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Inhalt

Wilhelm, Gernot Nachruf Hans-Gustav Güterbock	5
de Martino, Stefano/Klengel, Horst Nachruf Fiorella Imparati	9
Wilhelm, Gernot Nachruf Cord Kühne	11
Miglus, Peter A. Assur – Frühjahrskampagne 2000	13
al-Hayani, Hafidh Hussain Aus den irakischen Grabungen in Assur 1999–2000. Spätassyrische Privathäuser in der Stadtmitte	55
Maul, Stefan M. Die Schriftfunde aus Assur von den Ausgrabungen der Deutschen Orient-Gesellschaft im Frühjahr 2000	65
Radner, Karen Die neuassyrischen Texte der Münchner Grabung in Assur 1990	101
Reade, Julian E. Das Kultrelief aus Assur : Glas, Ziegel, Zapfen und Wasser	105
Stiehler-Alegria, Gisela Das ‘mittelassyrische’ Rollsiegel VA 7736. Bemerkungen zur Klassifizierung eines Rollsiegels aus dem Vorderasiatischen Museum Berlin	113
Blocher, Felix/Machule, Dittmar/Werner, Peter Bericht über die Ausgrabung in Tall Munbāqa 1999	122
Buccellati, Giorgio/Kelly-Buccellati, Marilyn The Royal Palace of Urkesh. Report on the 12th Season at Tell Mozan/Urkesh : Excavation in Area AA, June–October 1999	133
Dohmann-Pfälzner, Heike/Pfälzner, Peter Ausgrabung der Deutschen Orient-Gesellschaft in der zentralen Oberstadt von Tall Mozan/Urkesh. Bericht über die in Kooperation mit dem IIMAS durchgeführte Kampagne 1999	185

Riehl, Simone	
Erste Ergebnisse der archäobotanischen Untersuchungen in der zentralen Oberstadt von Tall Mozan/Urkeš im Rahmen der DOG-IIMAS-Kooperation	229
Klengel, Horst	
Qaṭna – ein historischer Überblick	239
Novák, Mirko/Pfälzner, Peter	
Ausgrabungen in Tall Mišrife-Qaṭna 1999. Vorbericht der deutschen Komponente des internationalen Kooperationsprojektes	253
Meyer, Jan-Waalke	
Die zweite Grabungskampagne in Kharab Sayyar 1999	297
Müller-Karpe, Andreas	
Untersuchungen in Kuşaklı 1999	311
Müller-Karpe, Andreas	
Kayalıpınar in Ostkappadokien. Ein neuer hethitischer Tontafelfundplatz	355
Dörfler, Walter/Neef, Reinder/Pasternak, Rainer	
Untersuchungen zur Umweltgeschichte und Agrarökonomie im Einzugsbereich hethitischer Städte	367
Bericht des Vorstandes über das Vereinsjahr 1999/2000	381

The Royal Palace of Urkesh
Report on the 12th Season at Tell Mozan/Urkesh:
Excavations in Area AA, June-October 1999*

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with contributions by SOPHIE BORETTI and ALI ALI

*To the memory
of our friend and colleague
Nassib Salibi*

1. Introduction

The results of the 1999 excavations at Tell Mozan/Urkesh were extensive and very significant in several respects. The excavations in Area AA have provided sufficient evidence to allow us to conclude that the large building under excavation there is indeed the royal palace of Urkesh. Most importantly, one stratum in the occupation of the building can now be associated with a daughter of Naram-Sin, Tar'am-Agade, whose name was previously unknown and who appears to have been in Urkesh as its queen. The excavations in Area C2 have uncovered important architectural remains in rather thin strata of the second millennium, below which there seem to be already third millennium strata, documented by an important cache of seal impressions. It was a long season, lasting from June 15 to October 20, subdivided as follows. Excavations in Area AA lasted from June 15 to August 10, under the field direction of the writers. Excavations in Area C2 lasted from August 10 to September 30,

^{*)} Im Zuge der erfolgreichen Kooperation zwischen der Deutschen Orient-Gesellschaft und der von Giorgio Buccellati und Marilyn Kelly-Buccellati geleiteten Ausgrabung in Tall Mozan/Urkeš haben diese abermals einen Bericht zur Publikation in den MDOG zur Verfügung gestellt, der hier in der Originalsprache abgedruckt wird. (Die Schriftführer).

under the field direction of Peter Pfälzner and Heike Dohmann-Pfälzner. In addition, the writers returned for a brief study season which overlapped with the end of the excavations in Area C2, from September 20 to October 20.

The split in two distinct time periods for the excavations resulted from the need to accommodate a larger staff than was envisaged when we first made plans for a cooperation between IIMAS and DOG. Unfortunately, this has placed significant limits on our ability to share resources and to develop a unified strategy in our work at the site. On the other hand the results of our common work have been very gratifying, as will appear from our combined reports that are published in this issue of the *Mitteilungen*; we wish to express all our appreciation to both the *Gesellschaft* and to Peter Pfälzner and Heike Dohmann-Pfälzner for the significant contribution they are making towards our understanding of this important ancient site. It is indeed a pleasure to be able to bring to the actual work in the field a degree of collegiality that stems from a commonality of purposes which has developed into a greater share of returns from the excavations.

We are very grateful to the Directorate General of Antiquities and Museums and to Dr. Sultan Muhesen for their unflinching support of our work. Excavations during the first half of the season were under the direction of the writers, with the participation of Lara Aho, Beatrice Angeli, Alice Bianchi, Sophie Bonetti, Federico Buccellati, Lanfredo Castelletti, Giuseppe Gallacci, Rick Hauser, Ong Kar Khalsa, John Lynch, Carol Noyes, Jamal Omar, Pietro Pozzi, Barbara Pritzkat, Laura Ramos, Joan Sallis, Yoko Taniguchi, James Walker, Claudia Wettstein, Fan-Xi Xu, Elena Zanolari. Our representative from the Directorate General of Antiquities and Museums was Ali Ali from Qamishli. We are also grateful to the Director of the regional Office of the Directorate General of Antiquities and Museums in Hassaka, Mr. Abd el-Mesiah Bakdou

The twelfth season of excavations was made possible in part through grants from the National Geographic Society, the Catholic Biblical Association, the S. H. Kress Foundation, the L. J. and M. L. Skaggs Foundation, the Ahmanson Foundation, Loyola-Marymount University, Syria Shell Petroleum Development B.V., and various donors. The additional study season in September/October was made possible through a special grant from the S. H. Kress Foundation.

We wish also to thank our colleagues and friends Professors Alfonso Archi, Lucio Milano, Joan and David Oates, Paolo Emilio Pecorella, Mirjo Salvini, Piotr Steinkeller and Gernot Wilhelm for their answers to questions that arose during the excavations, to which they provided an immediate response that helped us considerably in assessing the nature of the evidence as we first confronted it.

2. Overview of goals and results

The main goals of the season in area AA were three (see Fig. 1): (1) to complete the excavations of sector C of the palace, with the additional intent to identify the eastern perimetral wall of the building; (2) to continue the excavations of the courtyard (sector F), particularly with the intent to identify its eastern and northern sides; (3) to excavate the Khabur period strata in A11, with the hope to reach the topmost levels corresponding to building AK.

Two unexpected factors altered rather drastically our expectations. At the same time that we uncovered the southeastern corner of AK, we also realized that a second major building had been constructed alongside the eastern AK wall. It became soon apparent that the two structures were intimately connected, so as to be considered two wings of the same building. It was also clear that the new wing, while less well preserved than AK, was in fact of higher quality. We were led to conclude that this was the formal wing of the palace, and accordingly we shifted part of our resources to the excavation of this structure. In the process, we found a new important apsidal stone structure to the south, and then a major cache of door sealings that included impressions of a seal of a previously unknown daughter of Naram-Sin.

Another unexpected element was the discovery of a regular settlement in the uppermost strata of the late third and early second millennium. Up until now we had only evidence of scattered occupation, with burials, ovens, pits and large dumping hollows, but only very minor remains of houses. This year instead we found ample evidence of a regular settlement resting above the abandoned palace, especially in A7 and A11 and to a more limited extent in A9. This affected our general strategy in a major way. Up until now, we had considered acceptable removing the later strata by digging in five meter squares at an excavation rate independent of those of nearby squares; that is we were excavating without any real concern for broad horizontal exposure. The realization that we have instead coherent strata of domestic architecture induced us to reconsider our priorities. Much as we would like to uncover as rapidly as possible the underlying remnants of the palace, we feel constrained to obtain first some meaningful resolution of the settlement layers, of which we recognize at present three major phases.

These two new factors influenced our strategy in the specific sense that we opted to stop, half way through the season, the excavations in the post-palace strata, and to concentrate instead in the area of the new wing to the southeast. The reasons for this choice were compelling. On the one hand, we had started to find, as already mentioned, evidence of important architecture that helped us resolve the underlying question concerning the nature of the royal building. And on the other, the later settlement did not extend this far south: the area of the houses stopped half way up the hill, and there was in fact evidence of ancient retaining walls that clearly marked the edge of the settlement itself.

Thus the main result concerning the architecture is that we can now feel certain that the royal building is indeed a palace, the most interesting part of which must extend widely to the east and the north of the service building AK, at an elevation some 2 ms higher than the floors of AK. Additionally, a possible clarification has emerged with regard to the nature of sector C, which may possibly have served as an administrative quarter. And a very distinctive apsidal structure has appeared on the edge of the building, presumably earlier than, but still in function during the lifetime of, the main royal palace.

We concentrate in this article on architecture and stratigraphy with only a brief mention of some of the more important objects. The first results of our analysis of the ceramics from the AK service wing and above are also presented here.

3. *The formal wing of the palace (Sector H)*

That building AK, as excavated in earlier seasons, was a royal building, was beyond doubt. It was also certain that its purpose was to function as a service sector, and the question remained open whether or not it was linked with a residential and ceremonial wing, with which it might properly be considered to form a royal palace. To determine this, our strategy in 1999 was to excavate mostly along the eastern side of AK to look for a definition of the AK building itself, and for possible connections with other structures to the east.

The first priority was the definition of the southeastern corner of AK, in room C1 (Fig. 1). Assuming that C1 might have proportions similar to those of A1, we had projected the corner to be closer to the center of the building than it turned out to be. We eventually discovered this corner further to the east and we saw at the same time that the eastern wall was shared with another building to the east, whose floor levels were higher than those of AK. This suggested that we had here evidence for the formal wing of the royal palace, and found ourselves committed to expand the excavations in this zone. The scale of the building is such that we could not achieve an adequate architectural definition of the new structure, but the results were impressive.

The new wing (which we call AF¹) is raised by about 2 m above the level of the main floor in AK (Fig. 2). This difference in elevation between the two buildings is demonstrated convincingly by a thick packing (at least 2.30 m in height) which underlies a well laid calcareous floor surface (itself some 25 cm thick) in room H1 (the packing is exposed through an ancient pit that cut wall, floor and packing down to the stone foundations).

That the two buildings AF and AK are linked is shown by the fact that they share the wall between sectors C and H. An element of doubt remains with regard to the doorway. There is a clear break in the brickwork, caused by a later pit, and the break extends to the stone substructure. The stones may of course have been lifted when the later pit was dug – something we cannot determine at this point because we have not yet reached the bottom of the pit. Further excavation will certainly clarify this point beyond doubt. If there is indeed a doorway, it would have been placed in the center of the wall of room C4 and there must then have been a stairway that bridges the difference in elevation between H3 and C4. Against this possibility it must be noted that the width and general disposition of room C4 seems ill suited for a normal stairway, which would have to be contained in the eastern portion of the room.

¹ The letter A in the labels stands for the topographical zone A. The letter K in AK stands for the Sumerian word KIŠIB, which means „seal“: an É.KIŠIB was a house which was sealed and in which sealed goods were kept, an appropriate designation for the royal storehouse. The letter F in AF refers to the „formal“ function of this wing as we understand it at present. The letter H in AH stands for „Houses“, i.e. for the private residential quarters which were built on the hill that resulted from the collapse of the royal building. Analogously, AP stands for the Palace complex as a whole, and AO for the palace related strata outside the perimeter of the palace. The label AA stands for the overall area regardless of period or function.

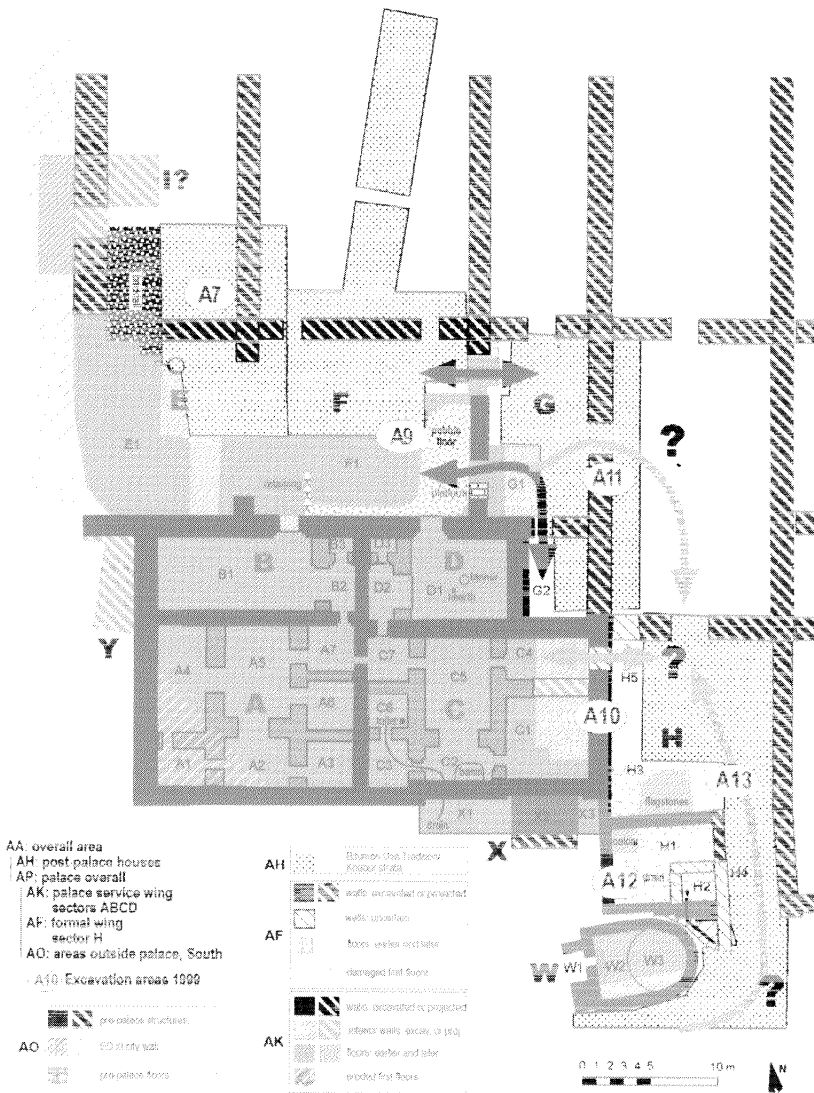


Fig. 1 General plan of Royal Palace and Area AA.

