

THE NEOLITHIC IN TURKEY

NEW EXCAVATIONS & NEW RESEARCH

Edited by:

MEHMET ÖZDOĞAN

NEZİH BAŞGELEN

PETER KUNIHOLM



THE TIGRIS BASIN



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INTRODUCTION

It is now evident that the Pre-Pottery Neolithic communities living in the southeastern parts of Anatolia made important progress in the way of civilization at a time when there were no obvious traces of sedentary village life in many other parts of the world. The area where this phenomenon is best perceived is along the banks of the Euphrates, the Tigris, and the tributaries of these rivers. Even a simple overview of the recent evidence from the region is enough for us to draw a picture of a complex society that attained a level far beyond living with the daily burdens of survival, thereby laying the foundations of our present-day civilization. It has also become evident that the initial stages of this revolutionary stage are best observed in the southeastern parts of Turkey where Körtik Tepe is located. Körtik Tepe now stands not only as one of the earliest sites in the region, but more specifically it is now a high-ranking centre where the innovative accomplishments of its past inhabitants are much to be admired. We feel justified in noting that Körtik Tepe represents the critical transition in social history from a simple mode of living with the possibilities limited by the natural environment to a much more complex, creative, and innovative social setup.

In spite of its early date, assessment of the cultural assemblage as well as the analysis of various material groups clearly indicates that the inhabitants of Körtik Tepe were not mobile food-gatherers, but had already developed food-producing strategies, their settlement thus becoming one of the most important centres in the Near East. The information revealed through the investigation of architectural features, burial rites, customs, and gifts, as well as other components of the material assemblage allows us to surmise that Körtik Tepe attained a far more complex cultural level than its contemporaries. Through the lifespan of the settlement there are no indications of any change or development in the architectural features of domestic structures; however, the study of burial customs and rites enables us to infer details of its socio-cultural structure and to view it in time. The presence of round-planned buildings and some other components of the material assemblage such as plain or decorated stone bowls, and ground- and flaked-tools, enable us to correlate Körtik Tepe with the well known sites of the period in Southeast Anatolia, such as Hallan Çemi, Demirköy, Göbekli Tepe, and Çayönü. However, the differences observed in some special finds, like figured stone and bone plaques, put Körtik Tepe in a different position in its cultural development. The presence of almost all the types of chipped stone tools characterizing an earlier period suggests that the habitation at the site might have begun at an earlier date. The use of obsidian, known to be non-existent in the area and most probably of East Anatolian origin, shows us that there was a long-distance trade of some sort.

The Site: A General Outlook

Körtik Tepe is located in the administrative district of Bismil, province of Diyarbakır near the small hamlet of Pınarbaşı of the Ağıl Village (Ancolini), at the confluence of Batman

Çay with the Tigris, about 30 km to the west of Batman in Southeast Anatolia; the environmental setting of this landscape is evidently defined by the Tigris system. With its approximate height of 5 m above the plain and an average area of 100 x 150 m, the mound has the appearance of a low hill. Locally known as Kotuk or Körtik Tepe, the mound was first discovered during a surface survey conducted in 1989 and was evaluated as a site of a later date (Algaze and Rosenberg 1990).

Rescue excavations commenced in 2000 under the auspices of the Diyarbakır Museum and with the permission of the Ministry of Culture and Tourism, within the framework of the Ilisu Dam and Hydroelectric-Power Plant Project. Work at the site continued until 2010, exposing an area of about 2800 m², carried out in 97 trenches of 5 x 5 m, reaching varying depths of 1 - 4,5 m (Figs. 1-2). The excavations have revealed that Körtik Tepe, together with Hallan Çemi, is one of the earliest settlements representing the transitional stage from mobile hunter-gathering to sedentary village life, making the region profoundly important to any study of the Neolithic of Anatolia.

The excavations revealed the presence of two main cultural stages at the mound that can easily be distinguished, both through their architectural remains and their particular material assemblages. The first of the two phases is the Medieval period; the second, although much disturbed throughout the mound, is the Pre-Pottery Neolithic period, extensively represented by architectural remains, graves, and burial gifts.

The Medieval period is mostly represented by graves. Apart from these, there are also scanty settlement remains such as simple house foundations and remnants of hearths. The arrangement of the graves, the position of the skeletons, and the burial gifts, although they are very few in number, suggest that the roots of the cemetery go back to a date as early as the 4th century AD; ten coins, dating to the reign of Constantius II found in a grave, are also in support of this dating (Özkaya and Coşkun 2008). The fact that the graves dating to the Late Roman and Byzantine periods are found together with the Islamic ones, implies that the mound was used as a cemetery for a long period in the Middle Ages; the Neolithic deposits were much damaged due to the presence of this Medieval cemetery.

The use of the mound as a field in recent years also caused disturbance of the cultural layers, especially of the Medieval remains to such a degree that in some areas the Neolithic deposits became almost exposed in the topsoil. In some of the areas, later graves dug deep into the mound have also been the cause of disturbance to Neolithic layers; thus, occasionally, in some trenches late and early burials have been encountered together in the same level. In spite of all these destructive agencies, it has still been possible to obtain sufficient data to draw a comprehensive picture of the various aspects of the Pre-Pottery Neolithic culture at Körtik Tepe.

ARCHITECTURE

Although the cultural context of the Pre-Pottery Neolithic habitation layers of the mound is, in its basic traits, similar to those of the other approximately contemporary sites in the region, the presence of important differences in certain components of the artefactual assemblage is also evident. All the data at hand point to the fact that Körtik Tepe was a permanent settlement (Özkaya and San 2007); thus, understanding the architecture and

the structural details of dwellings stood as a challenging problem for us to solve. In this respect, it became possible to obtain sufficient data, especially during the field seasons of 2005-2010 to interpret the architecture of the early settlement. Through the work on the mound—still ongoing—it became possible to distinguish the presence of at least six distinct architectural layers (Özkaya 2009). In all of the layers, all the dwellings display a round plan (Figs. 3-5). The houses, which evidently had mud floors, had walls constructed of a single row of unworked stones, some still standing up to a certain height; however, most of them had been disturbed due to the construction activities in the upper layers. What is interesting is that in the walls of some of the buildings are large mortars and grinding stones. The bases of many grinding slabs are worn with cavities due to heavy and intensive use. Apparently a decision was made to convert these mortars from food-producing artefacts to architectural members; the worn-out mortars are therefore quite important in showing us the extent of food production activities at the site. Along with the presence of the grinding stones used in the walls, animal bones found in many of the houses have been providing information on the subsistence pattern of the inhabitants.

It is possible to consider the buildings at Körtik Tepe in three main groups. The first group comprises the buildings that display a clear circular plan-type, now numbering 86; there are many others that have not been that well preserved. These buildings, which have diameters varying between 2,3 - 3 m, were constructed right on the ground. Simple foundation walls of rows of unworked stones and subterranean floors of compacted mud are common to all. The majority of the foundation walls have only a single course of stones still standing; however, there are others that are preserved up to two or three courses. We have no definite evidence as to how the superstructures were built, but, seemingly, after the stone wall reached a certain height, possibly reeds reinforced with plaster were used. These structures are not large enough to allow more than a few people to live in them and some of them have been constructed adjacent to each other. They have conventionally been denominated as round-planned buildings. Even if there is some uncertainty in deciphering the structural systems of these buildings, nevertheless, disregarding the differences that are merely minor details, these round-planned and one-roomed buildings with level or subterranean floors characterize the building tradition of the earliest settlements of the Pre-Pottery Neolithic stage in the Near East, as best attested at Hallan Çemi, Göbekli Tepe, Tell Abr, Jerf el Ahmar, Sheikh Hasan, Mureybet, Qermez Dere and Nemrik (Kozłowski and Kempisty 1990; Rosenberg and Redding 2000; Aurenche 2007).

