TERRITORIALITY AND SOCIAL CHANGE IN PREHISTORIC COMMUNITIES. A CASE-STUDY FROM THE BURDUR PLAIN (ANATOLIAN LAKE DISTRICT)

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Changes in settlement constellation, site plans and archaeological inventories of excavated and surveyed sites in the plain of Burdur (Anatolian Lake District) constitute the basis for inferences about changing social systems and emerging territoriality in prehistoric times. The regular but changing settlement constellation of the höyükts in the Lake Burdur plain has been interpreted in terms of the emergence of territorial behaviour, and economic and social changes. While it is accepted that population growth (inherent, and at times reinforced by immigration) was the fundamental factor leading to change, there were varied ways in which communities reacted to social stress, as expressed in high population numbers and shrinking exploitation territories. Through either fission of communities or recurrence to social stratification, extreme social stress was avoided. Until the EBA1, a mature system prevailed. The rapid collapse of settlements and the dwindling of material evidence during the EBA2-EBA3 may have been the consequence of internal social convulsions resulting from an inability to mitigate stressful conditions. The onset of these convulsions seems to be embedded in the shrinking exploitation territories during the EBA1.

1. Introduction

The geographical framework of this study is constituted by the plain of Lake Burdur (854 to 950 m a.s.l.) located in the western reaches of the Turkish Lake District (Fig. 1). Today, this region is one of the most fertile in the area and is completely under cultivation, with the exception of the swamps along the southern edge of the lake. Extensive stretches of flat land are covered with wheat and chickpea, and abundant orchards and gardens are concentrated around the villages (Fig. 2). Few of these villages are located within the basin proper. Most of them are located near the low mountains bordering the plain to the west, the south and the east.

The Burdur Lake plain has been the scene of intense archaeological investigation. In the early 20th century, B. Pace published his observations on some of the höyükts (or tells) located here. The surveys of J. Mellaart in the 1950's led to the excavation of the mound of Hacilar between 1957 and 1960. From 1978 to 1988 excavations took place at the mound of Kuruçay, in the vicinity of Hacilar, under the direction of R. Duru. Since the 1970s, systematic surveys of the Lake District, by M. Özsait, have led to the discovery of dozens of höyükts. Recently, G. Umurtak initiated prehistoric research in the same region. Finally, the 1996 survey organised within the framework of research at the ancient city of Sagalassos (7 km north of the village of Ağlasun and ca. 35 km east of Lake Burdur) focussed on the plain of Lake Burdur.

In spite of the large amount of data, no attempt has been made yet to integrate both surface survey and excavation data into one overview on social and economic changes in these prehistoric communities. In 1988, Eslick published an article in which she reconstructed the social system shaping sites such as Karataş, Bağbaşı, Hacilar and Kuruçay in southwestern Anatolia, and to which frequent reference is made in this paper. Yakar, a scholar with a wide knowledge of Anatolian prehistory, has equally devoted much of his work to the socio-economic characteristics of early farming communities. Both Eslick’s and Yakar’s contributions have been based exclusively on data pertaining to large, excavated sites. No survey data have been taken into account. This has important implications for the reconstruction of the settlement pattern, since a lot of information is disregarded, thus creating a very partial image of prehistoric occupation. Moreover, when plotting all known sites, and not merely the excavated sites, the regular but changing settlement constellation of the höyükts in the Lake Burdur plain immediately catches the eye. A similar phenomenon has been observed elsewhere in Anatolia, for instance during the Early Bronze Age in the Lower Euphrates basin, but a socio-economic study of its meaning, along the lines of Perlès 1999 paper on Neolithic Eastern Thessaly, has not been undertaken.

The current article proposes a new interpretation of the socio-economic and territorial development of settlement in the Lake Burdur basin, based on existing and new data, collected during the Sagalassos surveys, which were hitherto
not included in scholarly studies.

2. Human territoriality

In 1970 Vita-Finzi and Higgs published the theory that human communities throughout history and prehistory practised territorial behaviour with regard to their exploitation of landscapes, based on observations in the fields of ethnography and human geography. They suggested that hunter-gatherer settlements might be associated with territories of up to 10 km radius from a home base, pastoral herder sites with a 7.5 km territorial radius, and farming communities with a 5 km radius. These maxima were determined by the related principles of least effort and land rent: increasing distance from the home base increases the effort that must be expended in order to reach a specific resource, and also increases transport costs\(^1\). Based upon similar ethnographic research a decade earlier, Chisholm formulated the law of diminishing returns: costs of operation rise with increasing distance between fields and the home-village; the return per hour worked by a farmer must be greater on plots located at a distance from his village than on nearer plots, to compensate for increased costs (chiefly in the form of time spent travelling to the fields). Chisholm’s formulation predicts progressively less intense degrees of farming at increasing distance from a village. At a distance of 1 km from a home-village, the decline in net return is enough to be significant. At about 3-4 km (ca. 1 hour walking), the costs of operation sufficiently rise to be seriously detrimental. It is exceptional for distances to greatly exceed this limit. When faced with greater distances, the farmer has a choice: either he prefers the comfort of the village and works his lands less intensively, or he chooses to increase his production by intensive exploitation, requiring residence on the land under cultivation\(^1\). Both models set an economically determined upper limit to intensive cultivation at ca. 1 hour walking. The lower limit for a viable local economy has been estimated by Bintliff at ca. 1 km\(^1\). Communities with territories this small are under serious stress. Communities with a territorial radius of 2 to 3 km are considered to represent stable, mature systems.

Strongly territorial behaviour has been linked to the emergence of farming communities. Dyson-Hudson & Smith state that territoriality is expected to occur when critical resources are sufficiently abundant and predictable in space and time such that the costs of exclusive use and defence of an area are outweighed by the benefits gained from resource control. They define territory as an area more or less exclusively occupied by an animal or group of animals (including humans), in which this exclusivity is maintained through the repulsion of others by means of overt defence or advertisement. This definition emphasises the behavioural basis of territoriality without over emphasising a single possible mechanism of maintaining exclusivity (such as aggressive defence) at the expense of other possibilities (e.g. mutual avoidance based on olfactory or visual markings)\(^1\). The costs of territoriality include (1) the time, energy and/or risk associated with defending an area; (2) the possible diversion of time and energy from other necessary activities; and (3) the possible negative consequences of relying on a spatially limited area for resources. The benefits of territoriality result from exclusive access to critical resources; however, this benefit is conditioned by factor 3 and should be considered as relative to alternative (nonterritorial) modes of resource utilisation. Furthermore, the cost-benefit ratio of a territorial strategy is highly dependent on the pattern of resource distribution, for which the most important parameters are predictability and abundance. Predictability has both a spatial component (predictability of location) and a temporal one (predictability in time). Abundance or density of a resource can be measured in several ways: in terms of average density over a broad area (the average for the territory or home range), as an average value within a particular type of microhabitat (within-patch density), and in terms of the fluctuation of density over time (range of variability). Resources that are predictable in their spatiotemporal distribution have greater economic defendability than unpredictable resources (cf. Fig. 3). A habitat in which critical resources are predictable is most efficiently exploited by a territorial system. Unpredictability of resources results in lowered benefits of territorial defence (in terms of resources controlled), and, below a certain threshold, territoriality becomes uneconomical or even unviable. In general, an increase in the average density of critical resources makes a territorial system more economically defensible, through a reduction of the area that must be defended, reducing costs associated with such defence. However, if a resource is so abundant that its availability or rate of capture exceeds the needs of a population, there is no benefit to be gained by its defence, and territoriality is not expected to occur. With relatively scarce but predictable resources, large home ranges with some degree of overlap would be expected (D; cf. Fig. 3). With unpredictability of resources above a certain threshold, a territorial claim over a fixed area is not economically viable, and the degree of movement in foraging over a large area must increase (resulting in nomadism) (C; cf. Fig. 3). Depending on the average density of the resources within a patch, unpredictable resources are in this latter case most efficiently exploited by the communal sharing of information (high average density) (A; cf. Fig. 3) or through dispersion (low average density) (B; cf. Fig. 3)\(^1\).
Territoriality also has a social component. In humans, it is best understood as a spatial strategy pursued in order to affect, influence, or control resources and people through controlling a specific area. Territoriality can be intermittently pursued. Territoriality is a historically sensitive use of space, as it is socially constructed, and depends upon whom is controlling whom and why. It is the key geographical component for understanding how society and space are interconnected; territoriality is a primary geographical expression of social power.

