

## NETWORKS OF INTERREGIONAL INTERACTION DURING MESOPOTAMIA'S UBAID PERIOD

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### INTRODUCTION

One of the biggest problems facing prehistorians of the ancient Near East is explaining the spread and distribution of patterns of material culture. During several phases of the early and middle Chalcolithic period, between about 6000 and 4000 B.C., first the so-called Hassuna-Samarra “culture,” then the Halaf and finally the Ubaid “cultures” spread from different parts of the Mesopotamian heartland to encompass large parts of the ancient Near East. The Ubaid “culture” is particularly interesting not only because it spread from southern Iraq to encompass an area of unprecedented scope, extending from the Persian Gulf to Syria and southeastern Anatolia, but also because it is often hailed as the “developmental bridge” linking the period of the advent of agriculture to the era of state formation (Henrickson and Thuesen 1989b). Although scholars have proposed various hypotheses to account for what might be termed the “Ubaid phenomenon,” including theories of migration, colonization and culture contact (Hole 2000: 22; Thuesen 2000: 76), technological transfer (Nissen 1989), and acculturation (Breniquet 1996), the core question that lies at the heart of the issue, namely what processes account for the dramatic dispersal of Ubaid material culture, have yet to be adequately explained.

In this paper I present the results of fieldwork at the site of Kenan Tepe, where members of the Upper Tigris Archaeological Research Project (UTARP) have recently unearthed well-preserved architectural units dating to the so-called Late Northern Ubaid. By outlining the chronology and cultural characteristics of the Ubaid complex discovered at Kenan Tepe, I highlight both similarities that link this site to other Ubaid sites in greater Mesopotamia, and differences that argue for an indigenous cultural development within the Tigris piedmont during this period. In light of these data, I propose a model that might help explain the complicated processes propelling the distribution of Ubaid material culture.

### FIELDWORK AT KENAN TEPE

Kenan Tepe is located in the Upper Tigris River Valley about 70 km east of the modern town of Diyarbakir (fig. 21.1). It is a small multi-period mound measuring between 4.0 and 4.4 ha (Parker et al. 2006). It consists of a tall central mound and a large lower city stretching out to the east of the main mound. Over the past six field seasons members of UTARP have conducted excavations in eight areas of the site. Archaeological research between 2000 and 2005 has shown that Kenan Tepe was occupied during five broad periods: the Late Ubaid period, the Late Chalcolithic period, the beginning of the Early Bronze Age, the Middle Bronze Age, and the Early Iron Age.<sup>1</sup>

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<sup>1</sup> For preliminary reports of Ubaid research at Kenan Tepe, see especially Parker and Dodd 2005 and Parker et al. 2006.

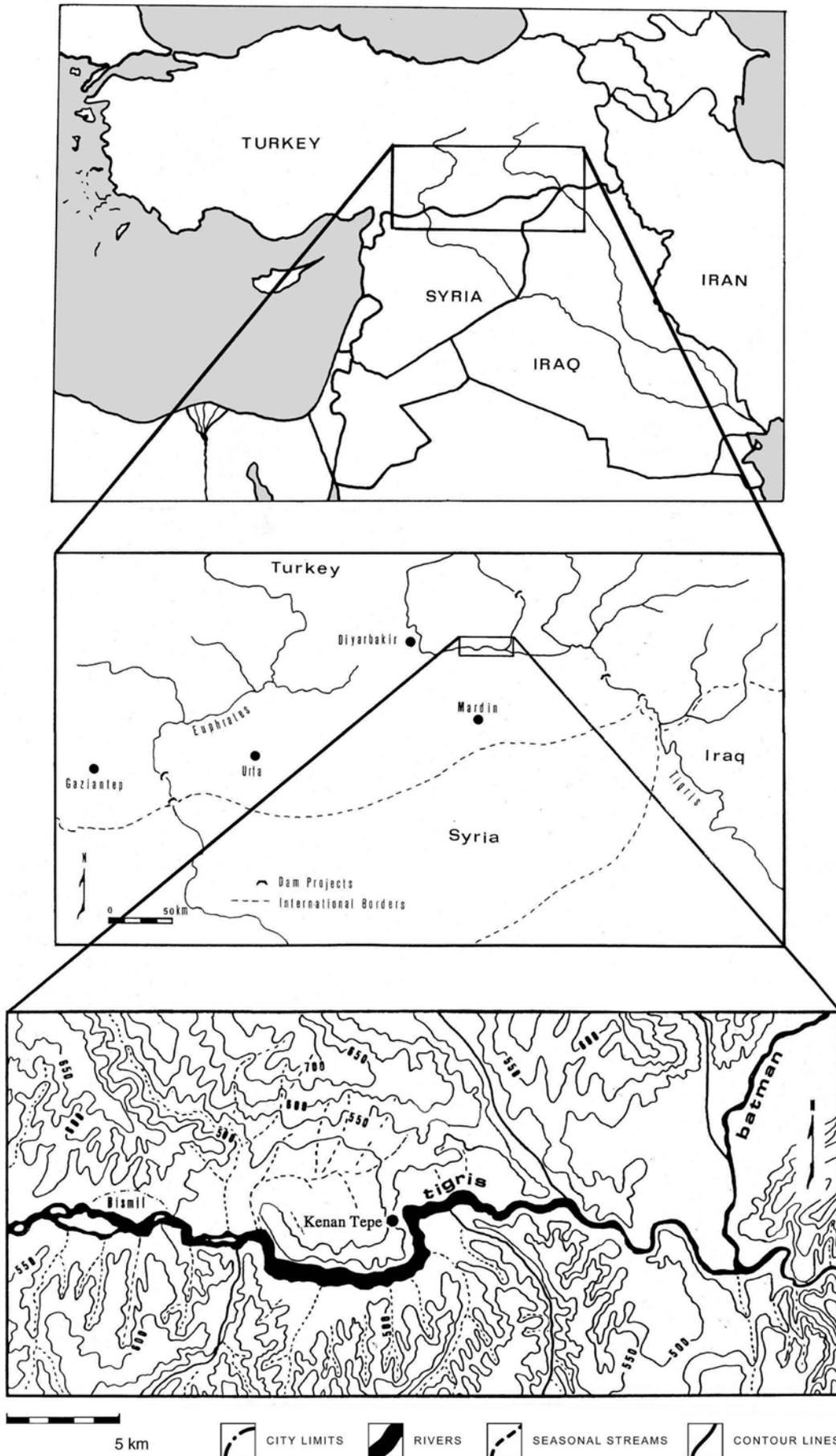


Figure 21.1. Map of the Middle East with enlargements showing the location of Kenan Tepe

Data gathered at Kenan Tepe over the last six field seasons allow us to draw interesting conclusions about the nature of both the Ubaid-period settlement at Kenan Tepe and the Late Northern Ubaid cultural complex in general. Excavations have shown that Ubaid-period artifacts and architecture occur in only a few places on the site. These remains are restricted to Areas D and E and were found at the bottom of our step trench in Area A (fig. 21.2). Excavations during the 2005 field season have shown conclusively that Kenan Tepe's Ubaid-period settlement does not extend under Kenan Tepe's high mound (Parker et al. 2006; Parker and Dodd 2005). Instead, settlement covered a small area of less than 1 ha on the eastern slopes of what was probably a low natural hill. These findings are consistent both with Algaze's original assumptions based on his 1988, 1989, and 1990 surveys of the Tigris basin (Algaze 1989; Algaze et al. 1991; Algaze, Breuninger, and Knudstad 1994), and with other surveys and excavations slightly farther afield in northern Iraq (e.g., Akkermans 1989; Jasim 1985; Wilkinson and Tucker 1995), and north Syria (e.g., Meijer 1986), where Ubaid-period sites are usually not more than 2–3 ha.

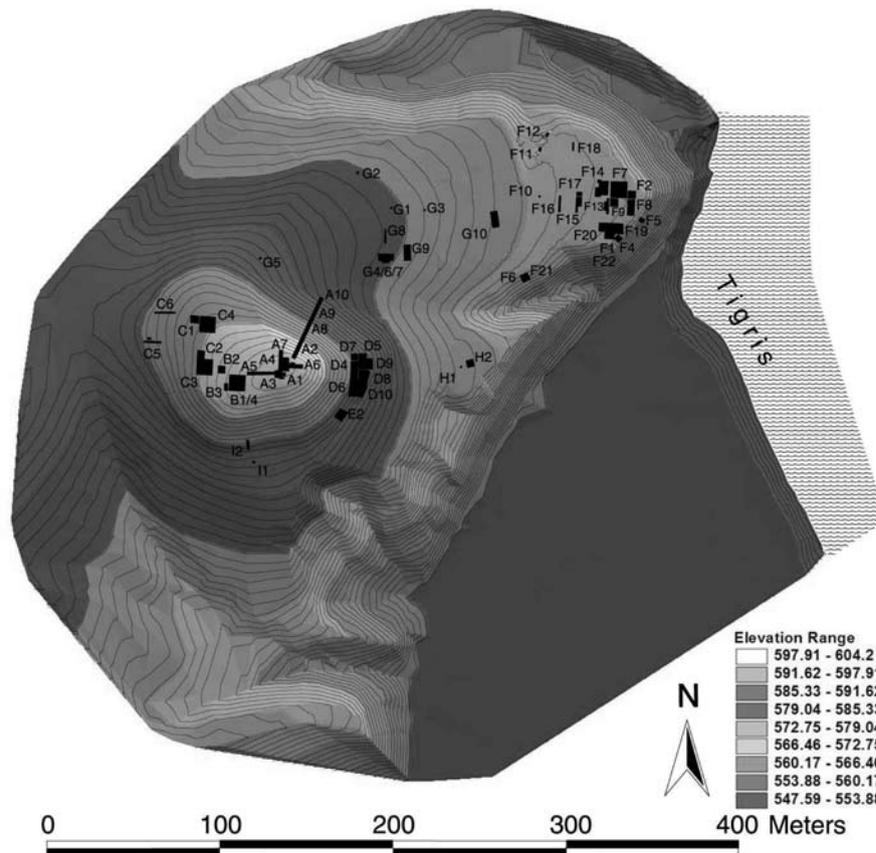


Figure 21.2. Topographic map of Kenan Tepe showing the location of areas and trenches