The second group comprises structures that are too small to be considered as dwellings. These structures, observed in all the levels in the excavated areas, are also round-planned and the diameters vary from 1,1 m to 2,1 m (Fig. 7). Apart from those which were much damaged by later intrusions, 29 definable examples of these structures have been recovered, all having pebble paved floors. There is an apparent cluster of these buildings in the eastern part of the mound, although they have also been encountered in the western and central parts of the site. It is of interest to note that they repeatedly concentrate in the eastern sector of the mound in almost all levels. Even though they show similarities in stratification with the round-planned buildings, they differ from them in their size and with their stone-paved floorings. Similar small sized structures, not suitable for dwelling and possibly serving as storage units, have also been recovered at Hallan Çemi (Rosenberg and Redding 2000; Rosenberg 2007a). The presence of plant remains recovered in abundance in these buildings also points to their function in this direction. Thus, it seems evident that

the inhabitants of Körtik Tepe—who are thought to have been sedentary hunter-gatherers—had already begun storing the gathered products or the surplus food (Testart 1982; Cohen 1985; Redding 1988; Southall 1988; Byrd 1994; Rosenberg and Redding 2000) as a means of making it relatively easy to sustain their living throughout the year (Hauptmann 2002; Özkaya 2004; Özkaya and San 2004, 2007; Özkaya and Coşkun 2008, 2009).

The third group of buildings, so far only three in number (Y3, Y11, Y44), differ from the others in their dimensions and floors. Two of these buildings, also round-planned, are in the western part of the mound and the other in the eastern part. With its diameter of 3,45 m, building Y3 in the west, which was found at a depth of 98 cm, is relatively large compared with the other two. Its foundation wall has been preserved up to four courses of medium-sized stones regularly arranged using clay mortar. Below the compacted mud floor of this building there is a skeleton and there are also the remains of a wall, the function and the extensions of which are not clear. The other building (Y44) in the western part of the mound has a diameter of 3,8 m and is at a depth of 1,35 m. Its foundation wall constructed in the same technique as the other one has an asymmetrical plan. A skeleton and the horns of a wild goat buried with it under the compacted mud floor make this building significant (Fig. 6). The third example of the group (Y11), which is in the eastern part, is the only building in the area at a depth of 1,8 m. The foundation wall of this building has a diameter of 3,42 m and was constructed using unworked medium-sized stones with clay mortar, also asymmetrical in plan like Y44. How the floor of this partly destroyed building was made is not clear, as it has not been fully excavated.

The available data is not enough to suggest a function for these structures that are far fewer than the others and that differ in their dimensions. Although they do not occur in every layer, each is the only example in its own architectural stratum. This makes one think that these buildings must be special function buildings, bringing to mind the communal buildings found at Hallan Çemi (Rosenberg and Redding 2000). In this respect, with the exception of domestic structures and storage buildings that are seemingly confined to Körtik Tepe, the parallelism between the cultural settings and the material assemblages of Körtik Tepe and Hallan Çemi is evident. Thus, we surmise the third type of buildings to be public/special structures as at Hallan Çemi.

Although not exactly identical, similar buildings are also to be seen in the later stages of the Pre-Pottery Neolithic sites in Anatolia, such as those at Çayönü (Özdoğan and Özdoğan 1990; Schirmer 1990) and Nevalı Çori (Hauptmann 1993). In the Levant, besides PPNA sites like Ain Mallaha (Perrot 1966) and Jericho (Bar-Josef 1986; Kuijt 1996) such buildings are also seen at later sites such as Beidha (Byrd 1994, 2000). Although there is a considerable variety among the buildings that have been denominated as public buildings, in their plans, construction techniques, and in their material yield, they are notably different from the domestic ones and also occur much more infrequently. Taking into account the parallelism between Körtik Tepe and other Anatolian and/or Levantine sites, the presence of public buildings at Körtik Tepe is to be anticipated.

Considering the number and type of the preserved buildings, it is evident that the inhabitants of Körtik Tepe managed to develop a fully sedentary village architecture by resolving the structural problems of round-planned houses. In the Near East, inclusive of Anatolia, this simple plan-type of round buildings appears as the main component of the earliest permanent villages during the incipient stages of Neolithization, possibly because it pres-

ents no serious structural problems in roofing. In the transitional stage from a mobile way of living to sedentary villages, it seems that such dwellings were sufficient to fulfill all of the possible requirements of early settlers who were still hunter-gatherers. In this respect, Körtik Tepe stands as one of the main sites where this stage is best evidenced and exemplified by ample archaeological remains.

BURIAL CUSTOMS

Graves have an important role in defining the social and cultural structure of Körtik Tepe. In the years 2000–2002 and 2005–2010 a total of 455 human skeletons of the Pre-Pottery Neolithic period were found (The skeletons of the Medieval period are 198 in number and are not discussed here). 307 skeletons of the Pre-Pottery Neolithic period were buried in full-, 35 in semi-hocker position. Because of the destruction of the later periods, the positioning of 113 burials could not be fully understood. In two skeletons only the bones of the body were recovered, implying that these bodies were buried without their heads. However, as burials without skulls are represented by only these two examples, it may be that the skulls of these two skeletons were destroyed over time. A great majority of the bodies were interred with burial gifts. 301 burials have gifts of different numbers and types, whereas 154 have no burial gifts. Some of the graves were under the floors of dwellings (Figs. 6, 8–12). The positions of a few graves are not clear as they were very near the topsoil and in a poor state of preservation. The practice of intramural burials shows that the dwelling places were in a way sanctified by the people of the period. This meaning attached to the dwelling house is also noted in the regularized burial traditions. Körtik Tepe has provided extensive evidence on the burial rites of this period; the employment of complex funerary rites and practices, both prior to and after the interment of the body, is evident. The custom of smearing of some parts of the dead with plaster/lime is one of such burial practices (Özbek 2005). Although the work on the burial practices is still in an incipient stage, it seems that two different methods were used in this process of smearing. In the first method the bodies were smeared after they were interred in the grave, and the burial gifts were broken to be left next to the dead. In most cases it is evident that the smearing was done soon after the death of the individual, as there are no plaster remains among the bones, and the bones are still in an articulated position. However, there are other burials where the thick layer of smeared plaster has taken the shape of the bones, filling in the joints; accordingly, we surmise that the smearing was executed after the flesh had decayed. Likewise, there are some other burials with bands of ochre on the bones that had then been coated over with plaster. There are also a number of skeletons—including the skulls—that have been adorned with parallel bands of ochre before being coated with lime plaster. In two instances bands of red and black ochre were applied to cover the neighbouring bones as well. In fact, traces of ochre can be seen also on the burial gifts. These clearly indicate that the corpse was first left to decay, then painted, and after being placed in the burial ground, coated with lime plaster. The burial rite of coating the dead with lime plaster has been documented in a number of other Pre-Pottery Neolithic sites in the Near East (Goring-Morris 2000); at present, Körtik Tepe stands as the most prolific site for this practice.