In summary, changing territories are connected to changing economic conditions and to changing social behaviour. Changes in the natural environment will result from or affect the introduction or emergence of both economic and social modifications.

3. Prehistoric sites in the Burdur plain (Fig. 4: map with all sites mentioned)

Archaeological evidence for the Ceramic Neolithic is restricted to the results of the excavations at Hacılar and Kuruçay (Fig. 4).

The mound of Hacılar is situated ca. 7 km south of Lake Burdur and 1.5 km west of the village of Hacılar, at 940 m a.s.l. It lies in the middle of agricultural land. The Ceramic Neolithic is represented by levels IX-VI. Few remains were revealed in levels IX, VIII and VII, but more evidence was recovered in level VI. Although the excavations did not reach the edge of the settlement, Mellaart assumed that Hacılar VI was surrounded by a wall, in analogy with the tradition of walled settlements elsewhere in Anatolia (notably at Çatal Hüyük) and later at Hacılar II and I (see below). Apparently, the layout of the settlement was planned: L-shaped house units were arranged around a central courtyard. All houses had a similar layout and consisted of a large single room, furnished with ovens and hearths, clay bins for storage and cupboards, and a number of cubicles used as kitchens or for other domestic purposes. They contained two stores. Three buildings in the centre of the excavated area yielded statuettes and some 'ritual' vessels and have been interpreted as statuette or pottery workshops. The Ceramic Neolithic levels at Hacılar yielded a large group of naturalistic terracotta female figurines. Mellaart interpreted these as domestic cult statuettes representing different aspects of a fertility goddess. Estimating the total number of houses at Hacılar VI to have been around 50, a population of approximately 250 people, assuming 5 individuals per house, was proposed. Extramural burial was assumed to have been practised, since no intramural burials were found. Few faunal remains were recovered from levels IX and VII. They yielded roe deer, mouflon, wild goat, aurochs, red deer, wild boar and domesticated dog. Carbonised plant remains were recovered from a house of level VI. These were treated together with the Early Chalcolithic samples from levels III, II and I. The principal food plants at Ceramic Neolithic and Early Chalcolithic Hacılar included umbellate goat-face grass (a wild cereal), wild einkorn, bitter vetch, and domesticates such as einkorn, emmer, bread wheat (linked to the use of irrigation), hulled barley, naked barley, lentil and purple pea.

The site of Kuruçay is located near the village of the same name, 4.5 km southwest of Lake Burdur, at an altitude of 960 m a.s.l. Situated upon a natural rise, leaning against the low mountains which border the Burdur plain to the east, the mound represents a cone of deposits nearly 8 m high. During the excavations virgin soil was reached. The lower two levels, level 13 and 12, were considered to be Early Ceramic Neolithic. Level 13 consists of pottery only. In the lower part of level 12 two constructions were excavated, on the floors of which many millstones and grinders were discovered. The upper part of level 12 yielded a third structure. A single wall 8 m in length, neatly finished at either end, extended southward from this structure, serving an unknown purpose. Level 11 at Kuruçay was attributed by R. Duru to the Late Ceramic Neolithic. It was divided into two phases, the earlier of which, Lower 11, yielded few remains. Upper 11, on the other hand, was represented by a 26 m stretch of stone foundations for a wall running E-W, incorporating half-circular towers against its southern face (Fig. 5), and has been interpreted as a fortification wall. A gateway was provided at the eastern end. The western part of the wall was washed down the slope of the mound during a flood which occurred during the Upper 11 settlement. The same flood also destroyed the houses in the northern part of the settlement, according to Duru. Intramural burials were found, unaccompanied by burial goods. The excavations at Kuruçay did not yield evidence for domesticated animals or grains. The grinding stones and pounders that were found suggest the processing of organic material.

The Early Chalcolithic (ca. 6000 to 4000 BC)

Evidence for the Early Chalcolithic is mainly derived from the excavations at Hacılar and Kuruçay. On the basis of survey data, two more sites, Çığırtkankaya and Hacılar II, were ascribed to this period (Fig. 4).
The Early Chalcolithic period at Hacılar is represented by levels V–I. No architectural remains were found in level V, which was built upon the Ceramic Neolithic village that was destroyed by fire. During Hacılar IV thick rubbish deposits were left in some of the areas excavated. There is scarcely more evidence for this period than for the previous one, and Hacılar III is as poorly preserved as IV and V. In spite of the fact that the settlement of level II covered the highest part of the mound and was therefore most subject to denudation, to interference by the builders of Hacılar I, and to more recent commercial exploitation by the villagers24; two building phases could be distinguished. The settlement of the earlier phase, IA, was small, covering ca. 2000 m², and was surrounded by a 1.5–3 m thick mudbrick wall (Fig. 6). This wall was provided with small towers and salients at the corners, and had three or four gates. Mellaart considered the IIA settlement to have been divided into a number of quarters that included25:

(1) a northwestern granary;
(2) a western residential quarter of houses, all with a similar layout, consisting of a main room and an anteroom;
(3) a central quarter of three potters' workshops, where lumps of ochre, clay stored in a clay bin, paint cups, palettes, modelling tools, clay ladles and considerable quantities of pottery vessels were found. Since pottery kilns were not found in or near these structures, Mellaart suggests that these were located outside the settlement in order to decrease the risk of fire, as well as the nuisance of smoke and smell. So-called Hacılar (VI and) V monochrome ware has been identified in a wide area of distribution in the Lake District and beyond; IV–II painted pottery groups have a much more limited distribution in the Lake District26. It is still undecided, however, whether Hacılar was the (sole) production centre of this pottery27.
(4) an eastern domestic quarter consisting of a warren of small and large domestic courtyards;
(5) a northeastern shrine which contained a stone-lined well in which carbonised food plants were found. A stone slab and cup-like oval holes lined with clay were inserted in the floor of this structure (fragments of painted plaster indicate that it was probably decorated), which also contained a double burial of a child and a young woman under its floor;
(6) a southwestern shrine, in and around which a vast amount of finely painted pottery was found, including ritual vessels such as a kernos, a fragment of a cup in the shape of a human head, and bowls decorated with schematised pictures of the mother goddess attended by animals, as well as a niche in which lay a flat stone slab, fragments of painted figures, a clay seal with incised design, stone bowls, beads, a hearth and an oven;
(7) a southern courtyard devoid of structures, perhaps a place for keeping animals within the settlement overnight, as may be indicated by the battered mudfloors, which may have been a result of trampling by tethered animals.

Excavations in the Chalcolithic levels revealed a total of 22 skeletons buried in 20 graves spread throughout the settlement, in houses (levels VI and IB), shrines (level IIA) and under courtyards (level IV). It is assumed that the villagers normally buried their dead outside the settlement, and that intramural burials were exceptional. All 20 graves were simple, shallow ovals cut directly into the earth. Only a few skeletons were accompanied by simple grave goods28.

The IIA settlement was destroyed by fire, and in the subsequent level, IIB, only the southwestern shrine continued to be used, as well as two of the potters' workshops. Mellaart estimated the population for levels IA and IB to have been around 100 and 50-70 respectively, based upon the assumption that 5 persons occupied each house29.

