## Mozan/Urkesh Archaeological Project An in-house report on the 19th Season – 2006 submitted to the Cotsen Institute of Archaeology

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## The Temple Terrace of Urkesh: From Protoliterate to Mittani

Giorgio Buccellati and Marilyn Kelly-Buccellati February 2007

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#### 1 Introduction

#### 1.1 Overview

The results of our earlier excavations<sup>2</sup> in the large monumental urban complex showed the manner in which the Temple Terrace is emerging as perhaps the single most monumental and best preserved stone structure of third millennium Syro-Mesopotamia. Already by Early Dynastic III (middle of the third millennium), the Temple Terrace had a diameter of 60 meters along its long side, with the Temple standing some 12 meters above the level of the Plaza and some 25 meters above the level of the surrounding plain. The Terrace was framed by a stone revetment wall some 3 meters high that would have been seen from great distances. The impact must have been stunning. In some ways, the structure has the monumentality of an Egyptian pyramid, however different in all other aspects. To expose it fully, much work remains to be done. But the details we already have allow for a very impressive architectural reconstruction. All the more so as the Temple Terrace became part of a vast urban plan that was put in effect when Tupkish built his Royal Palace around 2300 B.C.

In addition, the historical picture is becoming richer and far more complex than we ever anticipated. Last year, we were able to attribute with a a degree of plausibility the

<sup>&</sup>lt;sup>1</sup> With a site like Tell Brak in our region, it seems out of place to use the term "Uruk" to refer to a period when locally made ceramics are as prevalent as, or more even prevalent than, southern made ceramics. We revert to the term "Protoliterate," initially proposed by the excavators of the Diyala sites, as being more properly descriptive of the general cultural dimensions of the period. We will however use as well the terms "Uruk" and "Late Chalcolithic," which are more common in the literature.

<sup>&</sup>lt;sup>2</sup> See G. Buccellati and M. Kelly-Buccellati, "Urkesh as a Hurrian religious *Center*," *Studi Micenei ed Egeo-Anatolici*, 47 (2005) pp. 27-59; "The Great Temple Terrace at Urkesh and the Lions of Tishatal," *Studies in the Culture and Civilization of Nuzi and the Hurrians*, in press.

lions of Tish-atal to a specific construction phase of the Temple complex, thereby providing a stratigraphic home for two very important artifacts, the bronze lions now in the Metropolitan and the Louvre. This year, a major surprise was in store for us. In several places immediately below the third millennium surface of the Temple Terrace we found clear and repeated evidence for a much earlier date, the middle of the fourth millennium. The implications of this are very significant, as we will outline below.

We also made major progress in a number of other projects, especially in the full implementation of the Urkesh Global Record, which came very close to being complete at least for two units at the end of the season.

#### 1.2 Chronicle

Excavations began on August 12th, under the supervision of Federico A. Buccellati and Jamal Omar, the newly appointed Assistant Directors of the Expedition. The writers joined the staff on August 14<sup>th</sup>. Several oindividuals affiliated in different ways with the Cotsen Institute of Archaeology joined us in the field: William Orrange, Barbara Pritzkat, Mary Stancavage, James Walker.

The main excavations ended on September 8, after which date only a small operation in J1 was kept open for a relatively short period of time.

We remained in the field until October 16, working on completing the record.

On September 6<sup>th</sup> we had the visit of the Minister of Culture, the Governor of Hassakah, the Director General of Antiquities and Museums, the Director of Excavations and the Director of Museums of the DGAM. All the archaeologists of missions working in the Jezirah were also invited, and more than 80 people were in attendance. After a brief welcoming reception, we visited the excavations for about one hour: given the late hour, we had installed an architectural lighting system for both the Palace and the Temple Terrace, which proved very effective. After the visit, there was a brief meeting with all the participants, at which the Director General introduced the archaeologists to the Minister, and the Minister expressed words of appreciation for the work being done. This was followed by a sit down dinner.

#### 1.3 Aims and results

At the end of the 2005 season, we had prepared a detailed request to the Directorate General of Antiquities and Museums with our reasons for recommending the use of mechanical means to clear the massive inert deposit overlaying the ancient Plaza. The main thrust of the argument was that we have convincing evidence to the effect that there are no structures in this deposit, and that manual excavation cannot possibly bring back to light one of the most remarkable architectural monuments of third millennium Syro-Mesopotamia. Our recommendation was not accepted, so as a result we had to commit more seasons of excavation to clearing up the remaining points of archaeological interest, using of course manual excavation only. These questions are listed below, in an order proceeding from west to east (Fig. 1).

#### 1.3.1 The articulation of the revetment wall

Does the revetment wall have a curved or a polygonal configuration? While the geophysical survey suggested an oval, the current exposure, especially in J1, suggested otherwise. This was confirmed, with the excavations exposing two obtuse and one very sharp angle, thus revealing a polygonal configuration that is in line with the current understanding of the Chuera "Steinbauten."

#### 1.3.2 The level of the Plaza

We assume the elevation of the third millennium Plaza to be at 485.00 (georeferentially, this is the absolute elevation in meters above sea level), and we assume the escarpment at the base of the revetment wall to present a sharp slope linking the wall with the Plaza. We expected to reach this goal in J1, but were only able to reach the early second millennium levels. The evidence we have obtained strengthens our expectations of last year.

#### 1.3.3 The upper apron

The western end of the upper apron, to the extent that it was exposed in earlier seasons, was tantalizingly complete and near the surface, so it was decided to complete this portion of the excavations. As we did this, we realized that this component of the staircase is really not an apron after all, but rather a reduced monumental access added in the latest phase of the sacral use of the area.

#### 1.3.4 The fill below the top surface of the Temple Terrace

In 2005 we had found in J3 ceramic material dated to Late Chalcholithic, but we interpreted this evidence onservatively as an isolated pocket, possibly a fill brought in from elsewhere. This season we wanted to obtain a larger exposure, to gain a fresh insight into the nature of the deposition and to secure a broader inventory of ceramic types. In the process we saw that this early material is found wherever we excavate below the third millennium surface, leading us to the conclusion that there is indeed an earlier fourth millennium Temple Terrace on which the third millennium version we know sits.

#### 1.3.5 The eastern portion of the staircase

A small sounding carried out by the German team, as well as the general configuration of the staircase, suggested that the staircase as exposed last year was only one half of an even more monumental complex. Reasonable though such an assumption was, it proved to be incorrect. Symmetry was clearly *not* part of the stylistic preferences of the Hurrians.

#### 2 Excavations

#### 2.1 J1: the bend of the revetment wall and the Plaza

While originally understood as an oval, it is now clear that the revetment wall of the Terrace is polygonal in shape. The bend in the revetment wall at its southwestern end shows clearly (Fig. 3) as it takes a sharp bend northward. The top of the wall is at the same elevation as the rest of eastern portion, showing that the degree of preservation remains the same as excavations proceed westward. We consistently have the top of the wall as originally constructed.

The second main objective for J1 is to reach the third millennium floor of the Plaza. To accomplish this, we had to widen the total area of excavation in order to have sufficient space to open an area of about 5 x 10 meters to the base of the wall (Fig. 2). This expanded the excavation area to such an extent that in the end we were not able to reach the desired depth. Another important reason for the delay was the fact that as we reached the earlier second millennium levels, the accumulations became more significant. While in the later periods (Mittani) we have primarily a series of sediments that have washed down from the built up areas surrounding the Plaza, in the earlier periods (Khabur or Old Babylonian) we have a more distinct cultural buildup of the strata, with better defined floor surfaces and heavier concentrations of sherds and animal bones. Fig. 4 shows details of such surfaces in the late Khabur period.

#### 2.2 J3: the earliest and the latest phases

#### 2.2.1 The reduced monumental access

The first goal in J3 was to expose the entire secondary apron (Fig. 5). Or that is what we considered this component of the staircase to be: a stone frame for the upper part of the staircase, mirroring the primary apron which flanked the lower part of the staircase. We assumed, in other words, that the lower frame (the primary apron) and the higher frame (the "secondary apron") had been conceived together as an integral part of the construction of the entire complex, i.e. the staircase and the revetment wall. In reality, the 2007 excavations have shown that the higher frame is a later addition that ignored the existence of the revetment wall and of the staircase. It rather imitated their function in a general way, i. e. as a boundary to the Terrace (we might call it a "hinge" between the slope and the flat area), and it served at the same time as a reduced frame for access to the Terrace. In other words, it was built after the staircase and the revetment wall were no longer visible, hence independent of them. The evidence in support of the new interpretation is as follows.

The wide band of stones which at first appears as a wing connected to the monumental staircase is in fact separated by a side gap both to the east and the south (Figs. 5-6). The triangular effect (with the acute angle to the west), which also seemed to support the interpretation as a wing or secondary apron, may be explained as a way of emphasizing the access where the slope was at its highest point, i.e., in the east. Here, the bricks uncovered in B6 were still visible in the latest phase of the Terrace use, and thus the triangular stone structure serves as if to point in the direction of that line of access to the Temple.

One additional reason for this interpretation is that it appears now that the old staircase was in fact blocked by a mudbrick wall (Fig. 7, in J2). Such blocking would have redirected to the west the access to the upper part of the Temple Terrace. This may have resulted from the building development to the east of the staircase.

#### 2.2.2 The "memory stones"

When the sediments above the Plaza reached the top of the revetment wall, (in the latter part of the Mittani period), there was no attempt at raising the wall itself. This may be indicative either of a lack of resources to undertake a major renovation project, or of the fact that raising the wall would have lessened the visual impact of the slope leading

up to the Temple, or of course both. Whatever the case, the flat surface of the Plaza came at one point to coincide with the base of the slope of the glacis. At this juncture, individual stones were placed in a loose row just within the perimeter of the revetment wall, to mark the boundary between the flat area and the slope, as if a symbolic hinge that retained the ideological, if not the structural, valence of the boundary between the two spheres. These we have called "memory stones" (Figs. 8-10), referring to the memory of the ancient revetment wall.

#### 2.2.3 The final tell surface

In our search for a clearer definition of the glacis, we have identified a later (mid second millennium) mud surface that follows closely the slope of the original (third millennium)  $baqaya^3$  glacis, and which seems to be the latest moment of the sacral use of the Terrace (stratum 11). Immediately above it, there are outdoor floor levels with a tannur and pits that belong to the subsequent, non-sacral phase (strata 6-8, Figs. 9-10).

Eventually, even the memory stones were covered by the sedimentation generated by wind and rains, and the tell assumed the shape it has today. The hinge between the ancient Plaza and Terrace was now represented simply by the difference between the sloping and the flat area. The Terrace had simply become the topmost hill on the tell, with no sacred meaning attached to it any longer. But – for our good fortune – the situation that followed the main use as a sacral area was such that no intrusion ever took place. Abandonment did for the site after 1250 B.C. what sacrality had done for it before that date.

#### 2.2.4 The glacis below the reduced monumental access

The reduced monumental access (previously understood as a secondary apron, see above 2.2.1) rests immediately above the slope of the (third millennium) glacis that leads up to the Temple. We have clear evidence of this in a few places where both the *baqaya* surface and the bricks that covered it are still visible. The few sherds recovered from this small area include a considerable number of phase 3, which is in perfect keeping with what else we know about the Terrace in general and the glacis in particular.

#### 2.3 J4: the rule of asymmetry to the east of the staircase

We opened 8 squares in J4, with the goal of reaching a level equivalent to the western primary apron. Our assumption seemed inescapable, that there should be to the east a specular version of this apron, and possibly even of the secondary apron.

The new interpretation of the secondary apron, resulting from the excavations in J3 (1.3.3 and 2.2.1), first suggested otherwise. Since the presumed upper apron was in fact a reduced monumental access, which did not flank the staircase, but rather replaced it; and since in J4 a mudbrick wall effectively blocked the original staircase – it seemed clear that access to the glacis had been, in the later periods, deflected to the west. Lack of centrality in the axial arrangement is present at Chuera, and it seems to characterize as well the alignment of staircase and Temple in the third millennium situation at Urkesh.

<sup>&</sup>lt;sup>3</sup> This is a local term, literally meaning "the remnant," and referring to a very hard, reddish type of clay with white calcareous nodules. It is the "remnant" found in the soil after gravel is removed. It was used in antiquity, and still is today, as a strong subfloor material.

Even so, the existence of an eastern primary apron could not be immediately excluded. The main supporting argument was the oblique line that already had been exposed in part in an earlier C2 trench, an oblique line which continues strongly to the south (Fig. 11). This line is a clear mirror image of the one to the west, and the overall configuration is such as to imply that it had been conceived as a single structure from the beginning. But if so, it seemed equally "certain" that the oblique line should continue south to a point where it would match with full symmetry the oblique one already exposed to the west. But symmetry does not seem to have been a Hurrian aesthetic canon. For it seems now just as "certain" that there was no matching eastern apron. The reasons are two.

First, there is a wall that sits astride the staircase itself (Fig. 7). This wall had been exposed last year already, but we assumed, too hastily as it turned out, that it was a later addition. This year we decided (at the insistence of Federico Buccellati, who felt that the situation may not be as we had concluded last year) to probe more closely the base of the wall. And it turned out that the wall was in fact bonded with the staircase itself, thereby indicating that it was part of the original construction. But if so, this strongly suggested that there was no matching apron on the other side, and that the wall was the eastern boundary of the staircase itself, continuing, as it were, the line of the revetment wall – but jutting sharply to the south.

Second, a sounding just to the east of this same wall found no trace whatsoever of the steps that should have been there had the staircase been constructed symmetrically. The excavations went well below the level of the steps immediately to the west, and there we found immediately levels dating to the fourth millennium.

Now, it is still conceivable that an original symmetrical eastern wing of the staircase may have been removed in antiquity, and that the north-south wall was bonded at that point in time with the portion of the staircase that had been left to the west. But this would have had to have occurred at a time when the full staircase was still entirely visible, i.e. the early second millennium at the latest. It seems strange that (a) a visible monumental staircase should have been so curiously halved, and (b) that fourth millennium layers should be found at a level equal or even slightly higher that the presumed matching steps to the west. To these questions we should be able to find an answer in the next season of excavations.

#### 2.4 The new stratigraphic sequence of the Plaza area (JP)

Last year's excavations yielded the surprise of a massive Mittani period deposit against the revetment wall and the monumental staircase of the Temple. We have now revised the pertinent stratigraphic sequence (Tables 1-3) to accommodate the larger amount of data. The main changes are two.

First, we have added stratum 14, and have in the process proposed an explicit correlation to the known kings of Mittani (on this see below, 6.5).

Second, we have a much earlier, fourth millennium, phase which for now we have labeled as phase 0, expecting to revise the entire sequence once the earlier strata become clearer.

Also of interest are the Khabur levels which we have reached in two areas. In J4 a large bin-like structure is paved with pebbles and sherds which are exclusively Khabur.

And in J1 we now have a sherd and pebble pavement which overlays the earlier escarpment we found in 2005. The levels in J1 are lower than those in J4, and this is significant because it supports our general understanding of the sacral use of the area. In the east (J4) we envision a service area that had built up even before the ED III Temple terrace (the one currently visible) came into existence, and that accordingly was built up at a faster rate. In the west (J1), on the other hand, the Plaza was kept clean throughout the third millennium, and only started to build up beginning precisely with the Khabur period.

## 3 Ceramic analysis

Given the nature of the accumulations excavated in 2006 (all exclusively the result of natural sedimentation, except for the bin in J4) we did not expect to find many objects, as was in fact the case. Ceramics, on the other hand, was plentiful, particularly since we have been regularly sifting almost every bucketful of dirt. This was due to our regular use of the enclosed conveyor belts (we call them *shaffat* or "vacuum"), which by design have a screen mounted at the base. Besides carefully studying the ceramics from the earlier (fourth millennium) strata, full ceramic analysis was concentrated on an earlier excavation unit, A14, from which some 35,000 sherds had been stored – now totally studied.<sup>4</sup>

#### 3.1 Ceramics from unit A14

#### 3.1.1 The setting

A14 is an area bounded on the north by the southern exterior wall of the palace which included the large mud brick platform abutting this wall and the large drain nearby. While excavations are continuing in this area, we had proposed that the installations be identified as a structure called KASKAL.KUR in Hittite texts and interpreted as a "water road to the Netherworld." To the east lies the entrance to the monumental underground structure that has been identified as a Hurrian necromantic pit called in Hurrian  $\bar{a}bi$ . The architectural bounds to the south and west are unknown at this point. The analysis of all body sherds from this context was completed on September  $10^{th}$  and the shape sherds completed by the end of the season. We also completed the analysis of the sherds from A16 (see below, 7).

The strata and labels used here are from an unpublished A14 sequence. For our current purposes, the following will be sufficient:

| phase 3 | strata 14-10 | post-imperial Akkadian (about 2200 – 2100 B.C.) |
|---------|--------------|---|
| phase 4 | strata 9-4   | Ur III (about 2100 – 2000 B.C.                  |

#### 3.1.2 Phase 3: Tar'am-Agade and Ishar-kinum (late Naram-Sin period)

For the analysis of the Phase 3 material we had already studied a floor deposit (A14a20), containing a number of complete vessels; with this data set we can compare the other ceramics in the same strata as well as ceramics in other Phase 3 strata in A14 (strata 14-10 are dated to Phase 3; A14a20 is in stratum 10). The floor A14a20 was delimited on its northern edge by the southern wall of the palace; this is the only side where

<sup>&</sup>lt;sup>4</sup> In the final vesion of this study all illustrated ceramics will be individually described.

containment is known for it. Given the context of a primary floor deposit, there are a number of observations that can be made on the basis of the ceramics that were found in situ on the floor.

It contained at least 14 deep storage bowls with diameters ranging from 16-50 cm., for long term storage (Fig. 14). Many of them were decorated just under their thickened rims, the decoration included one or two lines of rope decoration (the most popular type with at least five examples). Wavy combed lines between an upper and lower combed border also occurred. In one case the wavy combed border was combined with one line of rope decoration.

Smaller jars, for short term storage, had globular bodies with rim diameters ranging from 10-23 cm (Fig. 12). They included both a narrow rim and necked type and a wider rim type. On the floor there were at least twenty four of these vessels pointing to a function of short term storage of dry food in this area.

Small bowls were much less common as only seven of them came from this floor; one had a carinated shape and the others had a rounded profile. The limited number of serving or eating bowls appears to be part of the same pattern of use as the evidence from the jars.

Cups were mainly of the tall conical cup variety (at least six) but there were some of the shorter ones as well as small wide bowls with a string cut base (Fig. 13). One deep bowl (A14q828-p2, Fig. 14) had traces of bitumen on the interior and the exterior of the rim, probably for the sealing of a lid in place. A tall cup (A14.119, Fig. 13) had traces of bitumen paint both on the interior and dripped irregularly down the exterior. It may have been used as a container for bitumen as it was being applied to other vessels.

In conclusion, the A14a20 floor assemblage appears to be connected both with long term and short term dry food storage and not with cooking, serving or eating. The conical cups we did find as well as the small bowls could have been used for scooping. All the forms then can be taken as part of a set of ceramics used for dry food storage. The storage capacity of the deep bowls used for long term storage vessels was not large so that even from this evidence we can conclude that the greatest emphasis in the vessel inventory was on shorter term storage. It might be concluded then that in this area the quantity of goods was not large, probably indicating that the floor deposit was not immediately connected with the palace (where presumably greater amounts would have been necessary) but with some other context where large quantities would not have been necessary. That this context may be connected with ceremonies in the  $\bar{a}bi$ , the platform and drain cannot be proven but it clearly remains a possibility.

The analysis of all the remaining sherd lots in A14 Phase 3 strata provides a complementary picture to that given by A14a20. These sherd lots were looked at from the viewpoint of the function of the area and the internal chronological development of the types taking into consideration that in stratum 10 the amount of pottery was considerably larger than in the other strata. The typological development of various types of bowls, pots and jars can be seen on Figs. 15-24.<sup>5</sup>

<u>Stratum 14</u> is the earliest stratum that can be dated to Phase 3. There were fewer sherds from this stratum than the other Phase 3 strata in A14. One bowl with an exterior

<sup>&</sup>lt;sup>5</sup> The strata are indicated as "str." in the drawings, above the rim.

knob on the body near the rim is a form that is also found in Phase 2 but does continue into Phases 3 and 4. Bowls with evidence of being wiped with a plant on the lower body at the end of the forming stage, probably to smooth out any exterior deformities, are also found in this stratum. These bowls typically have a flat base with strong circles because they were not finished after being cut off the wheel. The evidence from stratum 14 is not sufficient to discuss function/ use in this area. However chronologically it appears to be close to Phase 2 because of the presence of the knobbed bowl and the bowl with plant wiped lower body.