Besides the rich variety of graves and indicators of burial customs or funerary rites, Körtik Tepe has provided an impressive assemblage of burial gifts that further contribute to our understanding of the social and spiritual life of that period in detail. An extensive study—currently in progress—of the burial gifts recovered at Körtik Tepe, illuminating an apparent

concern to protect the deceased, either by partial or total coating with lime plaster, will help us draw a picture of the belief systems and the concern for the continuation of life after death. Furthermore, the decorative bands, as seen on some of the Körtik Tepe bones, are evidence of how sophisticated the socio-cultural practices were. Along with their significance as the indicators of burial rites, burial gifts have also been extremely informative for our learning about the craftsmanship of the period. Most of the burial gifts are of stone, presenting extensive information on the techniques of manufacturing, the level of craftsmanship, and a rich variety of decorative designs. There is a great variety in burial gifts, ranging from stone vessels, pestles, mortars, grinding stones, celts, cutting and piercing tools, and bone artefacts, to beads (Figs. 13–14). These finds, which seem to be the same as those used in daily life, indicate that the inhabitants of Körtik Tepe had a remarkable world of beliefs. Although it is not possible to fully comprehend this world, when one takes as a basis the procedures and rites of burial one ends up with solid evidence that these people believed in the continuation of life after death. Consequently, why an object was produced and how it was put to use give us different possibilities in interpreting the socio-cultural lives of the inhabitants of the mound and their relationship with each other.

In sixteen burials tortoise shells were found lying nearby or covering the head of the individuals in Körtik Tepe. Most of the identified individuals buried with tortoises are adults of different ages. Concerning the burial ritual, these individuals do not differ much from the other burials, placed in the same orientation that is typical for most of the Körtik Tepe burials. Likewise, the use of plaster it is not unusual for most of the upper burials, as some had little plaster coating, though there were others without any (Coşkun et al. 2011).

In an overall assessment of the burial customs and the diversity in burial types and gifts, the indicators of both social and cultural development can clearly be discerned. First, both the number and the quality of craftsmanship of burial gifts increase or improve in time, which is no doubt the result of social and cultural development. This is also to be seen in the type, shape, decoration, and workmanship of the gifts. The burial gifts of the earlier levels are simpler and display a relatively coarser workmanship. Accordingly, it is possible to postulate that the setup of the social structure of Körtik Tepe began developing at the initial stages of sedentary life, and through a gradual process became much more sophisticated. Besides the graves with burial gifts of different quantity and quality, the presence of graves with no burial gifts can be explained only as a reflection of the social hierarchy.

THE CHIPPED STONE ASSEMBLAGE¹

The majority of the chipped stone artefacts of Körtik Tepe comprises tools made of flint, those of obsidian being fewer; apart from these, quartz was also used, but in a very small amount. Among the flints of Körtik Tepe, which seem to be of local origin, those that are brown and grey are the most used types, which probably come from the Mount Raman massif. The presence of quartz in the Körtik area is sparse, but limited quantities of quartz objects do appear on the *tepe*.

¹ The chipped stone artefact assemblage of Körtik Tepe is being analyzed by Dr. Metin Kartal. The summarized information given here is based on the preliminary reports on the work conducted by Dr. Kartal on the 4708 artefacts found during the 2007–2008 excavation seasons.

The lithic assemblage displays a wide variety of tools; among these, though represented by only a few specimens, the presence of the so-called Çayönü tools is of significant importance. It is also of significance to note that the conventional PPNA and/or PPNB arrowheads of the classic Levant or Zagros tradition are not in the lithic assemblage. The types of weapons found are generally microliths and macro-points with inverted backs of Epi-Paleolithic character, quite similar to those at Hallan Çemi. Although it is too early to make conclusive remarks, the paucity of chipped stone artefacts that are conventionally considered as the markers of food production, such as sickle blades, strongly suggests a subsistence pattern based on gathering instead of cultivating. Cutting tools, blades, tanged pieces, and large scrapers constitute the major part of the flint tool assemblage. On the other hand, more formal tools seem to be made of obsidian: among them lunates and geometrics. Another group of finds that draws attention is the arrowheads due to the significance attached to them as the indicators of cultural interaction.

The presence of obsidian at Körtik Tepe is an indicator of long-distance trade, procured either by bartering or acquiring it through their own efforts. As also determined for the Hallan Çemi examples (Rosenberg and Redding 2000; Hauptmann 2002), the greenish colour of this obsidian, which is easily seen because of its transparent quality, possibly points to East Anatolian sources (Özkaya and San 2007). The presence of obsidian at Körtik Tepe, as is the case wherever it exists in this area, is considered as the indicator of a cultural interaction sphere carried on at a supra-regional level. This also indicates that the Pre-Pottery Neolithic communities were concerned with and open to communicating with other regions.

There are also indications that obsidian, besides being considered as an exotic raw material since Late Palaeolithic times, was also used in shaping and decorating stone vessels. The fact that the Körtik Tepe lithic assemblage covers almost all of the principal typological spectra of flint and obsidian tools of its period is to be considered as another indicator of sharing knowledge through a large geographic zone.

GROUND STONE ARTEFACT ASSEMBLAGE

Most of the finds from the mound are ground stone objects. These objects, of different functions, were mostly found in graves. Only a very few of these were exposed on the floors of dwellings, independent of the graves. Apart from rare examples preserved as a whole, most of the stone grave offerings were placed after being intentionally broken; among them numerous stone vessels, functional and ceremonial celts of different shapes and sizes, pounding and grinding stones, pestles and mortars are foremost in number. Groups of personal ornaments shaped from different types of stone and figured stone objects are also in notable abundance. In all the assemblages of Körtik Tepe the presence of a rich cultural accumulation is perceived. With their rich repertory in shape, geometric and natural decorations, the stone vessels have an important place among these finds.

Most of the stone vessels are made from chlorite which is easy to grind with flint and obsidian tools. Apart from these there are also coarse examples made from limestone or flint, albeit in small numbers. These vessels, produced by using abrading and flaking techniques, easily detected through the manufacturing traces left on their inner and outer surfaces, are of different shapes and sizes. Looking at the evidence for the functions of these vessels, we can say that the simple and coarse ones were produced for daily use. Those that

were used as burial gifts seem to have been worked and decorated with more care, setting them apart from those made for utilitarian purposes. Taking the surfaces of these stone vessels as a basis, we can divide them into two main groups: plain and decorated.

The exterior surfaces of the plain, undecorated vessels have been meticulously burnished (Fig. 15); occasionally the rims of some have been specified by incised straight or wavy lines and zigzagged bands (Fig. 16). The designs in most of the decorated vessels have been depicted as geometric patterns, displaying an extreme variety of motifs (Figs. 17–19). It is evident that the craftsmen, in executing the incised decoration, were highly concerned in achieving an aesthetic harmony between the decoration and the shape of the vessel. The motifs incised, made with obsidian or flint tools, vary depending on the shape of the vessel. Although limited in number, the surfaces of some vessels have been entirely decorated with incised or engraved animal figures. The most common among the naturalistic motifs are snakes, wild goats, scorpions, birds, and mixed creatures (Figs. 20, 22–23); evidently they represent the symbols of the belief system of the time. The persistent appearance of figural decorations such as the wild goat together with the motifs of particular decorative groups, necessitates a holistic approach in interpreting the meanings attributable to the designs.

A study of the details in shape and decoration, as well as the structural characteristics and the workmanship of the stone vessels, shows a gradual development over time. When the levels at which they were found are taken as a basis, there seems to be a development from plain surfaced vessels to richly decorated ones displaying skilled workmanship. Leaving architecture aside, this is also observed in other find groups of Körtik Tepe, in keeping with the conclusion that the Pre-Pottery Neolithic existed in more than one phase at the site.