While cultural continuity is attested at Hacılar throughout levels IX to II, level I represents a clear break in terms of site layout and material culture. The settlement of Hacılar I can be divided into a main phase, IA, and a second phase, IB, in which minor architectural alterations took place. These phases will be discussed together since their overall layout is very similar.

The settlers of Hacılar I levelled the remains of the burnt settlement IIB, creating a vast platform for their constructions, thus destroying much of the evidence for earlier occupation levels. Mudbrick walls two metres thick, constructed on a stone foundation, surrounded the settlement. Several entrances were provided. Inside, a large central courtyard, about 100 m in diameter, was surrounded by blocks of two-storeyed rooms arranged radially to form complexes (Fig. 7). Smaller courts, closed to the outside by solid defensive walls, separated these complexes. Although the walls of certain rooms were preserved to a height of 2 m, no windows were reported. Mellaart assumed that windows were set high up in the walls, just below the ceiling. The scarcity of ground level doorways suggested that many of the rooms were entered from above. Unlike its predecessor, Hacılar I has not yielded any information about the occupations of its inhabitants. There were no recognisable cult rooms or shrines, no workshops, domestic quarters, grain bins or granaries, and no trace of any wells. The central courtyard of the settlement, which lacks any structures, may have functioned as a place of shelter in times of danger for animals and peasants residing nearby. At least 300-500 people lived inside the walls at Hacılar I. This figure was based on the number of rooms (between 57 and 65) and the assumption that five to seven individuals lived in each house. Mellaart takes into account a larger number of persons per living room (seven), since these rooms are much larger than the living units in the other levels of the settlement30. After the burning of the Hacılar IB settlement, only a few traces of re-occupation by squatters (IC
and ID) were found. The rest of the population possibly moved to the site at Öz (see below). The squatters’ traces consist of a rubble pavement, perhaps a courtyard, south of a room laid out on a megaron plan. The people who built Hacılar I used clays, paints and slips of a different composition than did the potters of Hacılar II, and pottery production was on a somewhat lower technological level, though potters at Hacılar I produced larger vessels and introduced a number of new shapes. Most of the decorative motifs used on Hacılar I painted pottery are different from those found in the previous levels. Hacılar I pottery has been found over a larger area than the IV–II pottery group, but nowhere in any substantial quantity except at Hacılar itself. New types of statuettes show a marked tendency to schematisation and diminutive size. However, evidence for the continuation of older traditions is present in architecture, as some pottery motifs and in the effigy vases with grooved or painted almond-shaped eyes. All this evidence led Mellaart to believe that a population movement into the area took place. According to Mellaart, those who survived the burning of IIB were assimilated by these new arrivals, resulting in an overall population increase. In Mellaart’s view, after Hacılar VI there were two separate developments, one of which can be studied in Hacılar V–II, the other branching of, perhaps in Hacılar V, remaining obscure during Hacılar IV–II but evolving nearby. Later, it was this branch that took over the site in Hacılar I. Yakar indicates that Kuruçay was the origin of the newcomers at Hacılar, since a coarse ware fabric appearing at the former site from level 12 on is also found at Hacılar, as a new feature, in level I.

Levels 10 to 7 cover the Early Chalcolithic period at Kuruçay. Remains from levels 10 to 8 were scarce or poorly preserved. The final phase of the Early Chalcolithic habitation, level 7, was found in a much better state of preservation. The settlement was laid out regularly. A nearly square plan with interior buttresses was common to all seven houses excavated. These houses were one-storeyed and single-roomed. Animal bones represented wild cattle, wild sheep, wild (?) goat and wild boar. There is no firm evidence for animal domesticates at Kuruçay. No plant remains are recorded for the Early Chalcolithic levels.

A third Early Chalcolithic ‘flat’ site is situated at Çğırtkankaya, on an elevated plateau, of which it occupies the southern part, rising 147 m above the surrounding plain at a height of 1055 m a.s.l. The Suludere river winds around the northeastern skirts of the Çğırtkankaya Tepesi. On the site itself, no water source is present. The site affords an excellent view over the Lake Burdur plain and the prehistoric settlements at Kuruçay and Hacılar (Fig. 4), and at the same time it overlooks the green valley of the Büğdüz river located to the northeast (Fig. 8), which emerges in the plain of Burdur after crossing the badlands east of the plain. The site was discovered by M. Özsait in the early 1970s and published in 1976-1977. He ascribed the handmade pottery to the Early Chalcolithic.

The site at Höyük Tepesi in the Öz Mevkii lies approximately 2 km north of J. Mellaart’s Hacılar. It is located on a slight elevation (ca. 250 x 250 m; 960 m a.s.l.). There is no water on the site, but there is a good spring at the entrance of the village of Hacılar (Özpınar Çeşmesi). The site lies within arable land: wheat and chickpea fields cover the höyük and the fields which surround it. Handmade pottery and flint tools were sampled during the 1996 Sagalassos survey. Most probably this is the site mentioned by Mellaart, located north of the village of Hacılar, where he found Hacılar I - Early Chalcolithic pottery. Mellaart considered the site to be a successor to Hacılar I which was occupied by squatters (IC and ID) after its destruction, while the majority of the population moved to Öz.

The Late Chalcolithic (ca. 4000 to 3000 BC)

Excavated evidence dating to the Late Chalcolithic is available only for Kuruçay; information on all other sites is based on surface surveys (Fig. 4).

Kuruçay 5A (divided into A2 and A1) represents the beginning of the Late Chalcolithic. The transition from 6A2 to 6A1 was marked by extensive alterations of the site’s basic layout as constituted in level 6A2: streets running between single-roomed houses were walled up and open court areas were partitioned. The exterior walls of the outermost ring of houses, arranged in a saw-toothed pattern, were reinforced. Between houses, walls were built to complete the ring. Three entrances were provided, as well as smaller openings in the walls. According to Duru, the houses in the centre of the settlement were reserved for ‘dignitaries’, while the houses forming the outer ring of the settlement were inhabited by the ‘common folk’. A shrine was included in the settlement. Based on an estimation of 25 houses in the 6A settlement, Duru calculates the total population to have been around 175 persons (seven persons per house). Soon after the walling up of the streets in phase 6A1, the settlement was destroyed. Houses were reconstructed on the same locations during level 6, which yielded few remains. Level 5 revealed scanty remains as well. Some curving stretches of a broad wall along the western edge of the settlement in level 4 may, according to Duru, suggest a fortification wall, encircling a number of houses of relatively flimsy construction. In level 3A, only two stone foundations were found. Level 3 revealed four structures, including a three-chambered so-called ‘shrine’, with an adjoining storage room where ca. twenty vessels were found, some of which contained grain. Late
Chalcolithic burials were intramural, whether they held remains of inhumation or cremation, and were located under houses, courtyards and streets. No grave goods accompanied the dead. No evidence for domesticated animals was found in the Late Chalcolithic levels. The Late Chalcolithic plant samples (from levels 6A, 6 and 3) are characterised by a purity of seed samples, and by a predominance of the seeds of one crop species with only minor admixture of other crops and seeds. This may suggest that these samples came from crop stores. The major crops were emmer, hulled six-row barley, lentils, grass pea and flax.

Apart from the site at Öz, which continued to be occupied during the Late Chalcolithic, a fourth Late Chalcolithic site was identified in the Burdur plain: the höyük at Karaçal, ca. 1 km northwest of Karaçal and ca. 9 km south of Lake Burdur. The site is located on a low hill (960 m a.s.l.), the Hackköy Tepe, which gently rises above the alluvial plain of the Bozçay flowing ca. 400 m northeast of it. The höyük lies near a former spring to the north and an active spring to the east. The lower lying slopes of the site, towards the Boz Çayı, are more fertile and are cultivated with wheat. The higher slopes are covered with the more drought resistant chickpeas. The site is a bit removed from the most fertile part of the valley, but still close enough to cultivate part of it. Lloyd and Mellaart located a Late Chalcolithic settlement at this site.

