THE NEOLITHIC IN TURKEY
NEW EXCAVATIONS & NEW RESEARCH

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Tepecik-Çiftlik

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INTRODUCTION

Tepecik-Çiftlik is a höyük located in the southern part of the Central Anatolian Plateau, at the southwestern edge of Cappadocia, in a region where Pleistocene and Holocene volcanic activities have marked the scenery with volcanic domes, calderas, and eroded large craters. The site is located in the plain of Melendiz, an intermontane plain that actually stands as the marker of the plate tectonics that gave the Anatolian Plateau its present shape. Through the geological periods, the tectonic dynamics of the African-Arabian and Eurasian plates compressing the Central Anatolian plate had led to intensive volcanic activity in this region. It is evident that the present plain of Melendiz in the past was occupied by a paleo-lake and that in time it was filled up by a high rate of sedimentation, consisting mainly of volcanic ash, pumice, and tephras originating from the Neogene crater of the Melendiz massif. The present geomorphology of the Melendiz Basin, displaying the most striking examples of volcanic activity with andesitic and basaltic outcrops, is bounded on the south/southeast by the Melendiz complex and in the northeast by the Göllüdağ, a rhyolitic strato-volcano, attesting the presence of Quaternary volcanic activity in the region. Among volcanoes of the Pleistocene era, at least two (Hasan Dağı and Erciyes) were still in activity at the rise of the Holocene period. At first sight, the close environment of this small plain, with the highest Melendiz summit culminating at 2935 m at a general average of 2000 m for the massifs and some 1500 m for the plain itself, may not seem a suitable place for sedentary communities. However, compared with the other parts of the central plateau, and in particular with the vast openness of the Konya Plain, despite the prevailing cold winter conditions the Melendiz Basin offers a much more suitable habitat than is present in other areas. The colluvial soil of the Melendiz Plain is suitable for agriculture, and the plain is well irrigated by the network of perennial waters flowing from the surrounding mountains to merge in the plain with the Melendiz River. Accordingly, the Melendiz Stream, flowing westward through the Neogene ignimbrite formations by the İhlara Gorge before reaching the Tuz Gölü depression controls the drainage system of the plain. The work on our zoological and botanical material, even though still in a preliminary stage, seems to be in general accordance with the results of the environmental studies conducted in Cappadocia (Woldring 1998, 2002; Kuzucuoğlu 2002) suggesting that, relevant to the results obtained from Konya Plain (Kuzucuoğlu et al. 1998; Kuzucuoğlu 2002), there was an improvement in climatic conditions following the onset of the Holocene. The combined rise in temperature and humidity in the Early Holocene launches the start of vegetal cover development, leading to mesophytic forests with a predominance of oak trees and Poaceae grasslands. At the lowest part of the plain, the water table is very close to the surface, a reminder of the paleo-lake, which still could have been present during the Neolithic. Water, rich soils, clay deposits, hilly pastures, vegetal cover suitable for a large variety of wild fauna, a wide range of basaltic and andesitic stones for construction, and obsidian sources in the immediate vicinity of the plain, stand as good reasons to expect a Neolithic occupation in such a natural habitat.
Ian Todd, while surveying Central Anatolia during the 1960’s for prehistoric sites, gave a very clear description of the mound, roughly 300 x 170 m, with archaeological materials such as a high concentration of obsidian products matching the emerging hypothesis of the prime role played by obsidian in the neolithization processes of Central Anatolia (Mellaart 1954, 1958a; Todd 1966; Todd 1980: 44). Named after the nearby village’s name, Tepecik-Çiftlik was, despite its potential, discarded from the excavation programs due to priority given to the Konya Plain and mainly to the huge site of Çatalhöyük (Mellaart 1958b, 1962) and to Can Hasan (French 1972) and Yumuktepe in Cilicia (Garstang 1953). Later, with the commencement of excavations at Aşkılı Höyük (Esin 1996) located downstream on the Melendiz Su, northeast from Tepecik-Çiftlik and the Melendiz Plain, on the outskirts of the İhlar Gorge, the focus of archaeological research in the Cappadocia region had been oriented to sites attesting the emergence of the Neolithic era.

This course of research led to an artificial segregation in considering the Neolithic of Central Anatolia: Cappadocia standing for the Aceramic Neolithic period and the Konya Plain for the Pottery Neolithic period (Gérard and Thissen 2002), the former represented by Aşkılı and the latter by Çatalhöyük. By the mid-nineties Neolithic studies in Cappadocia took a new place with the commencement of wide-scale research on obsidian sources at Göllüdağ (Balkan-Ath et al. 1998, 1999), and with the beginning of the excavations at Tepecik-Çiftlik in 2000 (Bıçakcı 2000). In this respect, due to its critical geographic location Tepecik-Çiftlik, in close proximity to the obsidian sources and with easy access to the Tuz Gölü depression, the Bor Plain, and the Aladaglar, evidently stands as an indispensable site in documenting the diffusion of obsidian from the sources to Cilicia, the Konya Plain, and the West; accordingly, the outcome of the Tepecik-Çiftlik project is essential for resolving problems on a supra-regional level.

The höyük is oval shaped, covering an area of 33,300 m², and its relief in topography can be described as a semi-cone, with a steep northwestern slope reaching a top terrace culminating at 9.6 m above the surrounding plain level (Figs. 1-2). The actual extent of the prehistoric settlement must have been much larger, extending towards the south, than the area defined by the present cone, as evidenced by the scattered presence of archaeological material over a considerably large area along this section; seemingly this part must have been flattened due to agricultural activities that took place between the Neolithic and the present. A number of soundings conducted in the plain also confirms the presence of archaeological layers below the present level of the plain covering an area of about 30,000 m²; thus, we surmise the extent of prehistoric settlement to be about 6 ha. Even though the stratigraphy and the chronology of the earliest layers are yet to be elaborated, after ten years of field work the chrono-stratigraphy of the site is considered in five main occupational phases:

1. Late Roman-Byzantine (Level 1, badly destroyed, evidenced by graves).
2. Middle Chalcolithic (Level 2, mainly exposed in the north-western part of the excavation area).
3. Early Chalcolithic (Level 3, exposed over almost all of the excavation area).
4. Pottery Neolithic Upper Phase (Levels 4 and 5, excavated under Level 3 on some 400 m²).
5. Pottery Neolithic (Levels 6 to 9, known from a deep sounding in trench 16K).
In the first campaign of 2000, in addition to soundings reaching the lower layers, three trenches of 10 x 10 m were opened; since then our exposure reached 1130 m² in the höyük’s upper area (Fig. 3). Actually, two main sectors can be discerned where the stratigraphic sequence has best been documented. The first one is located in the middle part of the excavation area, in grid squares 16-18/J-K, which covers an area about 600 m².