The closest parallels to the Körtik Tepe stone vessels, from the point of view of the type of stone used and their workmanship, are found at Hallan Çemi (Rosenberg 1993, 1999, 2007a). In other contemporary sites such as Göbekli Tepe, Demirköy, Çayönü, or at some of the later sites, similar vessels occur only in limited numbers. Outside Anatolia, at sites along the Tigris in Northern Iraq they have not been encountered (Rosenberg and Redding 2000; Rosenberg 2007a, 2007b), although vessels similar to them in shape have been found in some settlements of Northern Syria (Jammous and Stordeur 1999). Nevertheless, as noted above, the closest parallels to the Körtik Tepe stone vessels are from Hallan Çemi; the similarities between the vessels of the two sites are not restricted to the type of stone used, but also extend to the techniques used in manufacturing, to the shapes, and in particular to the employment of geometric and naturalistic decorations. In this respect, though the vessels are fragmented, the techniques and the design of vessels with animal figures of Hallan Çemi are worth noting (Rosenberg 1993; Rosenberg and Redding 2000). Although appearing in different places and on different objects, similar figures observed at centres of the Pre-Pottery Neolithic such as Nevalı Çori, Göbekli Tepe and Hallan Çemi, are to be considered as the symbolic reflections of the belief systems of the period.

Stone vessels occur, though in limited numbers, both in contemporary and in later sites; however, Körtik Tepe has revealed the richest and the most varied collection of this interesting component of the Neareastern Pre-Pottery Neolithic culture. Thus, we feel justified in postulating that the inhabitants of the Körtik Tepe were the initiators of this culture. The stone vessels were generally put in graves after being broken, a practice reflecting the ceremonial act of the burial rite; considering the active interaction among the different regions,

a holistic approach to the entire Southeast Anatolian region will inevitably contribute to our understanding of the cultural setup of this period (Özkaya and Coşkun 2004).

In discerning the sphere(s) of interaction of Körtik Tepe, we see that stone vessels are not the only indicators: several other artefacts, among them the sculptured pestles, stand as a major entity. These pestles were both of functional and ritual purposes. The pestles can be considered in two distinct groups: the first group comprises those coarsely made and finished ones from hard stones, their surfaces usually worn from use. The second group is made from chlorite, a much softer stone that was also used for the manufacturing of the decorated stone vessels. This latter group has polished surfaces with no traces of use and wear (Özkaya 2004). The upper ends of most of these pestles have been finished with sculpture depicting stylized birds of prey or wild goats (Fig. 24-25); they were exclusively found as burial gifts in graves, indicating their use in rituals (Hauptmann 2002). In Anatolia, examples of such pestles have been encountered at Hallan Çemi (Rosenberg 1999) and Çayönü (Davis 1982; Özdoğan 1999) as well, with closely resembling examples occurring also at Nemrik 9 (Kozłowski 1989). This type of pestle ending in animal heads is not known from the other Pre-Pottery Neolithic sites in the Levant (Rosenberg 1999).

Another group of finds, represented by only a few examples, is that of the whetstones made from different types of stones (Figs. 26-27). These, due to the presence of deep grooves across their flat surfaces, have been considered as whetstones; in some, there are incised decorations on the other face. Although different in details, close parallels to them in shape and function have been encountered at Çayönü (Davis 1982), Cafer Höyük in the late phase (Cauvin et al. 1999) and, with figures on the surface, at Jerf el Ahmar (Jammous and Stordeur 1999).

Stone celts/axes comprise the most extensive tool category of ground stone implements. Although they are generally shaped in a coarse manner, there are also examples made more carefully. This mainly functional tool category is represented by numerous examples of different raw materials and sizes; even though there is some variability in their shapes, they basically display a similar form. Of the axes that have a hole in the middle for hafting (Fig. 29), those which were put in graves as burial gifts were on the whole worked with more care; others found elsewhere are coarser and worn through use (Özkaya and San 2007). Besides these axes, mace heads are among the other ground stone burial gifts; even though they resemble the axes, they are easily distinguished by their squat-globular shapes, smaller dimensions and the high quality of their workmanship (Özkaya and San 2007). Those shaped from softer stone such as chlorite, as is the case for finer axes (Fig. 28), do not seem to have traces of use. Possibly used for ritual purposes, considering the context they were found in, these axes have parallels at Hallan Çemi (Rosenberg 1994, 1999) and at Çayönü (Davis 1982) although with some differences in detail.

FIGURED RITUAL OBJECTS OF STONE

With the exception of half a celt, all figured objects made of chlorite were found in graves as burial gifts. The figures on the stone objects have been engraved or incised, mostly depicting undefined creatures differing from each other only in details (Fig. 31), the only exception being the picture of a clearly recognizable wild goat (Fig. 32). Evidently, the wild goat must have been of prime importance to the inhabitants, not only as the source of subsistence, but more significantly due to the symbolism apparently attached to it; the fact

that the wild goat figure on the stone object directly resembles the ones on the stone vessels further confirms this view. Two of the undefined figures have curled bodies reminiscent of insects, rendered in a fluent curve, horn- or antenna-like members, shown in a drooping manner, and heads, some looking right, some looking left, all worked in relief. The other details are executed as incisions like those on the stone vessels. These figures that have foot-like members and concentric circles indicating the shoulders—generally in accordance with the head, eye, protruding face, and body lines—are quite ambiguous as far as the species are concerned because of their highly stylized workmanship (Fig. 31). Figures that first seem to resemble a dog or a goat—when one looks only at their heads—are no longer possible to define as such after one has then looked at their bodies and the concentric circles on their shoulders. If one defines the curved projections on the head as antennae and those on the body as wings, these figures can also appear to be bee-like insects. Generally worked in profile, one of these figures, shown from the front, is worked on a piece of chlorite (Fig. 32: left). Like the other representations, with its brooding horns or antennae and two eyes, this figure is also a strange creature (although similar to the ones just mentioned). The only difference in this case is the body which is not curled. On the body there are two parallel lines incised near the neck, four in the middle of the body and again four at the end. On the chest there are concentric circles incised with the centre point well defined, and on the abdomen two perpendicular grooves connecting the two groups of four lines. Apart from the figures of animals and fantastic creatures worked on different types of objects, the clothed human figure, only half of it remaining and again on a piece of chlorite (Özkaya and San 2003), is among the unique finds of Körtik Tepe.

It is clear that these figures briefly described above are unique to Körtik Tepe, nothing even remotely resembling these has yet been reported from any other site. Considering the fact that they were used as burial gifts and that they apparently depict imaginary creatures, we feel justified in denoting them as the symbolic expressions of belief. The consistent appearance of the concentric circles on the shoulders of the figures also on the decorated stone vessels and on some stone artefacts (Figs. 20-21, 31-32) used as burial gifts also supports this view.

Small horn-shaped objects are also a significant component of the Körtik Tepe assemblage (Fig. 30); even though similar objects occur at other Early and Late Pre-Pottery Neolithic sites of Anatolia and the Near East, revealing the relation of the site with its contemporaries (Özkaya and San 2007); those at Körtik Tepe differ from the others in that they are decorated and are made from chlorite and not from the conventional limestone as in other sites. The decorations on these small horn-shaped objects are mostly simple incised lines. One decorated with deep engraved grooves has its closest parallels in Hallan Çemi (Rosenberg 1999) and Demirköy (Rosenberg and İnal 1999).

BONE ARTEFACT ASSEMBLAGE

Another important artefact category of Körtik Tepe is that of the bone objects. The majority of this group has been found in graves as burial gifts, but a few have also been recovered as singular finds in other contexts. Those that were in situ as burial gifts are of better quality considering their workmanship and other characteristics. Taking their shapes and the decorations preserved on their surfaces as a basis, it is possible to consider the bone

artefacts in two groups: those that are decorative and those that are functional (Özkaya and San 2003, 2007). The functional tools are mostly awls and perforators (Fig. 34) (Özkaya and San 2007). Even though most of the awls were fragmented, those that could be definitely identified as such show similarities in shape to those found at Çayönü (Efe 1998) and Hallan Çemi (Solecki 1981). The perforators that make up another group of the bone tools are differentiated by their larger sizes and blunt ends. Close parallels to the small-sized bone piercers (pins), which have been used for different purposes, can also be seen at Çayönü (Özdoğan 1999). In shape and function the Körtik Tepe finds of this category also show similarities to the Hallan Çemi bone objects that have been considered to be of the Zarzian tradition (Rosenberg 1999), and are not far from the traditions known from the other sites in the area. There are decorations of incised lines (Özkaya and San 2007) and figures (Figs. 36–37) on the surfaces of decorative bone artefacts which are usually long ovals. These artefacts have holes at the middle or at the end, which suggest a possible functional use for these objects, even though their precise functional purpose is unclear. Close parallels to those with simple incised decorations (Özkaya and San 2007) are seen also at Hallan Çemi (Rosenberg and Davis 1992).