Recent excavations and radiocarbon dating allow a tentative outline of the Ubaid-period occupation at Kenan Tepe consisting of four phases. The earliest phase (Ubaid Phase 1) is represented by the hearths and other cultural debris discovered in the lowest levels of trench D5. Although our exposure is still very small, these data suggest either that during the earliest phase of Ubaid-period occupation at Kenan Tepe, architecture was restricted to a very small portion of the site, or that occupation in this initial phase consisted of campsites and/or semi-permanent structures.

Our second phase includes a cell-plan building that we refer to as Ubaid Structure 1. This structure, which was contained in the southern portion of trench D5 and the northern portion of trench D8, consisted of a series of small square or rectangular rooms averaging between approximately 1.0 and 1.5 m in width (figs. 21.3–4). Associated



Figure 21.3. Photograph of trench D8 (facing north) showing the southern portion of Ubaid Structure 1 during excavation

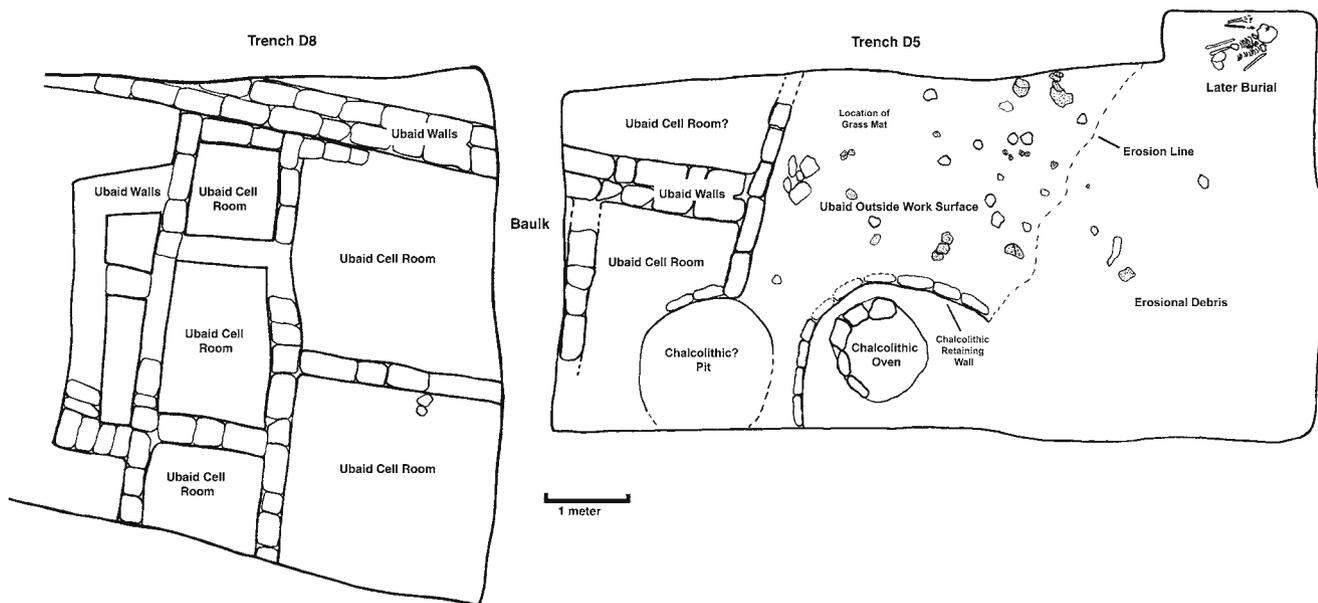


Figure 21.4. Plan of Ubaid Structure 1

with this phase 2 architecture was a well-preserved outside work surface that contained a variety of domestic debris in situ (Parker and Dodd 2005: 71–73). Most of this surface was covered by thousands of compacted plant pseudomorphs. Examination of the structure and morphology of these pseudomorphs suggests that they are remains of barley or wheat chaff. In part of the trench this organic mass covered the pseudomorphic remains of a very finely made grass mat (Parker and Dodd 2005: figs. 3–5). The same surface also yielded numerous examples of painted fine and unpainted coarse Ubaid pottery, obsidian and chert lithics, and a number of other small finds (Parker et al. 2006). Three carbon samples taken from this surface and from a fireplace on this surface, together with a preliminary analysis of the ceramics from these and neighboring contexts, confirmed that these remains belong to the so-called Late Northern Ubaid cultural complex dating to approximately 4650 B.C. (Parker and Dodd 2005: 71–73 and table 1).

Level three is represented by a second, considerably larger, cell-plan structure that we refer to as Ubaid Structure 2 (figs. 21.5–6). This architecture consisted of two groups of mudbrick walls running roughly north–south and east–west. These walls intersected at roughly right angles forming a series of small square or rectangular chambers or cells measuring between 1.0 and 1.5 m in width. In the north half of trench D8 these walls formed five such cells. They were separated from a similar group of cells in the southern half of the trench, and extending into the neighboring trench (D10) by an earthen surface measuring approximately 2.0 m north–south  $\times$  3.5 m east–west. A variety of ceramics, lithics, and a few animal bones were recovered from this context. A carbon sample taken from this surface yielded a 2-sigma calibrated date of 4700–4460 B.C.

The cells on either side of this surface contained discrete groups of in situ remains including grain pseudomorphs in at least two, ceramics in one and a burial in another. The grain pseudomorphs were identical to those excavated in association with the earlier phase. The burial presents an interesting problem. Although the skull and many of the disarticulated small bones of the hands and forearms were within the cell room, the long bones of the legs extended into, not under, the mudbricks that made up the neighboring wall. This was obviously a secondary burial since the skeleton was disarticulated and only the skull and some of the arm and the leg bones were included in this inhumation. These factors, plus the very unusual position of the bones, suggest that these remains were purposefully deposited as a secondary inhumation during the construction of Ubaid Structure 2.

In the southern portion of trench D8 a second set of intersecting mudbrick walls formed at least two more small cells (figs. 21.5–6). These walls proceeded into the neighboring trench D10. The Ubaid architectural remains in trench D10 were partially destroyed by several large pits. Nevertheless, the Ubaid-period walls clearly demarcated at least one more rectangular cell. Although a large pit cut into this cell, what remained suggests that the interior of the cell had at some point been filled in with mudbricks creating a mudbrick platform, surface, or foundation. Because of the disturbed nature of the contexts in and around the southern portion of Ubaid Structure 2 we cannot say with certainty whether or not these bricks belonged to the original construction of Ubaid Structure 2 or if they were a later addition. However, further excavation in trench D8 revealed that some of the cells of the earlier Ubaid Structure 1 had been filled in with mudbricks to facilitate the construction of Ubaid Structure 2. This being the case, we suspect that these bricks are a later addition. If this hypothesis is correct, a fourth phase of Ubaid remains post-dating Ubaid Structure 2 may have been destroyed by erosion and/or later construction on this part of Kenan Tepe's main mound. Ubaid Structure 2 was extraordinarily well preserved. Only at its southern end (the portion contained in trench D10), was the architecture disturbed by later pits. All in all, Structure 2 measured more than 5 m in width (east–west)  $\times$  14 m in length (north–south).

Part of a third Ubaid-period cell-plan structure, which we refer to as Ubaid Structure 3, was excavated on the southern slopes of the high mound in trench E2 (fig. 21.2). Although partially disturbed by several later pits, we discovered the northeastern bearing wall of this structure, one complete cell and portions of at least one more cell (fig. 21.7). The northeastern half of the trench consisted of a large, well-preserved outside work surface that contained numerous ceramics, lithics, and animal bones in situ. A carbon sample taken from this surface yielded a 2-sigma calibrated date of 4720–4520 B.C. Interestingly, we also have a burial in trench E2 that is partially contained within the walls that make up Structure 3. In this case, however, these were the remains of an adult female who was buried in a large ceramic vessel (fig. 21.8). Unlike the burial in trench D8, this appears to have been a primary inhumation. The body was well articulated and the skeleton was complete. Our assumption is that the body was inserted into the vessel (head first) and that the vessel was then placed in the cell during the construction of Ubaid Structure 3.