We still do not know where the entrance to the palace might have been. An entrance from the West, through Sector E, was suggested by our inability to find, in earlier seasons, a perimeter wall to the west, but it seems more plausible to envisage Sector H as the main entrance. It would have opened onto the main street that would have passed along platform X2 and the U-shaped struc-

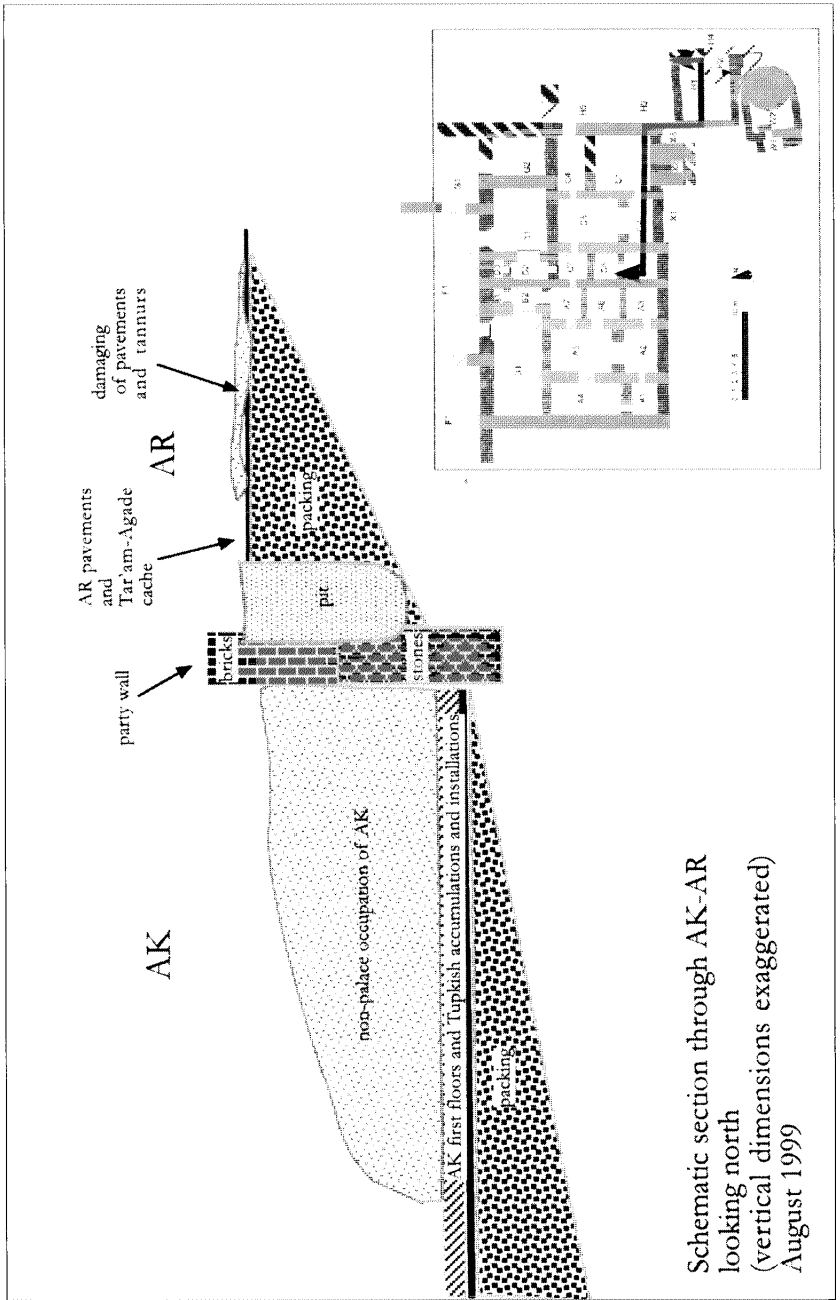


Fig. 2 Sketch section showing difference in elevation between AK and AR. Please note that the siglum AR is our error for AF

ture in area W (see presently). The buttresses or projections in the southern wall of H1 suggest that they may flank a monumental entrance, but the wall is poorly preserved, and of course we have not yet excavated the area to the east, which would show, if present, the counterpart one would expect (projected on the plan in Fig. 1). The small room H2, though not clearly defined because both floor surfaces and walls have been damaged, made use of a stone drain. There is no evidence for a toilet, and the drain is rather small, though it is built with great care.

In a cache of door sealings found in room H2 there were impressions of a daughter of Naram-Sin, named Tar'am-Agade, and two other officials, Ewrim-Atal and Ishar-Beli. This is the first time that the impression of a seal belonging to a member of the Akkadian royal house has been found in use in a well stratified context². The seal of Tar'am-Agade is a typical combat scene (Fig. 3) including a nude hero fighting a water buffalo. The choice of this type of politically motivated scene is one of the reasons leading us to conclude that Tar'am-Agade was in Urkesh as queen and not as a priestess. Her two sisters who are priestesses do not have the combat scene³. Another group of sealings in the cache belonged to a man with a Hurrian name, Ewrim-Atal (Fig. 4). He, too, has the combat scene intimately connected with the Akkadian royal house. The iconography of the third seal is the most remarkable of all. It belonged to an official with an Akkadian name, Ishar-Beli (Fig. 5). The general subject is a presentation scene, but here there is a very lively equid prancing before the god. The animal is small in stature but clearly has the ears, mane and tail of one of the many hybrid types. The small animal being presented to the god may perhaps represent the fact that this equid had given birth, one of the achievements in the hybridization process of these animals. A water buffalo, closely connected with the royal seals of the house of Akkad, appears under the inscription and extends into the scene.

4. *The courtyard (Sector F)*

Several surprises expected us in area A9. A good pebble floor hugs the walls and the main doorways in the south-eastern corner of the courtyard. It is well made, but clearly less well made than a baked brick pavement which is about 30 cms lower than the pebble floor. The baked brick pavement may cover the same approximate surface as the pebble pavement but is for now documented

² Only one other Akkadian royal seal is known, that of Ukin-Ulmash, an unstratified seal, see R. M. Boehmer, *Die Entwicklung der Glyptik während der Akkad-Zeit*, Berlin 1965, fig. 256.

³ We have preserved seals of servants of both En-me-nanna, a priestess in Ur and Tutannapshum, a priestess in Nippur. A third sister, Shum-shani, is a priestess in Sippar but we have no evidence of iconography connected with her. See the authors' forthcoming articles entitled „Tar'am-Agade, Daughter of Naram-Sin, at Urkesh“ and „Royal Seals of the Akkadian Dynasty.“

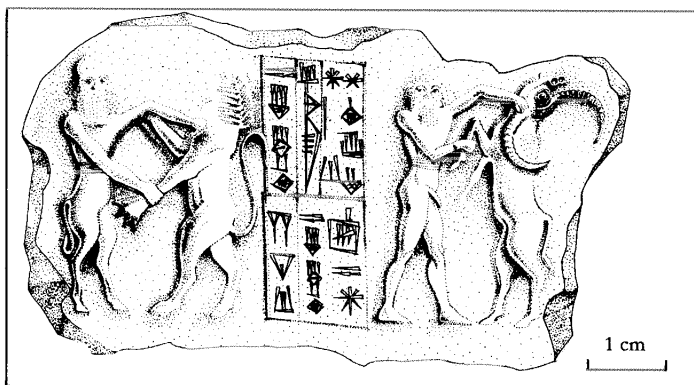


Fig. 3 Composite from impressions of seal of Tar'am-Agade (drawing by Pietro Pozzi).

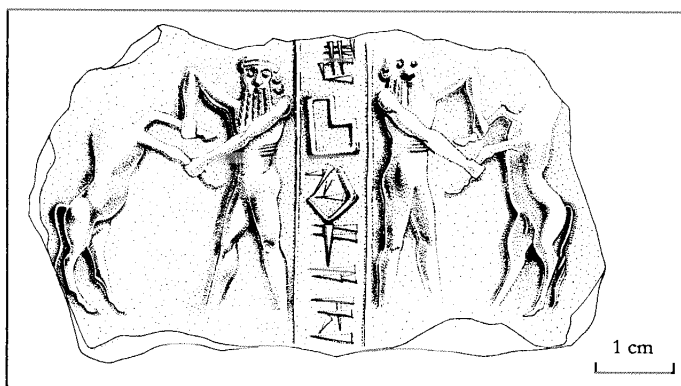


Fig. 4 Composite from impressions of seal of Ewrim-atal, found in the same cache with the seal impressions of Tar'am-Agade (drawing by Pietro Pozzi).

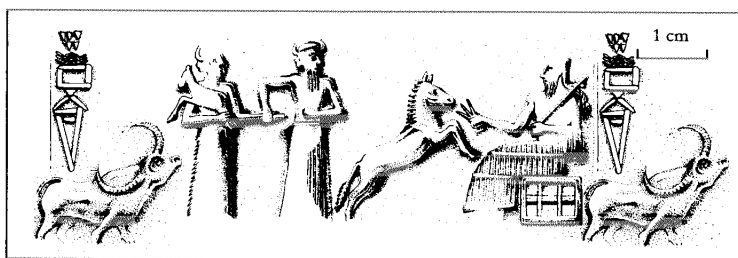


Fig. 5 Composite from impressions of seal of Ishar-beli, found in the same cache with the seal impressions of Tar'am-Agade (drawing by Pietro Pozzi).

only through two small soundings. The baked brick pavement belongs clearly to the first phase of the palace occupation, and the pebble floor is probably still associated with the palace, (but it may also mark the beginning of the non-palace occupation of AK).

A beautiful baked brick platform (with alternating red and yellow bricks, an alternation which may or may not be accidental) causes a narrowing in the doorway between F1 and G1. As preserved, it belongs only with the pebble floor, but it is possible that a narrower version of the same platform may eventually be found to match the baked brick pavement.

Facing this platform to the north is the stone substructure of a curtain wall that separates G1 from F1. The top of this stone substructure is lower by about 50 cm than the stone substructure in the walls between sectors F and D/B, and for this reason we had missed it in the previous season (our excavation had stopped just below the level of the stone substructure in the walls to the south, assuming a similar elevation in both).

The sounding to the north of the eastern wall in F1 was aimed at identifying the northeastern corner of the courtyard F1. We assumed that, true to the symmetry that is so prevalent in the palace, there would be a doorway of some 3 m in width and then a wall projecting out from the northern wall of the courtyard. But this did not turn out to be the case. It might still be that the doorway is wider and that the matching wall is further to the north.

We had also assumed that there would be a similar matching wall to the east, with a stone substructure low enough to have escaped our earlier attempts. But there was no trace of such a wall; we looked for possible traces of stones that might have been quarried, leaving what we have termed elsewhere a negative wall, but this, too, did not prove to be the case. It seems that the western end of the courtyard was open, and if so, it would be rather unlikely that Sector E could have served as an entrance to the palace, since the entire courtyard would have been visible from the outside. It is true that we did not find any evidence for a wall on the western side, but it could be that the wall was further to the west, on top of the old city wall, and that it has been completely eroded. This area, too, may become clearer as further excavations clarify the configuration of the architecture to the north of Sector E (in what might be a separate sector I).

5. A scribal quarter in Sector C?

The tablet fragment A10.163 is the upper left corner of the obverse of an administrative text that records a quantity of copper; the reverse is uninscribed. While its content is of minimal significance, this find is otherwise of greater interest for the following three reasons. (1) Being well stratified, palaeographical considerations are of consequence in helping to date the Royal Building. The text clearly belongs to the Akkadian period. (2) It is probable that the tablet comes from a scribal installation, described presently. If so, the tablet would be linked very specifically to an administrative functional setting. (3) This is the first epigraphic find in Sector C of the Royal Building. Since we are just now coming down to the top of the earliest accumulations within the building, more such finds are possible. In particular it is possible, purely

considering the nature of the building's footprint, that Room C1 might have housed an administrative archive. The hypothesis advanced below with regard to the functional interpretation of this sector of the building is naturally tentative, and it is meant particularly to serve as a guide for our excavation strategy.

Sector C within the Royal Building AK

The floor plan of the building is shown in Fig. 1. Sector C is one of four very distinctive sectors within the Royal Building AK. It mirrors closely Sector A in terms of the articulation of space and the arrangement of the rooms (which are however larger in the eastern portion of Sector C). In turn, Sectors C-D mirror sectors A-B, and all together they exhibit a well planned footprint, which is no doubt due to organic design and systematic coordination. We have clear evidence that the structure was built all at once, and that we have the original first floors.

We interpret Sector B as the storehouse, on account of the large number of container sealings found therein. And we interpret Sector D as the kitchen, on account of the large tannur and small oven found at the center of D1. In Sector A we had hardly any floor accumulation (due to erosion), hence we cannot propose any interpretation as to its function. And Sector C we interpret now as the administrative quarter where tablets may have been written and possibly archived. It is also possible that in this quarter new sealings might be affixed to the containers, presumably after the original sealings were broken to inspect their content.

Like Sector A, Sector C is accessed through a *nodal room* (C7). This room, with three doors, was too small to allow for any activity other than possibly housing a controller. Two of the doors within Sector C were narrowed by a width of one full brick, which heightens the control on traffic within the sector. Room C5 must have been a *courtyard*, considering circulation and the nature of the floor accumulation. To the south, one had access to the *ivan* C2, with an opening too large for door panels to be put in place. From the *ivan*, one could access a *toilet* (C6) through an *antechamber* (C3). Both toilet and antechamber are badly eroded, but what shows very clearly is a deep quadrangular shaft lined with baked bricks in the south-eastern corner of C6, and a drain that flows from the doorway between C6 and C3 towards the outside of the building (we have found the top of the drainage cistern outside the building to the south).

A portion of Room C4 has been excavated. It has yielded some partly burnt logs or boards (one is about 2 m long) within a non-burnt soil matrix. Given the total absence of roofing pieces and of any trace of general burning in the room, these logs may be the remnants of shelving: the long wood piece is curved, according to Lanfredo Castelletti, as a result of the fire, and may have flipped sideways when falling. We decided not to excavate further in this room this season, to protect the wood with a wooden box and extra backfill, and to plan for a careful excavation next year with the presence of both a paleo-botanist and a conservator.

The iwan as a possible scribal installation

Our interpretation of the *iwan* as a scribal installation rests on the following clues.

(1) A rectangular *basin* was found (see Fig. 1 and Ill. 1–2), lined with extremely *fine clay*. It appears that its base consisted in a single row of bricks laid vertically, but the thickness of the walls is due primarily to the accretion of many fine layers of clay, inside and out the basin itself. Our explanation is that excess clay was rubbed and pressed along the sides.