The first deep sounding was excavated on the western half of trench 16K in 2004 and excavated until now to a depth of ca. 6 m with a gradual decrease in size (Fig. 4), providing ample evidence for the stratigraphic sequence of the mound. South of it, following the gradual removal of the baulks, a second large sector of 300 m² was laid out; giving us now a good extensive account of Level 4. This investigation will be extended southward in the two remaining trenches of the Level 3.

MIDDLE CHALCOLITHIC PERIOD (Level 2)

Due to the successive implantation of one building over another and the state of erosion, Tepecik-Çiftlik Level 2 has been best preserved at the highest part of the cone of the höyük in the western and northwestern sectors of the site; in other areas erosion and the construction activities of the later periods had greatly destroyed the remains of this level. Accordingly, in the trenches closer to the top of the mound (namely trenches 17l, east of 16l and north of 17J) secure contexts of the Middle Chalcolithic were encountered in an area of over 100 m². Part of this horizon displays evidence of a large burnt area, with poor quality construction, stones embedded in a gray ashy deposit. To the west of this area a part of a building complex with numerous building and/or repair phases was exposed.

The chronological-cultural interpretation of Level 2 still needs to be elaborated through further fieldwork, as the absolute dates obtained from the dumps cannot be considered as secure contexts. Nevertheless the presence of a significant group of pottery with incised decoration, similar to that of the so-called “Geveri-type” (Esin 1993; Makkay 1993), inevitably brings Tepecik-Çiftlik into the ongoing discussions on the development of ceramic styles during the Middle Chalcolithic period in Central and Western Anatolia, an issue still to be clarified both in chronology and in terms of cultural interaction (Godon and Özbudak in press).

EARLY CHALCOLITHIC PERIOD (Level 3)

The Early Chalcolithic period is characterized by a very dynamic development in the architectural layout of the settlement. Extending over a rather long period of time that might cover four centuries and incorporate various archaeological entities (see the chronological assessment below), we could distinguish six main sub.levels of reconstructions involving numerous changes and extensions of architectural units. On a synchronic plan, it is clear that the Early Chalcolithic architectural layout does not follow the static honeycomb organization of households that characterized the aceramic period in Ağıklı (Esin et al. 1991) and later on at Çatalhöyük (Mellaart 1967). On the contrary, here the layout of buildings is much more dispersed and much less rigid with separated households and in continuous self-reorganization, marked by the added annexes, modification of inner arrangements and the adding of an extra room in open areas (Figs. 5, 25). It implies that the settlement pattern kept its distinctive and consequent relation of the built and open areas through time.
The flexibility in construction practices can be observed successively; when a core building was abandoned, a new building was constructed according to the available space, but not necessarily according to the layout of the previous building (Fig. 6).

Within the six sub-levels of the Early Chalcolithic period, two main architectural phases can be distinguished: the lower phase, corresponding to a large occupation of the excavated area by structures, and the upper phase, corresponding to a major reorganization of the site involving abandonment of structures and a rebuilding following a different layout of the buildings and open spaces.

A building complex belonging to the lower phases was exposed at the middle of the excavated area, oriented north-south and surrounded by open areas on both west and east (Fig. 5). In the course of its occupation, several rooms of different dimensions were added on the west, which reduced the size of the open areas on this side. In spite of the reduction of their sizes, open areas existed to be used and they were never occupied completely; the settlement pattern with built and open spaces was sustained.

As the areal coverage of the excavation extended towards the south to cover trenches 16L to 18L, it became possible to view the patterning of the buildings more extensively. Two large and well-preserved structures were found under the partially destroyed remains of the Early Chalcolithic upper phase (structures BK and BL; Figs. 7, 11-12). Internal space organization follows the same pattern in both cases; a large oven is located in the apse. The multi-layered burned clayey soil suggests that the oven was used over a long period of time with frequent refurbishment (Figs. 9, 14). Along one lateral side of each building, the space is divided into tiny rectangular units, built up with kerpîç walls, presumably storage facilities as indicated by carbonized remains (Figs. 10, 13). At the western side between trenches 16L-M and still partly unexcavated, a simple square building provided evidence of obsidian knapping on its floor (Figs. 7-8). A thorough analysis of this lithic assemblage may show if this flake concentration is due to random knapping, reject dumping, or if it is part of a multi-phase knapping process that took place in a small lithic workshop.

The practice of using the open areas of previous phases for building became more common in the upper phase of Level 3 as new building units were set up in the northern part of the settlement (AJ and L in plan Fig. 6), and the original settlement layout somehow kept on throughout the next phase but eventually was completely replaced, as rebuilding processes obliterated the disposition of the original structures.

In an overall assessment, compared to the homogeneity observed during the long time-span of the Aceramic Neolithic of Aşkül and of the Pottery Neolithic of Çatalhöyük, the Early Chalcolithic settlement at Tepecik-Çiftlik presents a high degree in building type variability. Skipping details, there are three main types of buildings in this level: single large-roomed ones (for example structure 0; Figs. 6, 19, 22), with internal separations or external extensions eventually built-up in the course of their uses (structures U and Y; Figs. 5-6, 15), multi-room ones, with small inner stone-walled partitions in their later building phases (structure P-Q-R, Figs. 6, 20-21), and buildings with apses.

Although the preserved height of walls do not always allow making a detailed account of their nature, the stone socle walls are well enough preserved to show both variability and development throughout the sequence. Mainly set up by two stone courses, mostly joining each other or eventually being connected by a fill of small stones, the average thickness of
the walls is about 50 cm. Evidently, in the construction of some parts of the walls, the stones to be used were selected with care, such as flagstones for foundations, and geometric square modules of large size for the corners, but the main body of the sub-basements are of rough stones. Untempered clay mortar used between stones can clearly be observed in the walls especially the ones preserved up to six courses high. Generally, particular care was given to the upper surface of the last row of stones to attain flatness for supporting the kerpiç elevations; however, the latter, except for a few cases, was not preserved at all. In spite of the paucity of in situ preservation of kerpiç on the main walls, they were better preserved in the inner partition walls that are frequently made only of kerpiç.