Thus far we have run five carbon dates from Ubaid-period contexts at Kenan Tepe: three from the surface outside Ubaid Structure 1 in trench D5 (Parker and Dodd 2005: table 1); one from the surface between the northern and southern portions of Ubaid Structure 2 in trench D8; and one from the surface outside Ubaid Structure 3 in trench E2 (fig. 21.9). One interesting aspect of the radiocarbon data is how closely together these dates cluster: the full range

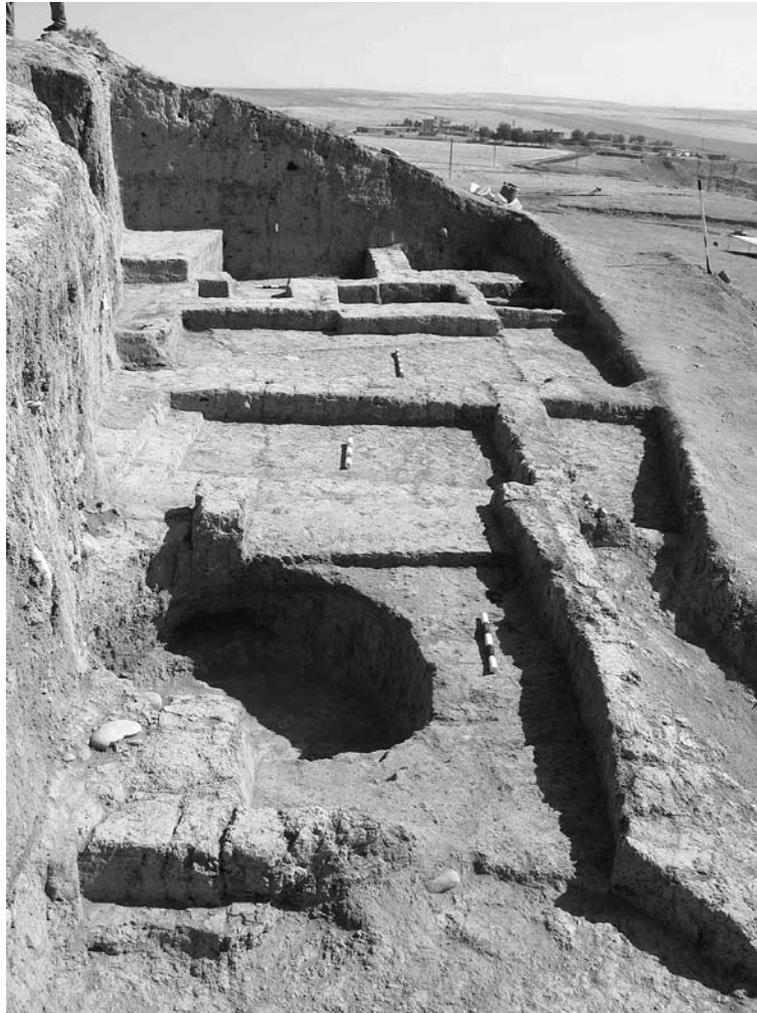


Figure 21.5. Photograph of trenches D8 and D10 (facing north) showing Ubaid Structure 2 during excavation

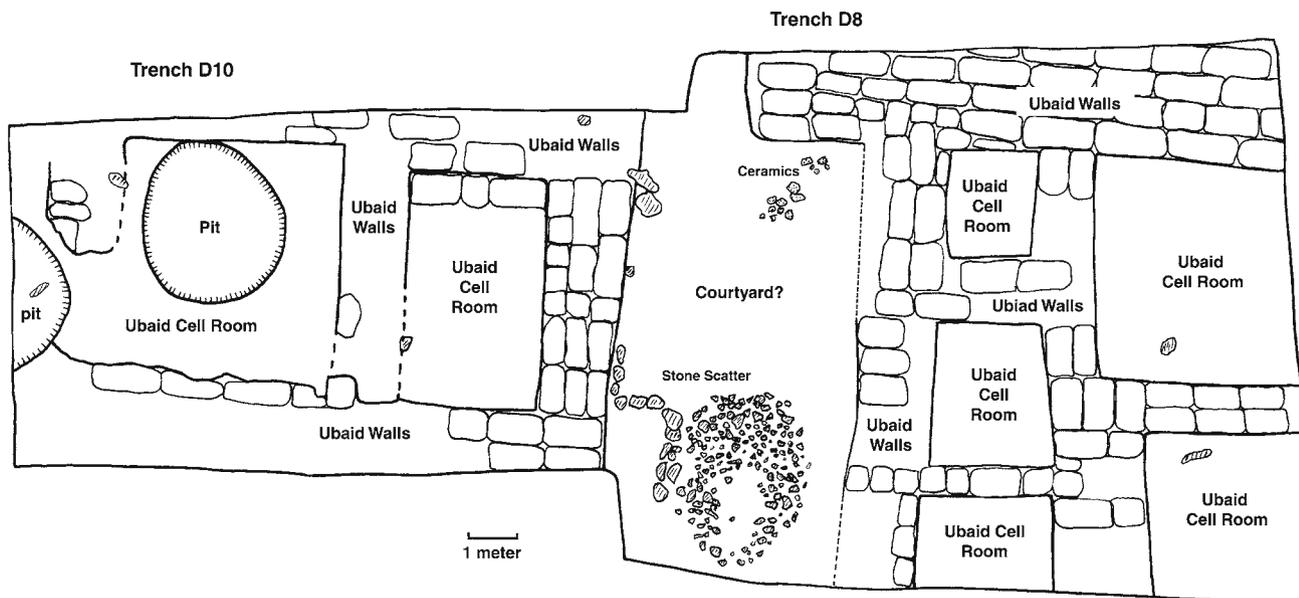


Figure 21.6. Plan of Ubaid Structure 2 in trenches D8 and D10.