Nine fish hooks made of bone have been found so far (Özkaya 2009; Coşkun et al. 2011). Most of the Körtik Tepe fish hooks have a U-shape with a high and thick bow part. The bend between the shank and the point is quite large except for one exemplar. None of the Körtik Tepe fish hooks has a barbed point (Fig. 35).

Apart from these, three other unique bone objects recovered during the 2008 season are worth noting (Fig. 37). On one of them—only partly preserved—the incised figure of a scorpion can be discerned, although part of the composition is missing. Although not completely preserved, the second find has incised figures on its semi-oval surface as well. Here, a snake with a body of multiple zigzagged lines and a triangular head, shown in a perpendicular position, can be discerned. Similar figures have also been noted, particularly on stone vessels (Fig. 23). On the largest bone object two wild goat figures, placed one at the top of the other, have been preserved; this object, which was recovered in the burial with ochre, had traces of ochre on it as well. The wild goat figures on this bone object, both in the techniques of manufacturing and in the anatomical features of the depicted animals, are similar to those on the stone vessels (Fig. 23). The function of these finds, which have been recovered as burial gifts in two different graves, is no doubt directly relevant to the contexts from which they were recovered. Here it is worth stressing that, out of hundreds of Pre-Pottery Neolithic burials of Körtik Tepe, only two have revealed such objects; thus, we surmise that they are the indicators of the social status and role of the individuals buried in these two graves. Nevertheless the fact that these motifs repeatedly occur in the same posture in other groups of artefacts supports our already expressed view on their importance as a symbol in the belief system at Körtik Tepe.

PERSONAL ORNAMENTS

The presence of a rich variety of ornamental objects, produced from different materials further confirms the level of complexity attained by the community living at Körtik Tepe. Foremost among them are the beads that were found scattered or in stone vessels together with the skeletons in the graves, and left in them as burial gifts (Fig. 38). The beads,

mostly made from an easily-worked claret red coloured stone (Özkaya and San 2002; Özkaya et al. 2002), have a common characteristic of being cylindrical in shape. Besides these, though less common, there are also others made from the vertebral bones of animals such as birds and fish and also from the shells of molluscs (Özkaya and San 2007). As is the case with other find categories, the type, the quality, and the quantity of the beads vary considerably from one grave to the other. In some of the graves no beads were found.

Some of the beads are of chlorite, the same material as of the stone vessels; these stand as a distinct group among the personal objects due to their shapes. With their decorations of simple parallel lines in relief and carefully perforated holes (Fig. 33), they reflect highly skilled craftsmanship. Apart from all these, among the finds comprising personal ornaments, there are also serpentine beads, generally oval but also of different shapes (Özkaya and San 2002). As is the case with different artefact categories, the closest parallels of the Körtik Tepe beads are to be seen at Hallan Çemi (Rosenberg 1993) and, with some differences, at Çayönü (Özdoğan 1999).

The distribution of personal ornaments in the graves reveals an interesting pattern; some being quite rich and others having only a few, and still others without any. The pattern discerned for the beads has also been observed in other artefact groups, clearly revealing the distinction among different burials. Thus, the community at Körtik Tepe was seemingly highly stratified and the richness of the graves denoted the social status of the deceased. Needless to say, the presence of well defined and stratified social groups can occur only in complex-developed cultures and evidently Körtik Tepe represents a pristine stage of that.

RECENT ZOOARCHAEOLOGY STUDIES: PRELIMINARY RESULTS²

This section presents the preliminary results of the faunal analysis from the ongoing Körtik Tepe excavations and focuses on the animal exploitation strategies during PPNA³. Zooarchaeological work on large archaeofaunal samples from the site is still ongoing. A new and rigorous dating program is currently under way to examine the stratigraphy and reveal its exact nature. This will eventually lead to a better understanding of the sub-strata and enable us to establish clearer relationships between architectural features and archaeofaunal assemblages. In an attempt to minimize the vagaries of sampling and to have a better horizontal control, materials from 17 contexts across the site were analyzed.

Before focusing on subsistence, study of the assemblage to identify taphonomic agents responsible for bone accumulation, modification, and destruction should be mentioned. Every skeletal element including smallest bone splinters for the purpose of assemblage characterization was recorded. All the specimens were also scrutinized for bone surface modifications. Traces of carnivore ravaging, rodent marks, weathering, foot traffic or trampling, root etching are very sporadic and extremely rare in the Körtik assemblage, ruling out a role for carnivores and other biotic and abiotic taphonomic filters in assemblage accu-

2 Recording, identification, and analysis of the faunal material from Körtik Tepe were carried out by Dr. Levent Atici at the Zooarchaeology Laboratory of University of Nevada Las Vegas in Las Vegas, Nevada, USA. Information concerning zooarchaeological studies are gathered in Dr. Atici's initial report.

3 The first faunal analysis at Körtik Tepe was carried out by Dr. Benjamin Arbuckle from Baylor University (Arbuckle and Özkaya 2006).

mulation, modification, and destruction. The degree of fragmentation is really high with high ratios of nonidentified splinters and long bone shaft fragments. The fragmentation pattern partly reflects exhaustive processing of carcasses by humans when bones were in a fresh state before they were buried and rapidly deposited.

Ungulates including goitered gazelle, roe deer, wild sheep, wild goat, wild boar, Mesopotamian fallow deer, red deer, and aurochs in varying proportions, and two identified specimens probably representing Asiatic ass have been identified. Remains of wild cat, red fox, wolf, hare, beaver, large birds such as the great bustard and graylag or bean goose, medium birds such as mallard duck, and small birds such as partridges in varying proportions have also been documented. When examining the relative importance of large and small game, large game is defined as including all ungulate taxa, whereas small game includes only typical small food animals such as hare, tortoises, and birds. Carnivores and other animals are excluded because their status as food animal is not certain. It is clear that remains of large game are predominant in the assemblage as a general pattern.

Trends in taxonomic diversity and richness and evenness in animal species composition are examined based on NISP counts. All specimens identified to species level were included, but all potentially intrusive taxa and species represented by one or two individual specimens were excluded. Taxonomic richness (that is number of different species present) and evenness (that is relative proportional abundance of various species) using diversity statistics were analyzed. The richness, diversity, and evenness indices all converge to indicate that the Körtik assemblage is a rich, diverse, and even one. It was not dominated by one or two taxa and remains of multiple taxa were evenly distributed representing a more generalized subsistence strategy and diverse resource base.

When one turns to principal taxa in general, and ungulates in particular, a clear pattern in which remains of wild sheep and red deer are overwhelmingly predominant in the assemblage is identifiable. Wild sheep outnumber wild goat with a sheep to goat ratio of 30 to 1. The underrepresentation of wild goat at Körtik has to do with the local paleoecology and topography reflecting friendlier wild sheep habitats with open grasslands and rolling hills. The abundance of red deer suggests open country and gallery forests, whereas the remains of large birds such as the goose and the great bustard reflect aquatic and open environments with grasslands and marshes along the banks of Tigris and Batman Rivers. The Körtik avifauna has also some implications for seasonality, as the graylag goose and the great bustard are both migratory species and were most likely in the site's catchment area during their breeding period in the spring and summer.

