

# The Boncuklu project

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We conducted our last full season in the field at Boncuklu this summer, consisting of the study of various finds rather than excavation. In this light, it is a good time for a review of the achievements of the project, which ran from 2006 to 2023, with a field season every summer except 2020 due to the pandemic. The main aims when we started the project were to understand the timing and factors involved in the appearance of sedentism, cultivation and herding in central Anatolia. We wanted not only to focus on broader mechanisms and processes, but also to gain insights into what it meant for foragers to be caught up in these developments, especially in relation to their social practices, individual and household histories, and related ritual and symbolic practices. Boncuklu is only 9.5km north of World Heritage-listed Çatalhöyük and would seem to offer important information related to understanding the antecedents of that large community, with its notable evidence for elaborate ritual and symbolism. The prehistory of the Konya plain has been a feature of the BIAA's activities since the late 1950s, and Boncuklu promised to build on that focus. The project owes much to the long-term BIAA support that has underpinned its endeavours. Some key results are discussed below.

## *Time frames*

We now have a clear understanding of the chronological framework for the developments that interest us. C14 dates relating to the main areas excavated between 2006 and 2016 indicate that those elements of the stratigraphy dated from ca 8300 to 7800 cal BC. One of the achievements of the final seasons has been to excavate a whole sequence, and this indicated that the occupation started at least 1,000 years earlier, by ca 9300 cal BC. We were also able to excavate some of the latest preserved Neolithic occupation, which dates to ca 7600 cal BC. There is evidence that even later deposits must have been present on the site, suggesting that the original occupation continued to at least 7500 cal BC, if not later. The occupation thus spanned a minimum of 1,700 years, making it an extremely long-lived site, exceeding, for example, the 1,100 years documented for Çatalhöyük East. It therefore provides an ideal chronological framework for a long-term perspective on the emergence of sedentism, cultivation and herding. Indeed, the very longevity of the community at Boncuklu must be one of the factors to consider as an attribute of the commitment to place involved in early sedentism. Our findings also confirm that the end of occupation at Boncuklu did not long predate the occupation of Çatalhöyük. Indeed, the possibility exists of chronological conjunction or overlap of the sites.

## *Appearance of cultivation*

This chronological framework, when combined with the detailed stratigraphic sequence and archaeobotanical evidence, is providing important insights into the emergence of cultivation and domestication of plants which we can develop in continuing studies. Early in the project Fairbairn's work indicated that there were cultivated and domesticated cereals, and probably some legumes, at the site between 8300 and 7800 cal BC. But they were uncommon; this also matched the phytolith evidence studied by Jenkins and allowed us to say that Boncuklu during these phases was a community cultivating plants, but in a restricted way. Alongside this was plentiful evidence of wetland exploitation, including hunting wild cattle and boar, and intensive use of resources such as fish and aquatic birds. Discovery of human coprolites has also allowed us to appreciate a significant role for other aquatic small animals, suggesting broad-spectrum exploitation of animals and plants, with cultivation at a low level. We suggested that cultivated and domestic crops were introduced into the area as part of long-distance exchange arrangements that in the same period (Levantine Early PPNB) saw the proliferation of domesticates around the Fertile Crescent and the integration of central Anatolia into that phenomenon.

The dating of the earliest levels at Boncuklu now permits us to investigate questions related to the pre-8300 cal BC history of plant use by this community. Currently, it seems likely that cultivation did predate 8300 cal BC, but it does not seem to begin at the start of the sequence. This likely earlier introduction not only affects our understanding of the relationship between cultivation and sedentism but will also have broader implications for evidence of the development of cultivation both within and outside the Fertile Crescent, and for the potential spread of relevant species as cultivars preceding domestication. Detailed ongoing stratigraphic and archaeobotanical studies will provide conclusive answers.

## *The development of sedentism*

Our approach to the question of the emergence of sedentism has not been just to consider the seasonality of plant and animal exploitation at the site, but also to question degrees of intensity and continuity in use and occupation. The plants, birds and large mammal ages of death all indicate the presence of species collected and hunted in all four seasons, well distributed through much of the sequence. Commitments to Boncuklu as residential space, and intensity and continuities in occupation are attested by the