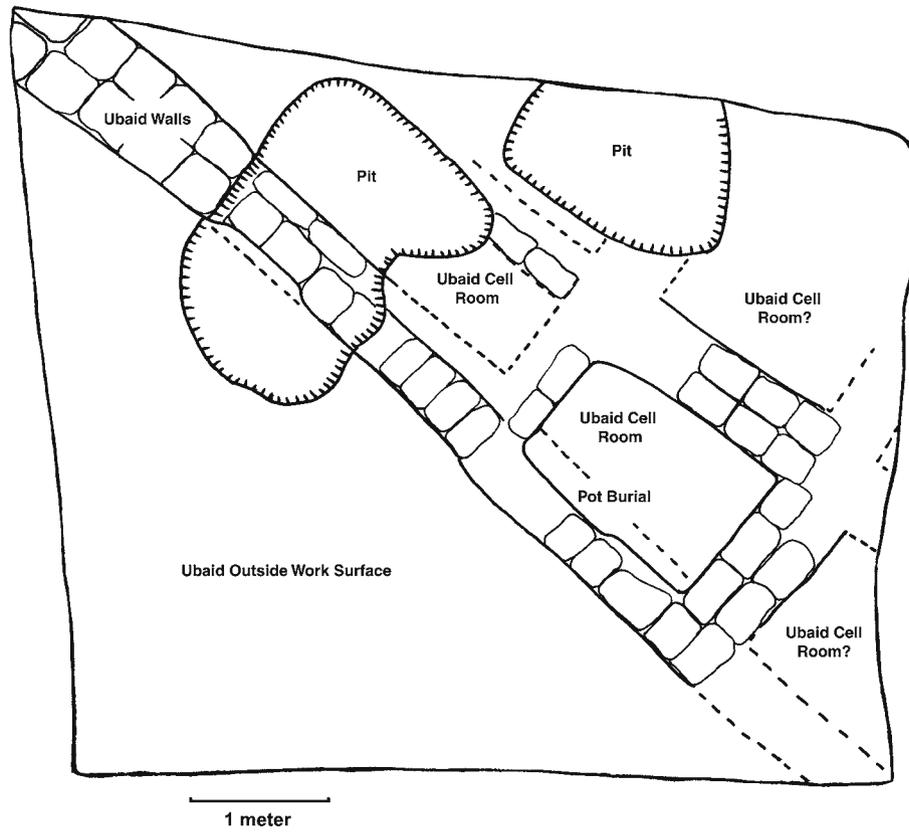


Figure 21.7. Plan of Ubaid Structure 3 in trench E2

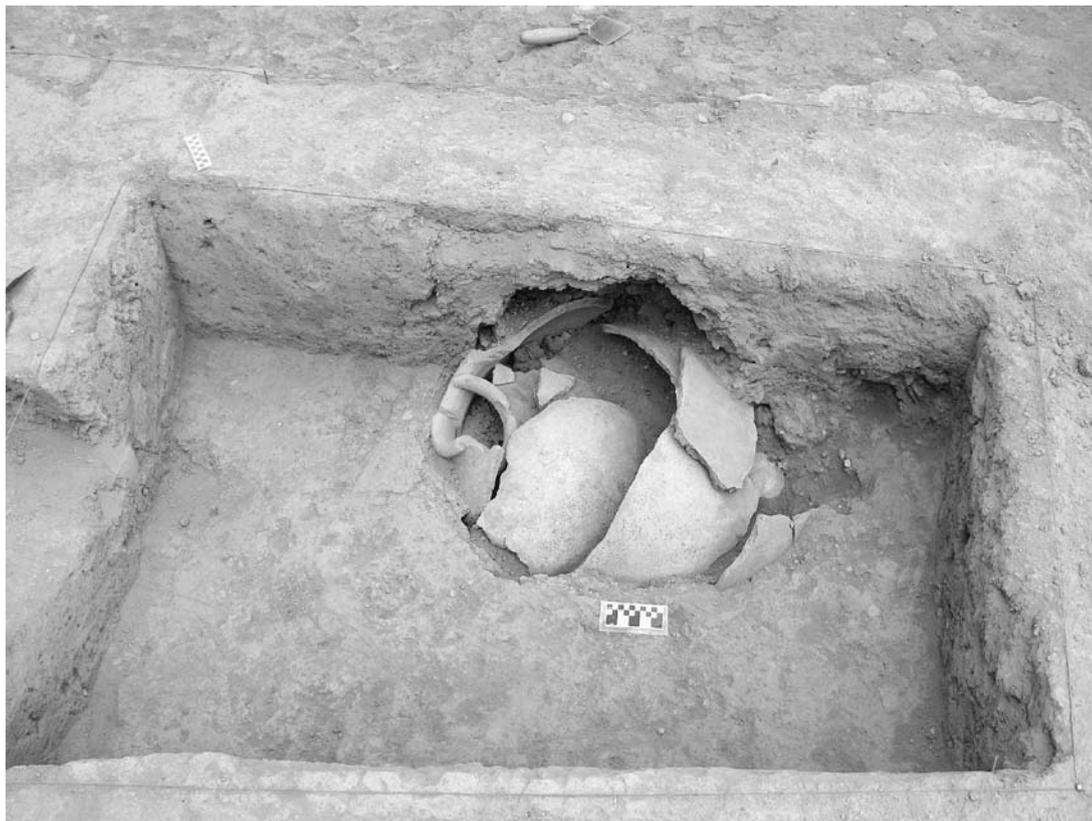


Figure 21.8. Ubaid-period pot burial in trench E2

of the 2-sigma calibrated dates covers a period of only 260 years (between 4720 and 4460 B.C.). Since this is a very small corpus of dates and because they fall quite closely together, only a few tentative conclusions can be drawn. First, these dates suggest that the phases of Ubaid-period architecture discernible in the stratigraphy at Kenan Tepe took place over a relatively short period of time. Second, these dates reveal a discrepancy with those suggested by the ceramic analysis: the ceramic parallels support a slightly later date in the Ubaid 4 or terminal Ubaid period (contemporary with Gawra XIII, XII and Hamman et-Turkman IVD [for discussion see Parker et al. 2006: 93–94]).

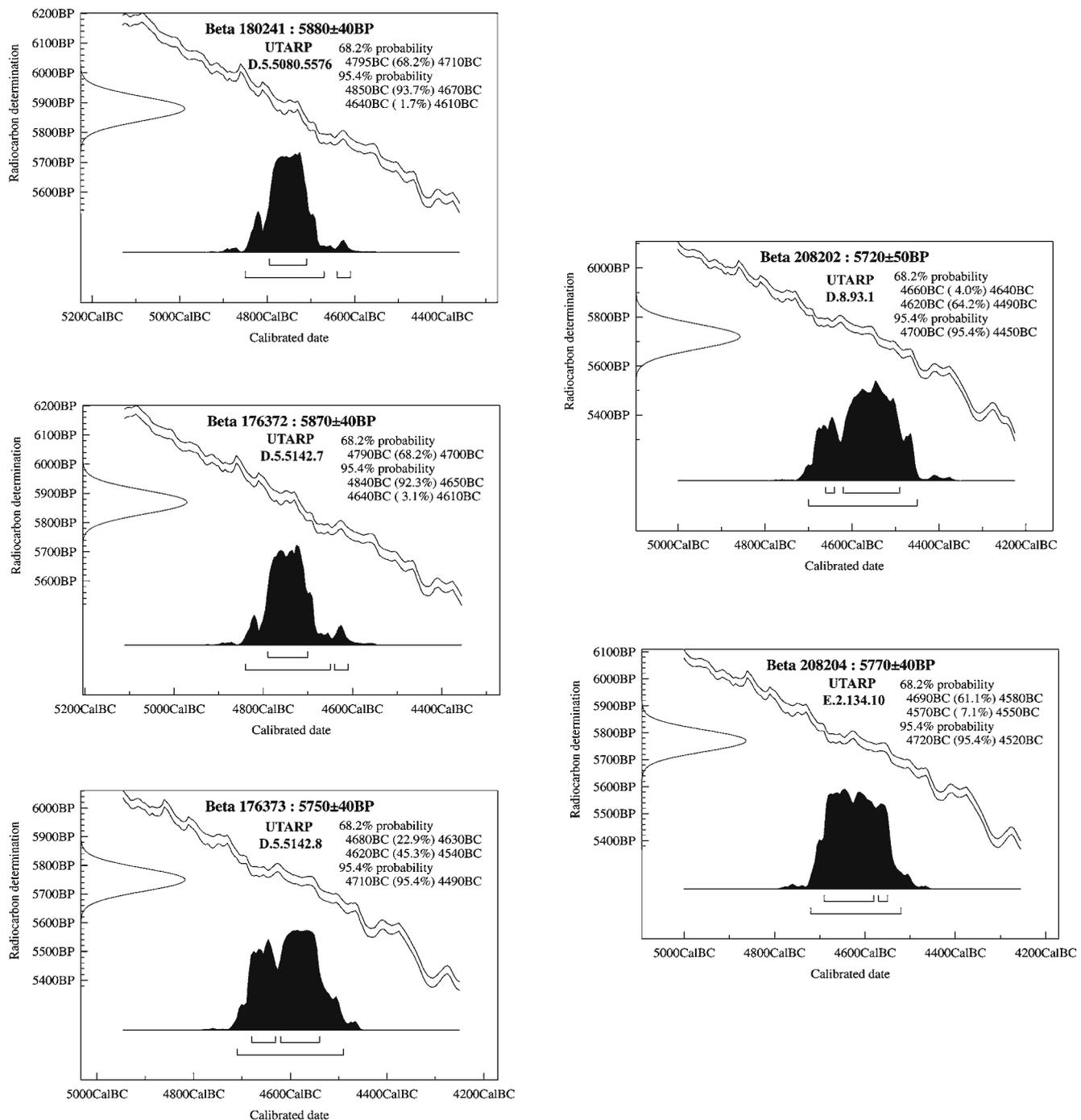


Figure 21.9. Radiocarbon data

## DISCUSSION OF THE ARCHITECTURE

Although cell-plan architecture is not unprecedented during the Ubaid period, it is not the norm (Roaf 1984; Akkermans 1989). Ironically, the nearest parallel in geographic terms can be found at the Neolithic site of Cayönü, which lies about 75 km to the northwest of Kenan Tepe, though there is far too much depth of time to argue for any direct connection. There are also a number of Ubaid-period parallels. Jasim has reported that similar architecture exists at Tell Adaba Level II (Jasim 1989: 83–85). There are, however, significant differences between the Tell Adaba structure and the cell-plan structures unearthed at Kenan Tepe. The Tell Adaba structure consists of four parallel rows of rooms surrounded by courtyards. At Tell Adaba this type of architecture is clearly not the norm, where the well-known tripartite buildings were discovered in abundance. Judging from the architecture and the material remains discovered in and around this structure, and citing ethnographic parallels, Jasim concludes that this is the remains of a storage facility consisting of a number of small compartments which were covered over by reeds and clay when full (Jasim 1989: 84–85). A similar, although much earlier, cell-plan structure was unearthed at 'Oueili. In this case the cells were considerably smaller than those at Tell Adaba or Kenan Tepe (averaging 50–60 cm in diameter). Huot interprets these remains differently than Jasim. Instead of seeing the rooms as separate storage compartments, he suggests that a surface made of biodegradable material was laid across the cells to create a raised floor for a granary (Huot 1989: 32). Parallels dating to the Ubaid period can also be found in Syria at the sites of Tell Kosak Shamali (Nishiaki 1999) and Tell al-'Abr (Hammade and Yamazaki 1995). In both cases, several scholars have suggested that the cell walls unearthed at these sites were meant to support raised floors used for storing or drying grains (Akkermans and Schwartz 2003: 164–65).

Although the excavated area is too small (ca. 180 sq. m) to draw anything more than tentative conclusions, the available data support three possible interpretations of the cell-plan structures at Kenan Tepe. Firstly, these could be the remains of domestic structures with raised floors. Secondly, these could be the foundations of large storage buildings with raised floors. And thirdly, these could be the remains of a series of small storage compartments that, once filled, were sealed with a layer of reeds or some other material and then covered with clay.