Stratum 13 contained at least 5 large jar rims and one medium jar; these types of jars are usually associated with the storage of liquids. This use would be different from the storage arrangements in A14a20 since, as discussed above, that floor contained a concentration of vessels usually associated with short term dry storage. Dry food storage in deep bowls was present in stratum 13 in the five (at least) deep bowls found. Conical cups are represented by six string-cut cup bases; in five of these more than half of the base was found. The only decoration was seen on a rim sherd with the usual combed wavy and straight line pattern. Two bowl sherds with plant wiped lower bodies were also found. One flaring rim pot (see below stratum 10) and a pointed base are unusual in this stratum. This stratum, the earliest excavated so far with a sufficient quantity of material, contained elements in the ceramic inventory of long term storage of both liquid and dry goods.

In <u>stratum 12</u> the largest number of shapes came from conical cups and bowls with string cut bases. Small and medium jars were present but not in large numbers while there is at least one and possibly two large jars represented among the sherds. Deep bowls were more common than shallow bowls (Fig. 25). As in stratum 14, we found here a bowl with an exterior lug on the upper body. This type of bowl continued in small numbers into Phase 4 (one rim sherd was found in A14 Stratum 5). This stratum contained both short term and long term dry storage as well as now some indications of eating and drinking usage.

Stratum 11 contained a large number of conical cups with string cut base as well as some cups (3) with cut bases. Small wide bowls have both string cut and the finer cut bases that have been smoothed. Deep bowls included four decorated vessels – three with template lines on the exterior and one with a thin rope decoration on the upper body. The stratum contained more bowls than jars with deep bowls and wide round sided bowls being the most prominent, both typically associated with long term storage (Fig. 26). Straight sided bowls have widely spaced template lines and one deep bowl has a groove inside the rim. Jars include mostly small and medium examples but two jar rims may be from jars that are somewhat larger although not as large as the largest of the store jars we have found on the site in other contexts. Incorporated in this stratum is an imported Early Transcaucasian bowl rim; there are few Early Transcaucasian vessels found at the site but when they are their presence is significant. One short spout just below the rim comes from a vessel of unknown shape.

This stratum continues the emphasis on long term dry storage in large bowls as well as eating and drinking vessels. It also follows the pattern of the earlier strata in focusing on long term storage with some emphasis on drinking vessels that may also have been used for scooping. The smaller jars may also have contained liquid for short term storage but the limited number in comparison to the number of conical cups with string cut bases makes this hypothesis somewhat doubtful.

Stratum 10 has the largest number of sherds of all the strata. It also includes the floor a20 and many of the sherds come from these same features but could not be associated with any of the vessels connected with this floor even though some were only partially complete. Deep bowls with a decoration have one or two lines of rope decoration or rope decoration associated with a line of combed wavy line decoration above both, placed just under the rim. The third type of decoration is a line of horizontal combed decoration, a line of wavy combed decoration and a repeat of the horizontal combed decoration. Deep bowls without shoulders almost always have a decoration on the upper body below the rim but those with a shoulder less often have this type of decoration. Straight sided bowls can be decorated with parallel template lines both in Phase 3 and 4 (Figs. 27-28). These lines are not made as closely spaced as in Phase 4. Cooking vessels are again in this stratum represented by few examples. Those sherds that are found are from the usual globular vessels with outturned rim; they are fire blackened from secondary firing during the cooking process. One rim, of which more than half was preserved, did not have the secondary firing traces; however, the body of the vessel did not have the usual exterior burnish so it may have had a different function.

There are few thin walled small pots with flaring rim (Fig. 19) in any of the strata in A14. They first appear in stratum 13 where the single example is larger and thicker walled than in later strata. Stratum 11 contained two examples and stratum 10 also had two examples. There are no examples in Phase 4 strata in A14. The small size and distinctive shape indicate that it had a specialized function which did not necessitate a lid as for instance a container for perfumed oils would require. This pot may have been used for pigments or unguents.

There are no carinated small bowls in stratum 10; the bowls in this stratum have straight rims and straight sides (Fig. 27) or have in-turned rims and rounded sides. The development of the conical cups as can be seen in the sherds is difficult to establish. It may have been that the proportions of the height vs. rim diameter changed but with our present evidence from sherds we can only investigate whether the proportion of string cut bases to cut bases changed over time or whether the wares they are made in changed also. At the end of the analysis we will be able to determine if the proportions in any one stratum are significantly different which may represent a change in the function of the area. The large number of conical cups, either with string cut or cut bases, may coincide with the small number of bowls in the stratum to indicate that part of the function had to do with the storage of eating and drinking vessels. The medium and round sided but fairly open bowls may have been for serving or eating by more than one person.

As in all Phase 3 strata, in stratum 10 as well there are few large jars represented; it contained only one rim sherd of a very large storage jar with a rolled rim. The large number of medium jars points to a short term dry storage function for this area with the addition of serving and eating vessels (Fig. 29).

#### 3.1.3 Phase 4: Atal-shen (Ur III period)

While there are fewer sherds in any of the Phase 4 strata in comparison to Phase 3, the sherds connected with this phase are representative typologically of other Phase 4 ceramics found in other areas of the excavations. Deep bowls are not as common as in Phase 3 (Fig. 30). Stratum 9 is a transitional stratum between Phase 3 and Phase 4. Now ribs begin to appear more frequently as decoration below the rim of jars; these jar rims

are characteristic for Phase 4 strata in all areas of the site. The remaining sherds are of conical cups, always an important element in the Urkesh sherds from Phase 2-4.

Stratum 8 contains the latest bowls with rounded carination (Fig. 30) and the beginning of proportionately a large number of bowls with a sharp carination (Figs. 15, 16 and 31). Fewer small bowls have the typical Phase 3 slightly in-turned rim. Pointed bases appear although there was one earlier example in Stratum 13. Medium jars appear now with ribs on the rim and template lines on the body. Fewer conical cup bases were found in this stratum.

In <u>Stratum 5</u> sharply carinated bowls continue. After a hiatus deep bowls appear again; they can have a wide or thin line of rope decoration. One example has a knob on the exterior. Conical cups again are frequent but now more examples have cut bases. Small bowls continue to have the same shape as the Phase 3 examples but now the upper body is slightly more inclined. One Simple ware bowl has a sharply incised line ("notch") on the exterior just below the rim. One bottle was also found in the rim sherds. While bottles also appear in Phase 3, they are not common in any phase.

<u>Stratum 4</u> did not contain many sherds. Fine bowls with a notched rim continue as well as deep bowls. No discussion of the function of the area at this time can be made.

#### 3.1.4 Conclusions

Overall patterns of typological development and functional differences within an overall continuity of function have been discussed. Within a large urban setting with long term continuity in ethnic, political and economic terms, elements of change in the ceramics are less important than the establishment of patterns of long term usage. In A14 the patterns of long and short term dry storage have been discussed. In addition possible patterns of food consumption, both serving and eating appear to be present. Neither of these patterns of activities, however, is as important as medium to short term dry storage functions. These activities would be consonant with the known activities within the  $\bar{a}bi$  and possibly also with the rituals connected with the platform and drain.

If the results of the ceramic analysis of A14 are correlated with the results of the animal bone analysis, then we arrive at a functional picture of the open-air space just outside the entrance to the monumental abi and adjacent to a large platform and associated drain. In the bone evidence the largest portion came from pigs. This is significant because 1) evidence from inside the abi and 2) Hurro-Hittite ritual texts connected with the use of a necromantic pit, called abi in Hurrian, indicate that piglets were a significant ritual animal sacrificed within the underground structure. In addition the large number of dry storage vessels that must have been used for grain storage, would have been important for the bread offerings also prominently cited in the texts. The fact that fewer bones of hunted animals were found in this area correlates with its function as a bounded open-air space ritually oriented used for storage and preparation of ritual offerings connected with the abi and possibly the platform and drain.

#### 3.2 Late Chalcolithic Ceramics

Late Chalcolithic ceramics were discovered for the first time in 2005 inside both the glacis and the escarpment. This season we excavated them in a deep sounding in J4 and

on top of the glacis in J3. The shapes and wares are typical for Late Chalcolithic 3 ceramics in the Khabur and eastern Anatolia regions.

Essentially the ceramics divide into two basic groups: coarse wares and fine wares. The <u>coarse wares</u> all have the characteristics of low firing with a carbon core usually quite thick, a large amount of mineral inclusions with the pebbles ranging from small to very large. A gray colored type can be as large as 3.5mm while the white type (probably calcites) are smaller with an average size in the range of 2mm. Shell temper is sometimes present. There is also a great amount of straw temper in the wares with some having a large amount of straw on the surface. The coarse wares can be divided into three different categories depending on the texture of the ceramics from the very coarse low fired wares with pebble and chaff temper to the finer wares with very small sand particles as temper.

The shapes made in the coarse wares are for the most part open bowls with the socalled hammer head rims (Fig. 33). The rim diameters usually range between 17 and 36 cms. We have a large number of these vessels. Two of these bowl sherds have cord impressions around the exterior just below the rim. One rim has two lines of cord wrapped around the circumference and the other has one. Another typical shape for the period is the so-called casserole with its characteristic carination mid-body (J3q339-p70, Fig. 34). We have few of these and one of them is of a finer ware than usually found in these cooking vessels. Jars which range from small to medium are also relatively rare (Fig. 32). Only one sherd from a large jar has been found; it is extremely heavy and has secondary burning on the rim. It could certainly not have been lifted so must have been used for long term storage but the burning on the rim may indicate another use, not now clear. Many of the coarse ware vessels have traces of burning near the rim and the large sherd of a "casserole" had secondary burning also along the carination but none on the body between the rim and the carination. This appears to indicate that it was placed near a fire but had only limited direct contact with it. Other bowls and jars have use wear along the rim, probably because a lid was continually placed on top of them. Some coarse shapes have simple potter's marks on the exterior.

We have excavated many fewer <u>fine ware</u> sherds than coarse ware. The shapes of the fine wares are quite small and consist in thin walled vessels more highly fired than the coarse wares (some examples are given on Figs. 34-35). Small jars and cups predominate but we have excavated two sherds of small carinated bowls that are typical for the LC 3 period. Several gray burnished bowls and small jars may be earlier, that is LC 2. Cooking pots are made with a heavy crystal temper that has been proven to retain more heat longer. It is very impressive how long these pots lasted in the overall inventory of the site. Essentially they changed little in their shape and temper over the 2,000 year period of the habitation at the site of Mozan.

## 4 Seals and sealings (Federico Buccellati)

#### 4.1 Cylinder Seals

A frit cylinder seal (J1.33, see Fig. 36.a) found this season depicts a bearded figure with a pointed hat wearing a long garment bordered at the edge of the sleeve (the lower hem is not preserved). He is facing right in front of a tree that separates him from two lions. The lions are facing each other and are represented on their haunches with tails

raised behind. Unusual in this scene is the fact that the front legs of the lions are raised and joined in a gesture that appears more like a patterned non-aggressive activity rather than a combat. The style emphasizes the drill holes, especially in the representation of the tree and the head of the left lion. The iconography and style date the seal to the Mittani period.

Z1.555 is a complete seal found during a cleaning of the palace area. The seal is complete, but badly worn, so that the impression is not a clear one. The iconography includes five elements, all figures. The first is a human figure with both hands raised. The figure seems to be looking right, with legs splayed. Both hands are raised, and may be interacting with the second element. The second element is an animal, raised on its hind legs. It faces left, towards the first element. It seems to be interacting with the human figure, but this is unclear due to the preservation of the seal. The third element is also an animal, facing in the same direction as the second element. This figure is placed quite close to the second element, and seems almost to be resting on its back. To the right of this animal is the fourth element, a human figure. This figure is wearing a belt. The person is facing left, with both hands clasped at the waist. The fifth and final figure is an animal facing right, with the head turned back towards the fourth figure. This animal is also rampant. The subject of the seal seems to be an Akkadian style contest scene involving two humans. However, it is possible that the two figures are a bull-man and a nude hero.

J1.133 is broken at the base. The impression has four elements. First, a human figure with a very stylized head. The figure has a cap on, and a dress with what seems to be a fringe over the left arm. The right arm has the hand at the waist and the elbow away from the body. The dress seems to be open under the left elbow of the figure, portrayed by a vertical line. The second element is a stylized tree: five round balls at the end of short stems coming from a central ball which rests on a long trunk. The third and fourth figures are rampant lions which are facing each other and touching forepaws. These two do not seem to be fighting. The jaws of both are open. The date of the seal is Mittani.

J1.40 (Fig. 36b) is a seal with the complete impression preserved. There are six elements in the iconography of this seal. The first and second elements are animals, the first on top of the second. The animals are quadrupeds which seem to have wings. They both face the third element. The third figure is a standing deity, wearing a skirt which is shown as a cluster of points. The figure has two objects coming out of the shoulders, and seems to be displayed en face. The fourth and fifth elements are two animals similar to the first and second. These animals also face the third element, the deity, mirroring the first and second. The sixth and last element is also a human figure, standing and looking to the left. This figure is holding what seems to be an ax in its right hand. The seal can be dated to the second quarter of the second millennium.

J1.39 is a complete seal, showing two animals. The first is a standing animal with four legs visible. The head looks to the right, with an extremely exaggerated mouth. The animal has a tail and an elongated skull. The second element is another animal, perhaps an animal in flight, as no legs are visible. The animal is facing right. The date of this seal is uncertain.

#### 4.2 Late Chalcolithic Cylinder Seal Impressions

#### 4.2.1 Impressions from seal n1

J3.15.1 (Fig. 37c) is a seal impression with an amorphous reverse with 2 possible small leather knot impressions and one short thin leather strap impression. On the surface of the reverse may be fragmentary impressions of a fine cloth. The impression has exterior and 2 interior crossed "ribbons" each with outside edges raised and a narrow central depression. These interwoven elements found on seal impressions elsewhere are identified as snakes because of the heads, when indicated. Our impressions do not have these heads but, as they are incomplete, we are not certain of the identification.

#### 4.2.2 Impressions from seal n2

J3q328.5 (Fig. 37a) is a seal impression, of which part of one end is complete and rounded so the object originally was approximately round in shape. The reverse has a small part of a peg impression and below it at a slight angle, is a deep clear impression but with smooth sides so can be identified as a leather impression. Above the peg impression, on top of the sealing are 2 shorter impressions, also with smooth edges, framing the top of the peg. From their relative angles with respect to each other they may have been 2 interwoven pieces of leather. The impression bears a fragment of interwoven pattern of 2 ribbons (?) that are each composed of 2 parallel lines in higher relief with a central depression.

J3.17 is triangular in section with the central portion thicker and gradually becoming thinner toward the exterior edge that is a portion of a circle. The seal impression is rolled parallel to the increasing thickness of the object, and at one end is rolled off the thinnest edge of the object. Neither peg nor cloth impressions are evident The impression shows overlapping "ribbons" in a criss-cross pattern. Possibly a braided pattern with four "ribbons". Only the center portion is visible, with two overlapping junctures evident.

J3.15.3 has an impression with only one side which remains unbroken. This side has a very rough surface, as if there were no impression at all, or the object making the impression was very rough. On the reverse there is an impression of a cord, perhaps a leather knot, which is perpendicular to the rough side of the impression. The impression seems to have one border visible. The impression shows a fragment of overlapping "ribbon" impression. Three points of overlapping visible. where the "ribbons" cross at nearly right angles. The surface of the "ribbons" are composed of two parallel raised ridges with an indentation between them. Ridges and indentation are parallel to the edge of the ribbon and with even thickness over the whole ribbon.

J3q328.4 has two rollings of the same seal. The reverse seems to show a door sealing, with impressions of the door, the peg and the cord. The reverse shows signs of secondary firing. The main impression has the top border of the seal preserved; the lower border is not preserved, but only very little is missing. This impression shows that the 'ribbons' of the pattern are four in number, in a superimposed sinusoidal pattern. At four points in the middle of the seal impression the ribbons overlap. In the second impression only a small portion is visible along the top of the seal impression.

J3.15.2 has a very small portion of a seal impression. On the obverse are several fingerprints. The reverse has a very clear impression of what was sealed, probably a basket.

This object shows only a very small fragment of a seal impression, showing two overlapping 'ribbons'.

#### 4.2.3 Impressions from seal n3

J3.19 (Fig. 37d) is broken on all sides, and even the reverse seems not to bear any impressions but to be broken. The material seems to have been secondarily fired, due to its weight proportional to the size and the strength of the object. The upper border of the impression is visible, but is broken below. The impression consists of two elements: a human figure and a cross-hatched pattern in a half circle. The figure has an elongated head, exaggerated in the horizontal. The shoulders and hips are visible, while the waist does not leave an impression. To the left of the head is a jagged line which may or may not be part of the seal. The cross-hatch impression is in an elongated half-circle with the flattened portion of the circle pointing up. The lines of the cross hatch are parallel and perpendicular to the border of the seal impression. The cross-hatch pattern seem to have a shaft below, as if the whole was a standard. This shaft is being held by the figure.

J3.14 (Fig. 36d) has three rollings of the same seal. None of the sealings are complete. On the reverse there is a good impression of the object sealed. This object had a curled rim and a convex surface. It is likely that the object sealed was a bottle; the convex surface would indicate a very small vessel. The middle impression is the most intact, with four elements of the scene visible. The top and bottom borders of the seal are not preserved. First, a standard with a long shaft is present. This standard has a partial circle which is not entirely preserved because of the portion of the rolling. Inside the circle is a cross-hatch pattern with three vertical spars and an unknown number of horizontal ones. The second and third elements are two vertical pieces parallel to the shaft of the standard. These elements are between the standard and the figure, the fourth element. They are otherwise not to be identified. The fourth element is a human figure re, of which an arm, shoulder, waist and a leg are visible. The figure is holding the standard with one arm. The figure re seems to be shown en face. The top most impression has five elements, here described from right to left. These figures are only partially preserved, since the bottom border of the seal is present but only approximately half of the vertical portion of the seal is preserved. The first element is a pair of legs, not much more than the feet of a figure facing left. The second element is a vertical piece which does not rest on the bottom border of the seal. The third element is a second pair of legs and the waist of a figure facing left. The fourth element is another vertical piece. The fifth element is just a stub which is not further definable. The bottom impression has only a very small portion preserved. This seems to be the arm of the figure from the middle impression, the top of the second and third elements of that rolling, and the shaft of the standard. It seems that this object may have the rollings of two different seals. The middle and lower seal impressions are made from the same seal, while the upper impression seems to be made from a second seal. First, the proportions of the figures seem to be different between the seals. Second, while it is difficult to discern, the seal that made the middle and lower impressions seem to portray the figures en face, while the upper impression has the figures facing left. However, the impressions are only partial, and the secondary firing or rolling may have changed the proportions.

#### 4.2.4 Impressions from seal n4

J3.16 (Fig. 37e) has on its reverse the impression of a peg. The single impression has only the lower border present, with the rest broken off. There are five elements visible on the impression. On the far right is a very faint impression that is not further distinguishable. Above this is an element, perhaps a bird, perhaps in flight. Below is a four-legged animal, preserved entirely apart from the neck. This animal is facing left, and is reclining with both legs folded under the body. A tail is visible. Above the back is a fourth element, a diamond shape, possibly the head of the animal, element three. A fourth element is seen to the left of the animal, but not further distinguishable.

J3q328.3 (Fig. 37f) has on its reverse an impression of the door(?), which is nearly parallel to the rolling of the sealing, which is unusual. There is also a peg impression, but no string impression. The impression seems to have both the upper and lower borders of the seal impressed in small portions. The height of the seal is 3cm. Three elements are present on the impression: first, in the middle of the seal directly behind and slightly above the animal. This element is not further definable. The second element is above the rump of the animal, perhaps a bird? The third element is a seated quadruped, with both visible legs tucked under the animal. A tail is also visible.