There is a considerable variability in the Early Chalcolithic burial practices at Tepecik-Çiftlik; indoor inhumations are rare and are confined generally to new-born babies, buried under the floors. Primary burials are frequent in the lower phase, buried outside in a hooker position, generally with some small gifts disposed at their sides. Secondary burials increase during the upper phase of the Early Chalcolithic period, displaying a wide range of burial practices such as the complete dismemberment of the bodies or simple removal of the heads (Fig. 24).

This brief outline of the Early Chalcolithic sequence of Tepecik-Çiftlik indicates considerable building activity featured by the constant changes in architectural layout, and the lack of a rigid and permanent general settlement pattern. Yet, the cultural frame is certainly not a loose one, considering the social ties essential for common activities and pooling of food supplies as shown by the large storage and food processing buildings. The same can be stressed for the burials, encroaching upon common outside areas instead of being kept inside the privacy of the households.

NEOLITHIC PERIOD (Upper Phase: Level 4)

The Upper Neolithic Horizon (Level 4) was exposed in an area over more than 700 sq. m. There is a marked change in the placement of open spaces between the Early Chalcolithic and Late Neolithic occupations; it became evident that the structures of Level 3 that were encountered all over the excavated area were built-up over Late Neolithic open areas (Fig. 18). In that respect, there is no direct continuity from the Late Neolithic settlement layout to the Early Chalcolithic one. In the centre of the excavated area (trenches 16-17J-K: Fig. 3), over the slight remains of a structure east of square 18J, an open area, at present covering about 600 m², has been uncovered. Building remains of this level have been exposed at the northern part of the main excavation area, in grid squares 17-18J (Fig. 28); there, structures designated as AL and AM might be contemporaneous or they represent two or more different building phases. Close to the badly destroyed structure located in 18J, a pair of two domed ovens, respectively contemporary with the two building phases, was found.

The kilns are made of clay with mineral temper and are oval at their bases. Measuring respectively 3 x 1,5 and 1,5 x 0,75 m at the lower parts of their chambers, their foundations and chamber walls are rather thick; the clay used very hard and dense, providing enough strength to build them on the ground without any further substructure preparation. This points out a clear difference between later types of ovens recovered in the Early Chalcolithic period, which are all built-up on flagstone foundations.

1 Covering trenches 16J to 18J; 16K to 18K and 17-18L; later the baulks separating the trenches were removed providing an unbroken view of the exposure.
The second group of remains, consisting of a multi-room structure located north of squares 17-18L and 17-18K (Figs. 26, 28), also presents a clear difference in the architectural tradition and burial practices. First, the building complex is very large, covering an area of some 100 m² comprising a substantial square building with thick stone walls (structure AK) extending to an area of about 75 m²; on its east, two other smaller rooms (or structures) were appended later; room AY and room BA, respectively. These two rooms were built with thinner stone walls than those of structure AK. There is a marked difference between the main structure and those appended to it, in both construction techniques and the types of stones employed. The walls of the main structure are of large and flat stones of about 40 cm in dimension laid in two rows; thus, the thickness of the wall is about a meter, a massiveness never reached in any of the later buildings. In particular the stones chosen for the lower courses of the wall are larger, well bound to each other, displaying fine stonework. There is a single course of large boulders of 50 to 100 cm in length laid side by side as the lower course of the wall, protruding from both surfaces and forming bench-like projections on both sides. It seems that this lower course was constructed as a foundation set in a foundation trench. The walls of the two annexes (except for the partition wall between AK and BA), are of two rows of smaller stones, and the thickness of the walls is about 50 cm.

In the southern half of the structure AK there is a thick accumulation of ash, carbonized organic materials including seeds, timber parts, and calcined stones deposited through the collapse of the upper parts of the structure by a heavy fire. Several artefacts were recovered on the ground level of this deposit; among the interesting items related to the buildings inner arrangement are two sets of bull-horns eventually embedded in the walls. A small piece of painted plaster, in bright red and cobalt blue colours, bears witness to painted decorations; yet the original location and extent of those decorative elements are not known (Fig. 55).

The most striking feature of the Late Neolithic horizon is the relation between burial practices and buildings. In contrast to the lack of connection between burials and households during later horizons, Level 4 presents quite a different picture; inside of structure AK, skeletons of two newborn babies were found in two straight sided vessels buried under the floor and a simple primary burial of a baby was found below the floor of structure BA. In structure AY, a mixed context of overlapping primary and secondary burials, the remains of twenty individuals ranging from babies to young adults have been recovered. However, in-building inhumation was not the only burial practice for the dead in Level 4; to the west of the large building complex, in the southeastern part of square 16K, 16 individual burials in kocker position were recovered (Figs. 23, 27). All of these burials are adults; most of them with the heads oriented southward, a few northward (Biçakçi et al. 2007: fig. 17). Scanty burial offerings were found, consisting of a pot and some beads scattered around the dead. In square 16J, nine burials were found, consisting of four adults, two youngsters, and three babies, one of the latter inside a pot.

Within the open area, and except for the above-mentioned burial concentration close by the households and some remains of fireplaces, no other features were detected that would reveal the use of this area. It is anticipated that the analysis of the faunal and botanical remains, and cast-off debris of obsidian disseminated in the wide shallow ditches and smaller pits will provide further evidence about the socio-economical organization of the Late Neolithic horizon.
NEOLITHIC PERIOD (Levels 5 and 6)

Level 5 revealed a large open area, similar to that of Level 4, but it is not clear whether or not the large building complex of Level 4 was built-up over earlier structures. That is to say, no household context can yet be associated with Level 5. The custom of open areas being used as burial grounds, as seen in trenches 16K and 16J at Level 4, is not witnessed in Level 5, at least within the expanse of our trenches 16-18J-K, now exposing 500 m².