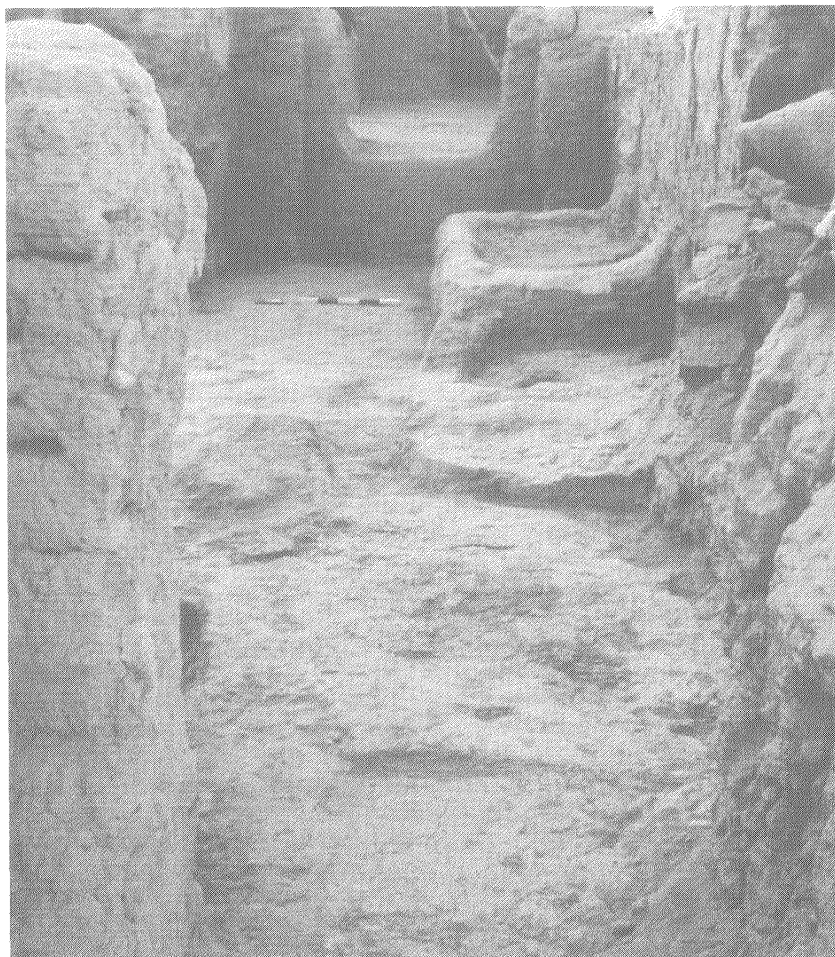
(2) The top surface of the basin as excavated (many more surfaces are stratified below) shows the impression of short straight lines, which we interpret as *fragments of a disintegrated burlap bag in which the clay was kept* to maintain its plasticity as long as it retained moisture. The excavator, Rick Hauser, first pointed out the similarity with disintegrating burlap bags that we use on the excavations. A reading of the impressions as straw is perhaps also possible, but the regularity of the impressions does not make this a likely hypothesis, nor can one easily understand why straw would be found together with such pure clay. (A later analysis by our paleo-botanist, Lanfredo Castelletti, has excluded that these are seeds, and suggested that instead of fiber fragments these may be impressions of recent root structures. If so, they differ considerably from other types of root structure that we have often encountered.)

(3) Next to the basin, there is another installation in the form of a raised platform. This platform has been partly damaged through our own excavation, which suggests that it was not uniformly hard, since the experienced workman who was digging there would not likely have missed a hard surface, especially since he had been warned about the possible presence of such a feature. The top of the platform as preserved is hard and could have been a sitting place for a scribe right next to his supply of clay for tablet making.

(4) The location of the platform, or at any rate the use of the *iwan* as a place for a scribe to sit and write, would have been ideal: the *iwan* receives a *full northern light*, which means that the area would have always been lit very well, but would never have been in direct sunlight (which is blinding in the summer).

(5) The basin is *in the way of the doorway* to Room C1, and it would in fact have kept a door panel from opening fully (the rabbeting in the doorway indicates that the door would have opened on the side of the basin). Given the concern for circulation patterns within the building, it seems hardly likely that a permanent feature like the basin might have been allowed to impede traffic over the protracted period of time during which it was in use (as documented by the continuous clay accretions). Rather, it seems likely that the basin would have been the focal point of activities within the whole sector.

(6) In one corner of the *iwan* there is the base of a *jar* set in the floor, which may have contained water for keeping the clay moist. And the presence of the toilet and the drain in the adjacent rooms suggests that water was used in this Sector.

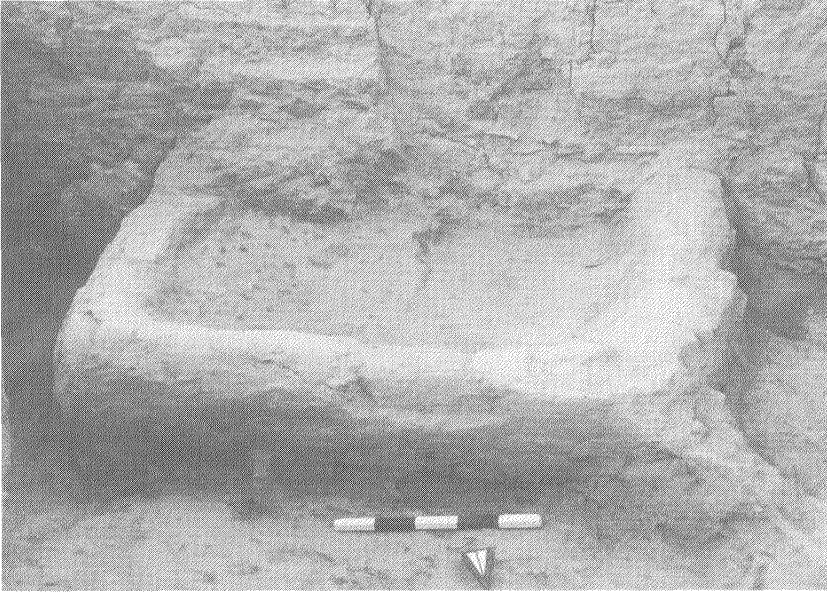


III. 1 View of basin and part of adjacent platform in room C2 (looking east, towards room C1). – Photo V12d1411, Ong Kar Khalsa.

(7) Several *clay pellets* were found in and about the basin. One wonders if these may have been three-dimensional doodles, so to speak, i.e., the result of idle finger motion in between shaping tablets.

(8) The *fragment of tablet A10.163* was found next to the platform. A single piece does not of course prove anything, but can nonetheless be cited in support of the general hypothesis.

(9) Considering the general articulation of space, we may consider the possibility that Room C1 may be *the archive*. (The difficulty in opening the door



Ill. 2 Close-up of basin showing smooth surface of fine clay, especially visible over the outer edge. – Photo V12d1408, Ong Kar Khalsa.

on account of the basin would add an indirect measure of control on access to this room.) Since there is no evidence of destruction in this part of the building, it is unlikely that we should be able to find the remnants of such an archive, which would have been moved to some other location.

(10) From further excavation we may expect two other clues pointing to a possible scribal presence. Both have been found frequently in AK, but not yet in Sector C. *Blank tablets* would obviously be expected, made ready but not molded in the final characteristic pillow shape. The blank tablets we find have relatively sharp sides, without any rounding.

(11) A curious implement of which we have several exemplars (not from Sector C) may perhaps be explained as a *stylus sharpener*. They have the appearance of small ax heads, but without any means of hafting, and are made of hard stone, either green or black (though not obsidian). If used as sharpeners, they may have been held between thumb and forefinger, and passed slightly along the non rounded sides of the stylus to remove nicks and grooves.

(12) A technical analysis of the clay (Yoko Taniguchi) has shown that the *clay of the bin is identical to that of the blank tablets*; it is not, however, identical to that of the tablet fragment found next to the bin. It must also be stressed that these blank tablets were not found near the bin.

(13) A portion of a *grinding stone and pestle* was found in the courtyard. If not an occasional discard from the nearby kitchen, they may have been used to grind dry clay into a powder that could be mixed with water to obtain usable sealing/tablet clay (Rick Hauser). The possibility that the bin may be a bin for grinding food staples, which was briefly considered and then reposed by Heike Dohmann-Pfälzner, seems excluded by two considerations: no seeds were found in the bin or in its vicinity (while many have been recovered in other parts of AK, even without floatation), and no grinding stone or impression of one has been found in or near the bin.

6. Structures on the exterior of the palace (Sectors W and X)

In two respects the building of AK and AF seems to have been conditioned by the layout of two preexistent structures which are outside the palace complex, and which must have held a considerable symbolic significance if they could so affect the footprint of a very carefully laid out structural complex.

The first is a platform (X2 in Fig. 1 and Ill. 3–4), which was built originally in stone. The wall of AK is so designed as to encase this platform by means of two setbacks, which affect the size of the rooms inside Sector C and cause a niche-like effect on the outside. The platform continued in use after the building of AK, except that it was now only partly in stone, while the remainder consisted of both bricks and vegetal fibers which were laid longitudinally (reeds? bark strips? samples are being analyzed for a botanical definition).

Second, the southernmost portion of sector H is slightly skewed in relationship to the general orientation of AK, in correspondence with the axis of a U-shaped stone structure which is very well preserved (see Fig. 1 and Ill. 5). Through a small sounding we have reached the level of the threshold of the doorway between W1 and W2 (which is only 50 cm wide), and the absolute elevation is roughly level with that of the early phase of platform X2. At the eastern end of the U-shaped structure, a well marked circle (W3) is in evidence, delimited by a slight indentation in the stone walls (which might have supported a vaulted roof) and especially by a clear differentiation in the accumulation. The general appearance of the structure would have been that of a *tholos* with a square entrance. We have no plausible explanation for this structure. It may have been a burial or mortuary chapel, though other hypotheses are also possible. Future excavations are likely to provide an answer. What seems certain is that these preexistent structures held a strong symbolic value, whether religious or otherwise, such that the new building had to respect it, even if it was the royal palace. One is tempted to think of a processional way, with a platform for the display of some relevant image. It may have passed by the entrance to the palace on its way to the temple (BA) some 20 m higher in the center of the city.

7. Residential quarters in the time of the „Bitumen Use Ceramic Tradition“

Our search for a definition of sectors G and E/I of the AK wing was hampered by an embarrassment of riches. Earlier excavations in the area above sector F had led us to believe that there was little in the way of a later occupation. But



III. 3 Detail of stone platform with pebble surface; on the left, the stone foundations of the southern wall of AK, at an elevation higher than the platform, indicating that the platform antedates the AK building. – Photo V12d1408, Ong Kar Khalsa.

this expectation proved wrong. Considerable settlements of the post-palace period were found this year, with some very interesting architecture and important objects. It soon became apparent that the limited exposure we had planned would not have allowed us to do justice to these strata. This, coupled with the growing importance of sectors H, W and X, led us to a change of strategy, whereby we effectively stopped excavations in the strata overlaying sectors G and E/I, leaving it for another year to obtain the fuller horizontal exposure that they deserve. However, we will report briefly on two important results from this year's excavations.

Our aim all along has been to establish a well stratified corpus of ceramics from the AK building both from the building's floors (Phase 2a) and those immediately succeeding its use as a palace (Phases 3 and 4, see Fig. 6). The ceramic assemblage is becoming clearer now for those strata immediately following the palace period. The ceramics change from the high quality Simple and Wet Smooth Wares of the palace (i. e. what we call the end of the Simple Ware Tradition) to a somewhat coarser set of wares based on the same clay but with a heavy addition of chaff. Also a series of vessels were made from a red firing clay with heavy inclusions of calcite, seen both on the surface and in the sections. Most striking is the employment of bitumen in various functions: as a waterproofing material, to repair vessels, and for decoration. Bitumen for waterproofing and repair had occurred earlier but was not as widespread. Bitumen based paint for decoration is new in the post-palace period and took the form of solid black necks of medium necked jars and small and medium bowls, large dots found around the shoulders of small and medium pots and jars, and amorphous designs on the bodies of medium jars and pots. The



III. 4 Stone platform in Sector X, with drain coming from the AK building (looking east).

In the back, the corner between the AK and the AF wings.
Photo V12d2815, Ong Kar Khalsa.



Ill. 5 Partially excavated apsidal stone structure (sector W) showing narrow doorway. In the far left, the southern wall of the AF building. – Photo V12d2534, Ong Kar Khalsa.

		Approximate calendrical dates (B.C.), middle chronology	
		middle chronology	middle chronology without Guti
Khabur ware tradition	<p>Phase 6 Modern surface wash and erosion topsoil and disturbed upper layers removal of stones modern burials</p>		
	<p>Phase 5 Second post-Palace settlement houses and graves in A7, A2, A11, A8 (2 m) scattered occupation in A10, A8, A12, A13 "brickmelt" in A9</p>	1800 - 2000	1800 - 2000
Bitumen use tradition	<p>Phase 4 First post-Palace settlement houses and graves in A7, A2 (2 m) scattered occupation in A1, A5, A10, A8, A12, A13 "brickmelt" in A9</p>	2000 - 2100	2000 - 2050 (***)
	<p>Phase 3 Non-Palace occupation of AK accumulations within AK walls, no installations (2 m) accumulations within AF? debris from destruction in A9, A11, A10 (?)</p>	2100 - 2240	2050 - 2150
Late Simple Ware tradition	<p>Phase 2 Palace 2b Tar'am-Agade destruction of parts of AF accumulation in H2 (very thin)</p>	2240	2150 (**)
	<p>2a Tупkish endan first floors throughout AK and AF installations in F, C, D, H and X accumulations throughout AK (40 cm)</p>	2260	2175 (*)
Early Simple Ware tradition	<p>Phase 1 Pre-Palace accumulations packing (red and cement like) walls in A5 pit platform X2 absidal structure W</p>	2290	2200

(***) Based on Ur III tablet from A7
(**) Based on a date late in Naram-Sin's reign assuming that Tar'am Agade is either a priestess (as a result of an Akkadian conquest) or queen (as a result of marriage). If she is the queen mother, dates might be lower. Tablets in A1 and A10 support an early date.
(*) Four C14 determinations have given consistently lower dates for Phase 2a, with 2175 as the average middle date

Fig. 6 Stratigraphic sequence A for Area AA : Phases.

phase		sr	s-s	description of stratum			
6	modern	no occupation	1	surface wash and erosion			
			2	sod layer, top soil			
			3	disturbed upper layer			
			4	removal of ancient stones; gulley wash; laminations			
			5	modern burials			
5	early 2 nd mil.	topmost settlement	6	houses			
			a	abandonment and scattered occupation			
			b	collapse of houses			
			c	accumulation within houses			
			d	structural build-up of houses (walls and first floors)			
			7	burials			
			4	end of 3 rd - beg. 2 nd mil.	4b middle settlement	8	houses
a	higher accumulation within houses						
b	accumulation within houses						
c	structural build-up of houses (walls and first floors)						
9	burials						
4a lower settlement	10	houses					
	a	accumulation within houses					
	b	structural build-up of houses					
	11	burials					
	3	post-Akkadian			non-palace occupation of AK	12	erosion
						13	abandonment; removal of stones from earlier buildings
14			higher occupation				
a			accumulation within AK walls				
b			wall fall and patching of AK building (no rebuilding proper)				
15			middle occupation				
a			accumulation within AK walls				
b	re-use of walls (discontinuing of earlier installations)						
2	Naram-Sin — Sar-kali-šarri	2b T-A	16	limited accumulation in AR and in courtyard (?)			
			17	first occupation of AK			
		2a Tupkish	a	accumulation within AK walls and in courtyard			
			b	extensive packing below first floors			
			c	building of walls			
1	pre-palace	18	accumulations in A12				
		19	platform and absidal building in AO; structures in A1 and A5				

Fig. 7 Stratigraphic sequence A for Area AA : Strata.

shapes of the vessels made in all these wares are more varied than previously in the AK floors. For instance the standard conical cup with string cut base is supplemented by a cup with its widest diameter near the base. Pebble tempered cooking pots and storage vessels made in Rough Ware with a thick interior slip made into vat and large jar shapes continued from at least ED III. As a result of this season's work we now have a series of vessel types which characterize this period so poorly known in the region.