#### 4.2.5 Impressions from seal n5

J3.18 (Fig. 37b) is large object with a single impression on the obverse. No impressions were discernable on the reverse. The scene has several vertical lines which do not appear to be a part of any element. The left most element seems to be a human figure, exaggerated in the vertical dimension. The figure seems to be holding what may be a standard, a vertical shaft with a semi-circle containing possibly a cross-hatch pattern. To the right of the standard is an element which could be an animal facing right.

#### 4.3 Other Seal Impressions

J04q987.1 has a string impression, the positioning of which suggests a peg, of which however there is no imprint. The seal impression has three elements. The first seems to be a deity, only half visible in the rolling. The figure has a horned crown, with one pair of horns (only one visible). The left arm of the figure is bent with the hand at the waist and the elbow away from the body. The second element is another human figure, this one with what seems to be a cap with a wide band. The right hand of this figure is also at the waist, with the elbow away from the body. The third element is an animal figure. This figure is a quadruped which is standing upright, with an elongated neck which curves forward. The way that the figure stands and the position of the forehands may indicate an anthropomorphic portrayal.

## 5 Other objects

#### 5.1 A frit necklace

A lost necklace in front of the revetment wall must have caused consternation in antiquity because the beads were important and made with great delicacy. The largest one is a frit pendant (J3.20.2, Fig. 38a) molded in a metal mold. This can be determined by both the large size of the object (2.1 cm in diameter) and the sharp detail of both the de-

sign on the face and the detail of striations in low relief on the part used to hang the pendant. The design is a sun surrounded by raised globes. Perhaps the sun evoked the god Shamash but we see this symbol also in other Mittani glyptic. Near the pendant were a number of beads; two of them were decorated glass (J3.20.1, J3q379.1). According to our conservator Beatrice Angeli of the Opificio delle Pietre Dure in Florence) who worked on the beads and the pendant (all arrived from the excavation in a very fragile condition) the decorated beads were first woven as two strands of glass, one white and one black. The resulting black and white spiral was then pulled in a wavy pattern that can now be seen on the beads. The pendant and the largest of the beads (J3.22) were covered with a blue glaze; unfortunately almost gone when they were excavated.

#### 5.2 Clay objects

Two other important objects from the excavations of this season are a figurine of a sheep with very thick bunched hair (J4q28.1). The first impression is that the hair signals the identification of the figurine as a lion – well known at Urkesh from the seal iconography, the lion statue found in the temple BA, and from lion bones in the palace that must have been hunted in the nearby Tur Abdin. The other important item (J3q383.6) is an object with concentric circles in relief on a base that is 7.50 cm in diameter. This type of object has been found in Mittani levels before and is either a stamp seal or a wall peg. The largest ones, as is this one, might have been placed in a wall but it is hard to think that the smaller ones found in earlier strata (Phase 2) could have had this function.

#### 5.3 A fragment of an Old Babylonian cuneiform tablet

A very small fragment of a cuneiform tablet (Z1.544, Fig. 37c) was found on the surface near the excavations in A19. In spite of its very diminutive size, it is worth mentioning because it is the first epigraphic find from Mozan that can be attributed to the Old Babylonian period, and because one of the signs may perhaps be the sign LUGAL for "king."

### 5.4 A clay plaque

The fragment of clay relief (J4q16.1, see figs. 38b-c) is the upper right corner of a plaque (3.3 cm high and 2.6 cm wide at the top). The preserved portion indicates a raised border at the top but not one on the right side and no border below the feet to indicate that it is part of a plaque divided into registers. The plaque is flat on top and on the reverse as well as the preserved right side. However if it had been divided into the standard, but by no means universal, pattern of three registers, then the original would have been about 5-6 cm high. The scene depicts two evenly spaced figures, a soldier on the left and a naked prisoner on the right. The head of the soldier is shown in profile facing right. He is wearing a head band but his hair above is not clear. The beard is shown as short thickened strands with the hint of curls at the bottom. His left shoulder is represented in front view with his arm rendered as wide near the shoulder, a pointed elbow and a thinner arm to the wrist. His left hand holds a cord used to restrain his prisoner. The prisoner is nude and rendered with his head in profile, shoulders in front view and the rest of his body in a rotated view with the change in direction coming at mid torso so that his legs and genitals are depicted in profile. Since he is shown walking his left leg is forward, his genitals are shown against the middle portion of his left leg. While a cord is tied around his neck, his hands are not fastened behind his back, as we have in other scenes of prisoners, his right arm is indicated as bent up across his chest. Unfortunately his left arm is not preserved.

The stylistic characteristics of this plaque indicate that it is early Akkadian in date. These include the details of the beard, the shape of the eyes, the extension of the lower stomach, and especially the rotated posture. The plaque is close in style to the fragment of a stone plaque discovered a number of years ago in A7. Both represent significant interaction between two figures, evenly spaced, with bodies in a rotated view. Other ED III and early Akkadian scenes in registers depict soldiers restraining prisoners who are walking in front of them. This plaque relief from Urkesh is the first example of a prisoner being restrained by a cord around his neck. While the rest of the plaque cannot be reconstructed with certainty, it probably also depicted other pairs of soldiers and naked prisoners.

The imaging of captive prisoners is a favorite theme in late ED III and early Akkadian iconography, not only because the period is one of turmoil as the Akkadian dynasty sought to extend its imperial presence. The victories of the imperial army and the widespread images of their success, extending even into the popular culture of the period, contributed significantly to the image of power and prestige the dynasty wanted to create in the public perception. This perception was important to create not only in the minds of their immediate neighbors but also in the consciousness of states as far away as Urkesh.

#### 6 Historical considerations

## 6.1 Evidence for a major occupation in the Protoliterate period

The discovery last year of Early Chalcolithic pottery immediately below the glacis in J3 had led us to suggest that the material may have been brought in as fill from some other part of the ancient settlement. Now, however, it appears that this earlier occupation is in fact to be understood as a core situated immediately behind the revetment wall and below the glacis. We have in fact not only ceramics from three distinct places below the third millennium surfaces, but also sealings from pits cut directly into the glacis in J3. The details are given above in sections 3.2 4.2.

Here, four stratigraphic points need to be stressed.

- (1) The wall situated on top of the monumental staircase is in fact bonded (2.3), and hence contemporary, with the staircase itself. This suggests that behind it there is the same core that we found in J3. In other words, this wall may be functionally the same as the reverment wall in J1-J3-J2.
- (2) Such an interpretation is reinforced by the fact that the sounding we opened behind it (originally with the expectation that we may find the continuation of the apron and the steps of the monumental staircase) showed in fact a sloping surface that may correspond to just such an early glacis.
- (3) At the bottom of the staircase (in locus J2k100) there lurks an earlier staircase. The sherds associated with its last use date to phase 1 (ED III). While we could not date the time of construction, the presence of fourth millennium materials just below the sur-

face in J1, J3 and J4 suggests that this earlier staircase in J2 may well date to the same period.

(4) The nature of the revetment wall is such as to suggest that it framed a pre-existing glacis, and that the amount of earlier fill within the wall would be minimum. But such pre-existing glacis at such a high elevation implies that it would have served already a sacral function not dissimilar from the one of the later Temple Terrace.

The significance of these considerations is that from them we can infer a functional continuity between the earlier and the later uses of the area. In other words, we may assume that in the fourth millennium one would already have seen a high rise just where the third millennium one stood, and practically of the same height above the surrounding plain. While we have no direct evidence that such an earlier hill may in fact have been a Temple Terrace like its later counterpart, it seems difficult that it may have been otherwise: indications are that we are dealing with a homogeneous whole, so similar in its physical dimensions as to imply not only a functional, but also an ideological continuity.

#### 6.2 Inferences about early Hurrian history

We wish to propose as a working hypothesis that the fourth millennium complex lurking below the third millennium Temple Terrace reflects the earliest known testimony of Hurrian history. The rungs on the inferential ladder are many, and they must be seen for just what they are. But it seems worthwhile considering them seriously. We list them below in decreasing order of verisimilitude.

- (1) The Palace of Tupkish can safely be associated with Hurrian ethnic identity, for reasons that have been detailed elsewhere. This dates early in Naram-Sin's reign or slightly before.
- (2) The underground structure next to the Palace  $(\bar{a}bi)$  may also be closely linked with Hurrian cultic practices as known from later texts. It dates to before the Palace. How much earlier, we cannot say (because excavations inside it have not been completed), but it is quite possible that the structure may descend to virgin soil, and that its cultic use may have remained the same for many centuries before the period of Tupkish. The very particular nature of the ritual suggests that its very nature is rooted back in these earlier periods in other words, that the Hurrian nature of the later ritual reflects an early Hurrian nature of the same.
- (3) The Temple Terrace of the third millennium is incorporated within a coherent urban landscape that includes the Plaza, the Palace and the  $\bar{a}bi$ . As such, it seems inevitable to assume that the whole complex, and in particular the Temple at the top, were also well integrated in a larger Hurrian perspective, coherently with the Hurrian nature of the Palace and the  $\bar{a}bi$ . (Our further assumption that the lions of Tish-atal belong with this Temple and speak of the god Kumarbi would be in line with this inferential argument.)
- (4) The history of the sacral use of the Temple Terrace in later times suggests that Urkesh was a religious center of such a specifically Hurrian character that the Temple Terrace and the Plaza remained highly privileged (hence untouched) until the very end. The newcomers in the area, the Assyrians, did not take over the shrine because (in our understanding) it was too incompatible with their religious customs.
- (5) A number of architectural features link stylistically the Urkesh Temple Terrace with sites that do not belong to the classic Mesopotamian tradition of the south from

Tell Chuera to Haji Nebi and all the way to Mokhra Blur. This suggests a functional and ideological distinctiveness which may well reflect ethnic identity across this large area.

If the hypothesis built on these inferences proves to be correct, it would have a remarkable impact on our understanding of early Near Eastern history, because (a) it would push back the beginning of Hurrian history to at least the middle of the fourth millennium, (b) it would give evidence of a well established Hurrian sacral center at such an early date, and (c) it would give evidence for a full grown urban settlement capable of supporting such a shrine.

#### 6.3 A new type of Mittani settlement

The picture that emerges from our excavations of Urkesh adds a significant new element to the typology of settlements in the kingdom of Mittani. A recent description of settlement patterns<sup>6</sup> describes a territory characterized by isolated high status residences installed on sites that were by then largely depopulated, with an extensive ruralization trend (people living in small short-lived hamlets) and a corresponding de-urbanization.

The upper strata that we are getting to know from the excavations in the central High Mound present us with a very different type of settlement. We have here a major regional sanctuary, the monumental integrity of which is safeguarded in spite of the progressive retrenchment in size. At the beginning of the Mittani period the Temple Terrace stands at its highest, with the full staircase and the revetment wall still showing: it thus retains the full monumentality of the third millennium Terrace, except for the escarpment at its base, which has presumably already been covered by Khabur period accumulations. Even as further accumulations during the Mittani period eventually (presumably by the end of the reign of Sauštatar, around 1400 B.C.) covered the entire face of the wall, the upward slope of the glacis and the flat area in front of it (the ancient Plaza) remained unencumbered by even minor intrusions (pits, tannurs, burials), preserving, as it were, the ideological monumentality of the Terrace.

Some of the excavated structures to the west of the Temple Plaza in A17-A18 (above the Palace of Tupkish) can best be interpreted as service quarters in function of the temple administration. Also, a stone pavement at the edge of eastern end of the structures may be interpreted as marking the western border of the Plaza. We have discussed this in our report on the 2004 season of excavations.<sup>7</sup>

Finally, a number of items discovered in earlier excavations also point in the direction of a settlement quite distinct from a rural village. We will recall here a dozen bronze and two gold objects found in A17-A18, decorated "Nuzi" style pottery from BH, the head of a small stone statue from A9<sup>8</sup> and a good Mittani style seal from A9. The typical com-

<sup>&</sup>lt;sup>6</sup> Peter M. M. G. Akkermans and Glenn M. Schwartz, *The Archaeology of Syria. From Complex Hunter-Gatherers to Early Urban Societies (ca. 16,000-300 B.C.)*, Cambridge World Archaeology, Cambridge: Cambridge University Press, 2003, pp. 346-348.

<sup>&</sup>lt;sup>7</sup> G. Buccellati and M. Kelly-Buccellati, "Urkesh as a Hurrian Religious Center," *Studi Micenei ed Egeo-Anatolici* 47 (2005), pp. 27-59.

<sup>&</sup>lt;sup>8</sup> However different in size and iconography, the style recalls the statues of Idrimi and the one from Tell Brak – the latter being acknowledged (until the discovery of the Urkesh statuette) as the only example of stone sculpture from the Mittani heartland, see, e.g., A. Harrak, "Mitanni," in Eric M. Meyers

mon style Mittani seal found this year in J1 (see above, 4.1) can now be added to this not inconsiderable corpus.

#### 6.4 Evidence in favor of the low chronology

The immediate superposition of Mittani above Khabur seems to provide a general argument in support of the low chronology, in that it argues against a vacuum between the two periods. The low chronology dates the fall of Babylon to 1531 B.C. It has been argued that the reason why Muršili I left the statues of Marduk and Sarpanitum in the region of Khana rather than taking it back to Hattuša may be found in the opposition of Hurrian principalities in the Jezirah and the upper Tigris, which would have made his return to the homeland potentially dangerous, and would have made accordingly for a relatively hasty retreat. This is relevant for our work in that it suggests that Urkesh, inasmuch as it was one of the most revered sanctuaries in the Hurrian world, might well have served as a beacon for Hurrian identity at a time when the Hurrians were recovering from the period (in Old Babylonian times) of subjection to external control (primarily of Mari). Hence the continued importance of the city as a religious center, particularly since at the beginning the Temple Terrace was still standing with the staircase and the revetment wall still in full view.

#### 6.5 Stratigraphic correlations with the known rulers of Mittani

Table 3 shows a correlation between the stratigraphic sequence and the known kings of Mittani. It must be stressed that we do not have any epigraphic evidence from Urkesh in support of these correlations. However, the conclusions suggested seem inescapable, the main criteria and presuppositions for linkage to stratigraphy being as follows.

- (1) Urkesh is located almost exactly half way between Wasshukanni (Tell Fekheriyah) and Ta'idu (Tell Hamidiyah). Our excavations have shown that Urkesh had remained an active and respected cultic center, the ancient monumental structure of the Temple Terrace remaining in full use throughout the period that can be identified as Mittanian on the basis of the ceramics. Given this visibility of the sacral structure, and its proximity to the two major political centers of the Mittani kingdom, it seems likely that the fortune of Urkesh was not tied exclusively to the vestiges of its former glory, but that it served effectively as a state sanctioned sanctuary. This would have possibly enhanced the continued sense of Hurrian identity that seems important as a factor of social and political solidarity within Mittani.
- (2) The immediate superposition of Mittani strata above Khabur (especially in A17 and in J1) suggests that the earliest Mittani levels must date to the very beginning of Mittani history. In other words, since there is no gap in the stratigraphy, we assume that that the beginning of the stratigraphic sequence matches the beginning of the historical sequence. Since Parattarna is the earliest of the Mittani kings about whom we have some detailed information, we link our earliest stratum (s14: full visibility of the revetment wall and staircase) with his name.

<sup>(</sup>ed.), *The Oxford Encyclopedia of Archaeology in the Near East*, Vol. 4, Oxford: Oxford University Press, 1997, p.37.

<sup>&</sup>lt;sup>9</sup> Stefano de Martino, "Il regno hurrita di Mittani: profilo storico politico," in *La civiltà dei Hurriti*, *La Parola del Passato* 55 (2000) p. 74f.

- (3) The loss of the sacral aspect of the Temple Terrace occurs at the end of a long stratigraphic history. Throughout this history, the Terrace retained its integrity. Even as it lost its outward monumentality (on account of the thick accumulations that gradually covered entirely the face of the revetment wall), the Terrace and the Plaza remained privileged spaces, without any intrusions such as pits, tannurs or burials. This suggests a strong continuity of the religious identity of the Terrace as sacral space. Consequently, we are attributing the loss of this identity to the disappearance of the Hurrian constituency that made it possible in the first place i.e., to the final demise of Mittani (at the end of Tušratta's reign, s11) as an autonomous political entity at the moment when the Assyrians (with Adad-Nirari I, s6-8) take full control of the area.
- (4) Given the preceding two assumptions (that the beginning and the end of the stratigraphic sequence span the time period between Parattarna and Tušratta, it is logical to assume further that the intervening strata must be assigned to the intervening rulers. The most notable among these are Sauštatar in the second half of the 15<sup>th</sup> century (to whom we attribute s13: upper portion of revetment wall and staircase still visible) and Šuttarna II (to whom we attribute s12: Plaza at the same level as the base of the glacis, with only rows of stone marking the boundary between the two).

#### 7 The Urkesh Global Record

The second half of our season was devoted to work on the digital publication of the excavations, for which we had received a special grant from the Metropolitan Museum of Art. We selected two units, one excavated this season (J3) and another excavated earlier (A16). For the latter, the main goal was to complete the analysis of the ceramics, which had been stored in the Expedition house (see also above, 3.1).

We had anticipated completing both units by December 2006, but we will need extra time, and have now set as a deadline the end of April 2007, when we will present the entire system at the national meeting of the Society for American Archaeology. The symposium is entitled: *Real time link between field recording and publication. Digital archaeology at ancient Urkesh in modern Syria*. Besides the two writers, four other members of the Mozan staff will present papers. At that time we will also open officially the website which contains the online publication of these two units (preliminary versions, constantly updated, are currently accessible through password only). This will be a crowning moment for a project that has developed over a long period of tests and improvements.

The reason for the delay is the sheer amount of data. For instance, the ceramics from just the A16 units consists of 44,168 sherds. They are all documented individually and in groups, with numerous statistical computations. Consider also the following summaries:

| A16                  | Text Files | Graphic Files | Grand Total |
|----------------------|------------|---------------|-------------|
| Files                | 24,377     | 2,939         | 27,316      |
| Records              | 183,551    | -             | 183,551     |
| File Size (in bites) | 7,739,173  | 159,952,605   | 166,692,778 |

| J3                   | Text Files | Graphic Files | Grand Total |
|----------------------|------------|---------------|-------------|
| Files                | 1,821      | 1,353         | 3,174       |
| Records              | 23,121     | -             | 23,121      |
| File Size (in bites) | 1,108,340  | 8,844,169     | 9,953,509   |

They clearly represent an enormous quantity of data, that truly provide the "global record" (as we call it) of all that has been observed in these two units. But what makes it truly unique is the fact that the data are highly differentiated according to a complex, yet intuitive, categorization and presentation system. The browser edition approach allows for instant access to both the most minute detail and the most overarching grouping. A staggering amount of hyperlinks (more than half a million for A16) allow the development of alternative inquiry paths at will. As a result, it will indeed be the case that one can open a website not only for consultation, or for linear reading (as with PDF files), but to develop new types of study habits fully germane to the digital nature of the data.

## 8 Suggestions for the development of the Hassaka Museum

On the occasion of the visit by the Minister of Culture, we had prepared the following notes concerning the proposed development of the Museum in Hassaka. Besides the writers, Dr. Joan Aruz (Chief Curator of the Ancient Near East, MMA) and Dr. Jean Evans (Assistant Curator), contributed a substantial portion of this report.

It was with great pleasure that we were able to visit the construction site of the Museum. It is an impressive building, which will add considerably to the cultural scene in the region and in Syria as a whole. The Mozan/Urkesh Archaeological Project would be delighted to be involved in furthering this project, and we will rely for this aspect on our collaboration with the Metropolitan Museum of Art in New York. The Museum has officially joined our project as a collaborating institution, and members of its curatorial staff have joined us in the field. Together, we would like to propose these preliminary suggestions, along with a proposed plan of the main exhibition hall.