**The EBA (EBA1: ca. 3000-2800 BC; EBA2: ca. 2800-2300/2200 BC; EBA3: ca. 2300/2200-1900 BC)**

Excavated evidence for the EBA in this region is limited to poorly preserved architectural remains from levels 2 and 1 at Kuruçay. However, survey-based information is available for a number of other sites (Fig. 4).

The site at Yassıgümü, Kokar Pınar, lies ca. 6 km southeast of Lake Burdur and ca. 0.7 km northeast of the village of Yassıgümü, at the feet of the limestone mountain massif bordering the Burdur plain to the east. It occupies a hill rising ca. 10 m above the surrounding plain (925 m a.s.l.), in the middle of wheat fields close to the spring of Kokar Pınar. The site was discovered in 1919 and published by B. Pace. It was surveyed in 1972 and ascribed to the EBA by Özsait.

The höyük at Karaçal was ascribed by Lloyd & Mellaart to the EBA2. However, none of the sherds sampled during the Sagalassos survey, and checked by M. Özsait could be ascribed to that period.

Some of the pottery at Öz Mevkii was ascribed by Lloyd and Mellaart to the EBA2.

Finally, in Lloyd & Mellaart’s 1962 publication, an EBA2 and EBA3 occupation is recorded at the village of Yarıköy. In 1996, the exact location of this site was determined by the Sagalassos survey team to be at Gâvur Evi, a hill of ca. 250 x 150 m rising ca. 15 m above the surrounding fields (918 m a.s.l.), 2 km west of Yarıköy and 3 km southwest of Lake Burdur. The site is located near the end of a southeastward projecting promontory of the limestone hills which border the plain towards the west. Immediately to the north of this promontory, there is a spring, and the Düğür river flows at ca. 0.5 km to the southeast. The hill offers an excellent view in all directions. Upon his visit to Sagalassos, M. Özsait attributed some of the sampled pottery to the EBA1 as well.

### 4. Limitations of the archaeological record

Before discussing the spatial characteristics of the site constellation in the Burdur Lake plain, and attempting to reconstruct the social system responsible for the settlement plans of the excavated sites, it is necessary to draw attention to the limitations inherent in the archaeological database utilised for this study. These limitations stem from the fact that most of the sites were identified by means of surface surveys. These surveys have been carried out with the primary aim of recording höyük, larger sites that were occupied for long periods of time, resulting in their high surface visibility. As a result, many sites that were smaller or occupied for shorter periods of time have not been noted or recorded. This has clear implications for the reconstruction of the settlement pattern for a given period, since these sites too played an important role in the overall settlement pattern. However, since the current discussion is limited to the changes observed in the larger centres and the settlement configuration of these centres, this bias toward larger sites need not have serious implications.

This is also true with respect to the consequences of alluviation and colluviation, respectively active near Lake Burdur and the edges of the basin, where there are low surrounding mountains. Both of these geomorphologic processes favour the detection of large sites. Sites in the plain that are smaller or that were occupied for a shorter duration are more likely to have been buried than are the larger sites. However, as stated above, such smaller sites are not the focus of the current study.

A problem of a more fundamental nature is the issue of contemporaneity of sites. Attributions based upon pottery...
characteristics, coupled with the lack of radiocarbon dating for sites identified via surveys in this region, necessarily limits the accuracy of the proposed dates. It is nearly impossible to distinguish successive, short-lived occupation of a series of sites from a simultaneous occupation of those sites. A whole series of movements and changes may well have taken place within the lifetime of each fabric and style of pottery. When plotting the sites attributed to the Late Chalcolithic, for instance, there is no guarantee that these sites were indeed occupied at the same time. We will, however, assume that this was the case, unless future evidence (resulting from excavation at the surveyed sites) should indicate otherwise.

5. Site constellation, territoriality and social change in the Burdur Lake plain - presenting the variables

During the period covered by the Ceramic Neolithic to the EBA, there are no indications of major climatic changes. Palynological analyses of cores retrieved from alluvial sediments deposited by the Ağlasun river, ca. 35 km east of Lake Burdur, indicate that moist climatic conditions were characterising the Ceramic Neolithic. The Early Chalcolithic may have witnessed drier climatic conditions, but it is more likely that the changes observed in pollen values reflect human activity in the Ağlasun valley. During the Late Chalcolithic, anthropogenic indicators increase sharply. The Bronze Age witnessed increased climatic dryness in this region.

It is not clear to what extent this local information can be extrapolated to the situation near Lake Burdur. The effect of climatic conditions may have been counteracted by technical innovations, such as the introduction of irrigation attested at Hacılar for the Early Chalcolithic (see above), mitigating the effects of decreased precipitation. If so, changing climatic conditions may not have dramatically affected conditions in the Burdur plain.

The primary economic activity of the excavated sites in the Lake Burdur plain was agriculture from at least the Late Chalcolithic onward. Before this time, mixed farming was practised, in which undomesticated plants and animals figure prominently; this was especially so at Kuruçay. Site catchment areas, calculated at a radius of 5 km for Hacılar and Kuruçay, included 50% hilly and mountainous terrain during the Ceramic Neolithic. The economic resources of the hills and mountains (flint, wild plants and animals, timber) seem to have been as influential for site location as was the availability of arable land. While farming communities are subsumed under Dyson-Hudson and Smith’s territorial system C, and are assumed to practice territorial behaviour, the economic basis during the Ceramic Neolithic (and Early Chalcolithic) in the Burdur Lake basin was, as the faunal and botanical analyses have indicated, still to a large extent oriented to hunting and gathering. It is possible that at that time Dyson-Hudson and Smith’s regime A was prevalent; the lacustrine environment of Lake Burdur provided a wide array of resources, although these were rather unpredictable, being to a large extent affected by shifting local environmental conditions.

Four Early Chalcolithic sites are known in the Burdur plain: Hacılar, Kuruçay, Öz and Çığırtkankaya. It is clear that this last site was not of the same rank as Hacılar and Kuruçay (see above). Öz, the successor to Hacılar I, seems to have been occupied only at the end of the Early Chalcolithic (see above). In view of this, for most of the Early Chalcolithic there were only two important sites: Hacılar (later Öz) and Kuruçay. A settlement constellation like that of the Ceramic Neolithic was in place: two primary sites (Hacılar/ÖZ and Kuruçay) at 10 km from one another, with a radius of most intensive exploitation of 5 km (Fig. 10).

The settlement constellation changed in the Late Chalcolithic period. Öz and Karaçal are located very close to one another, ca. 2.5 km, reducing their theoretical size of their intensively exploited area to ca. 1.25 km (Fig. 11). Kuruçay seems to have had an ample area for its subsistence requirements.

The EBA witnessed a proliferation of sites in the Burdur Lake plain, separated by ca. 5 km, with Karaçal and Öz occupying a limited exploitation area (Fig. 12).

These changing exploitation areas were not only the result of economic changes in the form of an increasing reliance on domesticates, entailing an increased sense of territoriality. They also express changing social conditions. Unfortunately, only a few studies have made inferences on the social organisation of prehistoric western Anatolia. C. Eslick published a short overview on the social organisation in prehistoric southwestern Anatolia. Following her proposal of a number of indicators of social organisation, including overall settlement organisation, population, social differentiation, economic differentiation, craft specialisation, trade, defence and variety in size and organisation of settlements, we will attempt to sketch the changing social conditions under which the prehistoric communities in the Lake Burdur plain operated. Service’s and Johnson & Earle’s classification is repeatedly referred to, since existing publications on the region refer to his typology. We are aware of the limitations inherent to this stage typology, its being static and not fine-tuned enough to deal with the wide variability amongst societies. However, the limited geographical scale of this paper and the fact that it focuses primarily on territoriality may justify this choice.