Regarding the first hypothesis, several lines of evidence indicate that the cell-plan units served some sort of domestic function. Numerous artifacts from associated surfaces suggest that a wide variety of domestic activities took place around the cell-plan buildings, including textile production, lithic blade modification, composite tool use or repair, fishing equipment storage or repair, cooking, and food preparation, the manufacture or use of personal ornaments, and cereal processing. Archaeological evidence from within the cell rooms is less conclusive. The cells are clearly too small to have been used as living spaces, but in several cases the pseudomorphic remains of grains were discovered. In other cases the cells appear to have been empty, and in two cases the cells contained human remains. These data, combined with the fact that cereal processing was clearly taking place around these structures, suggests that these small cell rooms were used for storage, perhaps representing independent storage units similar to those unearthed at Tell Adaba. It is also possible that these cell rooms served as small basement storage chambers beneath a domestic superstructure, with the walls serving to elevate the wooden living surfaces as well as create storage spaces.

The archaeological data do not support the second hypothesis. If the Kenan Tepe structures were large storage facilities with raised floors meant for storing or drying grains, then the remains found inside each cell room would have fallen from the raised floor of the structure. Thus, one would expect the debris in the cells to be uniform, which is not the case. In addition, the burials are not likely to have been placed in structures whose sole purpose was the storage or processing of agricultural surpluses.

The third hypothesis remains a distinct possibility. As mentioned above, the archaeological data suggest that the cell-plan structures unearthed at Kenan Tepe did serve some sort of storage function. If these structures represent the remains of independent storage facilities similar to those discovered at Tell Adaba then they must be subsidiary to other, as of yet unexcavated, domestic or public buildings. Only further research will confirm or deny this hypothesis.

Given this evidence I interpret the surface between the two groups of walls and cells in Ubaid Structure 2 as a courtyard in the center of what was either a multi-room storage structure or a courtyard house with floors raised above small basement storage rooms. The fact that we have now excavated parts of three structures with nearly identical cell floor plans suggests that during the Ubaid period this type of construction was the quite common at the site and perhaps even in the region. This hypothesis is supported by parallels, in both construction and concept, in Syria and the Hatay region of southern Turkey (see above and Yener et al. 2000).

Akkermans has argued, *contra* Roaf (1984), that the tripartite domestic house plan is not the norm in Ubaid-period architecture (Akkermans 1989). Since six seasons of research at Kenan Tepe have yet to reveal tripartite architecture, our data appear to support Akkerman's hypothesis. Nevertheless, I prefer to approach this problem from another direction. Instead of assuming that similarities in ceramic assemblages should be paralleled by similarities in other categories of material remains, such as architecture, burial practices, lithic assemblages, subsistence patterns, etc., why not see these as separate, independently-patterned material culture traits? If we envision material culture as an expression of social action occurring within overlapping social networks (Mann 1986), then the "cultures" we excavate should not be seen as uniform monolithic entities. If we follow this reasoning, each community is not part of a monolithic entity but is instead a unique node in a fabric of social relationships. Thus we might not expect domestic architecture, for example, to exhibit similar patterning and/or uniformity to other categories of material culture.

This model does three things. Firstly, it reverses how we view material culture: instead of looking at it from the top down, from the larger "culture" to the single community within it, in this case Kenan Tepe, we see culture from the bottom up, where each site represents the material remains of a unique community that lived within a dynamic social network. Secondly, this model forces us to view each category of material culture separately and on its own terms. Whether or not certain aspects of the monolithic "culture," in this case the Ubaid, were adopted by members of a community is conditioned by an array of factors including how a given community fits into social networks, and what ecological social and ideological conditions exist within each community. And thirdly, this model forces us to see interregional interaction not as a single network or "interaction sphere" that links elites from various communities (Schortman 1989; Schortman and Urban 1992), but as a fabric of different overlapping social, economic, political, and ideological networks that link various members of the communities to each other in a variety of ways. Using this model we must therefore envision communities as nodes or intersections in a variety of overlapping social networks. The inhabitants of each community may have differential access to indigenous and exogenous ideas, technologies, and commodities via social networks, and may choose to, or choose not to, adopt, adapt, or emulate any number of materials, technologies, or activities available through them. With this in mind I now turn to several categories of material culture found in and around the architecture discussed above, to see how these data articulate with the theory just presented.

## CERAMICS

Lynn Dodd has recently completed a preliminary analysis of the Ubaid-period ceramics unearthed at Kenan Tepe. Since this report is published elsewhere (Parker et al. 2006), I only summarize some of the relevant points. The first observation concerns the nature of the assemblage. The corpus of ceramics excavated from contexts in and around the structures discussed above do indeed show strong similarities, especially in shape and surface treatment, to Ubaid-period ceramics discovered at various sites spread over a very wide geographic area including southern ('Oueili, Ras al Amiya), central (Tell Adaba, Tell Madhhur), and northern Iraq (Tepe Gawra), Syria (Hammam et-Turkman, Tell el-Abr, Tell Ziyadeh, Tell Kosak Shamali), and Turkey (Tell Kurdu, Değirmentepe). Although these similarities clearly place the Middle Chalcolithic remains unearthed at Kenan Tepe within the orbit of the Late Ubaid ceramic tradition, there are also idiosyncrasies that betray some aspects of local agency.

We have identified four fabric types among the Ubaid ceramics from Kenan Tepe: rough ware, coarse ware, medium ware, and fine ware. Ubaid rough ware has large chaff and some calcareous grit temper and breaks in a very angular fashion. Occasional pebble-sized inclusions have been noted. Sherds of this fabric usually have a black core. Ubaid coarse ware has fine grit and medium to large chaff temper. Brown fabric colors predominate. Vessels made of this fabric are often burnished. Ubaid medium ware generally has fine grit and medium to large chaff temper. Some vessels are chaff impressed. Thicker regions may have a black core. The fabric is usually fairly well levigated and compact and exhibits straight, small-grained breaks. Ubaid fine ware normally has fine calcareous grit and fine to medium chaff temper, is low to medium fired and exhibits straight fine-grained breaks. Normally no black core is evident. This fabric is most frequently used to construct small bowls and cups and occasionally small, fine jars.

Open vessels from the Kenan Tepe corpus fall into four categories, including bell-shaped cups (fig. 21.10D, E, L, M, and N), shallow bowls that sometimes have a scraped exterior (fig. 21.10J and K), open bowls (fig. 21.10C, F, G, H, and I; fig. 21.12A), and basins. Closed vessels fall into two categories: globular jars that are usually con-

structured of rough fabrics (fig. 21.11A–H), and jars with tall rims (fig. 21.10A–B; fig. 21.12C–D) which are usually constructed of medium or fine fabrics.

Five categories of surface treatments have also been identified: paint on an untreated fabric, paint on a slip covered fabric, burnished vessels, incised designs, and bichrome painted designs. The most common method of decoration consists of paint on an untreated fabric. Painted designs are restricted to Ubaid fine and medium wares. The most common colors are purple or dark red, black, and gray (fig. 21.12). Burnishing usually occurs on cooking pots and is relatively common in the Kenan Tepe corpus. Ceramic analysis suggests that differential firing may account for most cases in which paint appears on a cream-colored background and thus this category of surface treatment is difficult to quantify. Contrary to many other Ubaid-period sites such as Tell Abada (Jasim 1985), Hammam et-Turkman (Akkermans 1988a; 1988b), Tepe Gawra (Tobler 1950; Rothman 2002; Rothman and Blackman 2003) and Tell Madhhur (Roaf 1989), ceramics with bichrome painted and incised decorations are rare in the Kenan Tepe corpus. The relative infrequency of these categories of decoration has led Dodd to conclude that, although Kenan Tepe's potters were probably familiar with techniques of surface texturing, they were not inclined to invest the more considerable labor that would be required to achieve some of the more elaborate surface effects known from other sites.

Decorative motifs exhibited on Ubaid ceramics excavated at Kenan Tepe fit well within the range of the Late Ubaid decorative repertoire known from sites such as 'Oueili and Hammam et-Turkman. However, a number of motifs common at these and other sites are conspicuously absent (for discussion, see Parker et al. 2006). The corpus of Ubaid-period ceramics thus far excavated at Kenan Tepe is best paralleled at Hammam et-Turkman especially in levels IVB and IVC. Most notably, angled-rim jars from Kenan Tepe and from Hammam et-Turkman IVC commonly display broadly executed designs (fig. 21.12A–C and G), while solid black fields of paint are not common except when used to create negative designs (fig. 21.12D–F; Akkermans 1988b: 117, fig. 5:57, 58, fig. 13).

The percentage of painted to unpainted pottery in the Kenan Tepe corpus has not yet been quantified. Nevertheless, our preliminary analysis shows that unpainted ceramics clearly dominate the assemblage. In spite of this, it appears that painted ceramics are far more predominant at Kenan Tepe than, for example, at Hammam et-Turkman, where the amount of painted pottery is reported to be very restricted. Another obvious difference between Kenan Tepe and Hammam et-Turkman is suggested by the ceramic parallels. Akkermans has drawn attention to connections between the painted decorative motifs from Hammam et-Turkman and painted traditions at Ubaid sites in central and southern Iraq, while at the same time suggesting that the undecorated ceramics from Hammam et-Turkman are unlike southern Ubaid plain wares (Akkermans 1988b). The opposite appears to be true at Kenan Tepe, where painted motifs find direct parallels in Syria while plain wares are similar to those found in more southerly sites like Madhhur and Ziyadeh (Parker et al. 2006).