We understand that the Hassaka Museum will have four large galleries for exhibitions:

- 1. Children's gallery
- 2. Temporary exhibitions
- 3.-4. Ancient to modern

It is suggested that one gallery be devoted to the archaeology of the Jazira (see Fig. 38). The occupation of one gallery has the advantage of being able to bring the project to completion and open the gallery independently of the other galleries. Some material from the sites could be incorporated into other galleries as planning progressed by establishing thematic relationships, e.g., the history of textiles, jewelry manufacture, etc. All casts of ancient objects should be displayed in the children's gallery because they do not have to be enclosed in cases and in some instances could be available for children to explore more closely – it also maintains the integrity of the ancient galleries.

Thought should be given to the logistics of bringing a great many objects to Hassaka for storage and display. Besides long-term projects, such as ongoing training in conser-

vation and assistance with creating an infrastructure for such concerns in the Syrian museum system, it is assumed that the aims and expectations for the Hassaka museum should be to provide preliminary conservation efforts and installation assistance for displays that are unlikely to change for a lengthy period of time (similar to Deir ez-Zor). Ideally, conservators already working at area sites would agree to provide some form of assistance in working toward this goal.

Chronological organization is the traditional manner in which a large amount of material can be understood and made accessible to the general public. However, the integration of thematic cases with this chronology helps to distill the didactic element of chronology. We would like therefore to suggest that both elements be present (see plan). The remaining part of the gallery would then be devoted to the individual sites of the region. Ideally, the directors of these sites would agree to participate in planning by suggesting aspects of their site – whether a certain chronological period or particular industry that came forth in excavation, etc. – that would be suitable. As suggestions are made, the order of the sites would become evident. Label copy should be standardized.

#### 9 Conservation

#### 9.1 Wall conservation

During the 2007 season we made significant progress in the documentation of our wall conservation efforts, which is a mainstay of our overall project. Two Italian graduate students, Beatrice Landini and Marta Lorenzon, took over the multiple tasks involved, to wit:

- (1) continuing the photographic and descriptive monitoring of the Palace wall, and harmonizing the earlier stages of the attendant documentation;
- (2) overseeing the repairs and maintenance of the Palace walls and of their protective shelters, including the implementation of a new type of roofing for the same shelters;
  - (3) developing strategies for the protection of sections;
- (4) starting a monitoring system for the conservation of the stone architecture, including the repair and maintenance of the portions already exposed;
- (5) completing the documentation of the test walls constructed in 2004 as part of special study for the Getty Conservation Institute.

A full separate report is in preparation for these various activities.

#### 9.2 The conservation lab

Beatrice Angeli, of the Opificio delle Pietre Dure, joined us in the field to compelte the conservation work on a group of metal objects from previous seasons which we were then able to turn over to the Der ez-Zor Museum.

Her contribution was also invaluable for the stabilization and conservation of the frit necklace describe above (5.1)

## 10 The geo-physical survey

A three day geo-physical survey completed the picture for the Plaza and the Temple Terrace. As in the past, this was undertaken by Christian Huebner and Stephan Giese, who are preparing a full-fledged report. A ground penetrating survey was added to the magnetometric survey, and the results confirmed in detail what had already transpired from earlier work, with particular reference to three points (see Figs. 39-40).

First, the Plaza continues to the south and the southwest and shows the same lack of any structure as for the remainder to the north. This is what we have called an "inert" deposit.

Second, the western part of the Temple Terrace is devoid of any structural buildup, in contrast with the eastern part. This confirms our understanding that the this portion of the Terrace conformed to the situation of the Plaza itself, with regard to its having remained a privileged area throughout the centuries, and in contrast with the situation of the eastern portion of the Terrace.

Third, a large building seems to close the Plaza in its northern extension, where the space between Temple Terrace and Palace is at its narrowest. This building also matches the sharp corner to the north taken by the Terrace wall.

## 11 The ancient river (*Katleen Deckers*)

After two seasons of off-site geoarchaeological fieldwork in the Upper Khabur to contextualise Tell Mozan in its broad former landscape setting, some diachronic understanding of the evolution of the main wadi's of this area could be gained (see Deckers and Riehl, in press). The landscape and streams as we observe them today are not representative of the past. The present absence of water in the Jaghjagh during the summer is probably caused by damming and extensive use of water for irrigation. Small stream channels have been recently in-filled with plough wash due to intensive land use. During the mid 4th to mid 3rd millennium BC and possibly during the mid 5th century BC, the Jaghjagh had a vigorous, meandering and steady flow. The Jaghjagh stream flow might have fluctuated from time to time related to climatic changes, extraction of water for irrigation and vegetation changes as possibly after 2500 BC and during the 3rd century AD, when stream velocities may have been lower. Although the region is devoid of trees today, botanical remains from this area (Deckers and Riehl, 2004; Deckers, 2005) suggest that oak park woodland was present within this area until the 3rd century AD and that streams like the Jaghjagh were possibly accompanied by a riverine gallery forest in the mid 4th millennium BC. Relatively recent flashflood-like deposits from the Jaghjagh (e.g. section QAM) might relate to deforestation.

One of the main aims of geoarchaeological work this year consisted of gaining insight into the local landscape of Tell Mozan at the time of its occupation, especially how Mozan was provided with water, whether there was a wadi in the neighbourhood and how it looked in the 3rd/2nd millennium BC. Declassified CORONA satellite images of the sixties deliver important information on the landscape before large-scale landscape changes took place within this area. On the satellite image, a wadi can be traced that ran from NE to SW through the western lower town of Mozan, passing the present day village of Mozan to the East (see Fig. 42a). Just north of the lower city wall, another branch of the

same wadi is following the contour of the depression around the lower city wall, passing the modern village of Mozan at its western side. Both channels came together about 350 m southwest of the modern village of Mozan, at the lower town outer city edge. Today, this wadi is hardly visible anymore in the field (see Fig. 42b). Within the lower town of Mozan, along most of its location, just a slight depression can be observed. Only at one place, the wadi bed and benches are still largely present. According to the older men of the village, about 25 years ago there was a lot of water in the wadi that came from Turkey and the wadi bed was more deeply incised. In the last 25 years the wadi has been filled and levelled during ploughing. 25 years ago, some fields just north of Mozan could not be cultivated because they were flooded heavily during the winter and the soil was too moist. They are however cultivated nowadays without any problem. In the past during winter time, the village of Tell Mozan was often flooded as well and the houses were damaged. According to the local people, the reduction in water availability within the wadi might be related to damming in Turkey. It needs to be mentioned however, that according to the satellite images, this wadi doesn't seem to have had its source in Turkey, but in the upper north of Syria.

At the bottom of several water pits within the Mozan perimeter, coarse gravels could be seen at about 5 m depth. The upper part of the wells was not exposed so it is unknown at what depth the gravels start. The gravels are indicative of high river velocities. They might be Pleistocene in age, however this still needs to be confirmed. Towards the road from Amouda to Qamishli a deep quarry exposure can be seen of which the larger part consists of coarse gravel. It would be important to get some age control on those in the next field season (see Fig. 42a).

A test pit OR1 of 2x2 m, with depth of ca. 3.3 m, was made just E from the infilled depression of the former wadi within the border of the lower town of Mozan (Fig. 4). The upper 1.7 m consisted of prismatic silty clay sediments. The lower part contained two poorly sorted gravels. The lowermost gravel in clayey sand matrix was imbricated and contained no artefacts. The clasts were rounded to subrounded and were up to 6 cm. The lowermost gravel was somewhat better sorted and oriented (although there was still not much orientation) than the uppermost gravel, which contained a lot of artefacts and was very organic rich and dark brown. The clasts of the uppermost gravel were less rounded, being subrounded to subangular. Both gravels were followed by clayey silt deposit which contained some clasts. Both poorly sorted, non-oriented, non-graded gravels indicate that they were deposited in flash flood like conditions. Especially the uppermost gravel indicates that the sediments were not transported over a long distance.

Since this pit is located within the lower town of Mozan, a lot of eroded sherds were present throughout the upper 2.8 m of the section, also within the gravel. They were collected in artificial layers (q1 = 1-25 cm, q2 = 25-0.55 cm, q3 = 0.55-0.8cm, q4 = 0.80 m -1.05 cm, q5 = 1.05 cm - 1.3 m, q6 = 1.3 m -1.55 m, q7 = 1.55-1.7 m, q8 = 1.7-1.85 m, q9 = 1.85-2 m, q10 = 2-2.15 m, q11= 2.15-2.30 m, q12= 2.30-2.45 m, q13 = 2.45-2.6 m, q14= 2.6-2.75 m, q15= 2.75-2.9). Most of them were 3rd millennium BC. There were also some 4th millennium BC sherds ("local ware" – no fine ware). The main occupation of the lower town was during the third millennium BC. However, where the present day village of Tell Mozan occurs, 2nd millennium BC occupation occurred as well. This is however downstream from the location of OR1 and therefore doesn't give any further temporal indication. The sediments must have been deposited sometime during or after

the third millennium BC. Four samples for Optically Stimulated Luminescence dating were collected in order to gain further understanding when these sediments were deposited. Additionally, 8 samples for sedimentological research were retrieved as well.

Just outside the southern lower town of Mozan a large depression can be observed (Fig. 44a). It is also visible on the satellite image as a darker area (i.e. a moister area) (see feature a on Fig. 42a). It is very similar to the depression just outside Tell Brak (the "halo"). Its function is presently largely unknown. A few years ago, soil scientist Dr. Konstantin Pustovoytov made a small test pit within this depression and found evidence of a possible buried plough horizon. It would be important to undertake micromorphological sampling of this possible ancient plough horizon and to retrieve some samples for dating. This would be one of the aims for next season.

To the southeast of Mozan some possible inactive wadi channels were observed on the satellite image of which the date is presently unknown (Fig. 44b). It would be important to find out whether they were active during the occupation of Mozan and how they looked.

Moreover, it will be important to gain understanding of the former fluvial regime and sediments of the whole Khanzir to understand better the observed section OR1 at Mozan. This is also one of the aims for next year.

At the excavated tell area of Tell Mozan, several natural deposits were investigated. On the "plaza", several meters of deposits accumulated. Some of them consisted of eolean (wind-blown) accumulations which were often followed by water-laid deposits (of some which were laminated and others more gully deposits). In some eolean layers a thin line of artefacts and/or stones was visible, which might relate to a surface that was exposed for some time (dashed line). There was also were some possible anthropogenically created floor levels which were very compact and contained a lot of sherds that were horizontally oriented. It would be good to undertake micromorphological analysis on this sequence to confirm some of the preliminary interpretations.

In J4 laminated water laid deposits were identified, which were followed by some kind of debris flow.

## 12 Archaeo-zoological work (*H.-P. & M. Uerpmann*)

Archaeo-zoological studies during the 2006 season concentrated on two areas of the excavations at Tell Mozan: From the ongoing excavations on the Temple Terrace particular animal bone finds were analysed to help with the interpretation of local sedimentation. In addition this studies added to the statistical analysis of the animal remains from the Mittani-period (see below).

Particular finds identified in the field during excavation included a dog or wolf skull and a pig mandible from area J1. Other interesting finds were 3 cattle-bones (left) also in J1, which apparently were deposited or left behind as fresh bone, because there are gnawmarks of a dog and the additional evidence that adjacent small bones were still attached by ligaments. Thus, slaughtering of the animal – a large bull or ox – took place on the plaza. The finds consist of the 2 mandibles and a radius and ulna with the adjacent bones of the carpal joint.

An important find was a complete skeleton of a Saluki-type hunting dog from J4. This skeleton was found buried in a pit (probably of the Mittani-Period) in square J4. According to its position in the pit we may assume a real burial of the dog by its owner. According to the shape of the head and the slenderness of its legs the animal was a hunting dog, resembling a modern Saluki in its appearance.

It is interesting that the other animal remains found the area of the burial are relatively rich in bones of hunted animals, including gazelle, deer, and even the now extinct aurochs. Among the domestic animal remains there are several horse bones. One may assume that hunting was an important occupation of the former inhabitants of the area.

A sample of bone splinters from the package of large stones in J3 (q563; f570; K107) was analysed with regard to it sedimentation history: According to fragment-size and edge-conditions the fragment are from re-worked sediments farther upslope. Only small fragments were washed to the place where they were excavated.

The analytical part of the 2006 work concentrated on the animal remains excavated in 2004 in area A14. A preliminary species list for the specimens identified during the stay at Tell Mozan between 24. Aug. and 07.Sep.06 is given below. Some specimens need to be identified further with the help of the comparative collection in Tübingen. In due course the individual bone complexes have to be subdivided according to their stratigraphic position. At the time being they can only be treated as a whole and compared as such to other areas of the tell.

In comparison to area A9 (also as a whole), which was analysed in 2004, the finds from A14 yielded a very similar species list, but there are enough differences to assume status differences between the populations, who left their bone refuse in the two areas: while in A9 about 40% of the meat came from cattle, in A14 this was only 30%. The bulk of the meat in A14 came from the pig.

With regard to the hunted animals, there are the same species represented in areas A9 and A14, although in different proportions. A9 had more than double as much remains of hunted animals. In particular the share of the wild goat was much larger there. This animal must have been brought from the mountains to the north, the nearest area where wild goats could have lived in the past being in the surroundings of Mardin. With regard to the ancient environment nothing much can be added to the report on the archaeo-zoological work in 2004.

| Preliminary 3 | Species . | List for | Tell Mozan | (Area A14) | 2006 |
|---------------|-----------|----------|------------|------------|------|
|               |           |          |            |            |      |

| TAXA:                             | N   | N%    | G      | G%    |
|-----------------------------------|-----|-------|--------|-------|
| unbestimmt, mittelgroß            | 256 | 62,7  | 280,1  | 28,2  |
| unbestimmt, mittelgroß bis groß   | 106 | 26,0  | 239,4  | 24,1  |
| unbestimmt, groß                  | 45  | 11,0  | 355,0  | 35,7  |
| unbestimmt, sehr groß             | 1   | 0,2   | 119,0  | 12,0  |
| Unbestimmte insgesamt             | 408 | 100,0 | 993,5  | 100,0 |
| Hausrind, BOS                     | 425 | 15,2  | 8473,1 | 27,3  |
| Hausschaf, OVIS                   | 131 | 4,7   | 1585,1 | 5,1   |
| Hausziege, CAPRA                  | 51  | 1,8   | 483,4  | 1,6   |
| Hausschaf oder -ziege, CAPRA/OVIS | 942 | 33,7  | 3513,7 | 11,3  |

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| Hausschwein, SUS                   | 1102 | 39,5  | 13576,0 | 43,7  |
|------------------------------------|------|-------|---------|-------|
| Hauspferd, CABALLUS                | 3    | 0,1   | 186,0   | 0,6   |
| Hausesel, ASINUS                   | 8    | 0,3   | 434,6   | 1,4   |
| Hund, CANIS                        | 23   | 0,8   | 170,4   | 0,5   |
| Haustierreste insgesamt            | 2685 | 96,1  | 28422,3 | 91,4  |
| Wild- oder Hausrind                | 3    | 0,1   | 402,0   | 1,3   |
| Wild- oder Hausschaf               | 1    | 0,0   | 45,0    | 0,1   |
| Wild- oder Hausziege               | 2    | 0,1   | 49,0    | 0,2   |
| Wild- oder Hausschaf oder -ziege   | 2    | 0,1   | 34,0    | 0,1   |
| Equidae indet.                     | 9    | 0,3   | 331,3   | 1,1   |
| Wolf oder Hund                     | 3    | 0,1   | 10,0    | 0,0   |
| Haus- oder Wildtierreste insgesamt | 20   | 0,7   | 871,3   | 2,8   |
| Rodentia indet., klein             | 9    | 0,3   | 4,8     | 0,0   |
| Hase, Lepus europaeus              | 1    | 0,0   | 1,2     | 0,0   |
| Fuchs, Vulpes vulpes               | 1    | 0,0   | 1,1     | 0,0   |
| Dachs, Meles meles                 | 1    | 0,0   | 2,3     | 0,0   |
| Carnivora indet., mittel           | 3    | 0,1   | 27,1    | 0,1   |
| Panthera leo                       | 1    | 0,0   | 70,0    | 0,2   |
| Equus hemionus                     | 3    | 0,1   | 141,0   | 0,5   |
| Wildschwein, Sus scrofa            | 4    | 0,1   | 112,0   | 0,4   |
| Damhirsch, Dama dama               | 7    | 0,3   | 172,9   | 0,6   |
| Rothirsch, Cervus elaphus          | 11   | 0,4   | 471,0   | 1,5   |
| Auerochs, Bos primigenius          | 6    | 0,2   | 291,0   | 0,9   |
| Gazelle, Gazella spec.             | 12   | 0,4   | 72,0    | 0,2   |
| Wildziege, Capra aegagrus          | 5    | 0,2   | 50,0    | 0,2   |
| Wildsäugetierreste insgesamt       | 64   | 2,3   | 1416,4  | 4,6   |
| Otis tarda (?)                     | 1    | 0,0   | 4,1     | 0,0   |
| Other birds                        | 3    | 0,1   | 7,7     | 0,0   |
| Wildvogelreste insgesamt           | 4    | 0,1   | 11,8    | 0,0   |
| Testudinae indet.                  | 1    | 0,0   | 19,0    | 0,1   |
| Reptilienreste insgesamt           | 1    | 0,0   | 19,0    | 0,1   |
| Bestimmte Tierreste insgesamt      | 2793 | 100,0 | 31093,5 | 100,0 |
| Anteil der Bestimmten              | 2793 | 87,3  | 31093,5 | 96,9  |
| Anteil der Unbestimmten            | 408  | 12,7  | 993,5   | 3,1   |
| Ausgewertete Funde insgesamt       | 3201 | 100,0 | 32087,0 | 100,0 |

With regard to the individual domestic species it seems that cattle were of medium size, although some large individuals were also present. Pathologies indicating that the animals were used for labour – e.g. ploughing or pulling carts – are rare. According to the ages when the animals were slaughtered, the main use of cattle seems to have been meat production. The same is true for the sheep. Goats, however, were apparently used for milk production, because finds of older females are relatively frequent. Donkey bones are rare both in A9 and A14. Probably they were not consumed regularly, but they must have been the most important animals for transportation, because horses only arrived in north-

ern Mesopotamia at the turn from the 3<sup>rd</sup> to the 2<sup>nd</sup> millennium BC. The few finds of horse bones from A14 must have come from the upper parts of the deposits.

As already observed in 2004, the animal economy of the more recent periods at Tell Mozan had a different basic structure. Pigs were less important than before and the emphasis on cattle was much stronger. The role of the small ruminants, sheep and goat, was also strong and the presence of the horse was well established, as can be seen from the graph (Fig. 46c), which represents the quantities of bones from domestic animals found in excavations J1-4 on the temple plaza.

For the future, archaeo-zoological studies of the periods in the first third of the 2<sup>nd</sup> millennium BC will be of particular importance in order to understand the economic shifts better, which are indicated by the different appearance of the spectra shown above.

## 13 Physical anthropology (*L. Ramos*)

Laura Ramos continued her study of the human remains, updating her catalog, which has now reached a total of 153. In particular, she provided a full analysis of a skeleton found last year in J3, which we report below:

J3.8 was stored in the object room and was moved into the osteology lab. Two boxes were recovered, one containing the skull wrapped in aluminum foil with the post-cranial skeleton placed in a separate box. I began with the skull and removed the foil carefully which exposed a partially articulated skull with the right side still embedded in soil. The skull exhibits severe postmortem cracking that crushed the skull (medial-laterally) but retains shape, allowing for the skull to be consolidated in the lab. A diluted mixture of primal was applied to the entire skull and two days were spent articulating and removing the skull. The soil is hard with small fragments of charcoal, burnt clay, and small stones. Based on the skeleton examined thus far, it appears that the bones were heated at a low temperature due to the presence of heightened bone cracking and a brown coloration however the bones are not warped. Heat exposure to produce this type of bone change is estimated below 200-300 degrees centigrade in Buikstra and Ubelaker 1994 Standards volume. Accidental or intentional firing in the vicinity of the body after burial remains a plausible assumption or the bone condition may be due to the soil matrix or other environmental conditions.