regular, probably annual, plastering of buildings, the reconstruction of sequences of buildings in the same location, repetitive frequent symbolic elements, and reconstruction of hearths in houses and open areas one atop the other. The burials under floors in sequences of houses, of brother and sister, mother and son, point to direct temporal continuities in these repetitive practices and house rebuilding, in keeping with a sedentary occupation. Investment in these mudbrick structures and their intensive upkeep also point to commitment to specific places. Together, these practices make a convincing case for the emergence of sedentary behaviours by ca 8300 cal BC. We now know that the earliest phases of the site suggest less-intensive occupation. The structures dated ca 9300–9000 cal BC, whilst sharing some features with later occupation, did not use mudbrick or daub, but wood and reeds. Repeated floor surfaces are present but appear less durable than later plaster floors. Evidence exists for seasonal waterlogging. Artefacts and ecofacts occur in lower density than during later occupation. Overall, the suggestion is of less intensive and less continuous occupations and of seasonal absences in the earliest phase. This indicates the in situ transformation of the Boncuklu community into a sedentary one. More detailed study of this process is underway, especially regarding the relationship between the adoption of sedentism and cultivation, and the adoption of sedentism and intensification of ritual practice.

#### *Appearance of animal herding*

At Çatalhöyük East, sheep and goat herding seems well established by 7100 cal BC, with these animals the most common at the site. They are present in low proportions and overall numbers at Boncuklu, so it seems unlikely they were herded there. In terms of their morphological features, there appears to be no evidence for initial domestication. However, two elements strongly suggest they were managed/herded in low numbers: the presence of herbivore dung at the site, especially as used in external hearths, detected by Aroa Garcia Suarez in her micromorphological studies; and isotope evidence analysed by Caroline Middleton that points to changes in caprine diet at Boncuklu relative to caprines in the earlier Holocene and Epipalaeolithic. This diet indicates the animals were grazing in the plain and marshy areas, away from their natural hilly habitats, and/or that they were kept in more stressed conditions. Together, this evidence strongly suggests, as with contemporary Aşıklı, the appearance of caprine herding by 8300 cal BC. Whether management of the animals preceded this needs to be more fully documented. As with crop cultivation, the herding of animals is here introduced as a small-scale accompaniment to wetland-focused foraging, and may have been as much for dung as for food. We might also consider the possibility of small-scale milk use, although we have no evidence for this.



RTI image of decorated plaque.

#### *Pottery*

Excitingly, Boncuklu has also yielded evidence for the earliest pottery in central Anatolia, amongst the earliest in southwest Asia. The use of this pottery at Boncuklu is not common and seems restricted to a certain limited range of vessel types that may have been used in very particular settings of food and drink consumption or presentation, perhaps as well as for some limited specific utilitarian functions, including very restricted cooking and storage practices.

#### *Life histories and house histories*

C14 dating has allowed us to suggest that the houses at Boncuklu were annually plastered. The floor sequences therefore provide floor ‘clocks’. By integrating isotopes and aDNA, we can also investigate the intertwined lives of houses and of individuals as they formed households with distinctive identities. To take the example of one sequence, in the 83rd century BC, a house known earlier as Building 12 (henceforth B12) was replaced by B14, which in turn was replaced by B.5. Two individuals were buried in B12, the first was a child and the second an adult male. The latter was the brother of the first person interred in the succeeding B14, in this case, an adult female. She was buried in an early floor of B14, and was more than 30 years old, meaning she had been alive during the whole of the life of B12, according to our ‘floor clock’. Like her brother, she remained closely associated with this sequence of houses. Intriguingly, this woman was buried with a perinatal child who was not genetically related to her or her brother. Late in the life of B14, another adult female was buried, before being followed a few floors/years later by her son. Neither was related to the earlier brother/sister or perinatal child, indicating some of the potential dynamics of these households. The way a perinatal child was buried with a biologically unrelated adult female shows how burial practice may express complex relationships across lineages, with the house providing a focus.