Figure 21.10. Ubaid Ceramics from Kenan Tepe

A	D5 L5132 KT1 #3: Light gray exterior surface (2.5Y 7/2). Light yellowish brown core (10YR 6/4). Light brownish gray interior surface (2.5Y 6/2). Burnished interior and exterior surfaces. Wash on interior and exterior surfaces. Dark yellowish brown paint on exterior surfaces (10YR 3/4). Very fine chaff and grit temper.
B	D5 L5100 KT48 #1: Light reddish brown exterior surface (5YR 6/4). Yellowish red core (5YR 5/6). Yellowish red interior surface (5YR 5/6). Burnished interior and exterior surfaces. Incised and impressed decorations on exterior surface. Reddish brown paint on the rim, the neck, and probably on the body (5YR 4/4). Chaff temper.
C	D5 L5108 KT21 #1: Very pale brown exterior surface (10YR 8/3). Gray fabric (10YR 5/1) with an abrupt transition to a reddish yellow core (7.5YR 7/6). Gray interior surface (10YR 6/1). Dark brown paint on rim and exterior surface (7.5YR 3/2). Chaff impressions on interior and exterior surfaces. Medium chaff temper with some grit inclusions.
D	D5 L5029 KT5093 #3: Reddish yellow exterior surface (5YR 6/6). Reddish yellow core (5YR 6/6). Light reddish brown interior surface (5YR 6/4). Very fine grit temper.
E	D5 L5146 KT6 #5: Pink exterior surface (7.5YR 7/4). Pink interior surface (5YR 7/4). Striations visible on interior and exterior surfaces. Fine white grit temper.
F	D5 L5103 KT13 #1: Very pale brown exterior surface (10YR 8/4). Reddish yellow fabric (5YR 7/6) abruptly transitioning to a gray core (10YR 5/1). Dark brown paint on exterior and interior rim (7.5YR 3/3). Small to medium grit, including calcareous grit, and medium chaff temper.
G	E1 L1004 KT1040 #5: Yellow washed exterior surface (10YR 7/6). Yellowish brown fabric (10YR 5/8) abruptly changing to greyish brown (10YR 5/2). Yellow washed interior surface (10YR 5/8). Fine to medium grit and chaff temper.
H	D5 L5100 KT49 #1: Light red exterior surface (2.5YR 6/6). Gray fabric (5YR 5/1) with an abrupt transition to a reddish yellow core (5YR 6/6). Light red interior surface (2.5YR 6/6). Medium chaff temper.
I	E1 L1004 KT1040 #2: Reddish yellow smoothed exterior surface (7.5YR 7/6). Yellowish brown core (10YR 5/4). Reddish yellow interior surface (7.5YR 7/6). Fine grit and chaff temper. Diameter uncertain.
J	D5 L5160 KT 3 #6: Light brown exterior surface (7.5YR 6/4). Strong brown fabric (7.5YR 5/6) grading to a dark grayish brown core (10YR 4/2). Brown interior surface (7.5YR 5/3). Fine and medium grit and fine chaff temper.
K	E2 L25 KT7 #8: Pale yellow exterior surface (5Y 8/3). Yellowish brown fabric (10YR 5/4) grading to a dark grayish brown core (10YR 4/2). Pale yellow interior surface (2.5Y 7/4). Very dark grayish brown painted along the top of rim (10YR 3/2). Wash on exterior surface. Very few medium grit and fine chaff temper.
L	D5 L5160 KT3 #3: Yellowish red exterior surface (5YR 5/8). Red fabric (2.5YR 5/8). Yellowish red interior surface (5YR 5/8). Fine grit and few fine chaff temper.
M	D5 L5160 KT3 #10: Yellow exterior surface (2.5YR 7/6). Brown fabric (7.5YR 4/4) grading to a yellowish brown core (10YR 5/4). Very dark grayish cross hatched design painted on exterior surface (10YR 3/2). Very fine grit temper.
N	D5 L5190 KT1 #2: Reddish yellow exterior surface (5YR 6/8). Strong brown fabric (7.5YR 5/8). Reddish yellow interior surface (5YR 6/8). Dark reddish brown painted on exterior surface (5YR 3/2). Fine grit and fine chaff temper.

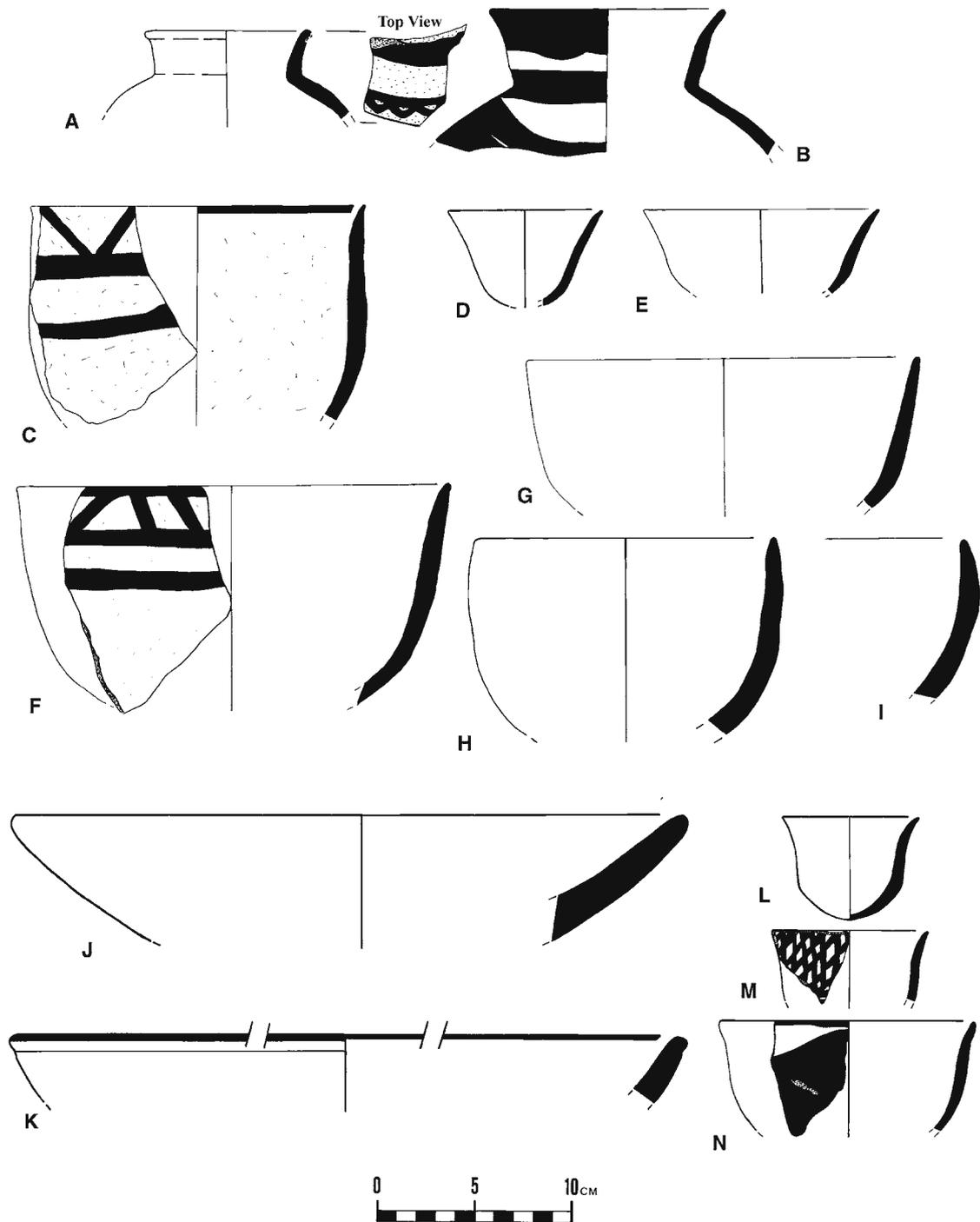


Figure 21.10. Ubaid Ceramics from Kenan Tepe

Figure 21.11. Ubaid Ceramics from Kenan Tepe

A	E2 L18 KT7 #1: Yellowish brown exterior surface (10YR 5/4). Light brown fabric (10YR 6/2) abruptly changing to a black core (5Y 2.5/1). Yellowish brown interior surface (10YR 5/4). Large quartz grit (pebble size) and very large chaff temper.
B	E2 L25 KT7 #7: Brown exterior surface (7.5YR 6/3). Strong brown fabric (7.5YR 5/6) abruptly changing to a dark gray core (5Y 4/1). Pink interior surface (7.5YR 7/4). Three incised lines on the exterior rim. Very fine grit and fine chaff temper.
C	E2 L16 KT15 #1: Light brown exterior surface (7.5YR 6/4). Light brown core (7.5YR 6/4). Light brown interior surface (7.5YR 6/4). Knob on rim. Fine grit and fine chaff temper.
D	E2 L18 KT 7 #2: Reddish yellow exterior surface (7.5YR 7/6). Reddish yellow fabric (7.5YR 7/6) abruptly changing to a dark grayish brown core (10YR 4/2). Burnished on interior and exterior surfaces. Fine grit and fine chaff temper.
E	E2 L18 KT7 #3: Light yellowish brown exterior surface (10YR 6/4). Light brown fabric (7.5YR 6/4) abruptly changing to a bluish black core (2.5/5 PB). Light yellowish brown interior surface (10YR 6/4). Horizontal burnished on interior and exterior surfaces. Small to large grit and chaff temper.
F	E2 L25 KT10 #3: Light reddish brown exterior surface (5YR 6/4). Light brown fabric (7.5YR 6/4) abruptly changing to a gray core (10YR 5/1). Medium grit temper.
G	E2 L24 KT3 #3: Yellowish brown exterior surface (10YR 6/4). Yellowish brown fabric (10YR 5/4) abruptly changing to a bluish black core (5B 2.5/1). Yellowish brown interior surface (10YR 5/4). Fine grit and few very fine chaff temper.
H	E2 L24 KT3 #2: Brown exterior surface (10YR 5/3). Brown fabric (7.5YR 4/2) abruptly changing to a very dark gray core (7.5YR 3/1). Yellowish brown interior surface (10YR 5/4). Horizontal scant burnished on interior and exterior surfaces. Very large grit and very large to medium chaff temper and chaff faced on exterior surface.