While removing the soil around the skull, the cervical vertebrae were recovered around the neck region and were found displaced postmortem. Several maxillary and mandibular teeth (primarily the incisors) were found under the mandible, possibly moved by rodents. On the right side of the cranium, two hand phalanges were found (medial and distal) indicating that the head was lying on at least one finger.

Skeleton J3.8 was found in thick packing material north of the large stone wall of the temple terrace. The body was found lying on its right side with the left portion of the skull visible from overhead with skull facing north. The body was oriented east to west, skull in the east with the pelvis to the west. Based on the photographs, the body position appears tightly flexed with the femur flexed sharply towards the skull but not enough to touch the rib cage. The left tibia was found parallel to the left femur with the feet close to the pelvis. No grave goods or pit cut was noted with the exception of a medium size stone

tool placed under the left illium/pelvis and several animal bones to the south. It is unclear if the animal bones are related with this burial.

The cranium is in good condition after being consolidated however the skull was badly crushed, particularly the right side, I decided to leave the soil inside the cranial cavity to preserve the shape of the skull since removing the soil would cause the skull to collapse. In doing so, this may increase further cracking but hopefully the consolidant should minimize this. The mandible was also consolidated but could not stabilize it completely and was removed in three large pieces; it is also in good condition. The post cranium suffered badly from crushing and there is also evidence of rodent activity on one vertebral body which many have damaged more of the skeleton. The right proximal humerus was found completely crushed flat. Only fragments remain of the majority of the skeleton but the left radius and ulna were recovered complete and where used to estimate stature.

#### 13.1 Stature

Stature was estimated using the left radius (209mm) through Trotter and Gleser (1958) regression formula for White females (4.78(20.9)+54.93+/-4.24) at range 158.24-149.76 (minus 0.06 for age adjustment) and Black Females at 2.75(20.9)+94.51+/-5.05) at range 157.4-146.94 (minus 0.06 for age adjustment). Taking the maximum and minimum of both these ranges, J3.8 stature ranges 5'2- 4'8 or 158-147cm.

#### 13.2 Sex

Sex was estimated as female via a series of sexually morphological characteristics of the skull and pelvis with the skull showing a typical mixture of male and female traits common of the Mozan skeletons while the pelvis exhibited all female traits. The skull was found gracile, slightly protruding glabellar profile, medium/large mastoid process, obtuse mandibular angle, and a straight or perpendicular mandibular border. The pelvis was found very gracile and broad. The illiac blade flared laterally, very wide greater sciatic notch, narrow and small auricular surface, prearicular sulcus present, short/thin pubic symphysis, ventral arc present, sub pubic concavity present (very concave), sharp medial ischio-pubic ridge and small ischial tuberosity were noted. Based on the high degree on female traits of the pelvis, sex was determined as Female.

### 13.3 Pathology

Trauma was noted on the right pubic symphysis on the distal end showing bone remodeling and notched inwards in comparison to the left pubic syphysis. A study on pelvic scarring from the Hamann-Todd collection by Anderson (1988) found that pelvic pitting occurs in loosely articulated pelvic bones which allow too much flexibility, increasing the risk of trauma to the pubic symphysis. Females tend to have broader and more flexible hips that may attribute to more frequent cases of pelvic pitting. Anderson also adds that certain activities may factor into increasing the presence and severity of pits, these include; occupation involved with heavy and frequent strain, childbirth, chronic obesity, habitual squatting, and trauma. J3.8 was found to have a broad pelvis and given the location on the distal end of the pubic bone along with the high amount of stress on the body noted on the rest of the skeleton, this individual probably suffered from either

direct trauma to the bone or from muscular strain that tore the ligaments of which may be due to childbirth. It is also interesting to note that the only object recovered with this burial was found under the right pelvis, a wedge shaped stone tool.

The post-cranial skeleton was found in poor condition, especially the joint surfaces. Of those that were recovered the left navicular shows eburnation and perosity on the distal cuneiform joint and the distal phalanx of the big toe (side unknown) shows an increased bone growth on the plantar surface. The eburnation on the navicular would have caused discomfort and pain during locomotion with plantar surface bone growth on the big toe suggestive of increased pressure on the foot that correlates with the navicular eburnation. On the hands, the left capitate at the scaphoid articulation shows a small remodeled area and the left third metacarpel at the styloid process also shows a remodeled surface. These are bones in the wrist indicating that the left wrist was stressed while on the right side, the trapezium at the first metacarpel joint surface (for thumb) exhibits lipping. One can infer that this individual was engaged in habitual movement of the left wrist and right thumb as evident from bone wear.

Osteophytosis of the vertebrae were also noted. C2 (neck) shows porosity and localized osteoarthritis on the anterior surface, right side. C5 has increased perosity and lipping on the anterior surface with a depression on the vertebral surface similar to shmorles node. One thoracic vertebra shows shmorles nodes on the inferior side. T1 has lipping and perosity on the posterior surface, with a number of the vertebral bodies exhibiting perosity around the borders. One lumbar shows trauma, compression on the right anterior surface with osteophytes on the inferior border. This has caused the vertebral body when viewed with the inferior end up to have a flattened. Compressed vertebrae are a result of either trauma to the spine or increased stress on the back.

#### 13.4 Musculo-Skeletal Markers (MSM)

The right ulna has a prounounced ulnar tuberosity that correlates with the right radial tuberosity. These areas are the insertion points of the brachialis muscle that flexes the forearm. The supinator muscle areas were also noted as robust, with this muscle responsible for supinating the forearm. Muscular skeletal markers support the bone wear found on the wrist and thumb.

#### 13.5 Dental

The teeth are in excellent condition showing low to medium calculus buildup and medium periodontal disease. Enamel hypoplasia was noted on the majority of the teeth, most sever on the mandibular molars and premolars. Enamel hypoplasia is a nonspecific disease often attributed to nutritional stress during tooth development. Dental wear is minimal with all first molars showing the greatest wear. The right mandibular premolars, canine, and second incisor show wear on the buccal surface associated with activity external to chewing and may be an occupational stress such as using the teeth for weaving. The aveolar bone around the right third molar on the maxilla shows infection, with M3 in the process of being lost at time of death.

#### 13.6 Age

Age was estimated using Miles attrition scheme (1962) with a range of 28-35 years of age, ectocranial vault suture closure (Meindl and lovejoy 1985) at 24-75 (mean age 45.2), ectocranial lateral-anterior suture closure (Meindl and lovejoy 1985) at 25-49 (mean age 36.2), pubic symphysis (Suchey and Brooks) at advanced stage 4 within age range 26-70 (mean age 38.2), auricular surface (Lovejoy et al 1985) between phase 5-6 with an age range of 40-49. Total methods give an average age range of 28.6- 56 years however based on the attrition which shows little wear on the teeth, I am inclined to favor the attrition scheme method as a more probable indicator of age.

#### 13.7 Conclusion

Skeletal analysis estimates J3.8 as a petite female aged 28-35 years at time of death with little tooth wear and several areas of skeletal stress and trauma. The pubis shows pitting and an indentation possibly from pelvic trauma associated with strain. The cervical vertebrae (neck) show osteoarthritis particularly on the anterior inferior surface with evidence of herniated disk cartilage on one thoracic vertebra (presence of Schmorl's nodes). In the lumbar region, one vertebra shows possible trauma to the right side of the spine (anterior) that compressed the vertebra (photo taken). Skeletal stress was also noted on the right hand where the thumb metacarpel articulates with the wrist and the left wrist. This coincides with muscle use of the right forearm that suggests activities involving the wrist and forearm. The left foot also shows stress in the form of frequent foot use that caused cartilage around the navicular to degenerate causing bone friction and eburnation. Comparing this skeleton with later Khabur A16.31, also a female aged 26-35 shows that A16.31 also contains osteophytosis of the neck but not as severe as J3.8 while no other bones showed osteoarthritic changes. Two skeletons from an earlier time period, tentatively dated as Early Dynastic in area F2 show a high degree of premature osteoarthritis of the joint surfaces on young individuals aged between 16-26 years and suggests that occupational stress was responsible.

## 14 Obsidian research (E. E. Frahm)

Ellery E. Frahm conducted a brief survey of all the obsidian flakes stored in our storage, with a view towards a fuller study on sourcing some representative samples. He selected 40 samples, for which we will ask an export permit to conduct specialized analysis in the laboratory of the University of Minnesota, St. Paul.

Sourcing (or provenancing) of obsidian requires an analytical laboratory that has large, immobile equipment and a reference collection of obsidian from possible sources. Portable analytical equipment is not yet reliable for obsidian sourcing. The laboratory overseen by Ellery Frahm at the University of Minnesota has the equipment and the reference collection needed for sourcing obsidian from Mozan.

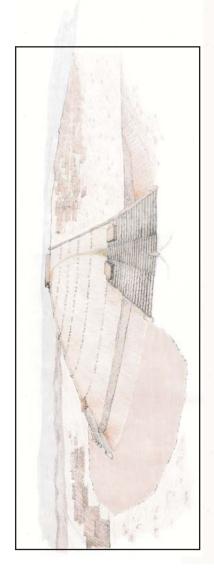
The entire Mozan lithic collection was examined by him, including approximately 600 obsidian pieces, so that he was familiar with flaked-stone tools found on the tell. After the first examination of all the samples, he devised a set of strict selection criteria for choosing samples to request for export:

## Selected samples cannot:

- be recognizable as a tool (includes projectile points, blades, bladelets, borers, scrapers, knives, celts, notches, deticulates, trapezes, burins, and choppers).
- have a cross section that is typical of the above tools, especially blades.
- be a core or pieces that refit to form a core (possible cores were examined for features such as striking platforms and negatives of bulbs of percussion).
- be ground- or polished-stone (for example, no beads or drilled objects).
- have any apparent retouch (includes both the ventral and dorsal sides).

## Selected samples must:

- be either debris from tool making or some other unrecognizable fragment.
- be less than 2 cm in diameter, fitting the definition for chip debris (debris larger than 2 cm is classified as a chunk, and it is commonly assumed that most tool types require flakes larger than 2 cm in diameter).



On the left, the situation as we expected it at the beginning of the 2006 season.
Symmetry seemed to require a mirror image extension of the staircase to the east (right).
But excavations in J4 did not show any trace of an eastern staircase.
We now project a situtation as indicated below, although this, too, will have to be verified by future excavations.

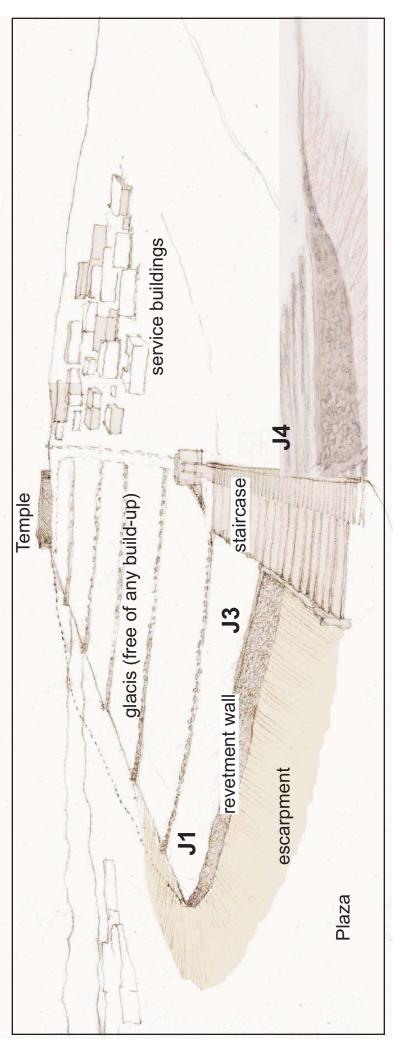


Fig. 1. General overview of the Plaza (JP) andthe Temple Terrace (BT) as projected for the end of the third millennium, showing excavation areas in 2006 and the terminology used in describing the structural components of the complex

Drawings P. Pesaresi, adapted.

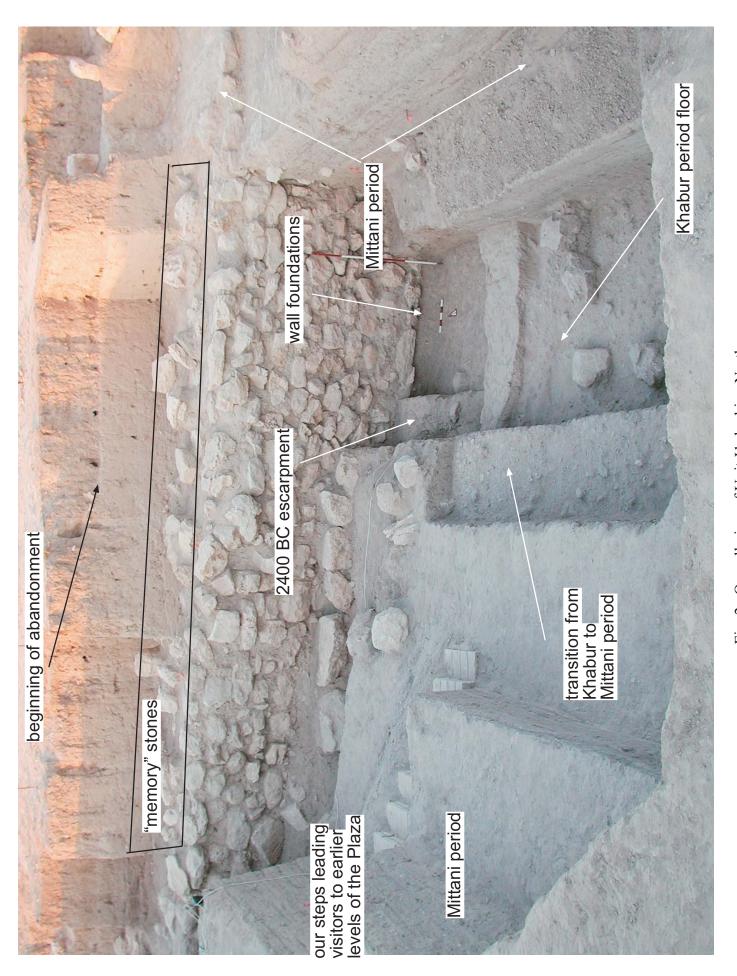


Fig. 2. Overall view of Unit J1, looking North.

Photo V1941118, D. Mustafa. The Khabur period floor is visible in the foreground (see Fig. 4), the wall bend (see Fig.3) is off to the left.

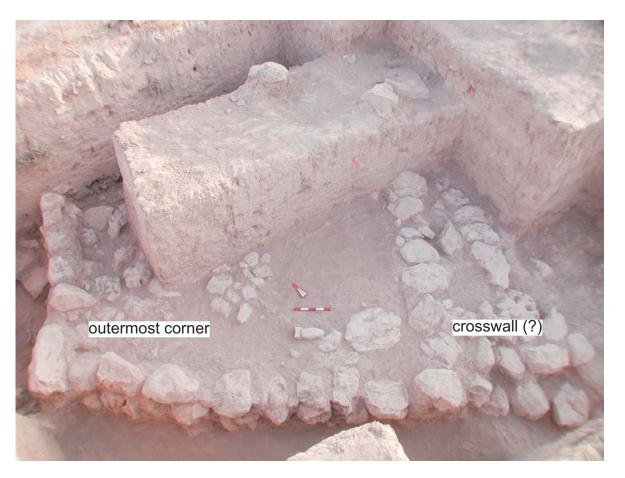


Fig. 3

Wall bend in J1, looking NE.

Photo V19d1106 D. Mustafa.

On the left, the outer corner of the revetment wall. To the right, an inside crosswall (or the corner of an earlier phase of the wall?)

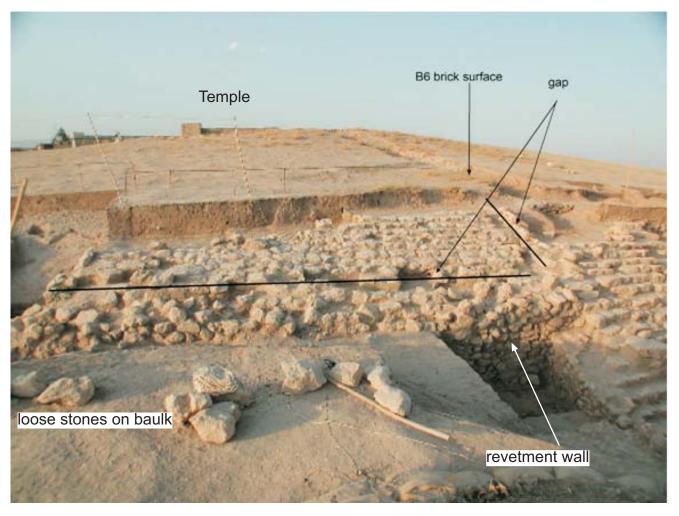


Fig. 4

The Khabur period floor in J1, looking North.

Photo V19d1116, D. Mustafa.

This floors, with a large number of embedded sherds and bones, marks a sharp temporal boundary: it is the earliest Plaza floor we have encountered so far, and it barely covers the top of the escarpment.



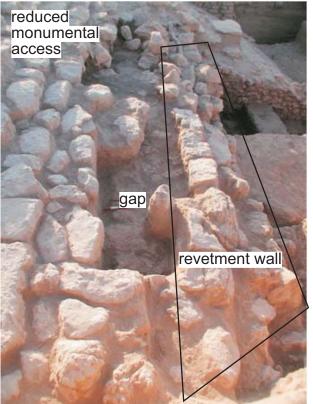


Fig. 5

Reduced monumental access of the late MIttani period, looking north.

Photo V19p1008, G. Buccellati

Fig. 6

Same looking east.

Photo V19d2250, D. Mustafa.

The gap shows the surface of the original (third millennium) glacis, which was covered by the sloping tone surface in the Mittani period. It is presumable that this occurred in the later phase (6b), when the revetment wall was no longer visible because of the accumulations that came to abut it following the Khabur period.



Fig. 7 Wall blocking the top of the staircase (photo V19d3035, D.Mustafa)



Fig. 8 "Memory stones" in J3 resting above top of revetment wall (photo V19d2377 D. Mustafa)

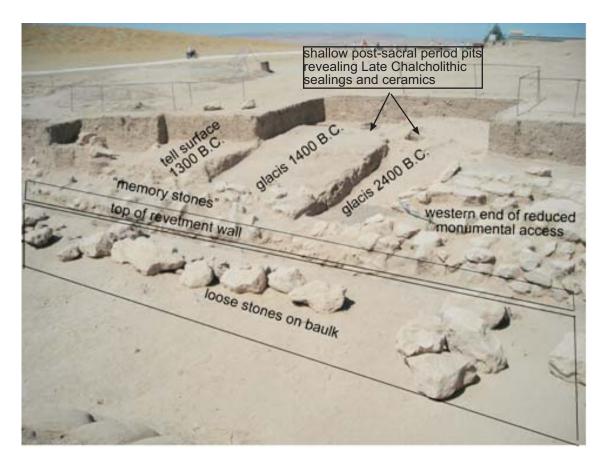


Fig. 9 Overall view of J3, showing the succession of sloping surfaces.

Photo V19d2303, J. L. Walker.

Final situation at the end of the 2006 season. The latest slope overlays overlays by very little the original glacis, which is some 1000 years earlier. In turn, the shallow pits dug in later times reveal material earlier by another millennium.