Another important result came from the Khabur period strata just above the palace. In Khabur period houses we had found in addition to the typical Khabur period pottery, a number of horseshoe shaped andirons associated with fire as they were frequently burnt inside. Some had the ends of the two arms preserved; from this evidence we concluded that they were undecorated. This season, in a building of undetermined function we began to excavate what appeared to be a complete but fragile example of one of these andirons. The area supervisor (Federico Buccellati) and his team decided to take it out of the ground whole and to complete its excavation in the controlled environment of the expedition house where conservation treatment could be continually applied during excavation. As it turned out these efforts were well worth it! The two ends of the arms of the andiron are decorated with incised and punched designs. At the top there appear to be horns, below is a large X-shape with a row of small holes beneath. The two ends are joined near the bottom by a cross-piece decorated with what looks like an imitation of a door lintel. Traces of burning are found inside.

8. Phases in the occupation of the palace

The floor surfaces in H1, H2 and H3 were badly damaged, and non-palace accumulations, including two *tannurs*, were laying right on top. There is some evidence of a fire, although we cannot identify as yet any trace of a willful destruction as might be evidenced, e.g., by the presence of weapons. In other words, the fire may have been accidental and localized. Similar evidence for an immediate re-use of a palace floor with a non-palace function is to be found in the courtyard F1, where the low retaining wall at the western end contains ash that accumulated in that part of the courtyard: the notion of such an accumulation and the poor nature of the construction are at variance with everything else we know about the palace, so that we may reasonably conclude that these areas were no longer used as a part of the palace, even though they had not been abandoned.

Accordingly, we may distinguish five major occupational phases in the history of area AA (Figs. 6–7).

(1) **Pre-palace structures in AO.** – The platform X2 immediately pre-dates AK because the foundations of AK overlay it and the outlet of the drain coming from Sector C is at a higher elevation.

(2) **Palace occupation of AK.** – This corresponds to the first 40/50 cms. of deposit within the walls and is the period documented for king Tupkish and queen Uqnitum. Sector AF is in use at the same time.

(2a) **Fire in portions of AF (including H) and perhaps in rooms C1 and C4 of AK.** – The fire is documented only indirectly, and may have been loca-

lized, but of sufficient intensity to affect the use of the complex. An immediate re-occupation with different functions took place in Sectors H and F, as just mentioned. The sealings of Tar'am-Agade and Išar-beli belong here: they were discarded, presumably from the other sectors of AF, which continued to remain in use.

(3) **Non-palace occupation of AK.** – This corresponds to the mid to high floors within AK, and no evidence is available at this point for what happened to AF during this period. The accumulations within AK are very considerable, up to 2 m in height. None of the features known for the early floors remain in use (baked brick floors and platform in F, central tannur and hearth in D, toilet, drain and basin in C).

(4-5) **Post-palace settlement above the palace.** – Very little is in evidence for AK, partly because of erosion, partly because it seems that the settlement preferred higher grounds, and placed various retaining walls along the edge facing AK and the courtyard. Hence the houses of the Bitumen Use Tradition and Khabur period are arranged in an L-shaped configuration around the lower ground corresponding to sectors E, F, G and to the AK building.

In terms of chronology, this suggests the following approximate correlations with the southern Mesopotamian sequence (Figs. 6–7):

- (1) AO structures (pre-palace) – Sargon
- (2) Tupkish/Uqnitum material in AK – Manishtushu / early Naram-Sin
- (2a) Tar'am-Agade material in AF – late Naram-Sin / (Shar-kali-sharri)
- (3) Mid to high floors in AK – Shar-kali-sharri / Dudu/Shu-Durul
- (4) Early post-palace settlement AH (high point of Bitumen Use Tradition) – (Guti ?) / Ur III / Isin-Larsa
- (5) Later post-palace settlement AH (Khabur ware) – Old Babylonian

This combined evidence of a connection with the court of Akkad and the early date for the initial building of the Royal Palace should dispel the prevailing notion of Urkesb being a petty kingdom that came to a position of power only as a result of the collapse of the Sargonid dynasty.

9. Historical implications

Whether Tar'am-Agade is a queen of Urkesb married to an *endan*, or a priestess representing her father alongside an Akkadian governor, the discovery of the door sealings with the impression of her seal is of great consequence. Here we will make briefly two points.

(1) With regard to chronology, the sequence just outlined suggests two important considerations. The first is that the extensive lower AK accumulations belong at the very latest in the early Naram-Sin period, but may possibly be earlier as well, reaching into the period of Manishtushu. This provides us with one of the best stratified sequences for the central portion of the Akkadian period not only in the Khabur region, but in the whole of Syro-Mesopotamian.

A second consideration is that the palace and post-palace sequence stretches over a period of time that is of considerable significance, in that it goes from Naram-Sin into the Khabur period with a deposit that is in places 6 m thick. Even though there is a major functional change (from palace to settlement), there seems to be a gradual change without any long period of abandonment.

Not that there was no abandonment altogether: we have in fact so labeled stratum 13 (see Fig. 7). But indications are that the period was not long, on account of both typology (ceramic sequences show considerable continuity, if with some gradual change) and stratigraphy (there is no indication of a hard compaction layer or other similar evidence above the remnants of the abandoned palace).

Indications are mounting that the Guti period was of more limited duration than was generally assumed, so that Gudea of Lagash and Ur-Nammu of Ur would follow shortly after the end of the dynasty of Akkad⁴. Four radiocarbon determinations that we have obtained for the AK accumulations of phase 2a give as a mean date 2175 B.C. Since we can now attribute this phase to the period of Manishtushu or early Naram-Sin, we may have in our C14 determinations a confirmation of a lower date for that same period. If so, the stratigraphic sequence of phases 2 through 5 would span a period of some four centuries, from about 2200 to about 1800 B.C.

(2) A second important implication of historical significance has to do with the political role of Urkesh. It must be remembered that the *communis opinio* has, until now, understood the growth of Urkesh (as it was thought to be evidenced by the inscriptions of Tish-atal) as a direct consequence of the collapse of the Akkadian empire: Having first ruled the Khabur plains, and having then retreated, the Akkadians would have given way to the occasional flourishing of petty, peripheral kingdoms such as Urkesh. Certainly the finds of 1999 change this picture. First, the royal palace was built before Naram-Sin (or at the very latest, at the beginning of his reign). And, second, the presence of the daughter of Naram-Sin acting in an administrative capacity (palace doors were sealed either by her or in her name), marks Urkesh as a place held in great esteem by the Akkadians. Even if Tar'am-Agade is in Urkesh as a priestess alongside an occupying Akkadian garrison, the role of Urkesh cannot be considered as petty or provincial - for the other three known daughters of Naram-Sin who acted as priestesses resided in Ur (En-me-nanna), Nippur (Tuta-napshum) and Sippar (Shum-shani)⁵. These were obviously important cities, and it would not fit this pattern if Urkesh were a petty, provincial residence.

If, as may be more likely, Tar'am-Agade was in Urkesh as a queen married to an *endan*, then the conclusion is that Naram-Sin had chosen to ally himself with Urkesh instead of fighting against it, according to a pattern of dynastic marriages. A possible reason for this pragmatic choice may be the difficulty to control effectively the mountain areas of the Tur-Abdin, which we presume are identified by the name Nawar in the royal titulary of Atal-Shen⁶. As one of

⁴ See R. Dittmann, *Glyptikgruppen am Übergang von der Akkad- zur Ur III-Zeit*, *Baghdader Mitteilungen* 25 (1994) 75-117, Pl. 1-3.

⁵ For a convenient summary of the evidence see D. R. Frayne, *Sargonic and Gutian Periods (2334-2113 BC)*, RIME 2, Toronto 1993, p. 87.

⁶ See D. R. Frayne, *Neo-Sumerian Period, Part 2: Third Dynasty of Ur*, RIME 3/2, Toronto/Buffalo/London 1997, pp. 458 and 461.

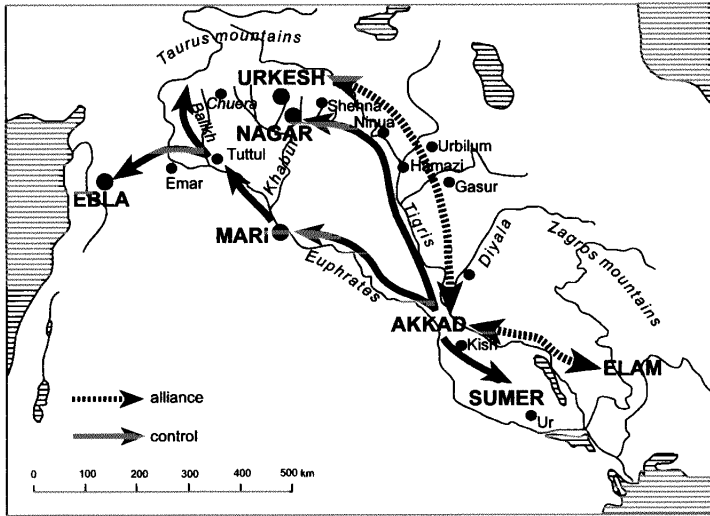


Fig. 8 Military campaigns and alliances of Naram-Sin of Akkad (based on the assumption that Tar'am-Agade is in Urkesh as a queen married to an *endan*).

us has argued⁷, the hinterland of Urkesh, most probably the northern reaches of the Tur-Abdin, controlled the mountain territories more through the recognition of a common ethnic bond than through organized administrative mechanisms. This would have made it difficult for an outsider, such as Naram-Sin, to replace with his own the control of the Urkesh *endans*, and thus an alliance would have been a wiser political choice. We have often referred to a Hurrian urban ledge, i. e., a narrow arc in the piedmont area just south of the Tur-Abdin where, and where only, there would have been important Hurrian urban centers in the third millennium, from the site of Chuera to Nineve, with Urkesh in the center (see Fig. 8). This geo-political distinctiveness of the northern Khabur plains explains, *inter alia*, the relative lack of Hurrian names in Nagar and Beydar and the lack of references to Urkesh in Ebla. This second point entails that Urkesh was outside the direct range of contacts available to Ebla, not because of distance (Urkesh is only some 60 kms north of Nagar), nor because of geographical barriers (there are neither mountains nor rivers between Urkesh and Nagar), but solely on account of the geo-political situation: Urkesh was Hurrian, and was possibly in the sphere of influence of Akkad since the beginning of its dynasty.

⁷ G. Buccellati, Urkesh and the Question of Early Hurrian Urbanism. Economic Aspects of Urbanization and Land Use in the Ancient Near East, in: M. Hudson/B. A. Levine (eds.), *Urbanisation and Land Ownership in the Ancient Near East*, Cambridge MA 1999, pp. 231–250.

10. A note on an important clay statuette

One of the unique finds from the period immediately following the presumed destruction of AF is an important clay statuette found in a pit that cuts down through the outer wall of AK on its southern side (see Figs. 2 and 9)⁸. It comes from feature 194, the fill contained within this pit. In it, there were also a number of broken vessels dating to the fourth quarter of the third millennium. From near the bottom of this pit an almost intact clay statue of a nude woman was found (Ill. 6–11). The pit fill has certain aspects of a *favissa*, a pit dug so that ritual objects could be discarded in it. A number of these pits were excavated in Ebla near the area sacred to Ishtar⁹.

The figure is 29 cm tall with the final portion of the base broken; although we sifted the deposit we did not find the base. The statue was meant to stand upright because the lower half is cylindrical and probably flared at the lowest portion of the base. The woman is nude with the pubic triangle emphasized by alternating rows of slightly diagonal short incised lines. The swelling buttocks are one of the heavily modeled areas of the body and sharply contrast with her narrow waist. Below the buttocks her legs are not indicated but rather the hollow shape becomes round with the statuette probably terminating in a rim-like border. Her navel is indicated by a small depression while her very schematic breasts are applied pellets in sharp contrast to the modeling of the buttocks. She is wearing an incised double strand necklace that may have a counterweight hanging down her back¹⁰. It is also possible that the long thin applied clay extending from her necklace may indicate her long hair tied in a braid. This would be possible if she had attached hair made out of another material covering the juncture between this vertical strip and her necklace. One of the characteristics of Uqnitum and her daughter, found in the iconography of her seals is that they are the only women in the Phase 2a seal impressions who wear their hair in a long braid. This hair style is also accentuated by the addition of a large braid ornament worn near the end of their hair. A characteristic long hair style with curls or braids has been identified by one of us as an important iconographic element in northern seals dating to the later part of the third millennium¹¹.

⁸ The field number is A12.30.

⁹ N. Marchetti/L. Nigro, *Cultic Activities in the Sacred Area of Ishtar at Ebla During the Old Syrian Period: The Favissae F. 5327 and F. 5238*, JCS 49 (1997), pp. 1-44.

¹⁰ Evidence for counter weights begins later, in the Old Babylonian period, but it is difficult to evaluate our evidence in any other way since the applied clay going down her back is attached to the applied clay which makes up her necklace.

¹¹ M. Kelly-Buccellati, *Nuzi Viewed from Urkesh, Urkesh Viewed from Nuzi: Stock Elements and Framing Devices in Northern Syro-Mesopotamia*, *Studies on the Civilization and Culture of Nuzi and the Hurrians* 8 (1996), pp. 247-268. Here the evidence from Mari, Taya, Chuera and Brak is considered in connection with some recently excavated Urkesh seal impressions. Smaller clay figurines from Mari and the Syrian Euphrates region show a similar treatment of the buttocks, ears and necklace.