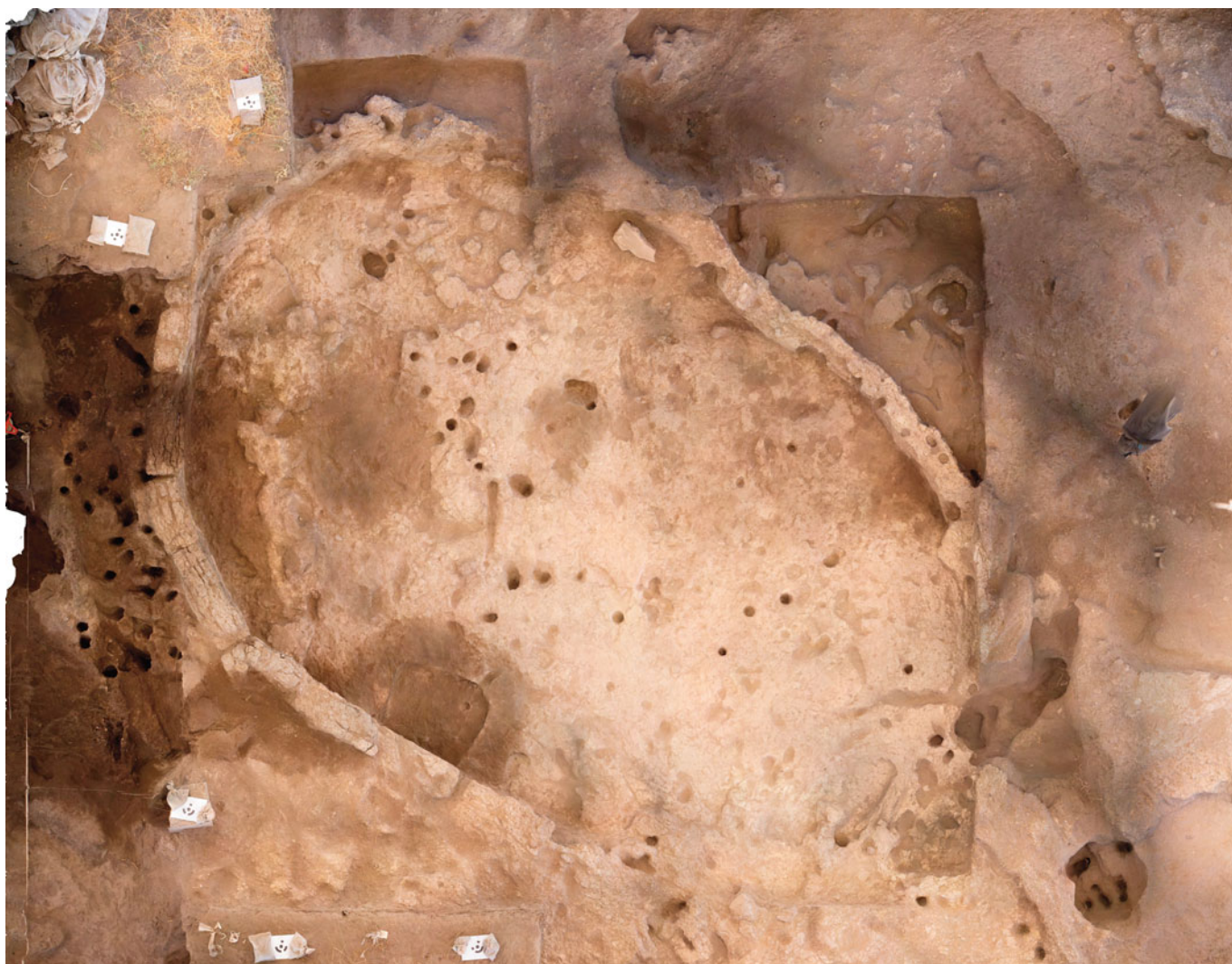


Isotope study shows that all of these individuals spent their childhoods in the Boncuklu area. Interestingly, though, isotopes also suggest that the diet of the adult son became distinct from others in the community, meaning he probably spent large parts of his adult years – in the decade before he died – at distant locations, either on an extended regular seasonal basis or for the best part of several years. Even so, he came back to be buried at Boncuklu, under the same house as his mother. Intriguingly, he is one of the earliest individuals known to have been infected with Hepatitis B, so his journeys give a hint of how such diseases may have spread. All of the adult individuals in this building sequence show the presence of osteoarthritis, so they shared a life of carrying heavy loads, causing significant wear and tear on their bodies. It is noticeable that the burials mostly lack grave goods, except for the adolescent buried first in B12. This is a low proportion relative to graves elsewhere but seems to be a pattern among these house burials, suggesting local household traditions.

In this vignette, we see how the Boncuklu community constructed tightly woven social networks that transcended individual lives through associations between related individuals, living and dead, and buildings. This was achieved in flexible ways, accommodating biologically unrelated children and seeing the coming and going of group members. These behaviours probably contributed to the longevity of these households. They were symbolically played out in house reconstructions and elaborate house rituals, marked by the deployment of very specific animal bones in walls and floors, including wild cattle bucrania, pigs' jaws and animal scapulae.

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Building 22.