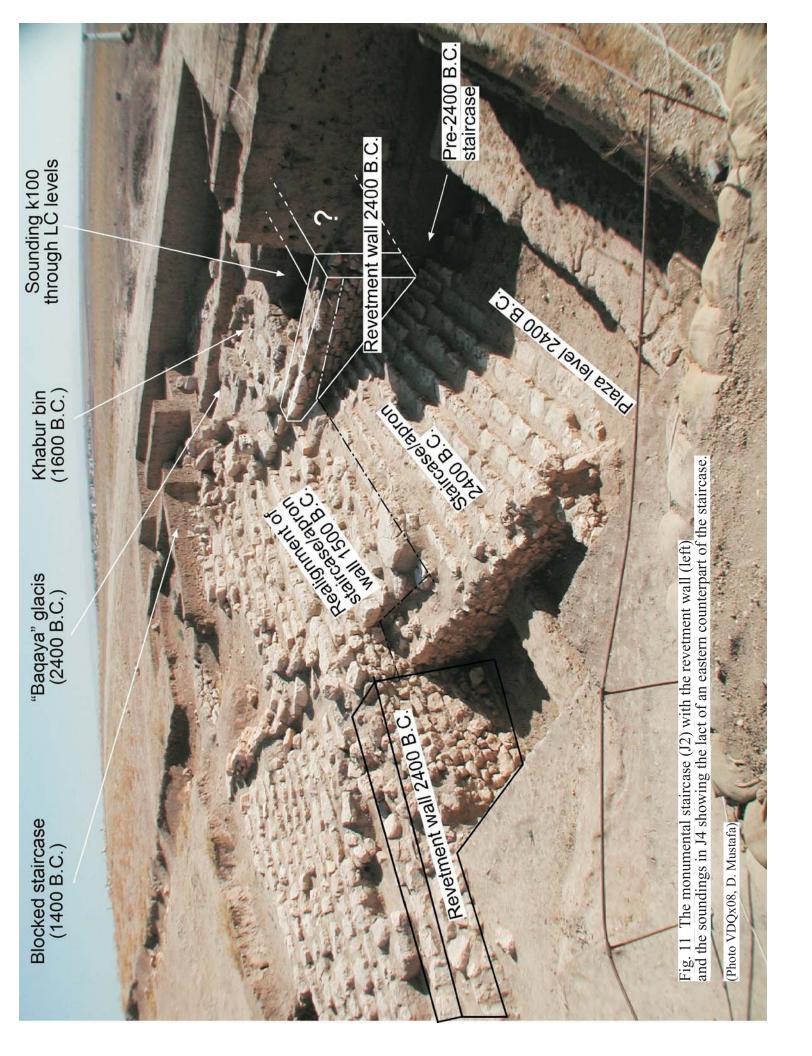


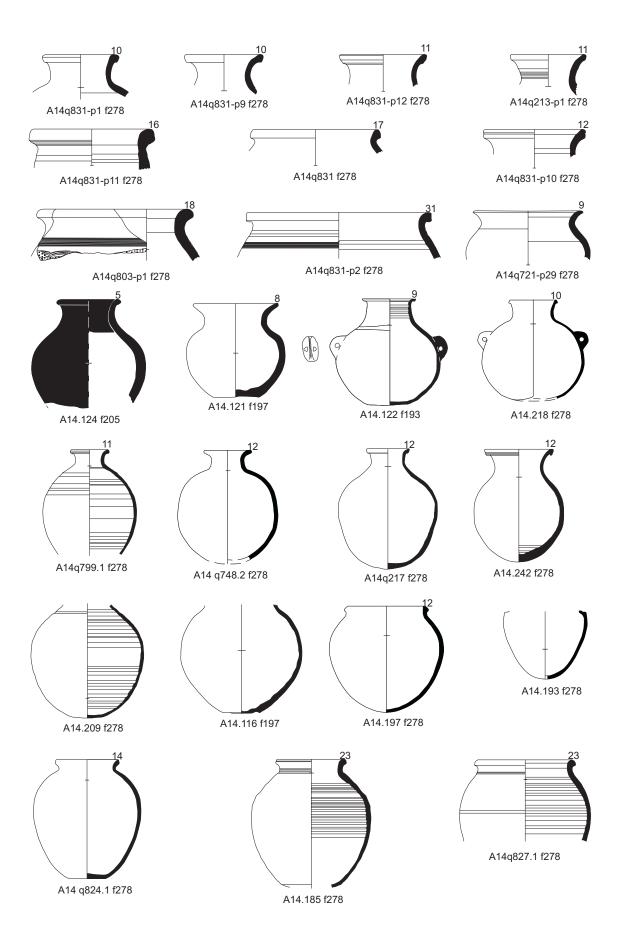
## Fig. 10

"Memory" stones in J3, with the latest mud glacis behind them.

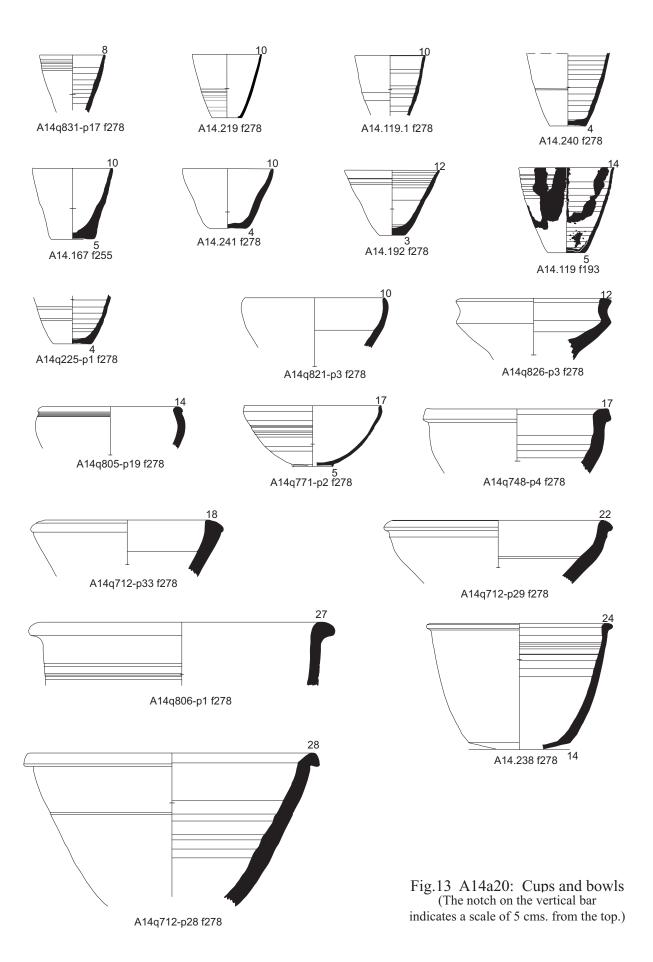
Photo V19d2250, D. Mustafa.

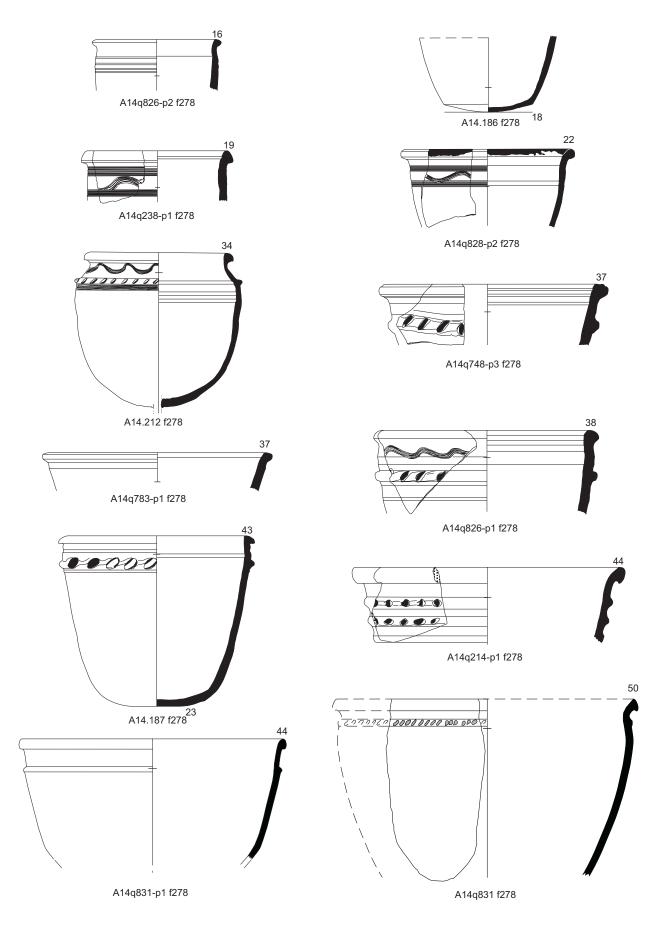
The stones are as if a hinge between the "Plaza" and the glacis. We call them "memory" stones because they are all that is left serving the same ideological function as the original revetment wall.



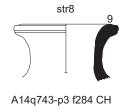


 $Fig. 12\ A14a20;\ Jars$  (The notch on the vertical bar indicates a scale of 5 cms. from the top.)





 $Fig. 14\ A14a20:\ Deep\ bowls$  (The notch on the vertical bar indicates a scale of 5 cms. from the top.)



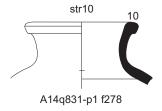
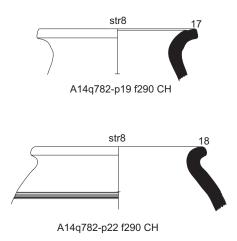
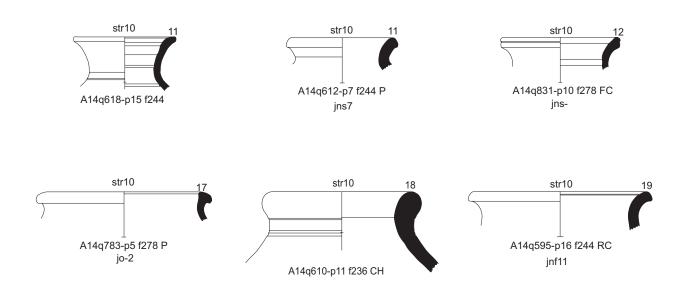
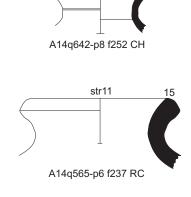


Fig.15 A14 various strata: Small jars(The notch on the vertical bar indicates a scale of 5 cms. from the top.)

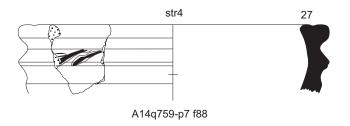


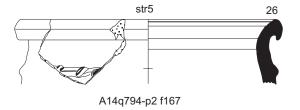


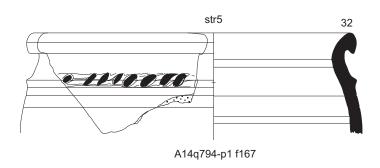


str11

Fig. 16 A14 various strata: Medium jars(The notch on the vertical bar indicates a scale of 5 cms. from the top.)







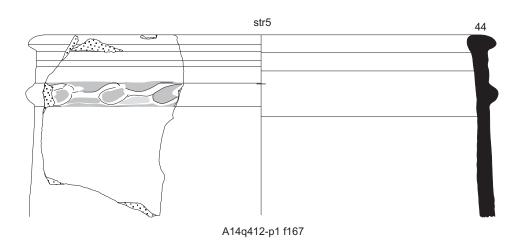
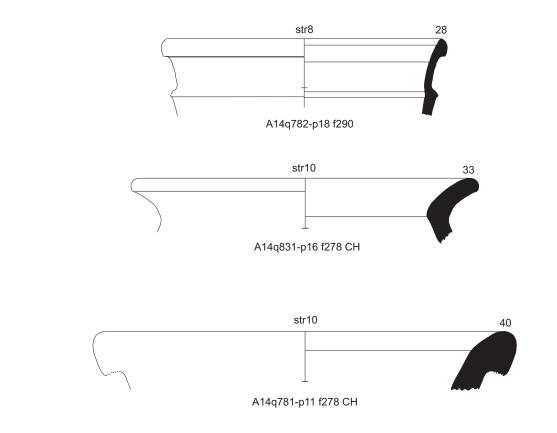


Fig.17 A14 various strata: Large jars (1) (The notch on the vertical bar indicates a scale of 5 cms. from the top.)



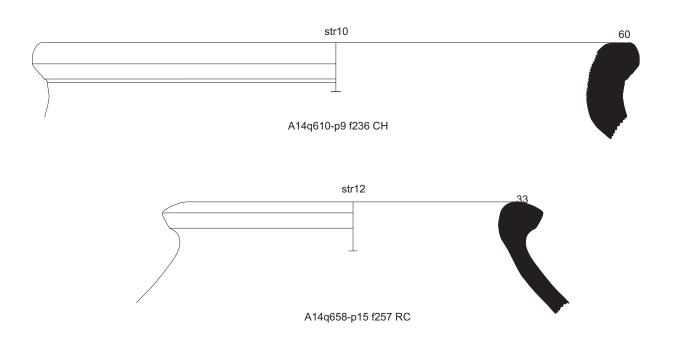


Fig.18 A14 various strata: Large jars (2) (The notch on the vertical bar indicates a scale of 5 cms. from the top.)

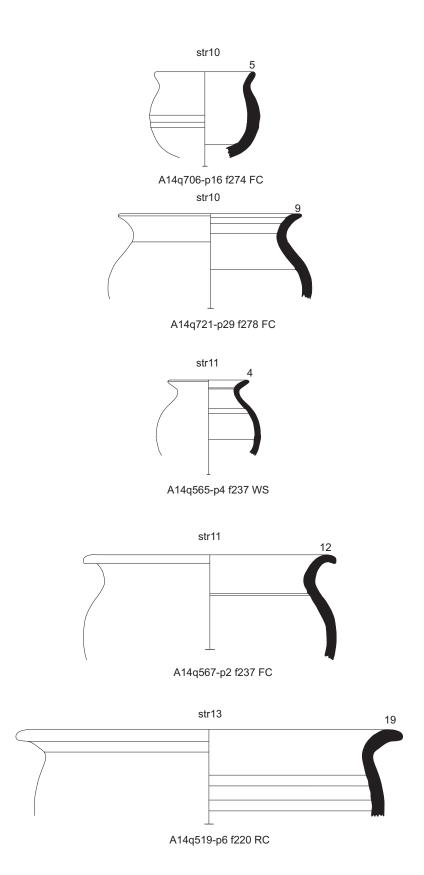
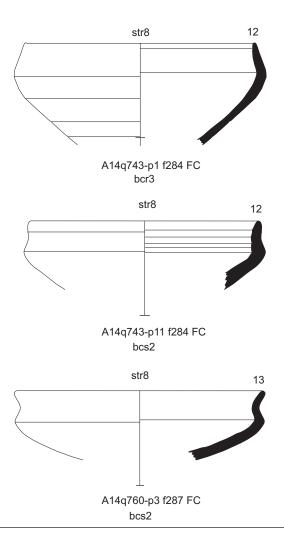


Fig. 19 A14 phase 3: Flaring rim pots (The notch on the vertical bar indicates a scale of 5 cms. from the top.)



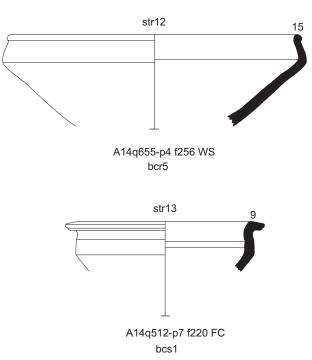
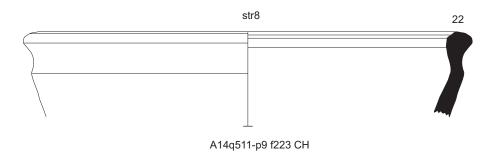
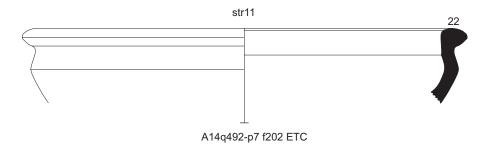
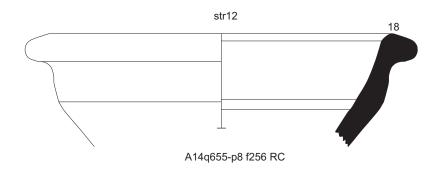


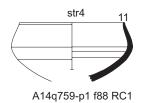
Fig.20 A14 various strata: Carinated medium and small bowls (The notch on the vertical bar indicates a scale of 5 cms. from the top.)

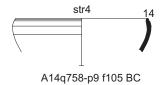


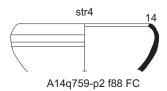


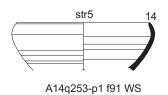


 $Fig. 21\ A14\ various\ strata:\ Carinated\ large\ bowls\ (The\ notch\ on\ the\ vertical\ bar\ indicates\ a\ scale\ of\ 5\ cms.\ from\ the\ top.)$ 

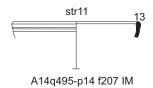


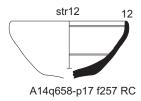




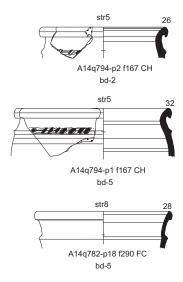








 $Fig. 21\ A14\ various\ strata\hbox{:}\ Round\ sided\ medium\ jars\ (The\ notch\ on\ the\ vertical\ bar\ indicates\ a\ scale\ of\ 5\ cms.\ from\ the\ top.)$ 



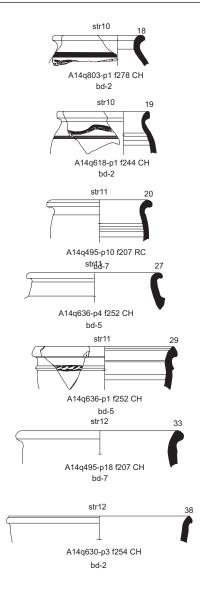


Fig. 23 A14 various strata: Deep bowls with restriction below rim (1) (The notch on the vertical bar indicates a scale of 5 cms. from the top.)

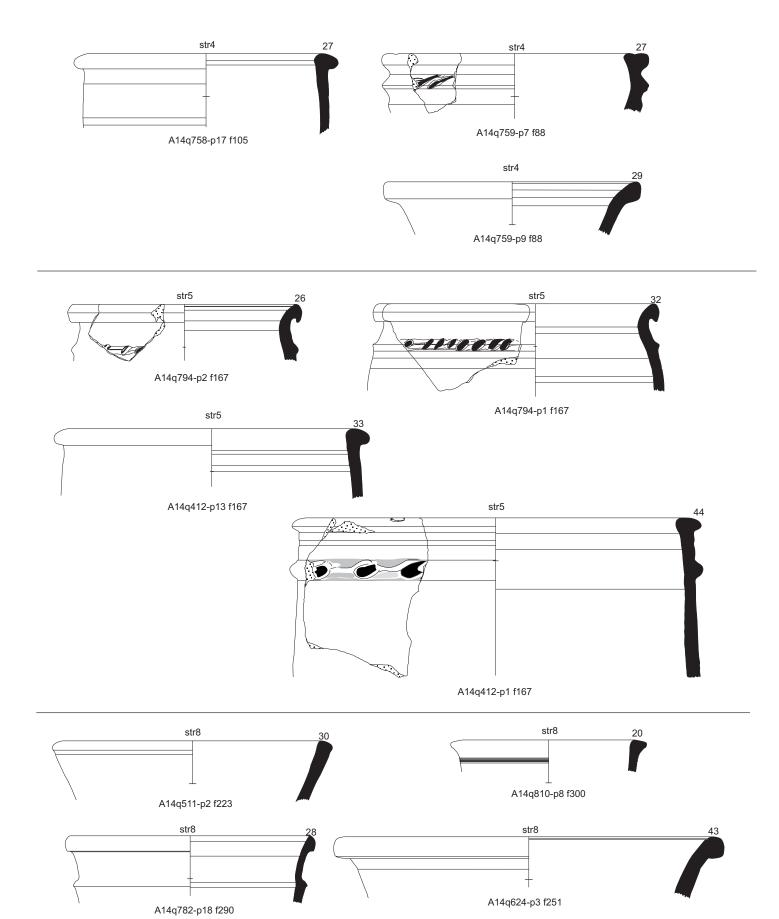


Fig.24 A14 various strata: Deep and straight sided bowls (The notch on the vertical bar indicates a scale of 5 cms. from the top.)