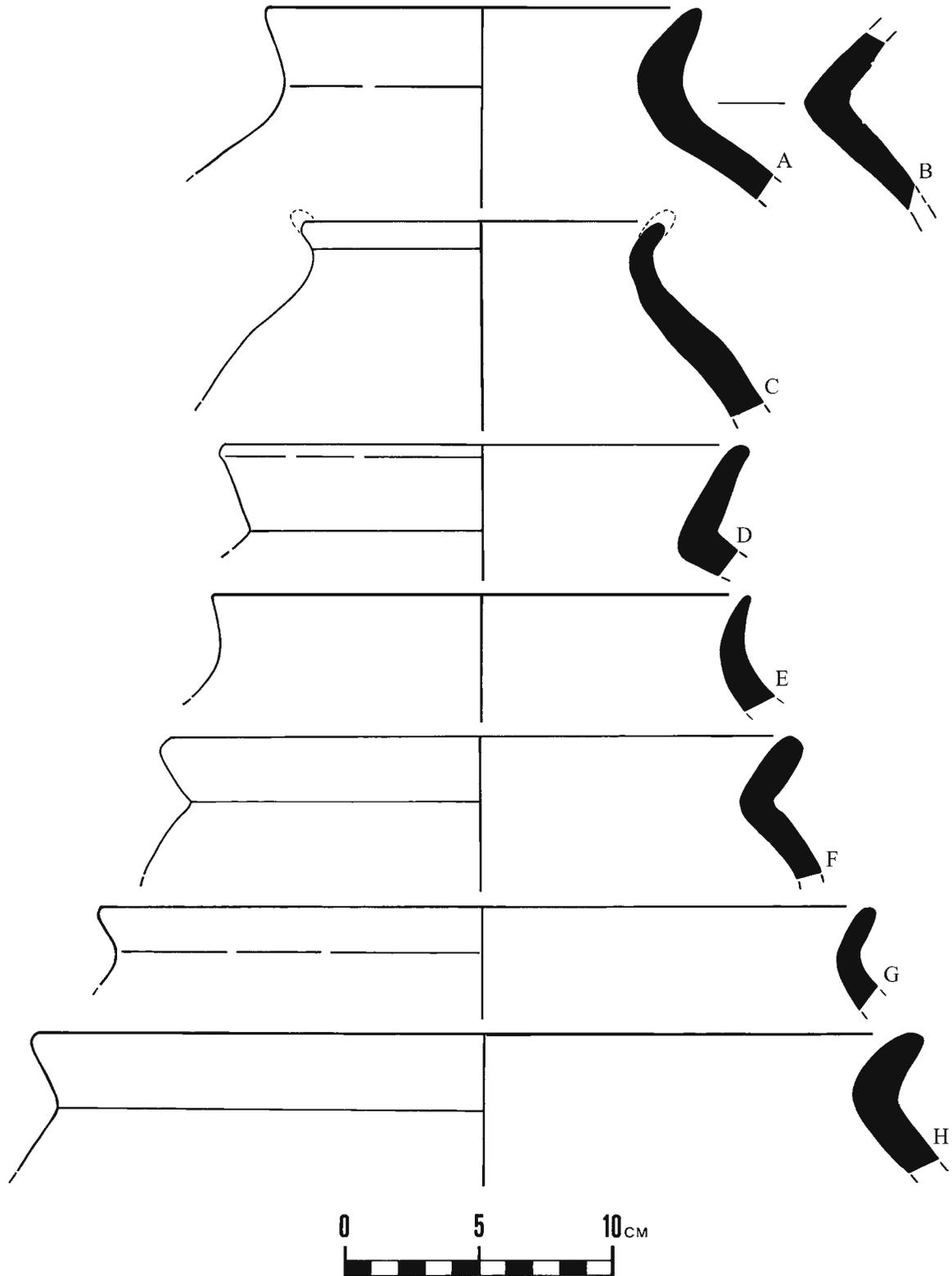


Figure 21.11. Ubaid Ceramics from Kenan Tepe

Figure 21.12. Ubaid Ceramics from Kenan Tepe

A	D5 L5146 KT6 #1: Dark gray surface (10YR 4/1). Reddish yellow fabric (7.5YR 6/6) abruptly transitioning to a black core (7.5YR 2.5/1). Large and fine grit temper.
B	D5 L5029 KT5093 #1: Very pale brown exterior surface (2.5Y 8/3). Reddish yellow core (7.5YR 7/6). Pale yellow interior surface (10YR 8/4). Medium chaff temper. Dark brown paint (10YR 3/3).
C	D8 L70 KT4 #3: Light brown exterior surface (7.5YR 6/4). Strong brown fabric (7.5YR 5/3) grading to a dark gray core (2.5Y 4/1). Brown interior surface (7.5YR 5/3). Fine micaceous grit temper. Dark brown (7.5YR 3/2) paint.
D	D5 L5109 KT1 #1: Dusky red exterior surface (10R 3/2) grading to a very pale brown core (10YR 7/4). Pale yellow interior surface (2.5YR 8/3). Dark brown paint on exterior surface. Cream wash on interior surface. Fine grit temper.
E	D5 L5079 KT5554 #5: Very pale brown exterior surface (10YR 7/4). Very pale brown core (10YR 7/4). Dusky red paint on exterior surface (7.5R 3/2). Fine small white grit temper. Diameter uncertain.
F	D5 L5079 KT5554 #3: Very pale brown exterior surface (10YR 7/4). Very pale brown core (10YR 7/4). Very pale brown interior surface (10YR 7/4). Dusky red paint on exterior surface (7.5R 3/2). Fine white grit temper with small air pockets on surfaces. Diameter uncertain.
G	D5 L5132 KT1 #4: Very pale brown exterior surface (10YR 8/4). Very pale brown core (10YR 7/3). Pale yellow interior surface (2.5Y 7/4). Burnished on interior and exterior surfaces. Pale wash on exterior surface. Dark brown paint on exterior surface (7.5YR 3/4). Very fine grit and chaff temper. Diameter uncertain.