The scanty remains of a probable large rectangular building were recovered in Level 6, square 17K. A part of this structure survived to be used later during Level 5 (structure BB), delimiting a quadrangular space of 1.65 x 1.50 m (Fig. 3, central trench). Even though the exact nature of this buildings earlier phase still needs to be investigated, it seems that it was soon reserved for burials, both primary and secondary, particularly evidenced in its well preserved half in the transition from Level 6 to 5 (Fig. 29) estimated to have had about 60 burials. In this compound two preserved primary inhumations were found, one under the partition wall dividing the original building in to two, the second at the top of the rather mixed bone assemblage piled-up in a deposit of more than half a meter. Current analyses of the human remains will decipher the process leading to such a context (Büyükkarakaya et al. 2009), but the repartition of bones, the grouping of a majority of the long bones, the squashing and mixing of the thoracic ones, as well as the high dispersion of vertebrae, indicate that some of the dead bodies were dismantled before being placed inside the building while anatomical connections still secured by ligaments also show that frequent rearrangements and scattering of the bones took place inside the building. The extensive presence of strewn bones with only a few complete skeletons suggests that this open space might have been used for clearing primary burials that were then moved away from inside this "mortuary chamber".

As previously noted, parts of this open space were characterized by ashy deposits, revealing randomly scattered small concentrations of waste obsidian fragments and animal bones—all suggestive of routine dumping and knapping activities. More interesting is an oval shaped, wide but shallow ditch covering about 70 m² over 16J-K and 17J-K squares extending west-east. This open space seems to have been used for a considerably long span of time from Level 6 to 5 as a refuse area for slow-combustion wastes coming from kilns as indicated by the prevailing thin and white ashy deposits; to the bottom of the fill there is a marked increase of carbonized seeds and twigs, tuff stones, and obsidian wastes. North from this large ditch, an oval pit of 2.5 m diameter, 60 cm deep was found to be filled-up by successive layers of ash and small retouched obsidian flakes. Clearly not an obsidian workshop, this pit, however, shows evidence of an action intended to clear-out the open area from sharp obsidian which could have been strewn over the area.

EARLY POTTERY NEOLITHIC PERIOD (16K Deep Sounding)

In 2004, a deep sounding was opened in the western quarter of trench 16K (Figs. 3-4) to obtain the stratigraphic sequence of the mound and particularly to understand the timing of its earliest occupation layers; at present the bottom of the deep sounding reaches 6 m below the summit of the mound. Considering the 9.5 m elevation of the mound above the actual plain level, there is at least some 3.5 m of potential archaeological deposit before reaching the basal occupation. Below Level 6, three more levels were noted based on the
changes in soil matrix; the soil below the ashy deposits of the open areas looks much more like a colluvial deposition. Below Level 6, the artefactual yield of obsidian, pottery, and faunal remains notably decreased; whether this is due to the limited areal coverage or not has yet to be verified by future work.

Contextually, such a small area is far from being enough for us to specify any cultural development from settlement layout, space organization, or architectural traditions. For the time being, and before extending the investigation of the earlier levels, one has to rely on material studies for a preliminary chrono-cultural interpretation. Numerous samples were taken for C14 analyses that are in process at this date; results of those analyses will provide a helpful chronological frame in a region so far lacking stratified evidence and absolute chronology for the Pottery Neolithic.

THE POTTERY ASSEMBLAGE

The Raw Material

Due to the geological setting of the region around it, the Melendiz Plain is very rich in secondary clay deposits; clay minerals washed down from the volcanic massif of the Melendiz Dağı are being drained into the plain and deposited along the Melendiz River crossing the plain from east to west. Even if riverbeds and smaller creeks changed their courses over time, clay deposits are easily available, making procurement relatively easy (Godon 2012). The macroscopic natural mineral inclusions in the archaeological sherds present similarities to the geology of the plain (Mouralis 2003). Group distinction based on raw material is not relevant in Tepecik-Çiftlik’s assemblage, even in diachrony. The clay is homogeneous through all of the assemblage, lacking any indication of a change in the mode of production or of any employment of special products. Except for the very few imported pieces of pottery, Tepecik-Çiftlik’s pottery is made of local clay, without selection of specific clay for one specific production among the others. It can be due to the potential homogeneity of the clay in the neighbourhood, coming from a rather restricted geological environment. Furthermore, a large palette of different types of clay among a pottery corpus does not always reflect a choice determined by technological variability or expected types of uses. Micro variability occurs in geological context and within a decade or even a couple of years. Especially in alluvial contexts, changes can appear in the mineralogy of clay even if the acquisition places do not change. One should be careful not to interpret clay changes always as a choice or an act related to pottery production itself. In the selection of clay, there can be numerous motives beyond simple procurement, which even might involve a stream of taboos due to its high symbolic value (Dietler and Herbig 1994; Gosselain 2000; Stark et al. 2000; Livingstone-Smith 2001). Clay procurement is frequently subordinate to activities related to pastures or agriculture (Gosselain 2002).

Tempers

From the earliest level to the latest, all wares contain organic temper (mainly chaff and grass), regardless of typological and technological variables. However, a clear chronological gradation is visible in the amount of vegetal use as temper. The earlier levels, up to Level 5, are characterized by an organic tempered paste in a ratio of 20% with thin grassy inclusions; this increases to 35/40% in the upper levels, especially in the upper phase of Level
3 when large jars begin to appear in the pottery assemblage. Inclusion of cattle dung, even if scarce, seems to be more important in the earlier levels. The amount of temper is balanced according to the finishing process of the surface of the vessels: thin vegetal material occurs in well-burnished wares. The employment of thin vegetal temper, common up to Level 5, does not seem to have an effect either on the strength of the vessels nor the homogeneity of the paste. In the upper levels, as the amount of organic temper increases, the vessels become lighter; at the same time their porosity increases. The variability of surface treatments increases as well, without being linked to typological shapes or groups. Only from the Level 3 upper phase to Level 2, mica inclusions appear together with thin vegetal temper especially in the highly burnished Black Burnished Wares (Godon 2012; Godon and Özbudak in press).

It seems that the adding of vegetal temper to the paste is most likely due to cultural traditions rather than technological considerations. The natural clay in the region is suitable for producing pottery without additional inclusions (Godon 2012). Even if vegetal temper might have been an answer to some specific needs as liquid storage facilities, the fact that it occurs in the entire assemblage for over a long period of time, indicates that it was not related to technological processes.