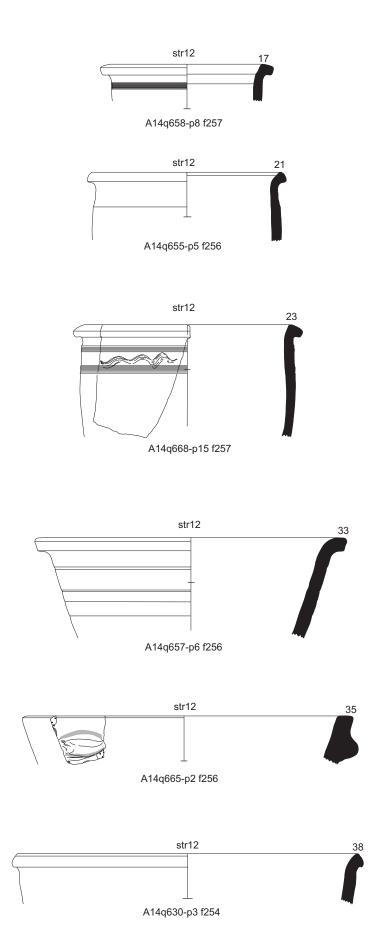


Fig. 25 A14 stratum 12: Deep and straight sided bowls (The notch on the vertical bar indicates a scale of 5 cms. from the top.)

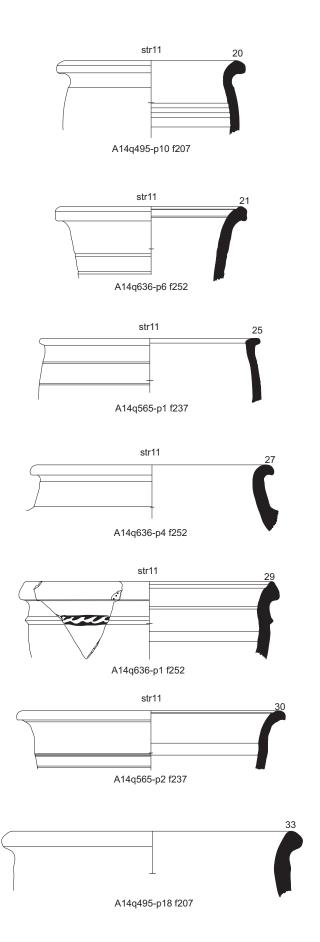


Fig. 26 A14 stratum 11: Deep and straight sided bowls (The notch on the vertical bar indicates a scale of 5 cms. from the top.)

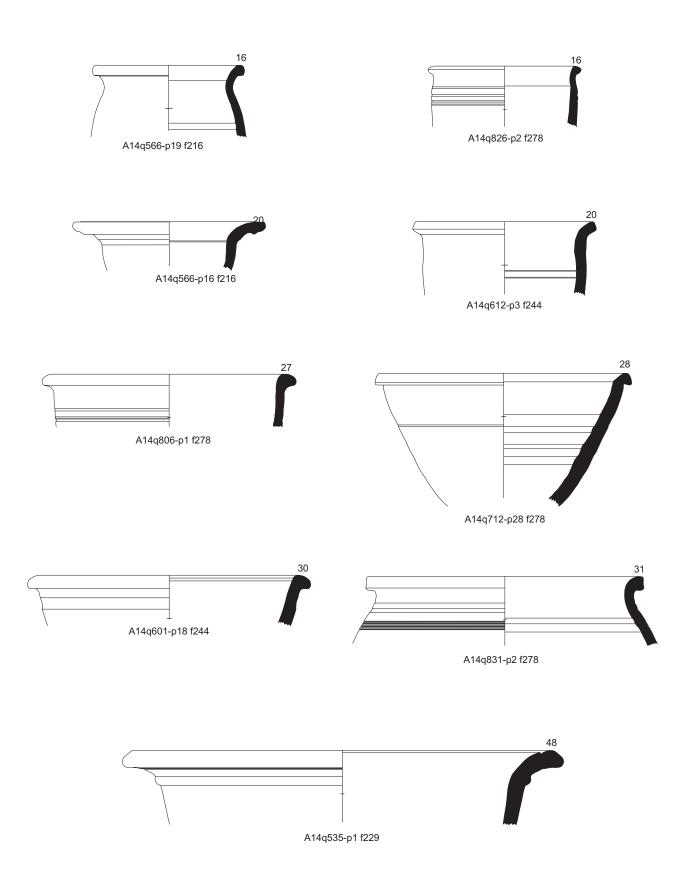


Fig. 27 A14 stratum 10: Deep and straight sided bowls (1) (The notch on the vertical bar indicates a scale of 5 cms. from the top.)

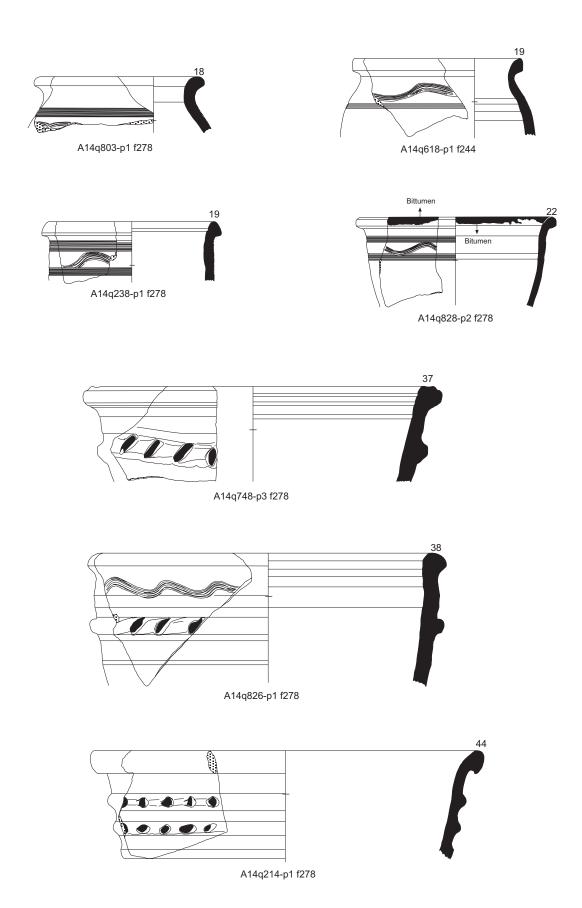
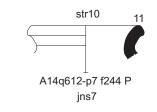
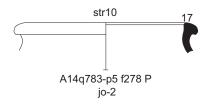
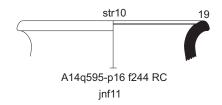
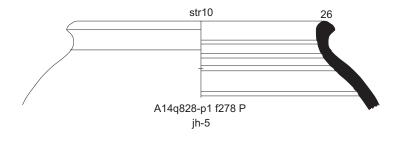


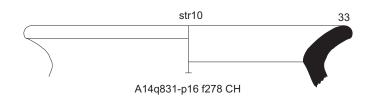
Fig. 28 A14 stratum 10: Deep and straight sided bowls (2) (The notch on the vertical bar indicates a scale of 5 cms. from the top.)











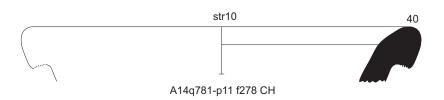
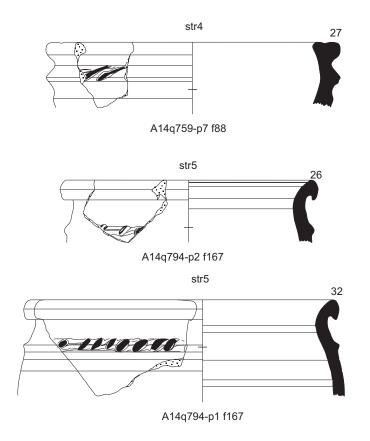


Fig. 29 A14 stratum 10: Jars (The notch on the vertical bar indicates a scale of 5 cms. from the top.)



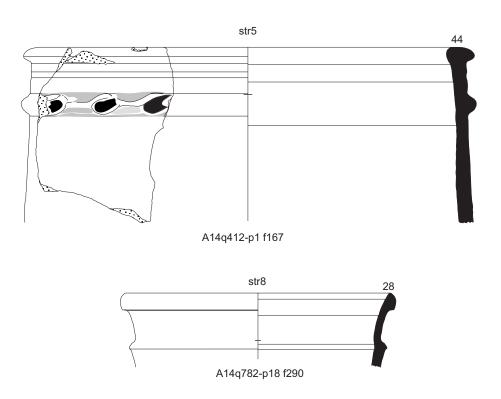


Fig. 30 A14 phase 4: Deep straight sided bowls (The notch on the vertical bar indicates a scale of 5 cms. from the top.)

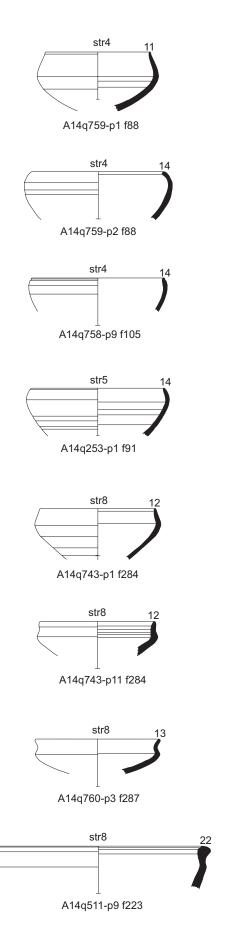


Fig. 31 A14 phase 4: Small bowls by strata (The notch on the vertical bar indicates a scale of 5 cms. from the top.)

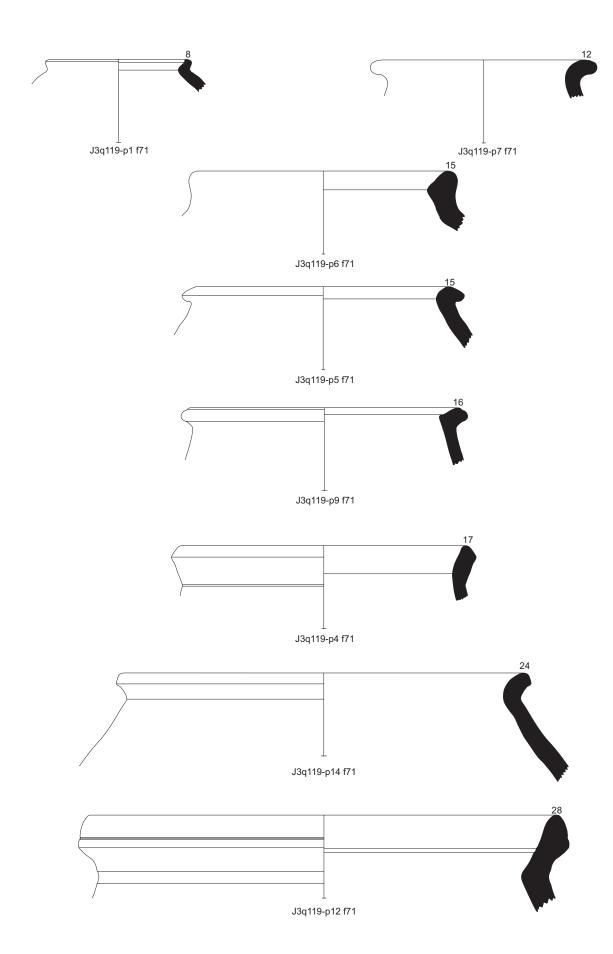


Fig. 32 Late Chalcolithic Coarse Jars (5 cms indicated by mark on central vertical line)

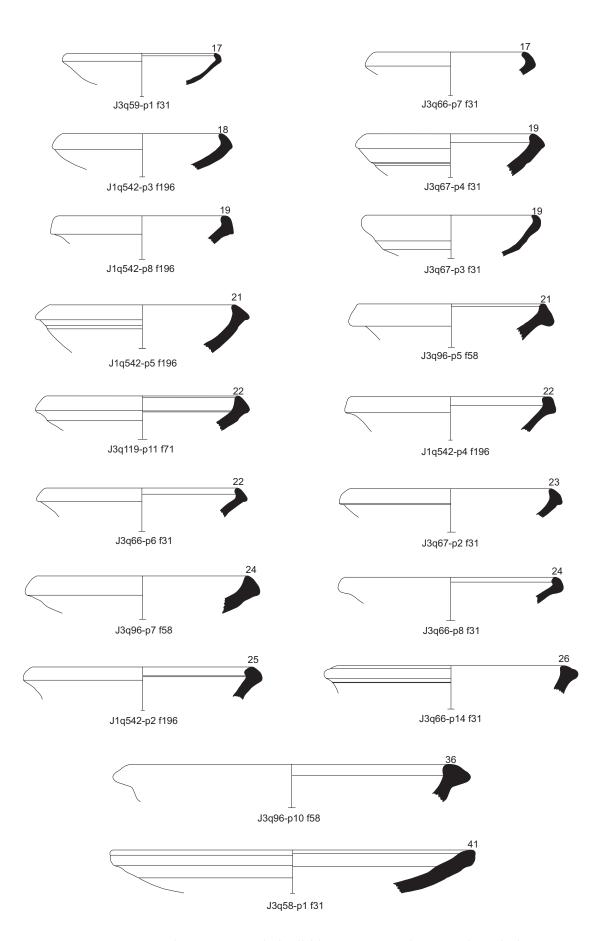


Fig. 33 Late Chalcolithic "Hammer Rim" Bowls and Platter (5 cms indicated by mark on central vertical line)

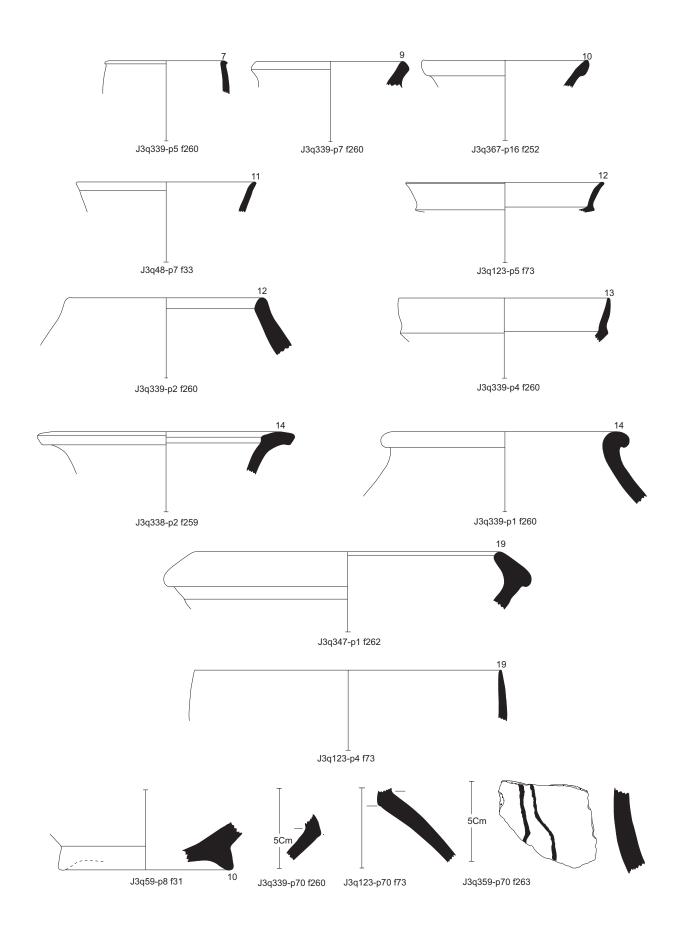


Fig. 34 Late Chalcolithic Various Features - 1 (5 cms indicated by mark on central vertical line)

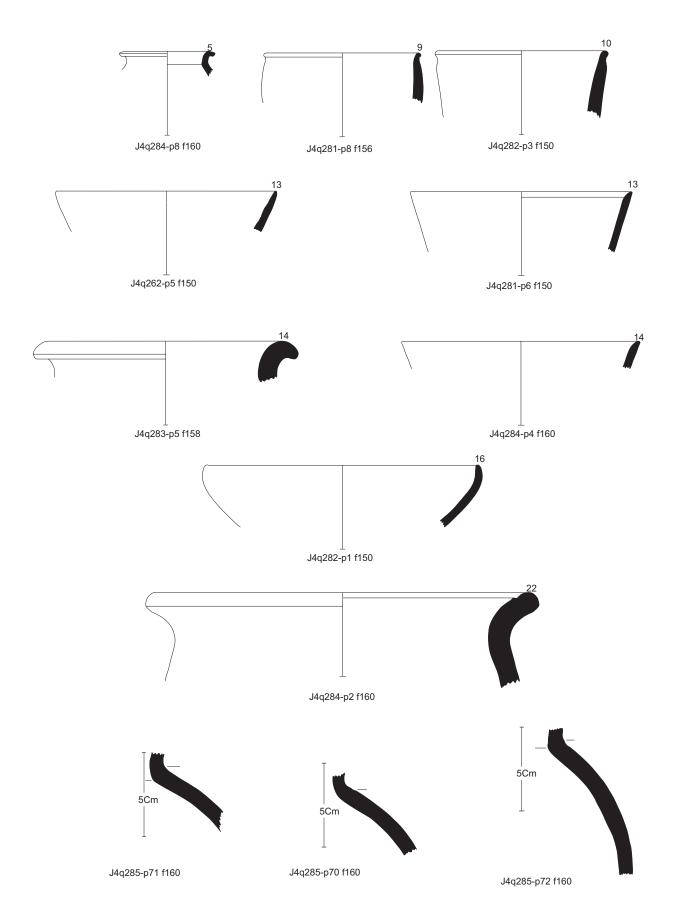


Fig. 35 Late Chalcolithic Various Features - 2 (5 cms indicated by mark on central vertical line)



a. J1.33 (photo V19d1521 D. Mustafa)



c. Z1.544 (photo VDQ912 93 G. Buccellati)



b. J1.40 (photo VDQx08 9406 D. Mustafa)



d. J3.14 (photo VDQx08 0641 D. Mustafa)

Fig. 36

a-b J1 Mittani period seals
c fragment of Old Babylonian cuneiform tablet
d Late Chalcolithic sealing

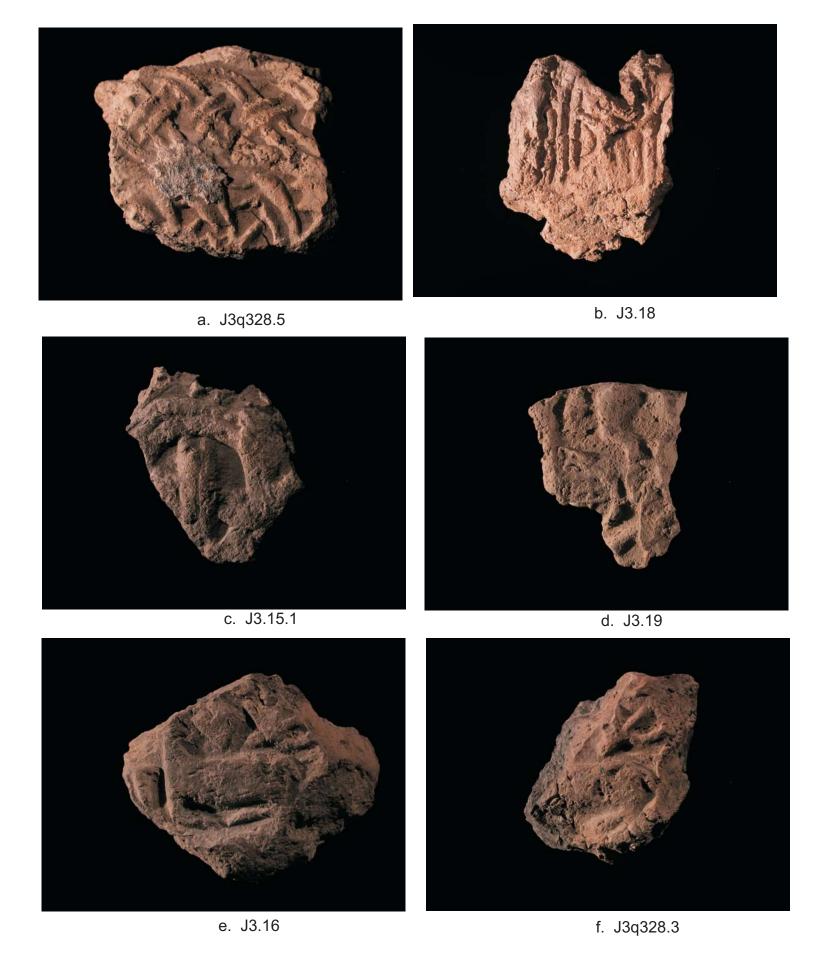


Fig. 37 J3 Late Chalcolithic Sealings



a J3.20.1 (photo V19d2813 D. Mustafa)



b J4q16.1 (drawing L. Joel)