When discussing social organisation, the emphasis will be on characteristics of societies as described by Service and other scholars, and on the question whether these existing ‘types’ can be applied to the archaeological evidence, but
not on the issue of how different social forms emerge.

As a second line of investigation of the social characteristics of prehistoric communities in the Lake Burdur plain, ethnographic models are considered, such as Forge’s 1972 work in Melanesia, which focussed on the rise of different social systems among groups with populations of differing magnitude. He concluded that, below 150 persons, face-to-face relationships and direct kinship ties are sufficient for the maintenance of coherent social structure, obviating the need for more complex organisation. Communities having 150 to ca. 300/400 inhabitants consistently adopt a sub-group organisation such as those based on clans, subclans and lineages to facilitate social cohesion. Communities larger than 300 to 400 people need other mechanisms to structure social life. Working within the field of physical anthropology, Dunbar reached similar conclusions. Groups of more than 150 to 200 people undergo greater social stress, face-to-face relationships are no longer feasible, and communities often split (fission of villages). Other mechanisms for maintaining social cohesion are a recourse to vertical (hierarchy) or horizontal (social units such as clans, lineages...) stratification. Fissioning of communities presents the advantage of limiting the population within each settlement, limiting the distances to fields and pastures and reducing labour costs while retaining easy relations with kin. However, the fact that höyüks, or tells, were formed indicates a certain measure of continuity in occupation, implying that fission was controlled, probably because of a mutual independence resulting from an unstable labour form and uncertainties in food supply. Finally, as Hayden argues, a trend to inequality is inherent in any human population. Any group numbering more than 50-100 will include some ambitious individuals (so-called ‘aggrandizers’) who will aggressively strive to enhance their own self-interest over those of other community members. In some cases these individuals are repressed, in some cases channelled into non-economic domains such as ritual competition, in some cases given greater freedom to compete.

The Ceramic Neolithic
Reviewing the social evidence for Hacılar, Eslick believes that the settlement was the centre of a simple tribal system during the Ceramic Neolithic. Concerning the social system during the Anatolian Ceramic Neolithic in general, Yakar is also convinced that tribal units were characteristic. These units would have consisted of villages surrounded by cultivated fields and grazing areas, which constituted inter-tribal boundaries. Some of these villages, such as Kuruçay and possibly Hacılar, were walled. Since these walls were rather flimsy, they may have had functions other than defence, such as containment of livestock, territorial demarcation, or protection against environmental dangers (e.g. flooding). Yakar assumed that Ceramic Neolithic communities were egalitarian, although daily and seasonal rules regulating social activities within the society and between members of neighbouring groups must have required some system of rules. If such rules existed, then their enforcement would have required some form of hierarchy, or an enforcing body made up of members of the community. According to Yakar, this could have taken the form of a council of elders, a religious body or a village chief with occasional and limited power, but not an institutionalised hierarchy. The fact that Çatal Hüyük some people were buried below the site’s shrines may indicate the existence of a distinct group of people enjoying special status related to activities in the shrine.

The term tribe is borrowed from anthropological-ethnographic literature, specifically from the levels of social organisation developed by Service (1962). In his model, tribes are usually formed by farmers or herdsmen, and each tribe is held together by kin-based systems, clans or societies. The society is basically egalitarian, and leadership (whether fighting, economic or religious) is personal, charismatic, and limited to special situations. There is no well-developed craft specialisation, and each settlement is relatively autonomous and self-sufficient. Fighting between groups is constant, but not highly organised. It takes the form of ambushes, raids, and terrorisation. The level of complexity in tribes can be compared to Johnson & Earle’s acephalous local groups, where settlement mostly occurs in villages of 100–200 people subdivided into clan or lineage segments of hamlet size (ca 25–35 persons), which form a ritually integrated political group. Leadership is typically context-specific; there are no offices or hereditary titles. There is little evidence for stratification at this level. Except in cases of economic cooperation, where a leader controls the necessary technology, and in the immediate instance of warfare, where attack and defence are co-ordinated by prominent men, leadership carries no connotation of economic control. Subsistence is met in most cases through domesticated species, although wild resources remain important. Resources are held exclusively by kin groups and territorial defence is common since a relatively high population density leads to competition between local populations for the control of such productive resources as prime agricultural land and foraging territories. In fact, warfare is endemic. Ceremonialism is important for publicly defining groups and their interrelationships. The main reasons for aggregating in villages are the benefits these entail for food (and other resources) sharing and defence.

Among tribal groups, some confirm to Big Man societies (Hayden’s ‘reciprocator’ communities). These societies
are characterised by high population densities (300-500 persons). A territorial division prevails, typically containing multiple clan or lineage segments that either live together in a village or are dispersed throughout the territory of the group. Territoriality is variable, but the territory is carefully demarcated. Warfare is endemic and linked to territorial defence, especially amongst farmers. Subsistence is focused heavily on agriculture, extremely productive natural resources or pastoralism. Ceremonialism is pervasive; it functions both to define local groups and their corporate segments, and to create and maintain regional intergroup relations whereby groups obtain allies in war, marriage partners, and exchange goods. The settlement pattern is comparatively sedentary; for defence reasons villages and hamlets may be surrounded by palisades or other protection means. Social organisation has several levels, and characteristically the following three: the family level involved in primary production and security; the local group, including corporate units (clans or lineages) organised as defensive and economic entities, and the intergroup collectivity, consisting of multiple local groups bounded by ceremonial and economic exchanges. The local group is represented by a Big Man, a strong charismatic leader essential for maintaining internal group cohesion and negotiating intergroup alliances. His power is dependent on personal initiative. The main difference with simple tribal societies, is the emergence of stratification as result of the fact that Big Men control resources, involving economic management and manipulation for individual as well as group advantage.76.

The presence of a wall at Haclar and Kuruçay, together with the apparently planned layout of Haclar, seems to suggest communal efforts and the interference of an organising element. If the walls at both sites are interpreted as fortification walls, they may indicate an atmosphere of insecurity or warfare. However, other practical reasons for their erection could include the fencing in of livestock, protection from flooding or the territorial demarcation of the community. At Haclar, all houses were of similar size, and contained small storage facilities. No evidence exists for significant social differences or for central storage facilities. This may indicate a non-centralised and rather egalitarian community. However, the site’s cemetery has not yet been found: social distinctions may prevail in burial practices. The workshops for the production of statuettes may reflect a certain level of economic specialisation. This craft specialisation seems to have been limited to production for a local market, since Ceramic Neolithic Haclar pottery has not been recognised elsewhere, in contrast to the pottery produced later (see below). All the archaeologically assessable criteria which are mentioned by Service and Johnson & Earle seem to apply to Ceramic Neolithic Haclar. It thus seems appropriate to consider its social system to be a simple tribal organisation, or an acephalous local group. There are no archaeological arguments for accepting a Big Man organisation at Haclar at this time.

The settlement had an estimated population of 250, and was, according to Forge’s model, experiencing social stress. The fact that its houses were two-storeyed may equally indicate some crowding. It would be expected that stratification would develop in order to preserve social cohesion, or that the community would split.