**Typology**

Throughout the sequence, from the earliest levels up to Level 5, hole-mouth and open forms such as large bowls dominate the assemblage along with straight walled pots and large trays (Fig. 32). Neither handles nor carinated shapes are present (Fig. 33). Concerning firing techniques (Godon 2005, 2012), the main group is characterized by a final oxidation of the surfaces being fired in an open fire with no specific control during the cooling stage; the dark coloured wares, including the black burnished ones, were fired under reducing conditions. Imported pottery is rare and it includes a black burnished ware without organic temper. There are also a very few samples of the so-called impresso type (Fig. 40), decorated with nail impressions similar to Mersin-Yumuktepe “Early Neolithic” ones (Caneva 2004; Balossi Restelli 2006). In the upper fills of Level 5, some red-slipped sherds appear; as they are very fragmentary, it is possible to surmise that they might have penetrated from the upper levels where red slip is common.

Chevron decorations and vertically disposed stylized snakes, made by wiping-back, are present in the earlier levels until the beginning of Level 3, where they start to be replaced by incisions rather than wiped-back reliefs (Figs. 30-31). Those decorations are not related to a specific shape or linked to a specific volume. They occur on small red-slipped bowls (Fig. 39) as well as on large open pots or hole-mouth pots (Godon 2012).

Parallel to the changes that took place in architectural practices by the onset of Level 3, the pottery production also changes this stage is marked by the increase in the amount of hunted animals and reorganization of space as shown by the new settlement layout's spreading over open areas. It seems possible to surmise that these changes are related to a shift in subsistence pattern. The changes notable in the pottery assemblage include a diversification of shapes, with carinated bases on bowls, carinated hole-mouth vessels and the first appearance of carinated necked jars (Figs. 36, 42). Red slipped wares increase dramatically; two different sorts of slip occur: a coarse reddish slip and a thin one, close to pur-
plish red colour, fired under highly oxidizing conditions. During this phase the process of firing is more variable and less controlled for the common light coloured oxidized wares than in the earlier levels; dark surfaced vessels and Black Burnished Wares were fired under reducing conditions. In Level 3 upper phase, anthropomorphic and zoomorphic decorations appear mainly on red-slipped carinated jars (Godon in press). The scenes depicted in those vessels are of daily life such as breeding cattle and goats or hunting of wild species (Figs. 33-38, 43b, 53, 57), an aspect of the subsistence economy that seems to be confirmed by the faunal remains recovered in Levels 3 and 2.

Detecting ample evidence for the contexts of the finds recovered in Level 2 was not possible due to the partially eroded nature of the fill; nevertheless, within the pottery assemblage a number of new elements such as new types of motifs and decorative techniques appear. Decorations are mainly incised triangular geometric patterns, sometimes filled by dots, or wave-like patterns, sometimes a combination of the two. This type of decoration is mostly confined to simple bowls or carinated pots with well-burnished surfaces that are fired in a reducing atmosphere (Figs. 41, 43a, 44). Two main decorative techniques are identified: one consisting of incising the surface while the paste is leather hard and the other fine, shallow grooving executed by excising strips of clay; the latter will be much more extensively used later in the sequence with the appearance of the so-called “Gelveri style” (Yakar 1991, 1994; Esin 1993; Makkay 1993; Godon and Özbudak in press).

Technology and Shaping

In general terms, through the sequential development from the earliest level to Level 2, there is an apparent concordance between discernible changes in ceramic technology and the appearance of new shapes of pottery. From the earlier levels to Level 5 in the shaping of pottery vessels coiling methods are present along with pinching and slab building (Godon 2012). Interestingly, coiling methods decrease notably after Level 5, to almost disappear in Level 3 where they are employed only to shape rims or necks. With Level 3 a larger variety of techniques are employed; pinching is still used for most of the simple shapes and slab building and beating in the shaping of larger vessels; slab-building is also common in the shaping of carinated bowls. The building process of the large carinated jars, including the decorated ones from Level 3 upper phase, follows a method involving both slabbing and moulding techniques. In the process of moulding, baskets have been used to give shape to the main body of the vessel; while, in a few cases, baskets are used as a convex matrix to shape parts of the jars (Godon 2005, 2010). This diversity of methods seems to go on in Level 2, where moulding methods are still present, together with pinching and slabbing and to a lesser degree coiling.

OBSIDIAN INDUSTRY

The significance of Cappadocian obsidian during the Neolithic period has been attested since early years of research (Renfrew et al. 1966; Wright 1969; Todd 1980). Even though our knowledge of the obsidian sources and the obsidian workshops located on the Gullidag and Nenezi Dag is steadily increasing with ongoing research (Balkan-Atli et al. 1998, 1999, 2011; Binder 2002, 2005; Slimak et al. 2008), our knowledge about different activities such as local production, trade, and communities involved in obsidian tool pro-
duction still needs to be elaborated. Likewise, issues such as the reasons beyond the decrease in the volume of Cappadocian obsidian trade to Mesopotamia and to the Levant at about 7500 BC and its association with the collapse of the PPNB interaction sphere and to the settlement at Aşık Höyük's coming to an end are far from being clear. In this respect, it is of interest to note that while the inflow of Central Anatolian obsidian to the southern regions was decreasing, obsidian tool production was increasing within Central Anatolia as evidenced at workshops on Göllüdağ and at Nenezi Dağı.

Until recently our knowledge of the Pottery Neolithic period was restricted to a few excavated settlement sites in the Konya Plain—Çatalhöyük and Can Hasan III, or to Mersin—Yumuktepe and Tarsus-Gözlükule in Cilicia. Cultural happenings after 7400 cal. BC in Central Anatolia defining cultural interaction spheres and the sequence of developments stood as a problematic issue. Evidently, our understanding of the nature of the control of the Cappadocian obsidian sources, workshops, and trade was severely limited by the lack of evidence and the paucity of known settlement sites; likewise, there is a need for thorough technological comparisons between the different available lithic assemblages of the region in general. In this respect, excavation at Tepecik-Çiftlik with its long chronological sequence is likely to contribute to the solution of the problems related to the production and to the technology of the obsidian industry in the region. As the analysis on the material assemblage has recently been initiated, only some preliminary observations will be noted here.