Fig. 38 Other objects a A vitreous paste pendant b A clay plaque

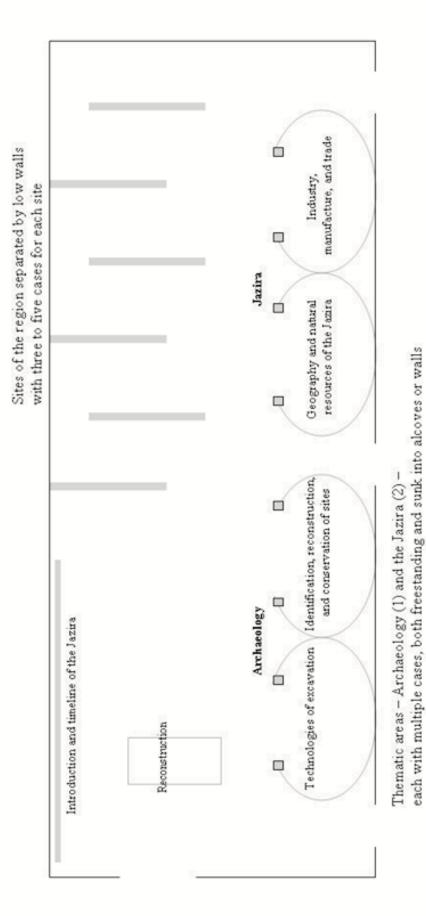


Fig. 39 Proposed exhibit layout for Hassaka Museum

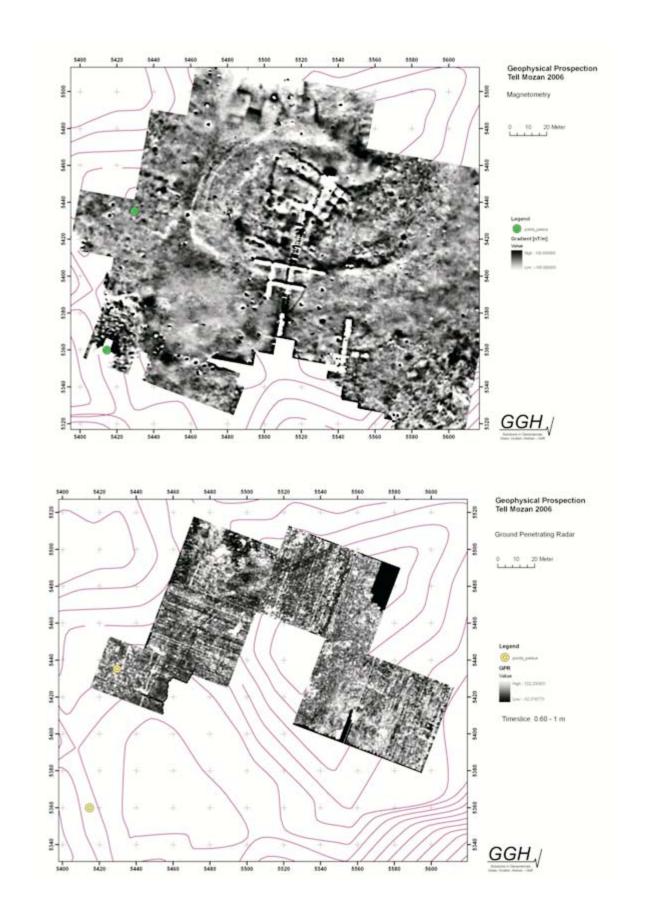


Fig. 40 Geo-physical survey: magneotmetry and ground-penetrating radar (separate)



Fig. 41 Geo-physical survey: magneotmetry and ground-penetrating radar (overlaid)

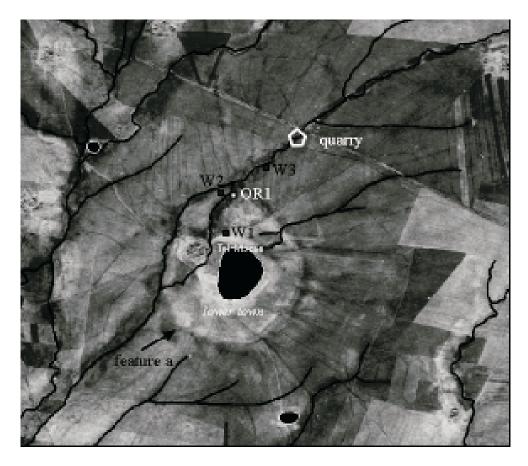


Figure 42a.

CORONA

satellite image of tell Mozan from the sixties with test trench OR1, wadi's and other possible streams indicated.

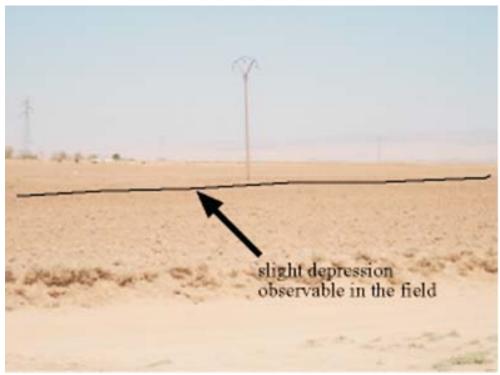


Figure 42b.
Slight depression indicative of infilled wadi bed, which was active 25 years ago.

Fig. 42 Sounding OR1 (1)



Figure 43a.
Gravels
at bottom
of water pit
indicative
of higher
former
stream velocities.





Figure 43b. Left: pit OR1. Right: pit OR1 with detail of gravels at bottom of section.

Fig. 43 Sounding OR1 (2)



Figure 44a.
Depression
south of
the southern
lower town.

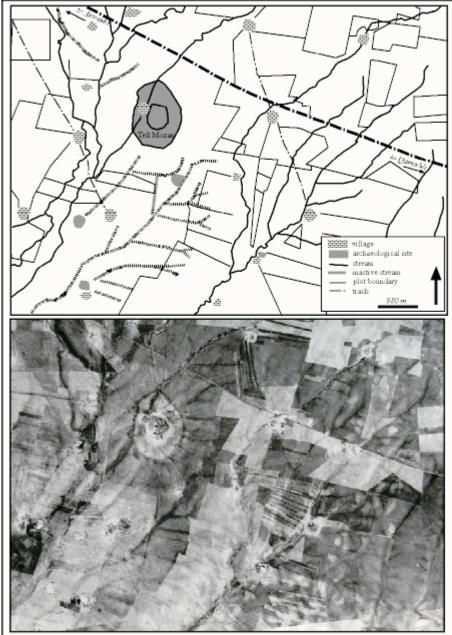


Figure 44b.
Map and
CORONA
satellite image
of the sixties
of the wider 1
andscape
context
of Tell Mozan.

Fig. 44 Sounding OR1 (3)

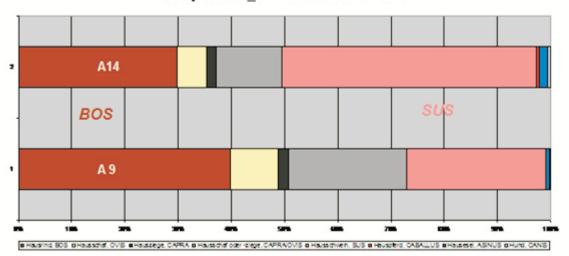


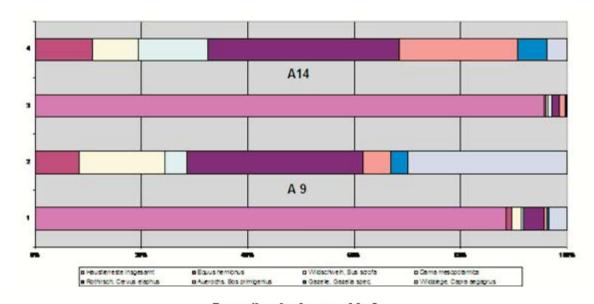




Fig. 45 Animal bones from J1 and J4







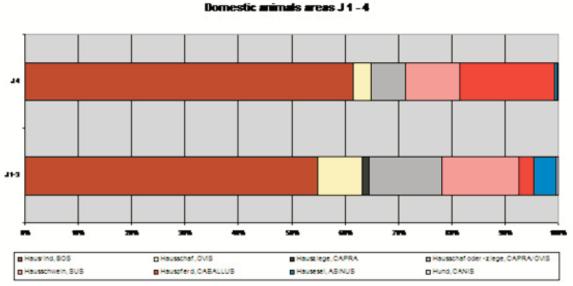


Fig. 46 Paleozoological analysis comparing A14 with J1-J4

| Temple Terrace and Plaza (Areas JP-BT)   Palace (Area AA)   Other areas  | nori                                     | zon         |                         |     |        |            |      |      |             |  |  |                |
|--|--|-------------|-------------------------|-----|--------|------------|------|------|-------------|--|--|----------------|
| WILLIAM TO THE PROPERTY OF THE | Mesop.                                   | Khabur      | BC                      | pha | .se    | stratun    |      | atum |             | Palace (Area AA)   | other areas  |                |
| The property of the part of th |  |             |                         |     |        |            |      | 1    |             | surface wash and erosion                                       | ·  |                |
| The part of an electron stones, gully wash, laminations modern burials    The part of the  |  |             |                         |     | п      |            |      | 2    |             | sod layer, topsoil   | sod layer, topsoil   |                |
| The part of an electron stones, gully wash, laminations modern burials    The part of the  |  |             |                         | 8   | Moza   |            |      | 3    |             | disturbed upper layer  | disturbed upepr layer  |                |
| The state of the second process of the state of the state of the second part of the secon |  |             |                         |     |        |            |      |      |             |  |  |                |
| The state of the s |  |             |                         |     |        |            |      | 5    |             |  | modern burials   |                |
| The state of the s |  | rari I      | 275                     |     | ıcral  | n- sacral  |      | 6    |             | _  | scattered occupation: tannurs  |                |
| The state of the s | W  | d-N         | 7-12                    | 7   | s-u    |            |      | 7    |             | layers covering Terrace  |  |                |
| The state of the   |  | Adac        | 130                     |     | no     |            |      |      |             | erosion of Terrace surface                                     |  |                |
| The store is to be accumulation of Plaza: service structures and blocking of staircase is tructures. Are teatining wall be accumulation within slocking of staircase is tructures. Are teatining wall contraction of Plaza: service structures. Are teatining wall is a gradual accumulations within slocking of staircase is tructures. Are teatining wall is a gradual accumulation within houses against upper wall is a gradual accumulation within houses against upper wall is a gradual accumulation within houses against upper wall is a gradual accumulation within houses against upper wall is a gradual accumulation within houses against upper wall is a gradual accumulation within houses against upper wall is a gradual accumulation within houses against upper wall is a gradual accumulation within houses against upper wall is a gradual accumulation within houses against upper wall is a gradual accumulation within houses against upper wall is a gradual accumulation within houses against upper wall is a gradual accumulation within houses against upper wall is a gradual accumulation within houses against lower wall is against lower wall is a gradual accumulation within houses against lower wall is against lower wall is a gradual accumulation wall is a gradual accumulation within houses against lower wall is a gradual accumulation wall is a gradual accumulation within houses against lower wall is a gradual accumulation within houses against lower wall is a gradual accumulation within houses against lower wall is a gradual accumulation within houses accumulation within houses against lower wall is a gradual accumulation within houses accumulation within houses against lower wall is a gradual accumulation within houses accumulation within h |  |             |                         |     |        |            |      | 10   |             | abandonment  | abandonment  |                |
| The state of the   |  | ratta       | 1335                    |     |        |            | only | 11   |             | •  |  | A2 structures? |
| The state of the   |  | Tushi       | -59                     |     |        |            |      |      |             |  |  |                |
| Table   Tabl   |  |             | 13                      |     |        |            |      |      |             |  |  |                |
| Table   Tabl   |  |             |                         |     |        |            |      |      | C           |  | repairing partitioning   |                |
| Table   Tabl   | an                                       |             |                         |     |        | 6b         | rrac |      |             |  | contraction of Plaza: service  | BH houses? A9  |
| 6a   Famural stone pavement to the east  |  |             |                         |     |        |            | Le   | 12   |             | blocking of staircase  | structures & retaining wall  | BH houses? A9  |
| 6a   Famural stone pavement to the east  | syri                                     | аП          | 08                      |     |        |            | Te   | 12   | a           | blocking of staircase  |  |                |
| 6a   Famural stone pavement to the east  | -Assyri                                  | tarna II    | 1380                    |     |        |            | Te   | 12   | _           | blocking of staircase  | [abandonment ?]  |                |
| 6a   Famural stone pavement to the east  | ddle-Assyri                              | Šuttarna II | ~ 1380                  |     |        |            | Te   | 12   | b           | blocking of staircase  | [abandonment ?] later accumulations within s12c  |                |
| 6a   Famural stone pavement to the east  | Middle-Assyria                           | Šuttarna II | ~ 1380                  |     |        |            | Te   | 12   | b<br>c      | blocking of staircase  | [abandonment ?] later accumulations within s12c storehouse (walls, first floors) and of room with burnt basin in A17   |                |
| 6a   Famural stone pavement to the east  | an / Middle-Assyri                       | Šuttarna II | ~ 1380                  |     | al     |            | Te   | 12   | b<br>c      | blocking of staircase  | [abandonment ?] later accumulations within s12c storehouse (walls, first floors) and of room with burnt basin in A17   |                |
| 6a   Famural stone pavement to the east  | lbylonian / Middle-Assyri                | Šuttarna II | ~ 1380                  | 6   | sacral |            | Te   |      | b<br>c      | gradual accumulations  | [abandonment ?] later accumulations within s12c storehouse (walls, first floors) and of room with burnt basin in A17 north-south retaining wall  |                |
| 14 against lower wall  | ddle Babylonian / Middle-Assyri.         |             | ~ (;                    | 6   | sacral |            |      |      | b<br>c<br>d | gradual accumulations  | [abandonment ?] later accumulations within s12c storehouse (walls, first floors) and of room with burnt basin in A17 north-south retaining wall  (missing) structures to the west  |                |
| 14 against lower wall  | Early Middle Babylonian / Middle-Assyri. |             | ~ (;                    | 6   | sacral |            |      |      | b<br>c<br>d | gradual accumulations  | [abandonment ?] later accumulations within s12c storehouse (walls, first floors) and of room with burnt basin in A17 north-south retaining wall  (missing) structures to the west  [collapse and erosion of houses?] [accumulation within houses] large extramural dumps to the east   |                |
| 14 against lower wall  | Early Middle Babylonian / Middle-Assyri. |             | 1450 (or $\sim$ 1420 ?) | 6   | sacral | 6a         |      |      | b<br>c<br>d | gradual accumulations  | [abandonment ?] later accumulations within s12c storehouse (walls, first floors) and of room with burnt basin in A17 north-south retaining wall  (missing) structures to the west  [collapse and erosion of houses?] [accumulation within houses] large extramural dumps to the east (A17-A18) extramural stone pavement to the east   |                |
| a re-use of phase 5 walls (A17)  | Early Middle Babylonian / Middle-Assyri. |             | 1450 (or $\sim$ 1420 ?) | 6   | sacral | <b>6</b> a |      |      | b<br>c<br>d | gradual accumulations  | [abandonment ?] later accumulations within s12c storehouse (walls, first floors) and of room with burnt basin in A17 north-south retaining wall  (missing) structures to the west  [collapse and erosion of houses?] [accumulation within houses] large extramural dumps to the east (A17-A18) extramural stone pavement to the east [structural buildup of houses:                        |                |
|  | Early Middle Babylonian / Middle-Assyri. | Sauštatar   | ~ 1450 (or ~ 1420?)     | 6   | sacral | <b>6</b> a |      | 13   | b<br>c<br>d | gradual accumulations against upper wall gradual accumulations | [abandonment ?] later accumulations within s12c storehouse (walls, first floors) and of room with burnt basin in A17 north-south retaining wall  (missing) structures to the west  [collapse and erosion of houses?] [accumulation within houses] large extramural dumps to the east (A17-A18) extramural stone pavement to the east [structural buildup of houses: wallsand first floors] |                |

 $\label{eq:Table 1} Table \ 1$  Strata sequence JPA correlated to strata sequence AAF (R202 - Phases 6-8

stratum 11 ca. 1300 B.C. memory stones loss of 000000 monumental access, only memory stones as hinge between phase 6b Plaza and slope Terrace ("Terrace") only, with memory of boundary between stratum 12 Plaza and ca. 1400 B.C. Terrace reduced memory reduced monumental monumental stones access access, memory stones and partial . staircase stratum 13 ca. 1450 B.C. accumulations against upper part of wall, which is no longer visible phase 6a Terrace with wall and staircase stratum 14 ca. 1500 B.C. accumulations against lower part of wall phase 4 ca. 1900 B.C. Terrace with escarpment, wall and staircase accumulations grow steadily in phase 5 (1900 - 1500 B.C.) and eventually cover the escarpment Table 2

Depositional history of Terrace and Plaza during the final period of sacral use

|       |               | 1592  | middle       | raid of Babylon by Muršili of Hatti: statues of Marduk |
|-------|---------------|-------|--------------|--|
|       | stratum<br>14 | 1531  | low          | and Sarpanitum of Babylon left in Khana – because of   |
|       |               |       |              | danger from Hurrian centers?                           |
|       |               |       |              |  |
|       |               | 1520  | Šuttarna     | date uncertain, he may be after Parattarna             |
|       |               |       |              |  |
|       |               | 1500  | Parattarna I | Idrimi of Alalakh ~ Mittani reaches the Mediterranean  |
| phase |               |       |              | control over Terqa ~ influence to the south            |
| 6a    |               |       |              |  |
|       |               | 1447  |              | Thutmosis III reaches Karkemish                        |
|       |               |       |              |  |
|       | stratum<br>13 | 1450  | Sauštatar    | Niqmepa of Alalakh ~ resumption of control to the west |
|       |               | or    |              | control over Ugarit and Kizzuwatna                     |
|       |               | 1420? |              | control of Išuwa ~ influence to the North              |
|       |               |       |              | kingdom of Arrapha (Nuzu) ~ influence to the east      |
|       |               |       |              | conquers Assur   |

|             |               | 1400  | Artatama I  | alliance with Thutmosis IV                          |
|-------------|---------------|-------|-------------|---|
|             | stratum<br>12 |       |             | Artatama's daughter goes married to Pharaoh         |
|             |               |       |             |   |
|             |               | 1380  | Šuttarna II | Šuttarna's daughter Gilu-Hepa marries Amehotep III  |
|             |               |       |             | Ištar /Šauška of Nineveh sent to Pharaoh            |
| nhaaa       |               |       |             |   |
| phase<br>6b |               | 1365- | Tušratta    | Tušratta's daughter Tadu-Hepa marries Amenhotep III |
|             |               | 1335  |             | Tušratta's letter in Hurrian found in Amarna        |
|             | stratum       |       |             |   |
|             | 11            |       | Šattiwaza   | vassal of Šuppiluliuma of Hatti                     |
|             |               |       |             |   |
|             |               | 1365- |             | Aššur-uballit                                       |
|             |               | 1330  |             |   |

| phase s10<br>7 s7<br>86 | 7- Adad-nirari I<br>5 |
|-------------------------|-----------------------|
|-------------------------|-----------------------|

Main criteria and presuppositions for linkage to stratigraphy:

- 1. political importance of Ta'idu and Wasshukanni, between which Urkesh is located, suggests that Urkesh retained some significance as a regional religious center
- 2. immediate superposition of Mittani strata above Khabur suggests that earliest Mittani levels must date to the very beginning of Mittani history
- 3. eventual loss of sacral aspect of Temple Terrace suggests that it coincides with the disappearance of Hurrian presence, hence the beginning of Assyrian rule

Table 3. Possible correlations of phases and strata to details of events in history