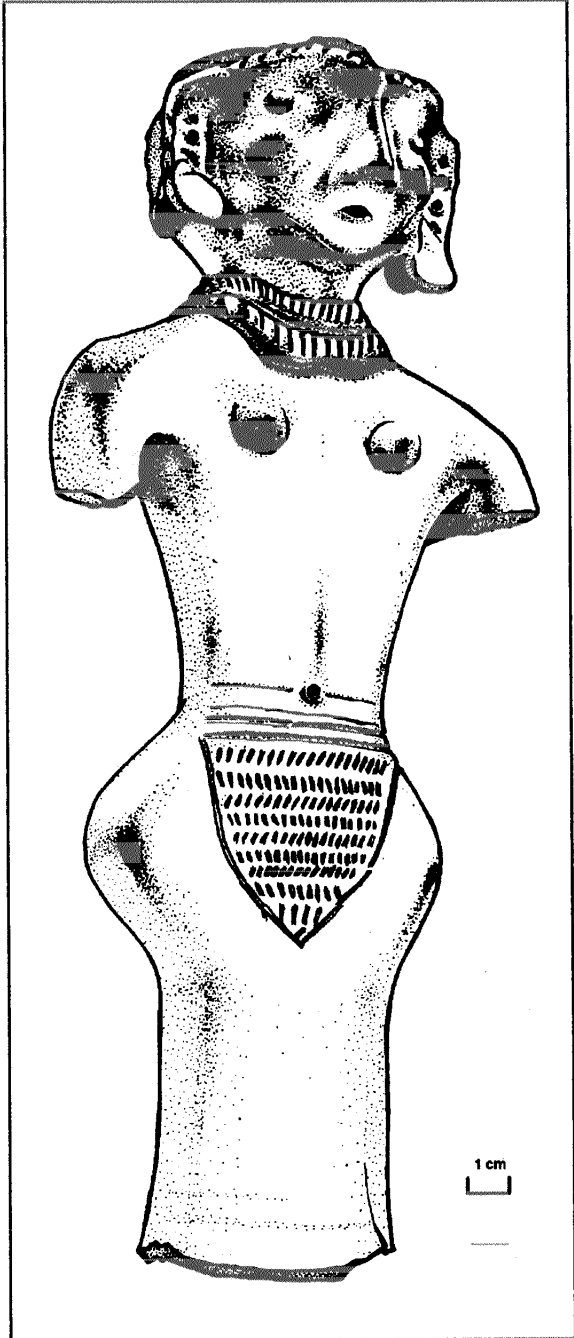
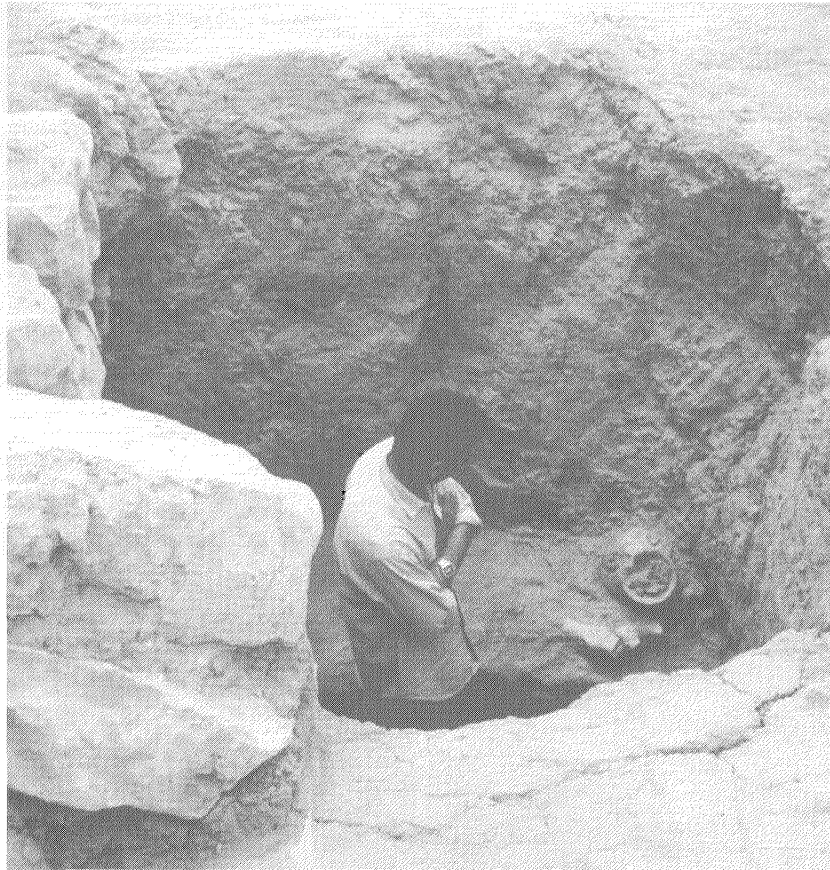


Fig. 9
A12.30
Clay statuette of
female figure

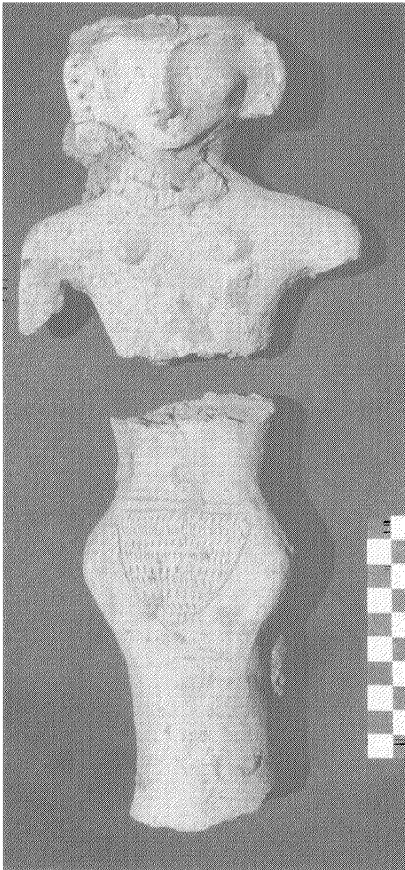


Ill. 6 Possible *favissa* (A10f194) during excavation indicating that it cut through the main north-south wall joining the AK and AF portions of the palace. The workman within the pit looks at the fragments of the statuette A12.30. – Photo V12d1113, Ong Kar Khalsa.

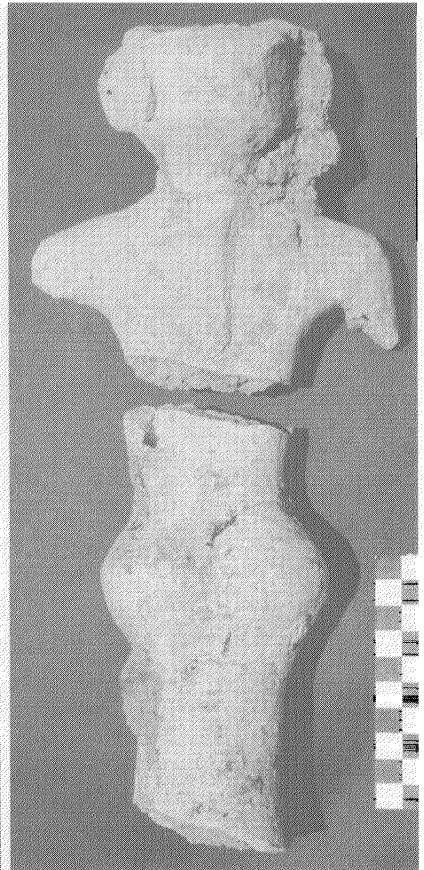


Ill. 7 Statuette *in situ* in the pit (*favissa*?) A10f194. – Photo V12d1114, Ong Kar Khalsa.

The head of this Urkesh statuette is intact with only parts of her applied eyes broken away. The face is striking for the emphasis on the bulging cheeks in contrast with the small mouth, and the circular pellets for the eye; part of one of these pellets is preserved. On the very top of her head she has a deep depression that may have held something or may have been an anchor for a wig made out of another material. Indications of this latter are two raised thin ridges of clay going down the back of her head that however shows no other signs of hair patterning. Her ears are elongated and pierced with four holes the lower of which on her right side shows her wearing double lobed earrings. Smaller female figurines with some of these characteristics have been found in the excavations of the AK building.



III. 8 Front of clay statuette A12.30
before cleaning and restoration.
Photo V12d50006, Giuseppe Gallacci.



III. 9 Reverse of clay statuette A12.30
before cleaning and restoration.
Photo V12d50007, Giuseppe Gallacci.

The large size of the statuette along with the expressionism of the style, in the emphasis of certain characteristics of the body and face, offset by some quite schematic elements, makes her, in our opinion, an important addition to the repertory of third millennium art from this region. It should also contribute to the knowledge of what we may now address with greater confidence as „Hurrian“ art, since such a specific ethnic connotation may safely be attributed, in our way of thinking, to Urkesh and its workshops.



Ill. 10 Detail of back of necklace
showing short counter weight.
Photo V12d5229, Giuseppe Gallacci.



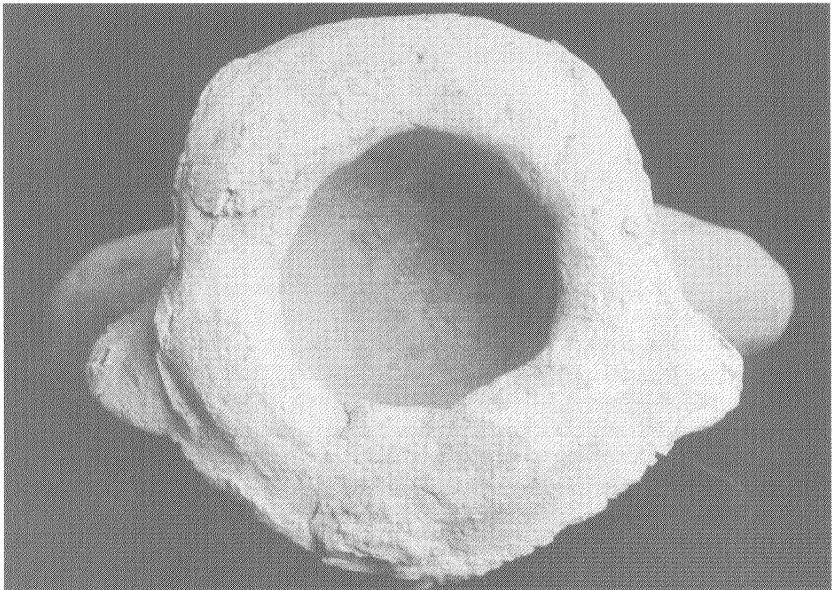
Ill. 11 Detail of chin and breasts with
necklace of the clay statuette A12.30.
Photo V12d5228, Giuseppe Gallacci.

11. Computer network and digital photography

A major step forward was taken in 1999 through the introduction of a computer network that links all computers in the expedition house. Federico Buccellati was in charge of the planning, installation and maintenance of the whole intranet system, which was a total success. During the 1999 season we had 7 desktop computers and 4 laptops connected to the main server. The cable network, as currently installed, links three buildings in the compound, and provisions are in place for it to extend to a fourth building which is currently under construction (dedicated to the natural sciences, to special typological studies and to the storage of the finds). The normal use of the network system is, of course, the exchange of data among various units. While excavation units and major typological research groups have each their own computer, interdependent material is constantly produced by all staff members, and the exchange by means of disks, as it was used in the past, was proving cumbersome. But it is especially in the area of graphic files that the network had become indispensable. While AutoCAD files do not present particular problems of size, drawings and photos do. It has only been as a result of the intranet system that we have been able to exchange freely files among the key locations, in particular from the photo studio and the scanning station to the other units and research groups. In both graphic areas (scanning and digital photography) we became fully operational this year. A total of some 1400 drawings



III. 12 Detail of head of clay statuette A12.30. – Photo V12d5217, Giuseppe Gallacci.



III. 13 Depression in the top of the head of the clay statuette A12.30.
Photo V12d5513, Giuseppe Gallacci.

were scanned (under the supervision of Alice Bianchi) and 2300 digital photos taken (under the supervision of Ong Kar Khalsa).

The systems for both scanning and digital photography were also planned and installed during the last three years by Federico Buccellati. In particular during the 1999 season he developed a fully functional system for digital macro photography, some examples of which are given here. While we still took black and white photographs as a back-up, the quality of digital photography seems to us fully satisfactory, so that in the future we will abandon black and white negative film. We will still continue, however, with color slides.

12. The conservation laboratory (Sophie Bonetti)

The role of specialists

The conservation season has been extremely rich and intense for the great amount of objects found in the excavation and for the presence of an additional Conservator. In Spring 1999, I organized the participation of Dr. Beatrice Angeli, Conservator of Archaeological Materials at the Opificio Delle Pietre Dure in Florence. Extremely experienced for her long career spent in archaeological sites all over the Mediterranean area, Dr. Angeli was one of my best teachers during my Conservation training at the school of the Opificio. At the end of last year's season in Mozan, I suggested that she would have been the ideal person to come to treat the metal finds. This having been approved, I put in touch the Expedition's Directors with the Opificio, and organized her coming for one month.

Besides the presence of Dr. Angeli, I also arranged for the participation of another collaborator, Yoko Taniguchi, a student in chemistry whom I met at the J. Paul Getty Conservation Institute in the fall of 1998. She was an intern in the Museum Research Lab and was doing research on ancient pottery. We had started together to do some research on Mozan's ceramic samples in the spring of '99, achieving promising results, and since she was ending her internship year in March, Drs Buccellati and I thought that we could try to involve officially the Director of the Museum Research Lab, Dr. David Scott, to continue the research started by Yoko Taniguchi. Not only were we able to find an agreement to work regularly on the analysis of the site's pottery with the involvement of two students that work at the site, Ong Kar Khalsa and John Lynch, but also we arranged for Yoko to come and spend a month in Mozan. She came and worked with great enthusiasm on the technical examination of all the Mozan wares, continuing the work done by other experts in the past years. She especially focused on the different clay compositions, their color variation resulting from the firing, and the research of local clay sources. We did together a research on the manufacturing techniques of tannurs (bread ovens) to see if the techniques used today could be comparable with the ancient ones. The study of local clay sources for the pottery and for installations such as tannurs, led us to concentrate on another area of interest: we wanted to see if there was a direct link between the local clay sources of the Mozan area and the clay composition of tablets and seal impression from the

site. The result of our first analysis and tests seem of great interest and we have sent some samples to be analyzed at the Getty Museum Research Lab for next year.

The renewed laboratory

Thanks to a special grant from the Samuel H. Kress Foundation, the Conservation lab this year has been radically improved by some reconstruction work. Until now, the lab consisted of a single room, though quite large, with two tables, and very well organized because of the numerous shelves. We have now added two extra rooms. There was a adjacent terrace, that was of relatively little use because it was outdoor without protection, totally exposed to wind and dust. On the other hand it was very useful for the great amount of light that it received, being open on two sides. This year the little terrace, in only five days, was transformed into a very comfortable working area by closing the two open sides with glass and, moreover, by adding an air conditioner. The conservation space has also been enlarged by gaining an extra room that is located right next to the lab; the room was used in the past years for the natural sciences and for special typological studies (both purposes being now served by the new building mentioned above). It has been used to store all the ceramics that we will restore next year, and to treat large pieces like the andiron (see below). It also housed the special research done by Yoko Taniguchi. As in past years, there also was a large outdoor working area for the ceramic conservation.

Organization of the Conservation activities

All the objects that were brought to the lab in need of conservation, or, if metal, of storage have been registered in a paper register and on the computer. Their label, short description and state of preservation were entered first, while the treatment description has been added later. All the metals were immediately labeled and passed on to Dr. Angeli for treatment. I cleaned and consolidated the clay objects and seal impressions with some help from Dr. Angeli. The ceramic vessels have been generally kept outside in a selected large space on a row of tables; almost all the vessels' reconstructions require in fact a large space to spread out the sherds in order to find matching pieces. The average number of objects brought to the lab in one week was of 6-8 metal artifacts, 8-10 ceramic vessels, 5-6 seal impressions or figurines (many more seal impressions came during the last weeks of excavation, see presently). Dr. Angeli restored approximately 50 metal pieces, 16 of which went to the Deir-er Zor Museum. Among these are a dagger, a javelin head, 3 spearheads, an ax head, a few pins, a pair of tweezers and a small lead figure of a nude female.