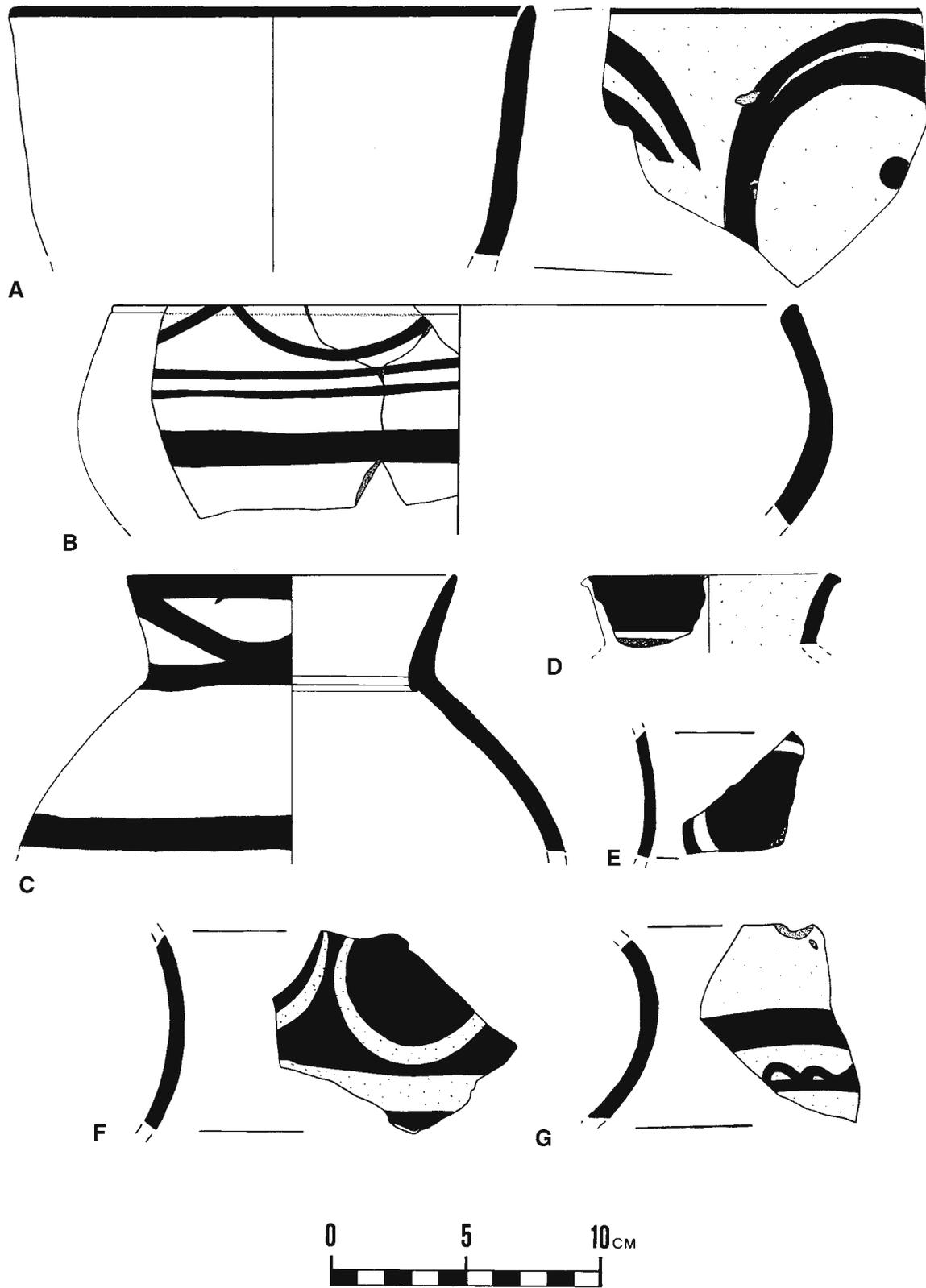


Figure 21.12. Ubaid Ceramics from Kenan Tepe

## LITHICS

Elizabeth Healey has recently completed a preliminary analysis of a sample of the lithic material from Ubaid contexts at Kenan Tepe (Parker et al. 2006; Healey this volume). Her analysis suggests that flint tools derive from locally acquired river cobbles. Obsidian, on the other hand, derives from a number of different outcrops in the Bingöl and Nemrut Dağ source areas. A large majority of the obsidian remains have traces of cortex, suggesting that obsidian reached the site in a relatively unprepared state. Although a few artifacts including at least one obsidian arrowhead show considerable craftsmanship and knowledge of lithic manufacture, the majority of lithic tools exhibit non-systematic working, suggesting that non-specialists were responsible for producing a large portion of the lithic assemblage (Parker et al. 2006: figs. 23–25). It should also be noted that lithic tool makers used every scrap of obsidian available, as most pieces were continually reworked, and no whole blade cores have yet been identified. Lithic tools were used for a number of domestic activities. A few pieces have been identified that exhibit silica gloss, suggesting that such blades were used for cutting silica-rich vegetable material, while piercers, scrapers, and blades may be indicative of textile manufacture, hide preparation, and/or food preparation. Finally, there appears to be a difference in the raw materials, proportions, and technology between Ubaid Structure 1 and Ubaid Structure 3. Whether or not these differences reflect chronological variation or differential access is, at this point, still a matter of speculation.

## SMALL FINDS

A number of small finds were recovered from Ubaid contexts at Kenan Tepe. Particularly notable are those recovered in situ from a work surface outside Ubaid Structure 1. As mentioned above, this surface yielded several spindle whorls or loom weights, two bone awls, a bone bead, several strainer fragments, and three pierced stones that we interpret as fishnet weights (Parker and Dodd 2005). All these artifacts are indicative of domestic production. Combined with other data from the same context, these artifacts reveal a wide variety of domestic activities including weaving or textile production, grain and fish processing, personal ornamentation, lithic tool modification, and food preparation. However, in comparison with other Ubaid-period sites in the Hamrin (Jasim 1985) and in southern Iraq, there are a number of artifacts that are conspicuously absent. At the risk of arguing from negative evidence, I would like to at least mention that thus far we have no evidence of bent clay nails, stamp seals, or clay balls.

## DISCUSSION OF THE FINDS

In broad terms, Kenan Tepe's Ubaid-period ceramics fit comfortably within the regional Ubaid ceramic tradition. In spite of some close similarities, however, many aspects of the ceramic corpus reflect a more local character within the regional style, as detailed above. While the forms, manufacture, and broad categories of style link Kenan Tepe's ceramic corpus to Syria and Iraq, by far the closest ceramic parallels can be drawn between the virtually identical assemblage excavated at the neighboring site of Yenice Yani (Bernbeck, Costello, and Ünal 2004). Although clay-sourcing studies have yet to be carried out, there is evidence that at least some categories of ceramics were produced on site (Parker et al. 2006). These data would support a hypothesis similar to that proposed by Judith Berman (1994) for Ubaid sites in Iran, that locally produced ceramics were made to emulate some, but not all, aspects of a regional style.

There is also the problem of periodization. As mentioned above, ceramic parallels would support a later date in the Ubaid 4 or terminal Ubaid period (contemporary with Gawra XIII and XII and Hamman et-Turkman IVD) than the radiocarbon dates suggest. There are two possible explanations for this discrepancy. First, it is possible that as more data are recovered and our interpretation of the various phases of the Ubaid period is revised, these discrepancies will be minimized or explained. Alternatively, the Kenan Tepe corpus might represent a regional development within the Ubaid tradition that saw particular characteristics arise earlier in this part of the southeastern Turkey than they did elsewhere. More research will obviously be necessary to substantiate this hypothesis. In either case, the data

from Kenan Tepe do underscore the need for more in-depth study of the absolute chronology of the Ubaid period both in the southern Ubaid "heartland" and in the north.

The lithic assemblage shows both the exploitation of local flint sources and, not surprisingly, the participation in interregional trade networks. Obsidian from the Van region probably reached the site in a relatively unprepared state. Despite the fact that Kenan Tepe is, in comparison to other Ubaid sites, relatively close to these obsidian source areas, the patterns of obsidian use suggest that this resource was highly valued and that tool production and modification was, for the most part, an element of the local domestic economy.

## CONCLUSIONS

I present the following conclusions as tentative hypotheses to be tested through further analysis and fieldwork.<sup>2</sup> In his 1986 book *The Sources of Social Power*, Michael Mann envisions overlapping ideological, economic, military, and political networks as the scaffolding upon which social power is constructed. Networks such as those envisioned by Mann are obviously not something that is visible in the archaeological record. However, the material consequences of social action taking place through such networks, perhaps, are. It is my position that by viewing the categories of archaeological evidence as separate and independently interconnected variables, we might reach stimulating conclusions about the formation of the patterning in the archaeological record we have come to call "culture." Using the Middle Chalcolithic remains from Kenan Tepe as a reference point, let us consider some of the implications of this approach.

Ceramics and obsidian clearly derive from different social networks. Since obsidian sources are relatively limited in the Near East, we can be quite certain that, as raw material, obsidian traveled from source areas in central eastern Anatolia through an intricate, extensive and already ancient economic network (Renfrew and Dixon 1976). The dissemination of ceramic styles, especially shape and decoration, which may carry encoded cultural messages relating to ideology and identity, certainly traveled over a very different network. As mentioned above, the available evidence suggests that much of the Ubaid ceramic corpus excavated at Kenan Tepe was locally produced (Parker et al. 2006). Thus, although some pots may have moved through local economic networks, they certainly did not travel through the same networks responsible for the distribution of obsidian. Instead, local potters must have adopted, and adapted, regional styles and manufacturing techniques through ideological networks that probably originated in Iraq and Syria. Although the social meanings encoded in Ubaid ceramic styles remain elusive, stylistic forms of non-verbal communication were surely instrumental in the spread of ceramic styles. The hypothesis that the ceramic styles documented at Kenan Tepe are most closely paralleled in north Syria (Parker et al. 2006), suggests that ideological dissemination worked in a "down-the-line" fashion, as described by Renfrew (1975).

If the cell-plan architecture excavated at Kenan Tepe is the norm at the site or in the region, then we can be relatively certain that architectural forms that have come to be associated with the Ubaid (tripartite buildings) did not predominate at all or even most sites (if we follow Akkermans) that exhibit Ubaid ceramics. Instead, the type of architecture utilized is probably conditioned by local ecological conditions, and perhaps by local tradition.

The data from Kenan Tepe support the hypothesis that the inhabitants of Kenan Tepe participated in overlapping social networks through which various products, materials and technologies were transferred. Borrowing explicitly from Michael Mann, I propose that individuals, households, and communities should be viewed as unique nexuses in networks of regional and interregional interaction. Furthermore, instead of envisioning the spread of material culture as the result of migration, colonization, or acculturation, I propose that the patterns of material culture observable in the archaeological record are the product of social action and local agency that takes place within the fabric of inter-regional economic, political and ideological relationships.

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<sup>2</sup> Preliminary studies of both the faunal and botanical remains have started but remain incomplete.

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