Concerning obsidian production at Tepecik-Çiftlik, there are two interesting issues that have already become apparent: the first one is the sustained presence of arrowheads made on bipolar points which are present through the entire excavated sequence; here it is worth underlining that this category of tools had been out of use in most of the Neolithic sphere by the end of PPNB except for Cappadocia and the Amuq regions (Özdoğan 2002).

At first sight, two production systems can be distinguished: one includes a well-controlled chaîne opératoire (production process), probably specialized, involving skills, knowledge of a standard method and wide range of techniques from the shaping of the preform to the débitage of such bipolar blades, and the shaping of the points by covering oblique parallel retouches made by pressure. Numerous points were found, at different stages of shaping, some of them unfinished and unused, some of them heavily used with evidences of resharpening of the ridges (Figs. 45-47). This may involve the production of unretouched blades next to the raw material sources and the shaping of them by retouches in the settlement itself. On the other hand, there are also some arrowheads made on coarser and less symmetrical bipolar blades, as well as tools made on bipolar débitage product wastes such as upsilon. It thus seems evident that there are both arrowheads produced by skilled craftsmen and (arrowheads as) a common production, sharing the same concept of bipolar débitage but involving different methods and techniques and certainly aimed at different goals. This latter seems to be a less professional or utilitarian production that is taking place, using leftover flakes mainly from bipolar products picked up around the workshops for personal use. It still needs to be verified whether secondary use of the debris was made from contemporary production wastes or on earlier production wastes picked up by Tepecik-Çiftlik's people around the abandoned workshops on Göllüdağ. No bipolar cores or bipolar product wastes were recovered inside the settlement; considering that the basal layers of Tepecik-Çiftlik has yet not reached, it will be of interest to see if the tradition of bipolar technology, which has its roots in the Ceramic Neolithic, was sustained up to the
early stages of the Pottery Neolithic period; this will have considerable consequences in understanding if there is a clear bond matching them with bipolar chaines opératoires from earlier Cappadocian sequences like Aşkılı Höyük and Kaletepe Sector P (at first sight, the module of bipolar points found at Tepecik-Çiftlik is quite out of Kaletepe’s range).

As a matter of fact, bipolar points continued to be used in Cappadocia up to the Chalcolithic period, until about 5500 cal. BC as evidenced by the presence of numerous arrowheads from bipolar blades also found at Köşk Höyük (Öztan 2007; see also Köşk Höyük in this volume), Pınarbaşı-Bor (Silistrelli 1983, 1984), and from other surface surveys. However, none were found in Güvencıkayasi, and seemingly none at Gelveri, a bit later in time (Güçür 2004).

At Tepecik-Çiftlik bifacially retouched pieces were found in the deep trench and they continue to be in use up to Level 3 lower phase. These bifacial tools are shaped on large flakes, sometimes with the presence of limited surfaces of cortex, and have biconvex or plan-convex sections; they are finished by invasive retouch on both surfaces. The lateral ridges often present secondary retouches of resharpening (Figs. 48-50). Similar ones were found in Çatalhöyük East (Bialor 1962; Balkan-Ath 1994; Conolly 1999; Carter et al. 2005), from between 7000 to 6400 cal. BC. Known from the Kaletepe excavations (Kaletepe Sector M) and surveys on the Göllüdağ and Nenez Dağı, workshops were providing bifacial pieces for Çatalhöyük (Balkan-Ath and Binder 2001), from Kömürçi obsidian as well as from the Nenez Dağı workshops (Cauvin and Balkan-Ath 1996; Binder 2002) The same shaping methods are in use for the bifacial pieces of Tepecik-Çiftlik. It gives a strong line of studies: Are those tools made from the same obsidian, with the same technology? Can we relate Çatalhöyük’s bifacial productions to Tepecik-Çiftlik’s ones? C14 dates will first clarify the strong possibility of their contemporaneity and technological analysis can show if, perhaps, Tepecik-Çiftlik and/or Cappadocian sites were at the head of a controlled trade of raw material and tool productions spreading across Anatolia or part of a net involving shared technological traditions among Central Anatolian Pottery Neolithic sites. This may be one of the main reasons for a strong cultural local development which might have started during the Aceramic already.

An interesting cache of bifacial points has been recovered hidden in the southeastern corner of the AK building in Level 4 consisting of twenty-one bifacial points, horizontally disposed on the ground, together with a stone stamp seal (Figs. 51, 59a). Half of the points are 12 cm long, the common size average so far for such points at Tepecik-Çiftlik, but the rest are longer than 18 cm, one being nearly 25 cm long. Such a point production raises the question of a highly skilled long blade-knapping process. Observation of the blank (thickness, bending, ventral face ripples, flaking angles, and extension of the first negative shaping removals) shows that those points were not shaped from a plain nucleus but probably on very large and long blades (nearly 6 cm).

As noted above, issues related to the control of obsidian sources, production, and potential trade, and the role played by Cappadocian settlements in it, are only on the verge of being figured out. Recent studies on the obsidian industry of Çatalhöyük (Conolly 1999; Carter et al. 2005, 2006), point out that Çatalhöyük was not involved in any regional obsidian redistribution process as a trade centre, contravening Mellaart’s consideration of an economy based on obsidian trade. On the contrary, obsidian preforms, tools, notably bifacial points,
were imported from Cappadocian sources and workshops to Çatalhöyük. Even though there are still no absolute dates from Kaletepe Workshop M (Binder 2002), technological features imply that bifacial productions from the Gölüdağ workshops were exported to Çatalhöyük, from Level XII to VIII (in terms of Mellaart's stratigraphic sequence). From the earliest horizon up to Level VII 70% to 90% of the lithic assemblage is of Cappadocian origin and used for domestic purposes only (Cessford and Carter 2005; Carter and Shackley 2007).