The ceramic vessels that were selected for restoration were passed on to two local workmen from the nearby village of Mozan, Steff Bekh and Yestefat Bekh. They have been trained in ceramic conservation since my first season here, in 1997, and turned out to be very skilled and reliable. They are able to put together a wide range of shapes and sizes, from very fine and small bowls

to large and heavy jars. This year, under my supervision, they worked on the reconstruction of approximately 60 shapes.

I have been particularly involved in the cleaning and consolidation of seal impressions; during the 6 weeks of the excavation the number of finds had been relatively small, so I was also asked to treat objects from previous years. At the end of the season though, when the excavation was in its closing phase with cleaning and leveling of the layers, a large concentration of seal impressions (the Tar'am-Agade cache) started to come out from the ground. The rate of pieces excavated was of 6-7 per hour, plus numerous clay lumps to be checked. I concentrated all my time on the treatment of these pieces that suddenly became a priority. By cleaning them with fine brushes and a scalpel and by consolidating them, their surface become in many cases much more readable, allowing the study and understanding of their inscriptions and iconography.

This year, besides the conservation work in the lab, I have been involved with Dr. Angeli in two special cases of conservation started in the field. The first case was that of a large piece of burnt wood that was found almost intact in the ground in room C4, (see above). We personally spent some time at the site cleaning the wood log from the soil with dental tools and air pumps, and tried to consolidate it. Two of the most skilled workmen saw the way we were working and they were able to continue by themselves. They have been able to free all the log's surface from the soil and they found more burnt wood around it. The piece is in a key room of the AK building, therefore its preservation is important: by being able to correctly excavate it we will understand its shape and hopefully its function (maybe a shelf?). The wood piece was left in the ground because we did not have the necessary equipment to remove it whole from the soil; it has been protected by a wooden case, plastic and dirt on top. We will attempt its removal next season.

The second intervention in the field was the removal and transportation of a large clay installation shaped as a kitchen small oven or andiron (see above). It is U shaped and its upper edge was uncovered in the ground in an apparently good condition. It was therefore decided to try to remove it intact and transport it to the house in order to treat it more properly, given its supposed importance. It was unclear, at that time, whether the piece was effectively an andiron, or something else since only the upper part was visible. The whole piece was removed from the ground within its immediate soil matrix and brought to the house, in the ceramic courtyard. The excavation of the andiron was continued by a workman under my supervision: he freed the original structure from the soil, at first outside and then inside. While he was removing the soil Dr. Angeli and I started a first phase of conservation. After that, we continued the treatment by consolidating further the surface that appeared to be very fragile and crumbly. It was decided to move the piece indoors into the conservation lab because the clay was drying too fast outdoors and cracking. The object was wrapped in aluminum foil, plaster bandages and gauze in order to avoid damages during the transportation. It was carefully moved to the lab, freed from the wrapping, and consolidated once again. For the following five days the piece was consolidated, the gaps between the cracks reduced and tinted plaster fills applied. The fills were done mainly for structural reasons, in order to give strength to the piece, and secondarily for aesthetic purposes.

13. *Architectural conservation (Ali Ali)*

Note. During the course of the years, Mr. Ali Ali, who is an architect by training and who has regularly served as the representative of the Directorate General of Antiquities and Museums for our Expedition, provided great assistance in our efforts to preserve the walls of the Royal Building AK. In the 1999 season, he accepted the responsibility of supervising the implementation of our new conservation plan, which entailed the construction of metal frames and of fitted tarps. He performed admirably his task, providing all the measurements that were required, making the necessary contacts with the local craftsmen who produced the intended structures, and supervising the final assembly (Fig. 10). It is only through his dedication and skill that we were able to complete the work on two of the rooms of the Palace. We have asked him to provide a technical report on his work, which we are happy to include here. (GB and MK-B)

A general problem in the conservation of the walls of the Royal Palace, besides the nature of the material (sun-dried mudbrick and undressed stone), is the irregularity of the profile: there is great unevenness in the degree of height preservation among the various walls. This means that a technical approach aimed at preserving the individual components from deterioration may make it difficult to perceive the original shape of the architectural whole. When I was asked to supervise the implementation of this project, I first made sure to assimilate well the purpose of our project, and at the same time to understand fully the actual layout of the building. In this way, I could hope to succeed in doing justice to both the architecture and the needs of conservation.

The aims of our work were as follows:

- (a) to protect the walls from natural agents such as rain and heat
- (b) to construct the wall preservation elements so as to be non-intrusive into the stratigraphy or the architecture
- (c) to give a real perception of the walls as such and to allow a direct view of the inner movement of the building and of the interrelationship among its parts (Ill. 12–13).
- (d) to make it possible for the covering structure to be easily removed, and to place regular openings to allow the inspection of the walls in their original state.

We chose to begin with one room where the walls were preserved at their highest on one side, and very low on another. The room selected was D2, the kitchen: its western side had been excavated in 1994, and the eastern side in 1997. The total surface area of the room is 51 m². I measured each wall with the specific goal in mind to divide them into segments for which distinct segments of a uniform iron frame might be built. The frame consists of pipes with a circular section of 3.5 cm in diameter, which slide over an iron bar placed on the ground: this allows us to regulate the height of the structure as desired, so as to obtain a uniform level at the top. We covered two walls with sheet metal 5.7 mm in thickness. The other frames do not have a sheet metal cover, but only horizontal struts covered with a tarp (see presently): after the winter rains we will determine which of the two systems serves our needs best. The frames were constructed to my specification in the shops of Mr. Sarkis Balian in Qamishli and Mr. Sabagh Kassem in Amuda. The cost of each m² of frame is about 550 Syrian pounds.

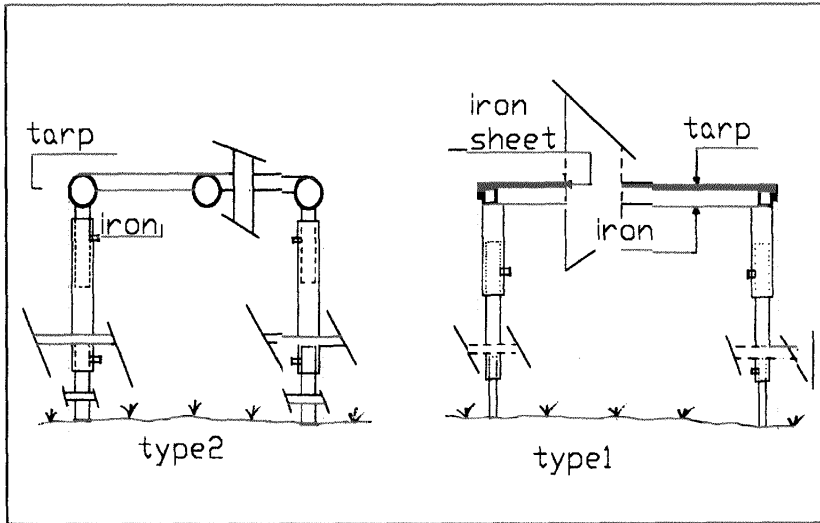


Fig. 10 Details of iron support for wall covers (Drawing by Ali Ali).

The iron frames were then covered with tent material; we chose material that had been used but was in good state. I gave the exact measurements to a tent maker in Qamishli, Mr. Abdul Baki Ali, who produced tightly fitted covers that reflected exactly the wall outlines. These covers are tied to the iron frames with solid laces, and they are folded outwards towards the floor: these flaps are then covered with the backfill that overlays the entire floor in the room. In several places where the wall is of particular interest, we have made it possible to raise a flap in the tent that allows visitors to inspect the wall. This flap is normally closed by means of a sturdy zipper. The cost of the material is 60 Syrian pounds per m², and the sewing about 150 Syrian pounds for each wall segment.

The installation of the entire structure is relatively easy, since it is modular and its various components are each of limited weight. It can also be dismantled without any difficulty: this is important because we hope, in the future, to put in place a more permanent structure that might fully protect the palace and present it as a coherent architectural whole to the visitors.

14. Ceramics from the Service Wing AK of the Royal Palace (M. Kelly-Buccellati)

Methodology

During the 1999 season major work was done on the analysis of the ceramics from the palace. While processing of the ceramics from the service wing AK of the royal palace began as soon as excavations started in this area in

1990, this past season marked an important threshold in the overall endeavor: on the one hand we have reached a very high volume of sherds analyzed, and on the other we have made excellent progress in the standardization of criteria and harmonization of codes. From the entire excavated area of the AK service wing of the palace we have analyzed 124,090 sherds, including 101,364 body sherds and 22,726 diagnostic sherds. All of the ceramic processing is integrated into a system of stratigraphic and typological documentation that aims at maximizing the interaction of stratigraphic and typological analysis while the excavation is taking place¹². During the excavation all sherd lots are collected by feature; they are intentionally designed to be small (contained within one medium size plastic bag)¹³. By keeping the number of sherds in each lot small we are able to reconstruct their placement within a very restricted stratigraphic context. If at any time in the future a different understanding of a stratigraphic situation occurs, the emplacement of the sherds can be reconstructed more easily within a very small stratigraphic area.

All the sherds and whole vessels are first sorted by ware. The ware types were initially described in the field and then the descriptions checked by a ceramic technologist¹⁴. The body sherds in each lot are counted by ware and then discarded if there are no problems or questions regarding the categorization of the sherds or the stratigraphy. Next, the shapes are categorized according to a shape catalog which developed over time as new types were found and older categories were combined or subdivided as the data indicated. Four major ceramic shape catalogs for the AK service wing have been produced over the years¹⁵. All the rim sherds and some of the base and decorated sherds have been saved in our excavation house. There, they are stored in boxes divided by feature, stratum and phase¹⁶. This has developed into a veritable sherd library, quite large in size and highly differentiated in content, which allows us the possibility of reviewing them within the parameters of new shape catalogs or new understandings of the function or chronology within various parts of

¹² The theoretical and practical aspects are to be presented in Giorgio Buccellati, *A Grammar of the Archaeological Record*, forthcoming in 2001.

¹³ Each lot is designated by a q lot number, the q standing for artifacts collected and triangulated as a given quantity, i. e. not triangulated individually.

¹⁴ For the ceramics from AK, Yoko Taniguchi studied the wares, her technical report will be published in the official excavation report. Certain specific aspects of the wares have been tested in the Getty Conservation Institute. Manufacturing techniques have been investigated by two modern potters Randall Bruce and Elaine Fuess. These studies too will appear in the technical reports.

¹⁵ M. Kelly-Buccellati 1991: *Stratified Ceramics from AK*, included all the AK ceramics excavated to date arranged by stratum and ware, 21 pp. Ead. 1992: *Summary of the Most Important Ceramic Forms by Ware*, 24 pp. Ead., 1996: *Ceramics from the Royal Palace AK, Seasons 1990-1996*, 69 pp. Ead., *Ceramics from the Royal Palace AK, The Early Strata*, 1997 56 pp. The current shape codes are contained in the *Pottery Index* produced in 1998. This index is divided by stratigraphic phase and form and is the basis for the categorization of the shape sherds from 1998-1999.

¹⁶ For a description and summary of the phases and strata see above and Fig. 7.

the building. The retention of this most important ceramic material from a large on-going excavation also means that new stratigraphic understandings can be recombined with the sherd evidence itself, not just from a portion of this evidence preserved on paper. Whole vessels are processed in a similar manner and where possible are correlated with the diagnostic sherd data¹⁷. The encoded sheets are entered into one of our computers by the local staff and checked by us against the handwritten sheets.

The Mozan standards for ceramic classification are summarized in Fig. 11. Types are divided by ware families, shape families, decoration, and where possible by function. Within each of these categories a number of subdivisions have been determined. So for instance, wares are subdivided into the categories of matrix, inclusions, manufacturing technique, size. Attributes are the specific aspects of the major categories. Thus, porosity is an aspect of matrix which is a subdivision of ware.

Analysis by Phases

For this study sherds have been analyzed from all sub-areas of the AK Service Wing. This does not include all the sherds described from these areas since some features have yet to be definitely assigned to a stratum. For this particular study 77,316 body and shape sherds were analyzed. We plan to complete all the strata assignments in the 2000 season¹⁸. The wares are first divided by larger groupings called Families which are each given by phase, that is all the ceramics in the phase whether from primary or secondary contexts (Fig. 12)¹⁹. At the side of each bar of the battleship curve²⁰ the percentage per phase along with the actual number, as well as the total number in the phase, are given. The Families include: Chaff Tempered, Fine Buff (which contains Simple ware and the related Wet Smooth ware), Imported (also comprising vessels probably made locally but inspired by imported wares, one example being Imitation Metallic ware) and Pebble Tempered cooking vessels. In this graph it is clear that the Chaff Tempered Family is more dominant after Pha-

¹⁷ A large number of individuals participated in the processing of the Mozan ceramics from this wing of the palace. Among the people who spent major portions of their time processing and drawing the ceramics are: Alice Bianchi, William R. Shelby, Hélène Cooper, Jamal Omar, Elena Zanolari; in the last few years Alice Bianchi has been a mainstay in both the processing and the training of a local staff. The local staff includes Hammade Hammade, Benghin Hassan, Mohammad Omo, Ahmed Omo, Juma Mamo, Rashid Mamo, Kastro Isa, Abdel Karim Hassan, Didadin Bekh, and Ibrahim Khellu.

¹⁸ For this reason we have decided to wait to conduct more complex relative frequency analysis until all the features have been assigned definitive strata.

¹⁹ Sherds from Phase 6 have been included for completeness, though they do not have a meaningful stratigraphic context.

²⁰ More scientifically known as a double lenticular ontogeny curve.

			attributes							
(type)	ware family	ware	matrix	paste	porosity	firing	hardness	fracture	color inside	color outside
			inclusions	temper	color range					
			manufacturing technique	forming techniques	exterior treatment	interior treatment				
			measurements	max wall thickness	maximum height	maximum width	weight	volume		
	shape family	shape	proportions	closed h > w (jar)	intermediate h = w (pot)	open h < w (bowl)				
			dimensions	height range	width range	base range				
			profile	rim	neck	shoulder	base			
			appendages	handles	spouts					
	decoration	aspect	painted	incised	excised	applied				
		location	inside	outside	rim	neck	shoulder	lower body		
	function	generic	access	scooping	pouring					
			portability	2 hands	1 hand	fingers	fixed			
		specific	containment	oil	perfume	fruit	grain	etc.		
			production	salt	cheese	etc.				

Fig. 11 Mozan standards for ceramic classification.