The assemblage has a wide range of body part representations with head dominating, axial and limbs represented in varying proportions, and extremities underrepresented. The Körtik assemblage departs from the stereotypical head-and-foot pattern. One could argue that the underrepresentation of extremities can be an artifact of recovery, yet, the documentation of thousands of bone splinters and hundreds of small shaft fragments does not lend ample support to this idea. It is likely that this pattern may be correlated with economic utility, selective transportation of carcasses, and selective removal of bones for different purposes including bone tool manufacturing, or a combination of all these factors. Unlike ungulates, Körtik birds revealed a very clear pattern of body part distribution with wings overwhelmingly dominating the assemblage.

Kill-off pattern or the survivorship curve for the Körtik assemblage based on long bone epiphyseal fusion states for wild sheep indicates that the primary targets of wild sheep hunting appear to have been the largest and the fittest individuals and thus the most suitable targets for maximum nutritional and energy return. Newborn and very young animals were either avoided for economic reasons, or were unavailable or inaccessible.

To summarize and conclude, Körtik Tepe represents a generalized foraging strategy with increased duration of occupation and increased multi-seasonal site use in an ecotonal zone with a diverse resource base. The inhabitants of PPNA Körtik Tepe had the technology and knowledge to exploit a wide array of animal taxa including large or small game, slow (tortoise) or quick game (hare and partridge). Intensive and primary wild sheep hunting was supplemented by secondary red deer hunting, and seasonal wildfowling was a major or significant minor resource. Zooarchaeological work on a large collection from Körtik is still ongoing.

RECENT RADIOCARBON DATES⁴

Körtik Tepe provides the first detailed stratigraphy comprising several layers of the Early PPNA. The eastern profiles of trenches A84 and A80 show two clearly distinguishable main periods of PPNA occupation with several sub-periods. The younger main PPNA occupation starts at about -80/-120 cm and reaches down as far as -180 cm in some places. This main period includes the lower levels of Phase I in trenches A80 and the upper levels of Phase II in trench A84.

The second main period of PPNA occupation, comprising the three Phases II-IV, is a continuous occupation with several horizons of destruction, rebuilding, and levelling down to -300 cm $\pm$ 10 cm. The oldest layers documented in trench A80 (squares B and C), attest at least two more occupation periods (Phases IV'-V and VII). Phase VI may document a slight hiatus or a shift of residential area within the site.

The radiocarbon dates of trench A80 and A84 all fall within a very short time range between 9660 cal. BC and 9320 cal. BC. However, in both dated sequences the upper layers of the first main occupation period [CH 28; CH 21] were much younger, dating between 9450 cal. BC and 9320 cal. BC.

The older phases down to -300 cm largely overlap. They match the course of the calibration curve and correspond to a plateau. The calibrated dates are therefore lengthened, and it is impossible to decide whether they document a very short occupation period or in fact correspond to about 150-250 years. Wiggle matching suggests very short gaps of probably one generation or less between the different phases. The dates precisely fit the time range calculated for the Early PPNA at other sites. The oldest radiocarbon dated Phase VI suggests a date of 9620 cal. BC right at the transition from the Younger Dryas (YD) to the Early Holocene. Though Phase VII, the oldest excavated so far, has not yet been dated, it is likely that a settlement had already been established on the site during the last phase of the YD.

Given its well-established chronology, Körtik Tepe might give Neolithic research important information about the development of material culture within the Early PPNA. The combination of stratigraphic and chronological information with the numerous artefacts from the

4 C14 dating studies at Körtik Tepe were carried out by Dr. Marion Benz from Freiburg University.

site might make it possible, for the first time anywhere, to differentiate several cultural phases within the Early PPNA. Körtik Tepe therefore has the potential to become a reference site for all other Early Holocene sites of the region. The ecological development documented at Körtik Tepe will provide significant information about climatic and ecological changes during the transition from the YD to the Early Holocene (Benz et al. 2011; Coşkun et al. 2010).

CHRONOLOGY AND CONCLUSIONS

The architectural remains and the material assemblage recovered at Körtik Tepe present a picture parallel to those other contemporary sites of the Upper Tigris Valley, Hallan Çemi being first in line. From the testimony of the finds recovered in the dwellings and in the graves as burial gifts, faunal analyses (Arbuckle and Özkaya 2006), and all the other evidence, Körtik Tepe shows us without any doubt that it is a site of the Pre-Pottery Neolithic A period. Previously, depending on the then available C14 dates, we had been considering the earlier parts of the 10th millennium BC as the beginning stage of the site (Özkaya and San 2007; Özkaya and Coşkun 2008); however, as noted above, the new radiocarbon dates have now pushed the earliest horizon of Körtik Tepe to the first half of the 11th millennium BC, thus making it one of the oldest known settlements in Anatolia. Here it is worth noting that there are some finds, such as the microliths of Epi-Paleolithic tradition with parallels at Hallan Çemi and the macro points with inverted backs, which hint at the possibility of still an earlier occupation layer at Körtik Tepe.

A80

Lab-Code	ID	Level	¹⁴ C-Age [BP]	±	ST	δ ¹³ C [‰] PDB	±	ST	Material	Species	cal BC	
											1σ	2σ
ETH-39510	CH21	-207 cm	9925	±	45	-34,4	±	1,1	CH	Tamarix	9450-9290	9660-9280
ETH-38849	CH15	-218 cm	10065	±	40	-25,2	±	1,1	CH	Quercus	9810-9450	9870-9400
ETH-38850	CH17	-238 cm	10035	±	40	-25,4	±	1,1	CH	Pistacia	9740-9450	9810-9380
ETH-39511	CH1	-194 cm	10100	±	60	-27,6	±	1,1	CH	Rhamnus	10050-9450	10050-9400
ETH-38853	CH11	-275 cm	10015	±	45	-25,1	±	1,1	CH	Amygdalus	9670-9410	9770-9330
ETH-39512	CH26	-348 cm	9955	±	45	-28,5	±	1,1	CH	Tamarix	9650-9310	9660-9290
ETH-38848	CH29	-365 cm	9985	±	40	-25,3	±	1,1	CH	Quercus	9660-9360	9740-9310
ETH-39509	CH33	-427 cm	9960	±	60	-29,9	±	1,1	CH	Populus/Salix	9650-9310	9760-9280

A84

Lab-Code	ID	Level	¹⁴ C-Age [BP]	±	STD	δ ¹³ C [‰] PDB	±	STD	Material	Species	cal BC	
											1σ	2σ
ETH-38852	CH 28	-198 cm	9965	±	45	-33,0	±	1,1	CH	Tamarix	9650-9310	9670-9290
ETH-38851	CH 35	-227 cm	10075	±	40	-25,3	±	1,1	CH	Tamarix	9810-9460	10050- 9400
ETH-38855	CH 41	-285 cm	10040	±	40	-24,0	±	1,1	CH	Indeterm	9750-9450	9810-9390
ETH-38854	CH 42	-284 cm	10000	±	40	-23,5	±	1,1	CH	Populus	9660-9390	9760-9320

A84

Lab-Code	Level	¹⁴ C-Age [BP]	±	STD	δ ¹³ C [‰] PDB	±	STD	Material	Species	cal BC	
										1σ	2σ
KIA44864	-374 cm	10252	±	60	-24,3	±	1,1	CH	Rye seed	10170-9877	10405-9804

To conclude, it is evident that the site of Körtik Tepe represents the founding stage of a sedentary food-producing way of life. With the richness of its finds, the indicators of a highly sophisticated, complex, and at the same time an apparently stratified social setup, Körtik Tepe now stands as one of the most important sites of the Pre-Pottery Neolithic period not only in Anatolia but also in the Near East. Its geographic location at the tip of the Fertile Crescent makes the evidence of Körtik Tepe far more far more important in understanding the emergence and the development of new subsistence patterns in the region than we had imagined at the commencement of our excavation. It is also evident that the inhabitants of Körtik Tepe had developed successful strategies in the procurement of food and adaptation to changing environmental conditions.