The Early Chalcolithic

A massive enclosure wall, suggesting a need for defence, surrounded the Early Chalcolithic settlement of Haclar IIA. Communal effort is attested in the building of this wall, and in the apparently planned layout of the settlement. Approximately one third of the settlement is occupied by special-purpose facilities. It is unclear whether one can state that economic specialisation was practised. So-called Haclar IV-II painted pottery groups have a relatively wide distribution in the Lake District, and related wares are found even further north (e.g. at Demircihöyük). However, the actual production centre(s) of these pottery groups is uncertain. It is merely an assumption that pottery production was centred at Haclar. Excavations by Duru at Kuruçay disclosed large quantities of very similar painted and monochrome wares. Was Kuruçay also a production centre for Haclar-style pottery? Or did the site obtain its pottery from Haclar through contacts between the sites? Petrographic research must be carried out in order to solve this question.

The large granary at Haclar may have provided food for the whole settlement (and its surroundings?). Its proximity to one of the shrines of the settlement may suggest that this shrine was a centre through which communal storage facilities were controlled. That burials were discovered beneath the floor of the northeastern shrine may indicate the ‘distinction’ of certain individuals in the community.

The population seems to have decreased at Haclar IIA, from 250 in the Ceramic Neolithic to 100 people estimated for the Early Chalcolithic, and then to have decreased further to 50 to 70 persons in Haclar IIB. Whether this decrease actually took place, or whether social changes leading to an apparent decline took place instead is not clear. Mellaart argued that the settlement was no longer a peasants’ village, but a religious centre, inhabited by (a) religious leader(s) and the craftsmen responsible for pottery production. If he is correct, this would explain why fewer people occupied the site: most of the common people would not have lived at Haclar but on land somewhere close by.

The settlement of Haclar I housed 300 to 500 persons and was clearly a fortress with a planned inner layout. The massive fortification suggests internal or external military threats. Social stratification may have emerged by this point, and this fortification may have housed a ruler who controlled
considerable resources, according to Mellaart\textsuperscript{81}. Social stratification is also suggested by the fact that only some of the intramural burials contained grave goods. All signs of occupational specialisation disappeared, however, although Hacilar I painted pottery continued to be widely distributed throughout western Anatolia\textsuperscript{82}. However, as stated above, it is not clear whether Hacilar was the (sole) production centre of this pottery.

While no author has published an opinion on the social structure of Hacilar II, according to Yakar the fortress of Hacilar I was the social, economic and religious nucleus of a chiefdom made up of a number of villages\textsuperscript{83}. A general preferential trend moving from small, fenced villages to much larger, walled settlements (such as Hacilar I) toward the end of the Early Chalcolithic in Anatolia has been related to the emergence of chiefdoms\textsuperscript{84}. In these chiefdom communities, the daily administration was directed by a single person or by a ruling body. The latter could have been constituted of local shrines or temples who could have controlled, according to Yakar, the communal storage facilities, granaries and workshops, and supervised the administration, redistribution and processing of surplus commodities. According to this view, temples and their administrative staff would have been able to benefit from a surplus of food and other commodities accumulated as a result of offerings presented to the local cult, leading to social stratification within the community\textsuperscript{85}.

Again, the term chiefdom is borrowed from anthropological-ethnographic literature. Chiefdoms are intermediate-level polities\textsuperscript{86}, bridging the evolutionary gap between small, village-based polities and large, bureaucratic states\textsuperscript{87}. Chiefdoms are denser societies that are more complex and more organised than tribes. Population density is characteristically high, but ranges widely. Environmental conditions are diverse but usually include either rich resources (like irrigated lands or bottom alluvium), or opportunities for trade resulting from capital-intensive transport (often water-based) or an established outside market for the polity’s main product.

Chiefdoms are particularly distinguished from tribes by the presence of a settlement hierarchy, with centres that coordinate economic, social, and religious activities. Chiefdoms are non-egalitarian: a chief controls the redistribution and there are class divisions and a demarcated ruling elite. The chief’s position is marked by sumptuary rules designed to enhance his authority. Status need not be achieved: prestige and rank may also extend to members of the chief’s family on the basis of kinship ties. Succession to office involves considerable maneuvering and is not always peaceful. There is intense competition for high positions in the social hierarchy. Priesthoods and permanent offices are held by the chief or members of his family. Chiefdoms are likely to have fixed boundaries and to include a variety of settlement types, because some settlements assume specialist functions. Territoriality is a matter of private ownership by elites, institutional ownership as a means of finance, and use rights given to commoners in return for a portion of their labour or production. There is evidence of organised productive activities that transcend the basic household group such as the building of monuments and the emergence of craft specialisation. These communal activities often serve as buffers which mitigate the effects of crises, instantiated in storage structures that guard against famine, or defences that provide protection in time of conflict. Warfare is common but directed outside the regional polity. The critical aspects in the evolution of chiefdoms are the emergence of a clearly differentiated second level of regulation and the concomitant increase to a cultural system’s ability to process environmental information which such a change in organisation engenders\textsuperscript{88}.

Since the term “chiefdom” still covers a wide variety of social organisations, Earle\textsuperscript{89} proposed to distinguish between simple and complex chiefdoms. Simple chiefdoms are regional polities, integrating several local groups within a single polity. For the first time the polity, defined as a group organised under a single ruling individual or council, extends beyond the village or local group. They have polity sizes in the low thousands, one level in the political hierarchy above the local community, and a system of graduated ranking. Complex chiefdoms have polity sizes in the tens of thousands, two levels in the political hierarchy above the local community, and an emergent stratification, which is expressed in residential and mortuary segregation\textsuperscript{90}.

Further distinctions among chiefdoms can be based on the systems of finance used to mobilise resources to pay for the operation of chiefly institutions, and on the social priorities of the chiefs. Staple finance is in fact a form of what earlier writers have called ‘redistribution’, a system in which staple foods and craft goods are collected from individual households as a kind of rent or tax. The subsistence products are then distributed directly to those working for the chiefdom to be used for their support. Wealth finance involves the controlled production and distribution of valuables, which are critically important in establishing a person’s social position and in gaining personal prestige and associated political office. By channelling the distribution of valuables, ranking chiefs use them almost as a political currency. Staple finance is bulky and weighty, making transport difficult and costly, unless it occurs in small, compact political units. In larger units, the collection must be decentralised and the allocation of all the varied components of household subsistence to numerous household units rapidly becomes very complex. The advantage of wealth finance is that it confers stability and administrative simplicity upon
territorially extensive states. Wealth items are easier to transport and thus permit a higher degree of centralisation. Its limitations rest in the fact that control over wealth can be highly problematic: as its value increases, a strong pressure builds to smuggle goods outside of the established networks and to produce fakes outside of recognised craft shops. The value can be destabilised through inflation or cultural disruption 91.

A further distinction can be made between group-oriented chiefdoms, which are societies where personal wealth in terms of valuable possessions is not impressively documented, but where the solidarity of the social unit is expressed most effectively in communal or group activities; and individualising chiefdoms, societies where a marked disparity in personal possessions and in other material indications of prestige appears to document a salient personal ranking, yet often without evidence of large communal meetings or activities 92.

Peebles & Kus summarised five archaeological correlates of chiefdoms 93:

1. There should be clear evidence of nonvolitional, ascribed ranking of persons. The most effective way to find this evidence is by an analysis of mortuary practices.
2. There should be a hierarchy of settlement types and sizes, and the position of settlements in the hierarchy should reflect their position in the regulatory and ritual network.
3. All things being equal, settlements should be located in areas which assure a high degree of local subsistence sufficiency.
4. There should be evidence of organised productive activities which transcend the basic household group (monuments, part-time craft specialisation).
5. There should be a correlation between those elements of the cultural system’s environment which are of a frequency, amplitude and duration to be dealt with but which are least predictable and evidence of society-wide organisational activity to buffer or otherwise deal with these perturbations. These communal activities often serve as buffers which mitigate the effects of crises, as evidenced by storage structures that guard against famine, or through defences that provide protection in time of conflict.

