farming began and spread, as well as their consequences. Research into these issues on the Anatolian plateau has happened only relatively recently. Sedentary behaviours are typically understood to be represented by settlements occupied year-round as opposed to more seasonal relocations of residence, typical of many but not all forager communities. Recently, emphasis in studies of early sedentism has been placed on the significance of residential locales to communities over the long-term, permitting a more flexible view of sedentary behaviours, which is advocated here. Excavations at the site of Boncuklu have revealed exciting new insights into the emergence of sedentary and farming communities in central Anatolia, the transformations and diversity in the communities involved, the spread of farming westwards from the fertile crescent and the origins of the UNESCO World Heritage site of Çatalhöyük, located only 9.5km to the south. The picture that has emerged belies a simple and dramatic Neolithic revolution; the societies that developed were complex and not communities that can be considered simply as ‘farming’ or ‘hunter-gatherer’.

The 2021 season was challenging in the context of the pandemic. Nevertheless through the adoption of stringent and effective measures to reduce the risk of exposure to Covid-19, we had a successful season and would like to thank the team and visitors for adopting the necessary measures.

Area M west contains the earliest occupation on the site, and here we excavated deposits just overlying natural marl. This early occupation has a distinctive set of characteristics not common in later phases. Notably there are many thin compacted occupation lenses with calcreted surfaces. It may be that these represent deposits that were occasionally water-logged, perhaps on a seasonal basis. Features are notably smaller than those of later phases. Structures seem to be of light construction, set into cuts with very thin phytolith and plaster surfaces with many stakeholes and occasional scatterings of red ochre. There are small hearths in external areas, alongside oval settings possibly for baskets. Artefacts, especially chipped stone, animal bone and archaeobotanical material, are less dense. This characteristic may suggest more seasonal occupation than in later levels, and the finds suggest these phases may predate anything previously excavated on the site. It may be that we will be able to trace the in-situ development of more sedentary behaviours and the appearance of cultivation through this sequence.

In Area M east we expanded our understanding of buildings on the site. The earliest phases in this area relate to two buildings: 24 and 26. We traced only the southern edge and southeastern corner of Building 26. We excavated external surfaces and midden surfaces built up against the southeastern wall and along the southern exterior face, for the first time documenting exterior activity directly associated with a specific building. These surfaces indicate that, unlike other structures we have excavated, the walls of this building were largely freestanding. At the southeastern end of the building we found that a mudbrick structure had been added to the exterior of the wall, with an aurochs bucranium set into it. This is further evidence of ritual installations on the exterior of buildings at Boncuklu, a phenomenon that is not well documented generally in the Neolithic. The bucranium was juxtaposed with an elaborately constructed hearth outside the building, in what appears to be a deliberate conjunction of these features.

Building 24 to the south of Building 26 had been identified in earlier seasons and we have previously excavated the northwestern end of the building. We have now been able to expose much more of this building, identifying several phases of hearths in the ‘dirty’ kitchen area at the northwest of the building. The main ‘clean’ floor seems have had a raised clay feature built over it and the latest floor was covered by burnt roofing material. A burial, rich in grave goods, in this area may be related to Building 24 and this requires further investigation next season.

In Area P we continued excavation of the ‘dirty’ kitchen area of Building 21, documenting an unusual small storage pit (not a common feature in Boncuklu buildings). Adjacent to it some worked red ochre and obsidian had been incorporated into the floor in a deliberate act (also unusual in such areas). We were also able to document multiple remodelling events for the hearths in this area, showing the intensive use of these kitchen areas. Next to the hearth we confirmed the presence of a bench on the northern side of the ‘dirty’ area, which had also undergone several phases of remodelling.

To the north of Building 21 we were able to document a series of external clay surfaces with small brick features, which appear to be external work areas. Over these surfaces were several turtle and tortoise carapaces (the first time we have documented freshwater turtle at the site), some of which were stacked and one of which contained a range of material including ochre and a fragment of incised stone, confirming the regular use of such carapaces as containers.



Tortoise/turtle shells on exterior surfaces.

Questions regarding social hierarchy and egalitarian behaviours are often posed in regard to small-scale communities like Boncuklu which nevertheless show a degree of social complexity. At Boncuklu there is variability in grave goods between houses and also between house and external burials. Much of this may be a reflection of personal, house and group identities, and therefore part of a fluid context of display and status. More recent evidence has been thrown up by excavation in 2021 of a structure, Building 22, in the northeastern corner of Area P that is larger than and does not share all the regular features of the other houses. The building had two hearths and we found skull fragments adjacent to walls, along with unusual artefacts. This big house does not seem to be a ‘corporate building’ in the sense of some of the non-domestic structures at sites like Aşıklı, Çayönü, Nevalı Çori, Jerf el Ahmar and Göbekli. Perhaps this is evidence of emergent differentiation in a context of very fluid social dynamics. However, only further exploration will tell us more about the nature of this structure, since we have exposed only half of it to date.

Cut into Building 22 was a larger pit, which itself had a series of floors and hearths, and was filled with burnt roofing material. This may well be a late feature within the Neolithic sequence and can be interpreted as a structure set within a pit. Our Neolithic residential structures are mostly set within pits, although not as deep as this one, which also lacks the wall-plaster linings of the residential buildings and has plaster floors unlike those in other structures. This is further indication that there was a range of structure types used or occupied in ways different from the standard domestic houses.

Gökhan Mustafaoğlu continued experimental work on our Neolithic replica buildings, which also contribute to our visitors’ understanding of Neolithic houses and open spaces.

Fire experiments were conducted to assess the performance of a range of different types of fuel as part of a Masters project. Fuels included reeds (both their roots and stems, both dried and fresh), dung and woods from species documented in the site records, such as oak, willow, terebinth and juniper. Their variable performances in different sorts of hearths, inside buildings and in exterior areas, were observed. In addition, differences in smoke density and temperatures caused by

different woods were measured. We were also able to experiment with different ventilation systems in the replica mudbrick houses. Thus, mudbricks were removed from the upper walls, and holes were created in the areas between the roof and the wall to reduce smoke retention inside the buildings. The effects on smoke, airflow and temperature of these possible ventilation systems were monitored and experienced.

The other component of experimental work related to the maintenance and refurbishment of the mudbrick buildings. White plaster was applied to the floors and different techniques for drying and polishing them were gauged. In addition, cracks in the roofs and exterior walls of the experimental houses were repaired. The interaction of the mud used in the repair process with the structural elements was documented.

As part of our development of a Neolithic garden, we improved our pond, which contains wetland plants that are documented in the site’s archaeobotanical record to illustrate the nature of the Neolithic wetland environment to visitors. Frogs have multiplied within the pond over the pandemic period and the wetland plants have flourished, but, wanting to reduce algal bloom, we installed a solar pump to ensure a supply of oxygenated water. Meanwhile, our ‘Neolithic’ fields with traditional strains of emmer, einkorn and peas continue to flourish and help illustrate to visitors the nature of Neolithic farming. Remarkably, given the pandemic context, visitors came in some numbers to the site. TRT (Turkey’s public broadcaster) also came to film for a documentary, broadcast in October 2021.

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Reconstructed Neolithic wetland pond.