<u>term</u>	<u>example</u>	<u>definition</u>
standard	Munsell color chart	simple: a set of parameters used to define a variant within a variable (e.g., the variant "5YR8/2" within the variable "color")
	chaff tempered	complex: a combination of simple standards used to define a set of variants within a variable (e.g., the set of pertinent attributes for matrix, inclusions, manufacturing technique and measurements within the variable "ware")
type	bevelled rim bowl	a distinctive clustering of attributes, drawn from ware, shape and function alternatives within type (e.g., same shape, different measurements)
subtype	conical cup 1	
ware family	chaff tempered	a grouping of wares
shape family	necked jars	a grouping of shapes
ware	fine chaff tempered	clustering of attributes pertaining to physical composition, manufacturing techniques, maximal measurements — predicated of any given sherd
shape	double rim necked jar	clustering of attributes pertaining to proportions, profile, dimensions and appendages — predicated only of diagnostic sherds and complete vessels
function	oil jar	clustering of attributes pertaining to perception (generic function depending on how content is accessed or vessel is carried) and to use (specific function depending on what

Notes to Fig. 11 Mozan standards for ceramic classification.

ses 2a and b²¹. This pattern follows from the fact that the Simple Ware Tradition is still important in those earlier phases but gradually declining in popularity²². This is clearly seen in the graph of the Fine Buff Family which gradually declines from a total of 31% in Phase 2a to 7% in Phase 4b²³. The Pebble Tempered Family of cooking vessels is not as time sensitive as the other wares and also is distributed over a wide geographical area. More detail can be seen in Fig. 13, where the individual battleship curves for the single wares which make up the Ware Families are given along with the totals of the sherds analyzed for each Family. This data on the ware families is further subdivided in this chart by accumulation strata for Phases 2a through 4b. Metallic ware, never very abundant at Mozan, is more popular in the earlier phases than later. The Early Transcaucasian pottery, while significant for other types of research, is not numerically important in any of the strata. In the Chaff Tempered Family ROG ware²⁴ increases as the Fine Buff Family decreases. Conical cups and small to medium jars and bowls are produced in this ware, vessel sizes which had previously been made in Simple and Wet Smooth wares.

Analysis by Strata

When the ware families are looked at in more detail, by separating out the first accumulation strata (primary contexts) and by giving the statistics for each of these strata (Figs. 14a and 14b)²⁵ the numbers in the sample decrease, however the patterns already seen when all the sherds in the phase are taken into consideration, carry through when only those stratified on the first floors of the phase are looked at. The statistics show that Imitation Metallic ware was never very important but is nevertheless present after Stratum 17a. Technically this ware is related to the production of dark rimmed orange bowls found in the region.

In the analysis of the shapes found on the floors of the AK Service Wing only those that are statistically relevant from primary contexts will be discussed. Given the large number of shapes in the shape catalog, there are many diagnostic sherds on these floors that have just a few examples. While these may

²¹ We have just begun to excavate stratum 2b so there are very few sherds analyzed from it.

²² In the mid-third millennium stratum B1 of Temple BA the Simple Ware Tradition is dominant, see Mozan 1 and G. Buccellati and M. Kelly-Buccellati, Mozan, Tall, in: *Reallexikon der Assyriologie* 8 (1995) 386-93.

²³ The total in Phase 5 is not representative of the occurrence of this family in the Khabur period.

²⁴ Now called Red Orange Calcite tempered ware after the technical study of Yoko Taniguchi who identified the large white inclusions which are very numerous in vessels made of this ware, as calcite rather than gypsum.

²⁵ The charts give the percentages and the absolute totals as in Fig. 12. See fig. 3 for a summary of the strata by phases.

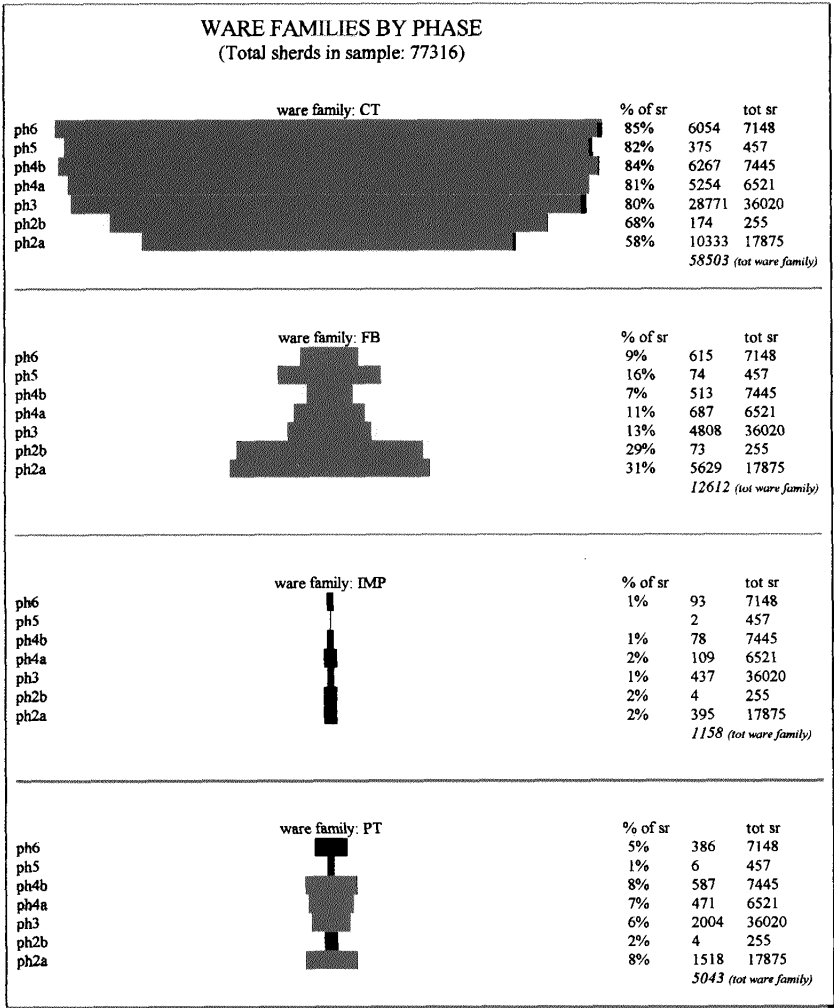


Fig. 12 Seriation of ceramic wares by families and phases
CT=chaff tempered; FB=fine buff; IMP=imported; PT=pebble tempered.

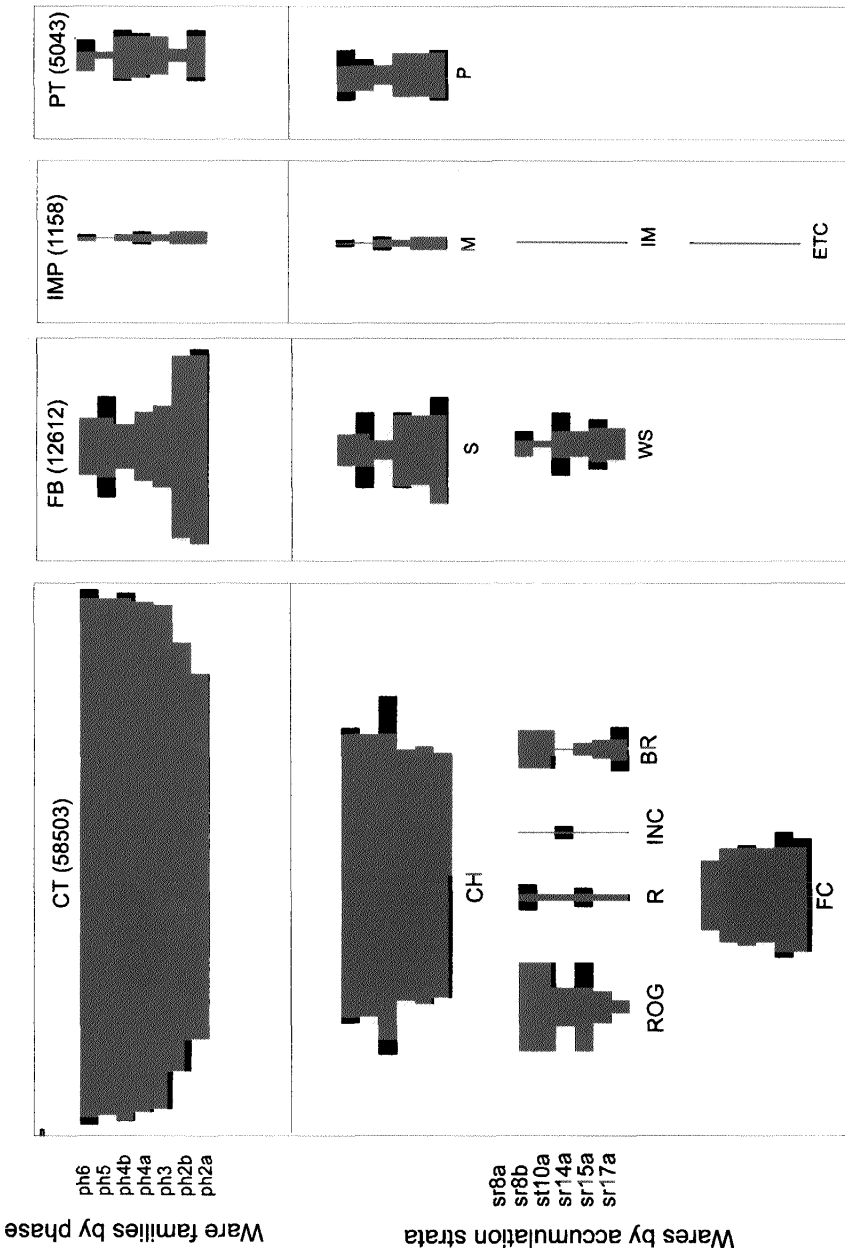


Fig. 13 Wares by phase and stratum (Total sherds in sample: 77316).

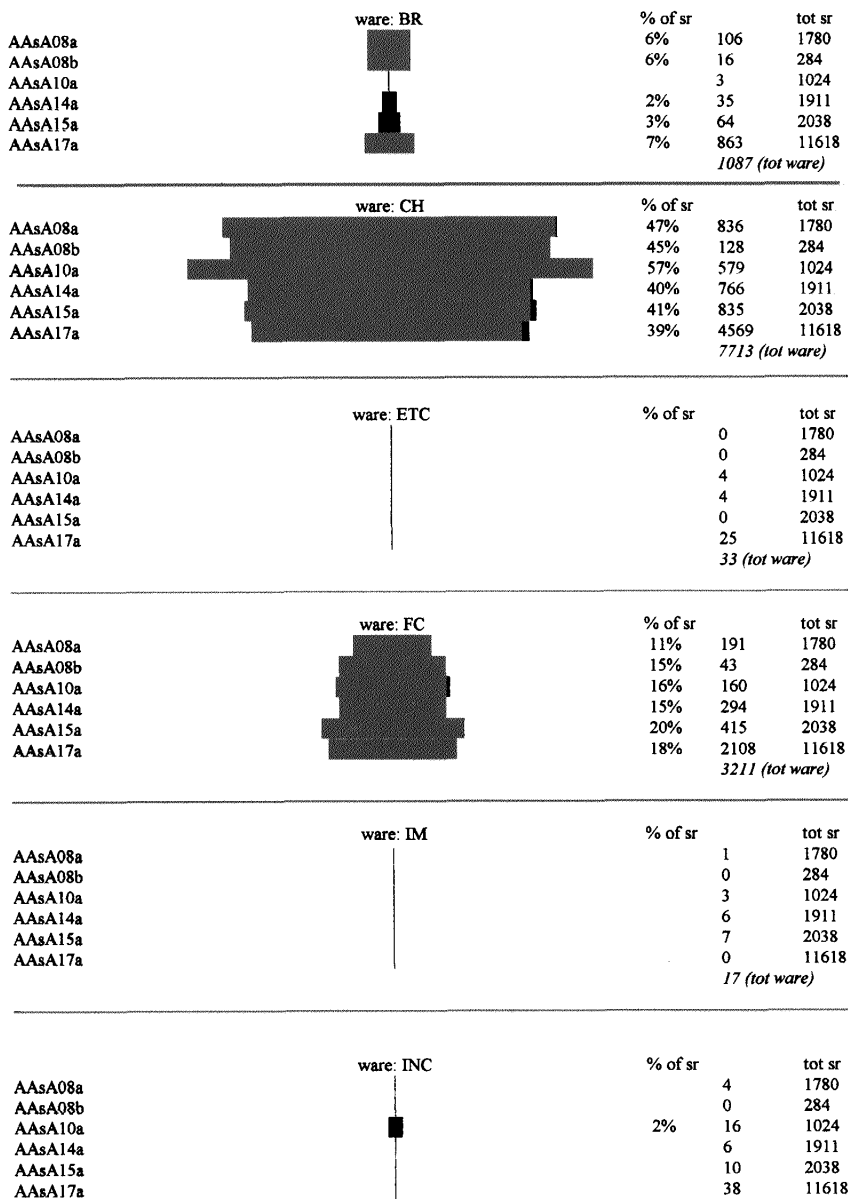


Fig. 14a Wares by first accumulation strata ('living floors') / 1 (Total sherds in sample: 18655).


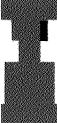


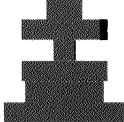

		% of sr		tot sr
AAAsA08a		1%	15	1780
AAAsA08b			1	284
AAAsA10a			18	1024
AAAsA14a			28	1911
AAAsA15a			32	2038
AAAsA17a			251	11618
			<i>345 (tot ware)</i>	
<hr/>				
		% of sr		tot sr
AAAsA08a		8%	134	1780
AAAsA08b			15	284
AAAsA10a			35	1024
AAAsA14a			143	1911
AAAsA15a			145	2038
AAAsA17a			958	11618
			<i>1430 (tot ware)</i>	
<hr/>				
		% of sr		tot sr
AAAsA08a		4%	76	1780
AAAsA08b			3	284
AAAsA10a			11	1024
AAAsA14a			61	1911
AAAsA15a			25	2038
AAAsA17a			86	11618
			<i>262 (tot ware)</i>	
<hr/>				
		% of sr		tot sr
AAAsA08a		14%	250	1780
AAAsA08b			39	284
AAAsA10a			57	1024
AAAsA14a			259	1911
AAAsA15a			105	2038
AAAsA17a			203	11618
			<i>913 (tot ware)</i>	
<hr/>				
		% of sr		tot sr
AAAsA08a		5%	89	1780
AAAsA08b			34	284
AAAsA10a			27	1024
AAAsA14a			221	1911
AAAsA15a			228	2038
AAAsA17a			1927	11618
			<i>2526 (tot ware)</i>	
<hr/>				
		% of sr		tot sr
AAAsA08a		4%	75	1780
AAAsA08b			4	284
AAAsA10a			98	1024
AAAsA14a			81	1911
AAAsA15a			161	2038
AAAsA17a			577	11618
			<i>996 (tot ware)</i>	

Fig. 14b Wares by first accumulation strata ('living floors') / 2
(Total sherds in sample: 18655).