Reconsidering these archaeological correlates, while at the same time integrating characteristic elements of chiefdoms as proposed by Service and Johnson & Earle, the following can be said:

1. Evidence for social ranking may be present in the shrines of Hacilar IIA - if they point at a ‘priestly class’ indeed. The so-called ruler’s residence of Hacilar I may point out the same, be it that power then seems to have been conferred to one person (and his entourage ?). Social stratification is also suggested by the fact that only some of the intramural burials contained grave goods.
2. Indications for the presence of a hierarchy of settlement types, are limited. According to Mellaart, Hacilar IIA was a religious and economic centre, while in Yakar’s opinion the fortress of Hacilar I was the social, economic and religious nucleus of a chiefdom. Evidence for a variety of settlement types below this level is less obvious, unless one considers Çığırtkankaya to be a look-out post. If one considers the fact that (temporary) sites with shallow occupations may not have been recorded in the alluvial Burdur plain, one can maybe assume that peasants lived in farms or hamlets surrounding Hacilar (as was inferred by Mellaart).
3. Both Hacilar and Kuruçay are located in the very fertile Burdur plain which in all probability enabled sufficient local subsistence.
4. Evidence of organised activities transcending the household level is a.o. attested in the construction of the enclosure walls of both Hacilar IIA and Hacilar I and possibly in the site’s pottery production. However, as stated above, it is not clear whether Hacilar was the (sole) production centre of this pottery.
5. Evidence for society-wide organisational activities buffering the community against risk is attested in the enclosure walls of both settlements, and in the granary of Hacilar IIA. Redistribution of produce may have occurred at Hacilar IIA; no indications for this system are noticeable at its successor.

The evidence for both Hacilar IIA and Hacilar I seems to a large extent to comply with the model of simple chiefdoms. The main difference then between the two settlements may lay in the fact that power became concentrated in the hands of a smaller group which started to define itself in a material way - the ‘ruler’s residence- as socially distinct, maybe illustrating the transition from a group-oriented to an individualising chiefdom. In view of the limited population at Hacilar II, the chiefdom nature of this settlement can be doubted (and a Big Man social organisation can be proposed), although, once again, one should take into account that the majority of the population may have lived on the land. While evidence for social ranking/stratification may be present in the form of shrines, Hacilar IIA and IIB, with respective estimated populations of 100 and 50 to 70 people, should not have experienced social stress in Forge’s model, since face-to-face relationships and direct close kinship should be sufficient for maintaining a
coherent social structure.
As to whether wealth of bulk finance ensured the workings of societal institutions, in view of the fact that we are dealing here with simple chiefdoms, and that there are indications for central storage and redistribution, in particular for Hacılar II, the latter seems to more probable option.

It should be remembered that Hacılar I was possibly built by newcomers, who subsequently assimilated the original population. The increase in population at Hacılar I (to 300 - 500 inhabitants) as compared to Hacılar IIA may have been a result of immigration. Utilising Forge’s model, Hacılar I could be said to have been under social stress due to its large number of inhabitants, architecturally expressed in two-storeyed housing with multiple rooms. Fission or further stratification is likely to have followed.

The Late Chalcolithic
At Kuruçay, a major concern in Late Chalcolithic times was defence: the outer ring of houses formed an impenetrable barrier to the outside. This settlement layout suggests an organising element and communal efforts. Social stratification may be evidenced by the presence of houses for dignitaries, if Duru’s interpretation is correct. This is, however, somewhat doubtful, since such as a ‘dignitary’ attribution is based solely upon the central location of these structures. While a shrine identified at the site may indicate religious specialisation, no evidence for economic specialisation is available. Duru calculated the population to have been in the order of 175-200 people, assuming that seven to eight persons lived in each house.

According to Duru, Kuruçay 6A represents a town or small city with civic leaders and priests who primarily had self-defence in mind. However, the terms ‘city’ or ‘town’ seem to be far-fetched in view of the available archaeological evidence. Elsewhere in Anatolia, similar fortified sites appeared, of which Hacılar I was an early forerunner. Considering the rather small size of these heavily fortified settlements, it is more appropriate to refer to them as tightly nucleated settlements or as fortresses, rather than towns or cities. Their formidable walls may have protected not only their occupants, but also the population of surrounding villages and hamlets.

Kuruçay 4, according to Eslick, exhibits traces of social differentiation, as some houses in the settlement were considerably more substantial than others, and one large complex was equipped with a special storage space. These changes in settlement layout at Kuruçay 6A have been linked by Yakar to the establishment of a (simple) chiefdom system. Again, in this community staple finance seems more likely than wealth finance, as may be hinted at by the storage space provided in Kuruçay 4.

In Forge’s & Dunbar’s models, Kuruçay 6A with its ca. 175 people is at the limit of viable social cohesion. Apparently, in this site houses were still one-storeyed and consisted of a single room. No measures to alleviate social crowding, such as compartmentalisation or multiple storeys, were undertaken.

The EBA
Excavated data for the EBA are lacking, but surface finds are numerous. After the Late Chalcolithic, the number of settlements rose spectacularly during the EBAI. The settlement constellation in the basin of Burdur is particularly noteworthy. If one considers all EBA(2) sites together, assuming that Kokar Pınar at Yassığümė was also occupied at that time, a highly regular site pattern appears: four sites, Kuruçay, Kokar Pınar, Öz and Karaçal, border the southeastern edge of the Burdur plain. These sites are located at distances of approximately 5 km. This regular pattern is likely an artefact of a clear territorial division with carefully maintained borders, albeit with smaller territorial radii than before. Unfortunately, indications for the social and economic systems behind this settlement pattern are absent. It is not clear whether or not these sites were fortified, although the development of other sites in western Anatolia suggests that they may have been. In western Anatolia, the existence of nucleated fortresses with similar layouts is attested, e.g. at EBA Troy II, Demircihöyük and Karataş, which have been identified as the seats of chiefdoms. The emergence of more complex chiefdoms is postulated as having taken place toward the end of the EBA.

5. Site constellation, territoriality and social change in the Burdur Lake plain - a reconstruction

Having presented the available evidence relating to site constellations, social changes and territoriality in the Burdur Lake plain, we can now attempt to synthesise these parameters.

The community at Ceramic Hacılar, a group of ca. 250 persons, lived mainly from hunting and collecting, although some plants were cultivated. Territorial behaviour was not marked. Organised as an egalitarian tribal group (or acephalous local group), the relatively high number of inhabitants were under some social stress; the option presented itself either to split off and form daughter communities, or to stratify.
The increased number of Early Chalcolithic sites in the Burdur plain may suggest that the former strategy was opted for. Mellaart concluded, on the basis of ceramic evidence, that after Hacilar VI there were two separate developments, one in Hacilar V-II, the other branching off in Hacilar V, remaining obscure during Hacilar IV-II but ‘hibernating’ in the vicinity and reappearing in Hacilar I. This conclusion supports the hypothesis that daughter communities were formed. An increase in population, associated with the further development of agriculture, was most probably the motor behind these changes.

While some ranking along religious lines seems to have existed at Hacilar II, either indicating a Big Man system or an incipient simple chieftdom, Hacilar I was certainly the centre of a simple chieftdom. Population growth, fuelled by the immigration of culturally related people, may have led to this change. Stratification apparently could not prevent the community from becoming large enough (300 to 500 people) that it experienced renewed social stress. That the sites at Öz and at Karaçal are located very close to one another (with a radius of only 2.5 km) may be an additional indication of stress. Moreover, in Yakar’s view, conflicts between neighbouring communities was the mechanism behind the changes observed from Hacilar II to Hacilar I. This may also be a sign of some stress.