If any control of the obsidian sources did take place, it should rather be sought among communities living in the vicinity of Gölüdağ (Tepecik-Çiflik), and close to the major communication roads towards the Konya Plain and the Taurus Mountains (Pınarbaşı-Bor, Köşk Höyük), a fact supported by the evidence of Mersin-Yumuktepe. During Yumuktepe “Early Neolithic phase”, between ca. 6700-6200 cal. BC, Cappadocian obsidian was dominant in the lithic assemblage (Caneva 1999; Zambello 2004), imported as preforms and plain tools mainly from the Gölüdağ outcrops and, in a lesser amount, from the Nenezi Dağı sources (Caneva and Köroğlu 2010). Among the productions, bifacial points shaped by sub-parallel retouches made on bipolar blades bear strong similarities with the ones recovered at Tepecik-Çiflik, Köşk Höyük and Çatalhöyük, and also possibly at sites like Pınarbaşı-Bor or Ilicapınar (Mellaart 1958b).

OTHER ASSEMBLAGES

Ground Stone Industry

The study of the typological, technological and functional analyses of the ground stone industry has been initiated by Jaroslav Řídký; even in its preliminary stage the presence of a wide range of tools, from small grinding slabs to large stable mortars (Biçakçı et al. 2007), has been sorted out.

One of the artefact categories is the “worked-stones” that are of fine-grained natural pebbles without any further shaping of the stone itself (Fig. 58 left); these have been designed as tools due to use-wear on their surfaces, evidently used to shape and sharpen bone tools or other implements of organic materials. The pebbles that have been used by rubbing, such as pottery burning tools, or as part of leather tanning operations have smooth utilization surfaces, while others are defined by grooved areas created by repetitive friction. There are also others with pecking marks that must have been use as hammer-stones seemingly for direct percussion in lithic production.

Coarse ground stone artefacts, as in present-day Anatolian villages, are common in Neolithic settlements; among them a large variety of mortars, grinding slabs, or basins made of basalt and rhyolite have been recovered either in primary position or reused in sub-basement parts of walls. Pestles and anvils of various sizes, made from similar raw materials, are present in the assemblage.

Commonly grouped under “stone axes”, a variety of heavy choppers, axes, and small hatchets made from limestone or fine-grained basalt indicates both specialized productions and a wide geographical range of raw material procurement out of the Melendiz area (Fig. 58). In building U (Level 3 lower phase), in a small cache numerous stone axes were recovered together with some obsidian tools, deer antlers, pestles, and stone hammers; this cache was covered or sealed by rhyolitic flagstones like a safekeeping place (Figs. 16-17). It is of inter-
est that some raw materials like limestone, rare enough in the vicinity, were also kept in that cache. We surmise that this small cache was not a mortuary offering, but was a supply of the valuables of a craftsman, similar to the cache of long bifacial obsidian blades mentioned above (Bıçakçı et al. 2007: figs. 15–17).

Bone Industry

As the study of the bone industry still needs further comprehensive analyses, only some general observations will be presented; needles, awls and punches, spoons and scrapers in large amounts (Bıçakçı et al. 2007), and a few special sculpted zoomorphic artefacts. Some are very realistic, depicting boids, while others are more stylized (Figs. 52). A fair number of tools were made of wild animal bones, an evidence matching the high rate of wild animals among the faunal remains². Worked bones and teeth were also used as part of jewellery sets, pierced rib segments certainly mounted in arrays, diaphysis segments linked-up to form necklaces, and carved flat-bone pendants. There are also a few marine shells that were used as jewellery.

Nearly a hundred bone figurines made from horse and donkey phalanxes have been recovered; even though their sequential distribution is not very clear, they at least occur down to Level 5. They have been shaped first by abrading and then smoothing the surface of the surface-cortex of the bone to attain a simple humanoid silhouette (Bıçakçı et al. 2007: fig. 47/h–l). Such examples are known only from Dja de on the Middle Euphrates (Coqueugniot 2000: 70, figs. 2–3) and from southwestern Romania, at Cuina Turcului (Gimbutas 2001: 5, fig. 3).

Stone Ornaments and Seals

As already mentioned, burials are mostly without mortuary offerings or personal belongings; accordingly beads and other ornamental pieces have been recovered either as stray finds from open areas and in refuse deposits or from inside building rubble. The available assemblage mostly consists of tiny pierced stone beads; on rather rare occasions they have been recovered in primary contexts showing their use as necklaces (Fig. 60). There are also some larger zoomorphic beads or pendants depicting horse, goat, or deer heads.

Stones used in the production of ornaments vary considerably; among them besides pyrite, goethite and limestone, those of copper-derived mineral formations such as turquoise, malachite, and azurite are worth mentioning. In this respect the complex geology of the Melendiz-Göllüdağ and Hasan Dağı region makes available volcanic rocks, metamorphic, and sedimentary rocks such as limestone and other minerals; however, specific geological surveys targeted in locating source materials are still lacking. On the other hand, considering the large amounts of obsidian traded from Cappadocia to Central and Eastern Anatolia, Cilicia, and even further, there is no doubt that such small amounts of precious minerals could easily have come from the Taurus Mountains or even from Iran.

¹ The first work on the fauna, covering only surface to Level 5 of trench 16K was carried out by Hijlje Buitenhuys and Bonu Öksüz, indicating that between Levels 3 and 5 domesticated sheep–goats and cattle along with pigs, equids, and wild species occurred. Throughout the Chalcolithic levels there is a marked increase of the wild species, including deer, wolf, fox, bear, hare, rodents, and birds. As a matter of fact, Tepecik–Çiftlik’s community was never completely reliant on domesticated animals. Indeed, hunting seemingly increased over time.
The stone seals of Tepecik-Çiftlik display a high level of craftsmanship in shaping, carving, and burnishing of fine-grained stones. Even though stone seals have been recovered only in Levels 4 and 3, it is hard to state at this point of the excavation that seals were not in use before Level 4. The carved flat surfaces of the seals, depicting geometric designs, are two to five centimetres in diameter; they are either circular or oval in shape (Figs. 56, 59). A cone-shaped seal with a small hole drilled through the top probably allowing for a thin string to latch may also have been used as a necklace. Among the common designs are various combinations of cross and parallel lines with hollowed dots either between the lines or cutting through them; axial main lines combined to thinner radial ones or only with radial lines3 occur rather frequently. On the clay stamp seals there are other designs like combinations of small squares or concentric circles, patterns that are extremely widespread among the Neolithic cultures of Western Anatolia, the Aegean and Thrace after ca. 6400 cal. BC (Lichter 2005).