The finds recovered during the excavations have thrown light on comprehending the high level of the cultural accumulation and the traditions in the belief system of the inhabitants, all of which show us that Körtik Tepe has an important place among the Pre-Pottery Neolithic centres in the region. Evidenced foremost from the plain and decorated stone vessels, also from the chipped and ground stone artefacts, the interaction of Körtik Tepe with the other known sites of the area such as Hallan Çemi, Demirköy, Göbekli Tepe, and Çayönü is well attested; but the differences in some special finds such as the figured stone objects show us that Körtik Tepe reveals a higher degree of sophistication, a fact strongly reflected also in the burial customs, aesthetic and symbolic values, and the markers of a belief system. In an overall assessment, it is evident that Körtik Tepe is unique in many aspects.

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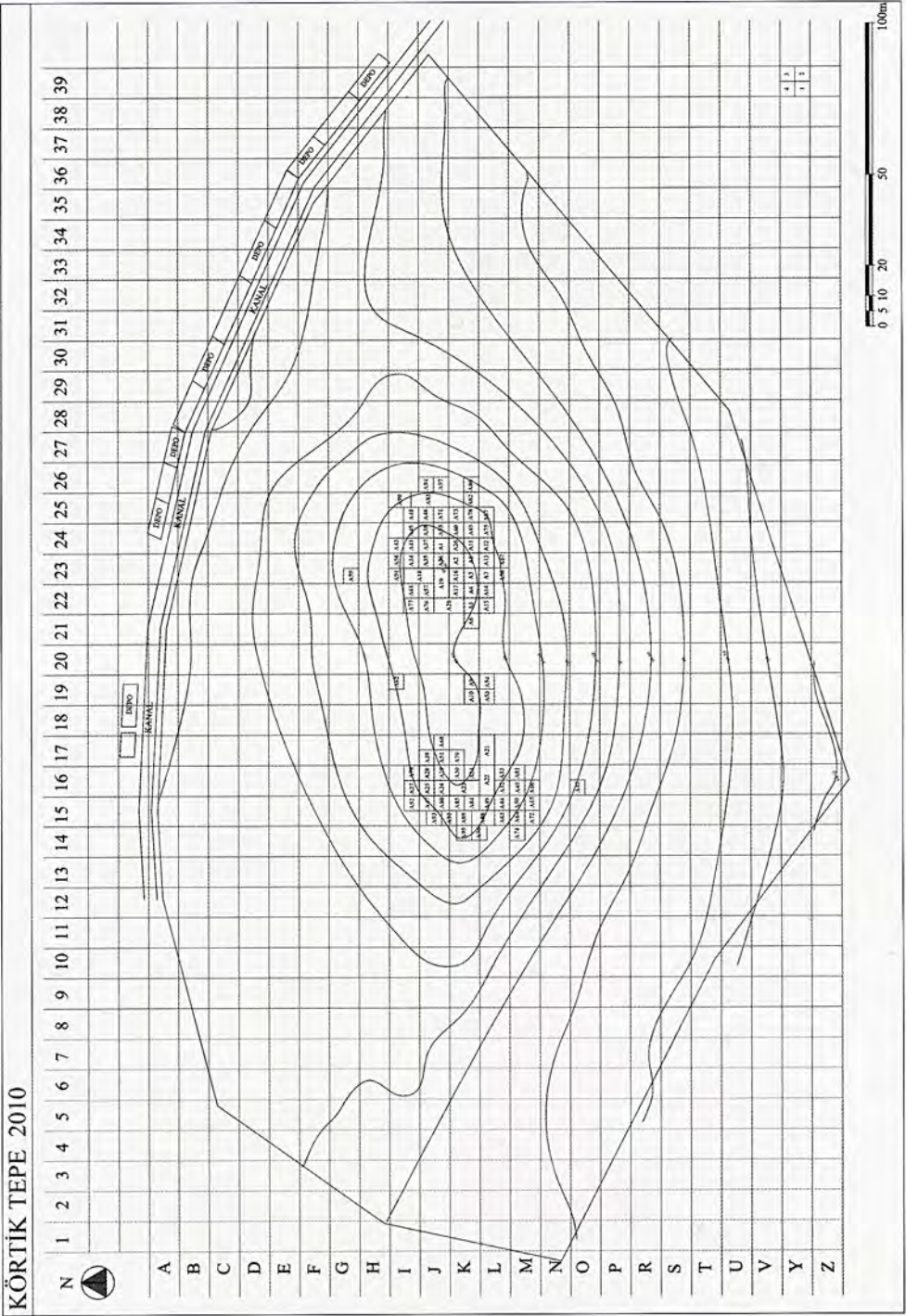


Fig. 1 - Topographical plan of site.