It is not clear whether or how this internal stress was mitigated, but a clear break in the cultural sequence has been identified at Late Chalcolithic Kuruçay. The settlement pattern in the wider region, the later territory of Sagalassos, underwent an equally important change. During the Late Chalcolithic, each site that has been identified seems to have controlled a valley (cf. Fig. 13). A strong sense of territoriality, reflected in clear topographic boundaries, seems to have developed. This settlement configuration calls to mind the concept of the Siedlungskammer, or natural settlement chamber, which refers to the area delimited by natural boundaries that is exploited or controlled by a specific site.

What factor was responsible for these marked changes in settlement pattern and layout? Several authors have discussed the immigration of Indo-Europeans from southeastern Europe into Anatolia as early as the late 5th and early 4th millennia BC (Late Chalcolithic). Their movements continued during the EBA. Did these immigrants shape the new settlement pattern? Or was the evolution internally determined? Was the inherently warlike nature of the pre-existing chieftdom communities sufficient to lead to the establishment of one leading community per settlement chamber? In other words, did some communities manage to establish themselves as centres through subjugation, voluntarily or otherwise, of other communities?

During the EBA (especially the EBA1), a proliferation of larger sites has been noted for the plain of Lake Burdur, as for the wider region as well (Fig. 14). It is probable that as a result of population growth, Late Chalcolithic sites may have undergone fission. Since population numbers and site characteristics are not known, largely because the sites have not been excavated, it is impossible at present to determine the social organisation of these communities, although it seems probable that they were organised along the lines of a chieftdom (as in the Late Chalcolithic). Site exploitation radii reduced to 2.5 km or even less, indicating systems under stress. The subsequent steep decline in settlement numbers and amount of archaeological material during the EBA2 and the EBA3, reflecting the onset of the ‘Dark Ages’, are possibly the result of poor handling of internal stresses. If this is the case, external factors, such as changing climatic conditions or the violent intrusions of immigrants, are not necessary for explaining the ‘Dark Ages’.

2. B. Pace, Ricerche nella regione di Conia, Adalia e Scalanova, Annuario della Regia Scuola Archeologica di Atene 6-7 (1926), 343-452.


8. Waelkens et al. (n. 1), 136-176.


15. Dyson-Hudson & Smith (n. 14), 24-25.


17. Mellaart (n. 4), xii.
25. In the area which is the subject of the present article, the Middle Chalcolithic has not (yet) been recognised. Rather than accepting a temporal gap in occupation, it seems more probable that this has to do with different (and perhaps maybe outdated) terminologies used by the excavators and surveyors in the area. The time span of the Middle Chalcolithic is allocated to the Early Chalcolithic for this reason, since a ‘break’ in the archaeological material seems to be identifiable at the transition to the Late Chalcolithic phase 6A at Kuruçay, dated to the 4th millennium BC.

28. Mellaart (n. 4), 146.
29. J. Yakar, Prehistoric Anatolia: The Neolithic Transformation and the Early Chalcolithic Period (Tel Aviv 1991), 286. That there was an important potters’ craft at Hacılar is hypothetical. Excavations by R. Duru at Kuruçay disclosed large quantities of very similar painted and monochrome wares. Was Kuruçay another production centre for Hacılar-style pottery? Or did the site obtain its pottery from Hacılar through commercial contacts between the sites? According to Yakar, a survey in Anatolia is needed in order to determine the number of painted pottery production centres in west and southwestern Turkey (Yakar (n. 29), 286). Petrographic analyses could also shed light on the provenance of this pottery.
30. Mellaart (n. 4), 88-89.
31. Mellaart (n. 4), 37.
32. Mellaart (n. 4), 75-77, 82, 85-87.
33. Mellaart (n. 4), 75, 130-132, 134, 141, 185, 146, 184.
34. Mellaart (n. 4), 145.
35. Yakar (n. 29), 179.
37. Waélkens et al. (n. 1), 128, figs. 172-173; Özsaït (n. 6, 1976-77), 77-78.
38. Özsaït (n. 6, 1976-77), 77-78, Levha II; Özsaït (n. 6, 1991), 62-63.
39. Waélkens et al. (n. 1), 152, 155, fig. 103.
40. Mellaart (n. 4), 87.
41. Duru (n. 5, 1996), 139.
42. Duru (n. 5, 1996), 113-120.
43. Duru (n. 5, 1996), 120-121.
44. E. Deniz, Report of the human and animal bones of the Late Chalcolithic and Early Bronze Age periods, in R.
46. S. Lloyd & J. Mellaart, Beycesultan I. The Chalcolithic and Early Bronze Age Levels (Ankara 1962), 70 map I.
47. Waelkens et al. (n. 1), 155, fig. 204.
48. Lloyd & Mellaart (n. 46), 70 map I.
49. Waelkens et al. (n. 1), 156, fig. 207.
50. Pace (n. 2), 398.
52. Lloyd & Mellaart (n. 46), 196 map VI.
53. Lloyd & Mellaart (n. 46), 196 map VI.
54. Lloyd & Mellaart (n. 46), 196 map VI and 252 map VIII.
55. Waelkens et al. (n. 1), 156, figs. 208-212.
60. Eslick (n. 59), 12-14.
62. cf. discussion by Bintliff (n. 13), 528-529.
63. cf. discussion by Bintliff (n. 13), 526.
65. Perles (n. 10)
66. P. Halstead, Neighbours from Hell? The Household in Neolithic Greece, in P. Halstead (ed.) Neolithic Society in Greece (Sheffield 1999), 77-95.
67. Hayden (n. 61), 20.
68. ES LI CK (n. 59), 38-39.

69. J. YAK AR, The Later Prehistory of Anatolia: The Late Chalcolithic and the Early Bronze Age (Tel Aviv 1985), 373; IDEM (n. 29), 288, 297-298.

70. But see Fowles (n. 61) for a discussion on the meaning of the term “tribe”.


72. A.W. JOHNSON & T. EARLE, The Evolution of Human Societies: From Foraging Group to Agrarian State (Stanford 1987). See also the “autonomous village culture” as described by R.L. CARNEIRO, The tribal village and its culture: an evolutionary stage in the history of human society, in W.A. PARKINSON (ed.) The Archaeology of Tribal Societies (Ann Arbor 2002), 34-52. Carneiro (p. 50) explicitly states that “tribal structure is something superadded to the culture of autonomous villages”.

73. JOHNSON & EARLE (n. 72), 20, 101-102, 158-159.

74. These societies can also be compared to Hayden’s ‘despot communities’: HAYDEN (n. 61), 28-42.

75. HAYDEN (n. 61), 42-51. Hayden himself considers his ‘entrepreneur’ communities to be classical Big Men societies. However, in view of the very high population densities, the substantial division into elite families and nonelites, and the inherited power roles (Hayden, 51-63), these entrepreneur communities seem to be closer to (simple) chiefdoms.

76. JOHNSON & EARLE (n. 72), 161, 191-196.

77. YAKAR (n. 29), 288.

78. I. KUJT, People and space in early agricultural villages: exploring daily lives, community sizes, and architecture in the Late Pre-Pottery Neolithic, Journal of Anthropological Archaeology 19 (2000), 75-102.

79. MELLAART (n. 4), 36.

80. MELLAART (n. 4), 148.

81. MELLAART (n. 4), 77.

82. MELLAART (n. 4), 148.

83. YAKAR (n. 29), 158.

84. YAKAR (n. 29), 339.

85. YAKAR (n. 69), 411-415.


90. EARLE (n. 87); JOHNSON & EARLE (n. 72), 207; WRIGHT (n. 88), 68.


93. Service (n. 71), 133-161; Peebles & Kus (n. 88), 421-448.


95. Kuit (n. 78).

96. Duru (n. 5, 1996), 139.

97. Duru (n. 5, 1996), 139.

98. Yakar (n. 69), 3, 39-41.


100. Yakar (n. 29), 339.

101. Kuit (n. 78).


104. Vanhaverbeke & Waeltens (n. 58), 182-183.