CHRONOLOGY AND CONCLUDING REMARKS

There are a large number of C14 samples that are still being processed; at present. Our chronological sequence is based on three absolute dates from Levels 4 and 3 and our assessment of earlier levels depends on relative bases.

<table>
<thead>
<tr>
<th>Lab. Code</th>
<th>Sample</th>
<th>Age BP</th>
<th>Age cal. BC</th>
<th>Mean</th>
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<tbody>
<tr>
<td>KN-5914</td>
<td>N°93 Level 4</td>
<td>7418±78</td>
<td>6297±80 BC</td>
<td>ca. 6300 cal. BC</td>
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<tr>
<td>KN-5915</td>
<td>N°94 Level 4</td>
<td>7454±41</td>
<td>6328±58 BC</td>
<td>ca. 6330 cal. BC</td>
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<td>KN-5916</td>
<td>N°83 Level 3.4</td>
<td>7171±43</td>
<td>6041±26 BC</td>
<td>ca. 6040 cal. BC</td>
</tr>
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</table>

The earliest horizon of Tepecik-Çiftlik Level 5 is evidently earlier than 6300 cal. BC, the absolute date of Level 4. However, the numbers of contemporary sites that can be used for comparative dating are very limited. As previously noted Tepecik-Çiftlik is characterized by the dynamic structuring of the settlement, a feature that stands as quite different from other sites in Central Anatolia. Likewise, the pottery assemblage of the basal layers presents a picture different from the other sites in the region (Godon 2012); the presence of snake-like decorative motifs, large trays, and husking tray fragments are highly suggestive of some Mesopotamian connections.

The presence of bipolar lithic technology at Tepecik-Çiftlik seems clearly to have its roots in the bipolar tradition of Aceramic Cappadocia in the incipient stages of sedentary life. A thorough study of the bifacial points based on a comparative analysis of the Göllüdağ workshops and the Çatalhöyük assemblage is likely to resolve problems in understanding the cultural interactions between Konya and Cappadocia. At the present state of our knowledge, bifacial points occur in Çatalhöyük from Level XII to VIII with quite early dates covering the time period between 7000 and 6700 cal. BC.

3 Such strip and radial patterns are also present south of the Taurus in Cilicia (Caneva and Köroğlu 2010: fig. 54), an example of large supra-regional interconnections.
4 OxCal 4 calibration.
The date of our Level 4, ca. 6300 cal. BC, is of critical importance as it represents the appearance of red-slipped wares that require a new way of controlled firing technique in pottery manufacturing; actually it is this new ware and the technology involved that is a marker for the massive expansion of Neolithic cultures to Western Anatolia and then to the Aegean that took place after 6400 cal. BC.  

Level 3, with a single date around 6000 cal. BC for its earlier phase, presents a picture almost identical to those of Köşk Höyük’s two earliest levels (Özatan and Özkan 2003; Özkan 2007) and Pinarbaşı-Bor (Sülistrel 1989), both in pottery typology and, seemingly, technology (Godon 2010). C14 dates from Köşk Höyük, also pointing to 6000 cal. BC, concord well with the anthropomorphic and zoomorphic relief-decorated large jars at Tepecik-Çiftlik. Considering the important cultural developments that took place between 6400 and 6000 cal. BC in Western Anatolia, it seems possible to surmise that these might have been triggered by the happenings in Central Anatolia. Changing trends in the procurement of obsidian, changes in pottery production at Çatalhöyük between Level VI and III, covering two centuries after 6400 cal. BC, the massive production of red-slipped pottery, the rather sudden appearance of relief decoration in Cappadocia sharing strong style similarities with the long wall-painting tradition at Çatalhöyük—all are to be accounted among the significant happenings that took place in Central Anatolia during the two centuries that followed 6400 BC.

Following Level 3, and without any break in lithic production and pottery production, Level 2 shows a cultural stability underlined by the continuity of technological traditions; yet, major developments occur both in terms of architecture and socio-economic organization as evidenced by the increase in the number of large storage jars. Incised geometric decorations make their appearance at the very end of Level 3, to become well attested in Level 2, along with carinated bowls and highly burnished surfaces competently fired under reducing conditions. Such developments are not restricted to Cappadocia itself, but have also been attested at sites such as Can Hasan 2B, Çatalhöyük II-I, more or less after 6000 cal. BC (French 1998, 2005; Last 2005; Franz 2007). The appearance of all these elements in an extensive area almost simultaneously presents new problems on a supra-regional level, both on a new patterning of inter-regional cultural processes and to fast diffusion of pottery styles over long distances.

Excavations at Tepecik-Çiftlik have indicated that between 7000 and 5500 cal. BC the cultural profile of Central Anatolia was not as homogeneous as conventionally considered and, even though there were no strict boundaries, the cultural sequence of Cappadocia was different from that of the Konya Plain. In spite of the intensive trade of obsidian and shared technologies in its production, the cultural sequence diverged in several aspects, from settlement pattern to ceramic production. It should be pointed out that the major relationships, seen in pottery production, seals, and socio-economic spheres, are embedded into events overwhelming Central Anatolia itself, first around 6400 cal. BC, then between 6000 and 5500 cal. BC.

Among the future prospects of the Tepecik-Çiftlik excavations, our first priority is to enlarge the exposure of the basal occupation layers so as to attain dependable information and also to expose more of the Middle Chalcolithic horizon (Level 2) to find better preserved archaeological contexts.

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Fig. 1 - Topography of the site and the location of trenches.

Fig. 2 - The mound from the north with the Melendiz Dağı in the background.
Fig. 3 - Kite photo of the excavation in its 2011 state of research. The central open area belongs to Levels 5 and 6, the large AK structure from Level 4 and some architectural remains from Levels 3 and 2 after removal.

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Fig. 14 - The multi-layered firing place inside building BL, Level 3.

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Fig. 16 - Building U-Y from the north with the safekeeping place for tool and the flagstone cover.

Fig. 17 - Building U-Y from the north with the safekeeping place for tool and the flagstone cover.
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Fig. 20 - Level 2 architectural remains in 16J-K from top.
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Fig. 31 - Two straight-wall pots with wiped-back decor, Neolithic, Level 4.
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Fig. 44 - Decorated pottery of the Middle Chalcolithic.

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