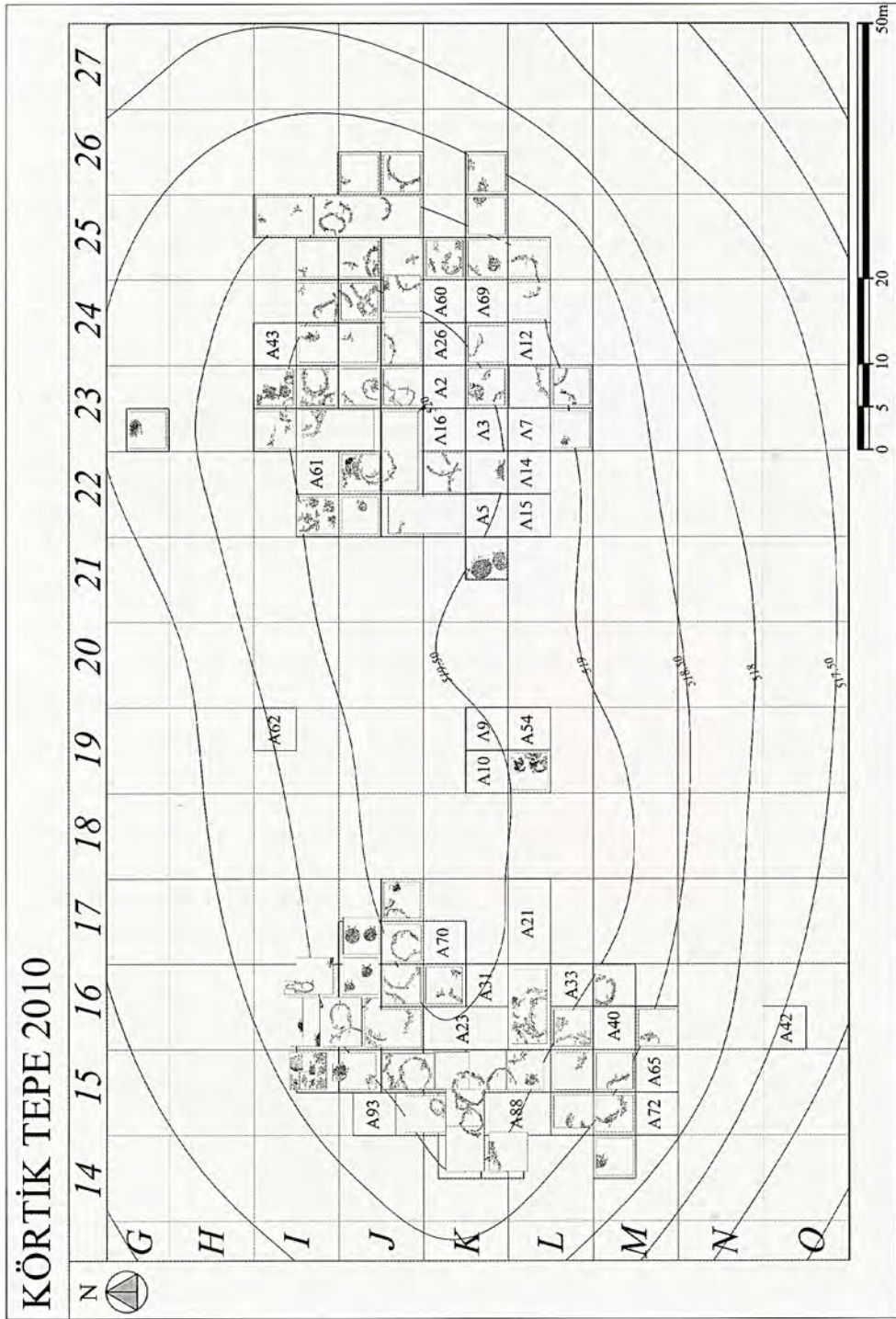


Fig. 2 - Circular structures and storage units.

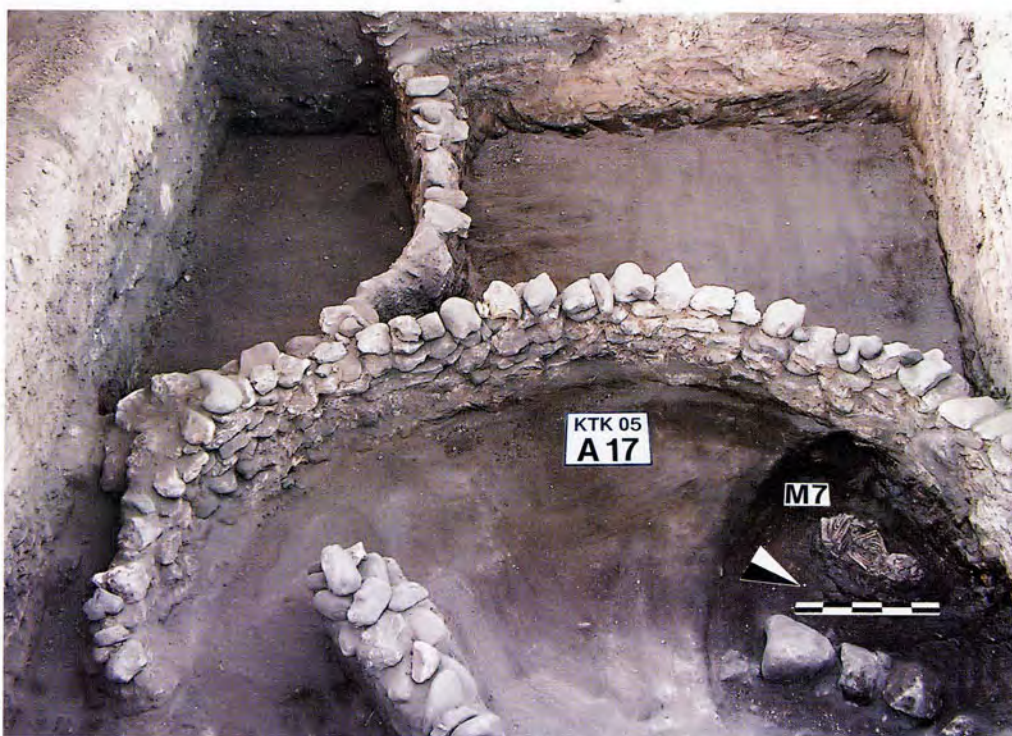


Fig. 3 - Circular structures and intramural burials.



Fig. 4 - Circular structures and intramural burials.



Fig. 5 - Circular structures and intramural burials.



Fig. 6 - Building Y44 the circular structure with intramural burials and with the horns of wild goat.



Fig. 7 - Stone paved bases of circular storage units.



Fig. 8 - A PPNA sub-floor burial.



Fig. 9 - A PPNA sub-floor burial.



Fig. 10 - A PPNA sub-floor burial.



Fig. 11 - PPNA burials.



Fig. 12 - PPNA burials.



Fig. 13 - Gifts from PPNA burial contexts.



Fig. 14 - Gifts from PPNA burial contexts.



Fig. 15 - Undecorated stone vessels.



Fig. 16 - Stone vessels with decoration restricted only to the rim.



Fig. 17 - Decorated stone vessels.



Fig. 18 - Decorated stone vessels.



Fig. 19 - Decorated stone vessels.



Fig. 20 - Stone vessels with figurative design depicting wild goats.



Fig. 21 - A stone object with concentric circle design.



Fig. 22 - Stone vessel with figurative design depicting snakes.

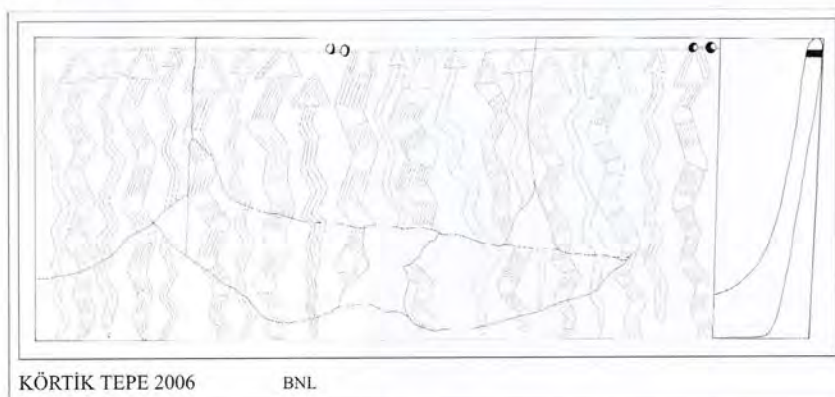
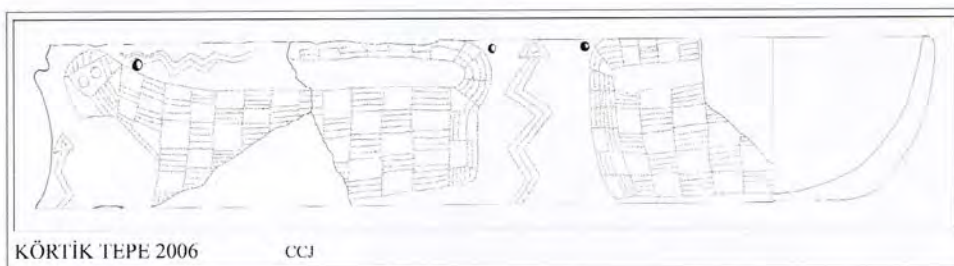


Fig. 23 - Stone vessels with figurative designs.



Fig. 24 - Stone pestles.



Fig. 25 - Stone pestles.



Fig. 29 - Various stone implements with shaft-holes.



Fig. 30 - Horn-shaped stone objects.



Fig. 26 - Decorated shaft straighteners.



Fig. 27 - Decorated shaft straightener.



Fig. 28 - Decorated ceremonial axe.



Fig. 31 - Stone ritual objects with figures.



Fig. 32 - Stone ritual objects with figures.



Fig. 33 - Stone amulets.



Fig. 35 - Bone fish hooks.

Fig. 34 - Bone tools.



Fig. 36 - Decorated bone finds.



Fig. 37 - Decorated bone finds.



Fig. 38 - Various beads.