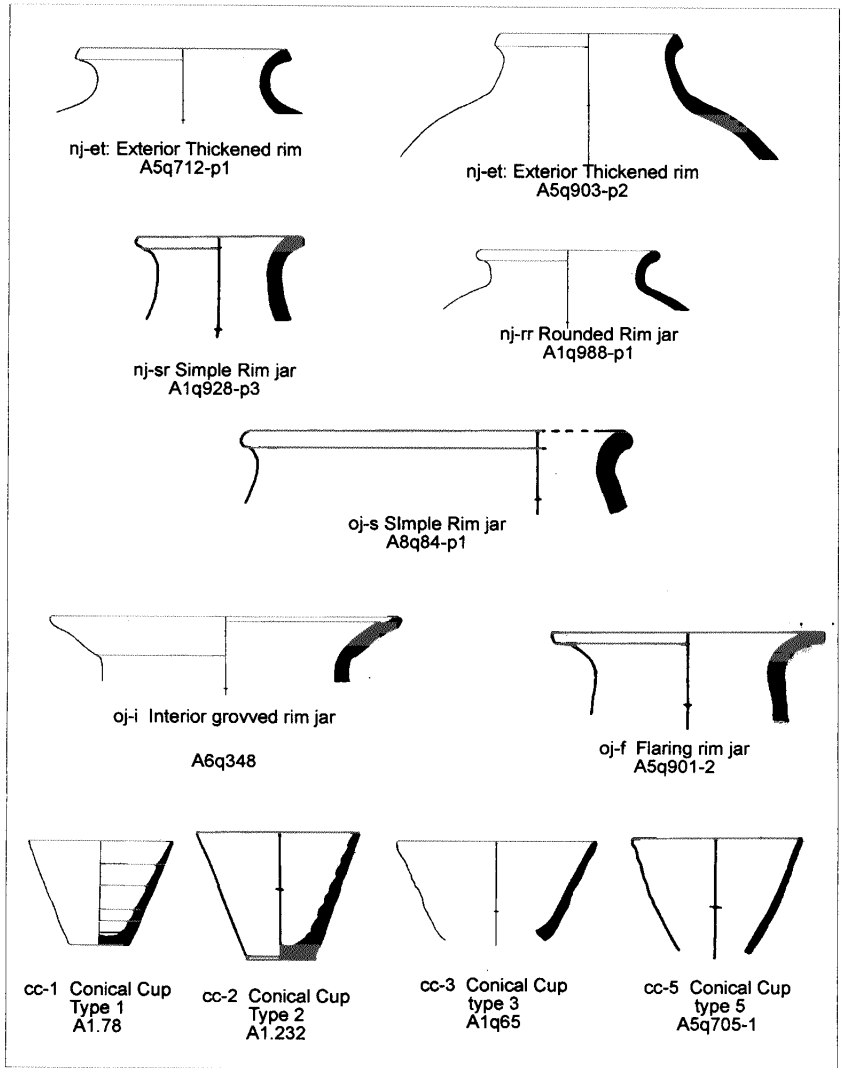


Fig. 15a Typical shapes from stratum 17a (AAsA17a): jars and cups.
 (Note: The mark along the vertical axis represents a 5 cms segment).

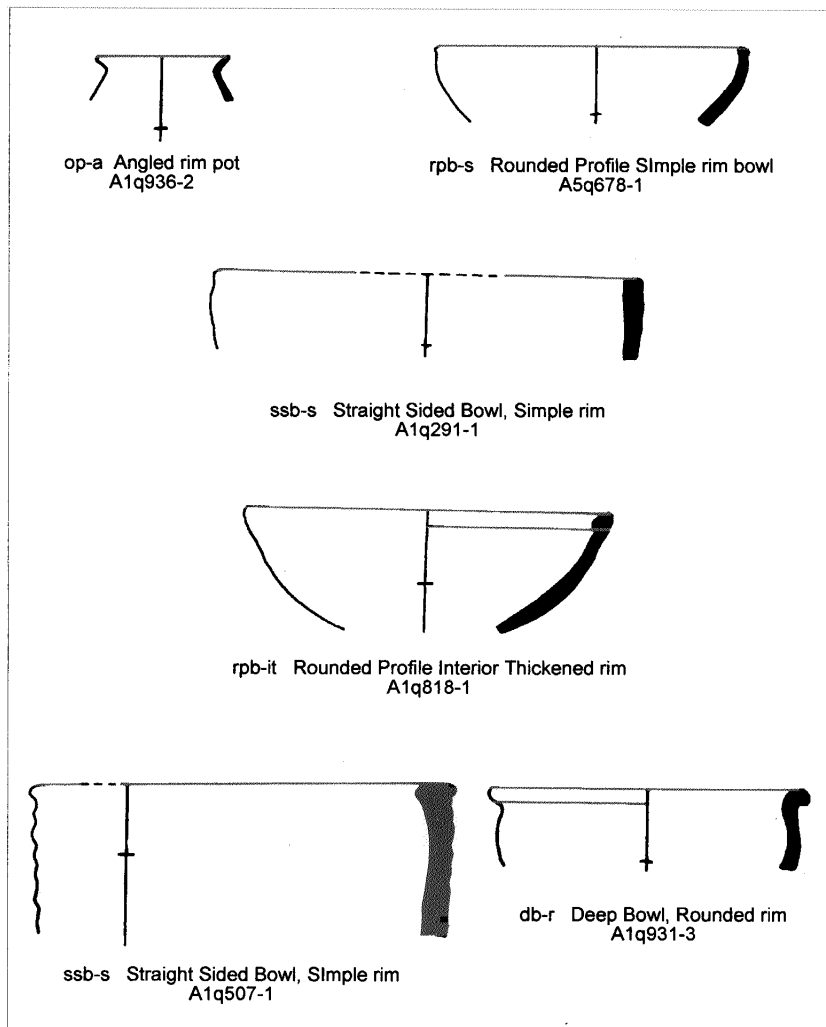


Fig. 15b Typical shapes from stratum 17a (AAsA17a): bowls and pots.

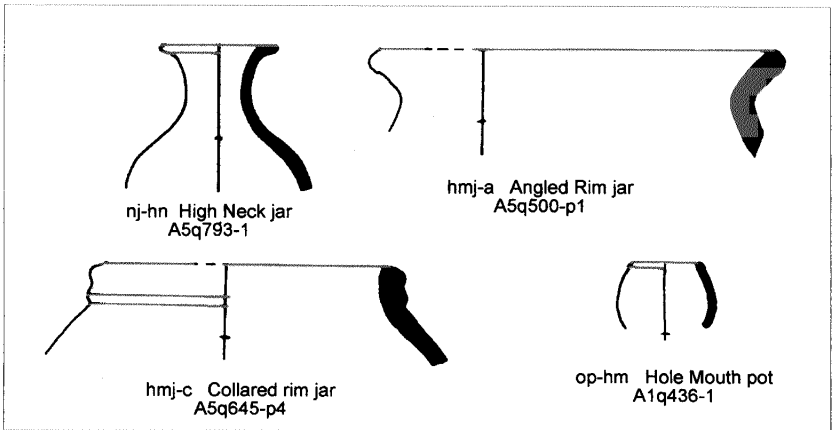


Fig. 16 Typical shapes from stratum 15a (AAsA15a)

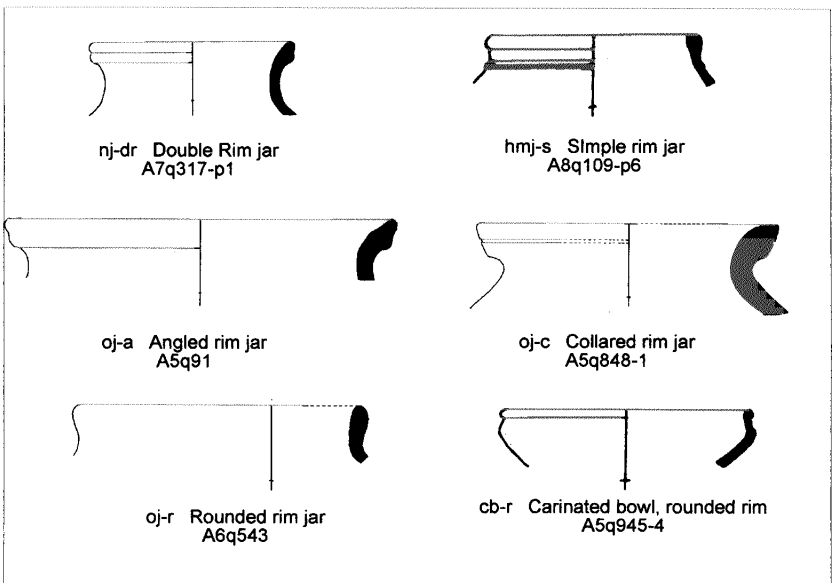


Fig. 17 Typical shapes from stratum 14a (AAsA14a).

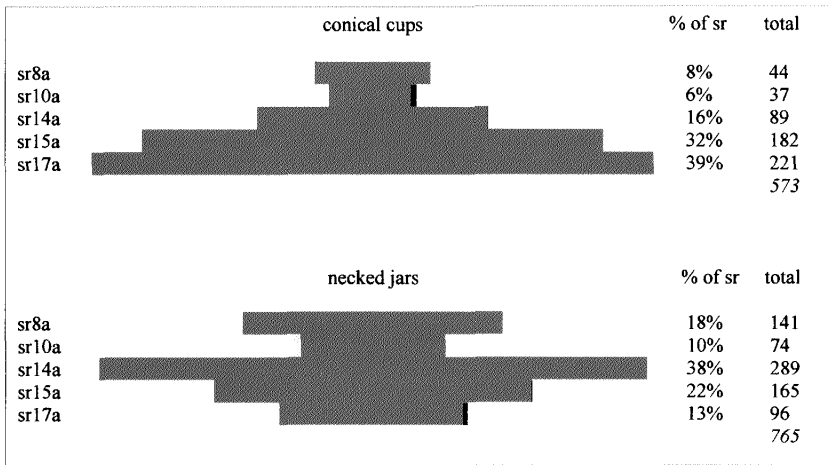


Fig. 18 Development of two distinctive shapes in major first accumulation strata.

be important for studies of the relative chronology of the region²⁶, we are interested here only in those types that are most commonly stratified on the floors of this type of building in the Akkadian and Post Akkadian periods at Urkesh²⁷. The most numerous shapes in stratum 17a are found on Figs. 15a,b. Conical cups are prevalent in the earliest stratum (Fig. 15a). In replication experiments on manufacturing techniques of the conical cups, a potter from Los Angeles, Elaine Fuess, estimated that if the clay was prepared ahead, about 500 of these cups could be made in one day by a single potter. This is due to the fact that they are thrown from the hump and cut off with a string; no further refining is done on the exterior or the base. One of the reasons for their high number on the floors of the palace must be connected with their rapid

²⁶ The comparative material for the stratified ceramics from the AK Service Wing of the palace is the subject of the dissertation of Alice Bianchi.

²⁷ One of the important vessel types for the relative chronology of our region is the dark rimmed orange bowl. Sherds of these bowls are found at other sites in the area, such as Brak; they are relatively scarce at Urkesh. The method of manufacturing these bowls has been studied by Randall Bruce, a ceramicist. He concluded that they are fired in a similar way to the Attic Black Figure pottery after a slip high in metallic oxides was applied to the exterior of the rim.

- | | |
|------|--|
| FN 1 | Closed form, can be held in one hand, contents can only be poured out. Rim diameter smaller than 10cm. |
| FN 2 | Closed form, can be held in one hand, contents can be poured or scooped out. Rim diameter 10-14cm. |
| FN 3 | Closed form, can be held in two hands, contents can only be poured out, i.e. narrow necked jars. Rim diameter smaller than 10cm. |
| FN 4 | Closed form, can be held in two hands, contents can be poured or scooped. Rim diameter 15-30 cm. |
| FN 5 | Closed or Open form, vessels cannot easily be moved, contents can only be scooped out. Rim diameter for closed forms, greater than 30cm. Rim diameter for open forms greater, than 30cm. |
| FN 6 | Open form, can be held in one hand, contents can only be poured out. Rim diameter smaller than 10. |
| FN 7 | Open form, can be held in one hand, contents can be poured or scooped out. Rim diameter 10-14cm. |
| FN 8 | Open form, can be held in two hands, contents can only be scooped out. Rim diameter 15-30cm. |

Fig. 19 Mozan standards for determining functional categories.
(FN 1-4 correspond to jars, FN 6-8 to bowls.)

production. Conical cups are often held by figures in the Urkesh seal impressions stratified in stratum 17a²⁸.

In the Post Akkadian strata, strata 15a and 14a, the potting tradition, which was declining in quality at the end of the Simple Ware Tradition in stratum 17a, now changed even further in that fewer shapes are numerous and these made in coarser wares (see Figs. 16-17). Carinated bowls and medium pots and jars with a straight, ribbed neck and grooves made with a template below the neck are now prominent. Of course, these changes may also in part be determined by the change in the function of the building. Fewer seal impressions are found stratified in these strata; they can be stylistically dated to the Post Akkadian period, with inscriptions, where present, in Akkadian. Fig. 18 shows the development of two important shapes found on the floors of the AK Service Wing and in the strata above this building: conical cups and necked jars with globular or egg-shaped bodies. While conical cups are prevalent in pre-

²⁸ M. Kelly-Buccellati, *The Workshops of Urkesh*, in: G. Buccellati/M. Kelly-Buccellati (eds.), *Urkesh and the Hurrians: Studies in Honor of Lloyd Cotsen*, *Urkesh/Mozan Studies* 3, 1998, pp. 35-50. with previous references.

palace and the earliest palace floors their numbers diminish after this. Necked jars instead are most prevalent in stratum 14a. In Post Akkadian tombs necked jars and carinated bowls are standard tomb equipment. Necked jars can be identified with those depicted on 'flowing vase' scenes and are called in Akkadian *begallu*²⁹. A symbolic association of abundance is usually given for these jars.

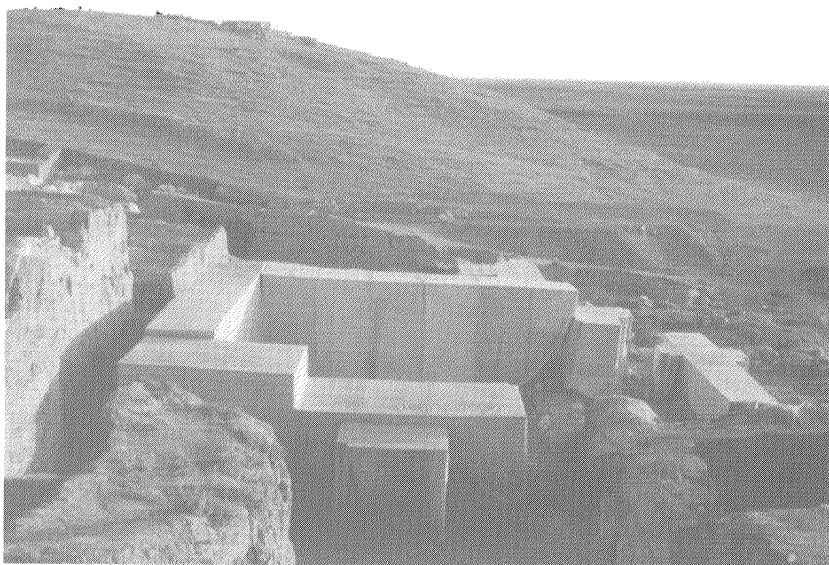
Analysis by Functional Types

In studies on the function of the rooms in the AK service wing we divided all the shape sherds into 8 functional categories (Fig. 19). Fundamental to this analysis is the distinction between a generic and a specific function. This in turn is based on shape, size, and access to contents³⁰. In analyzing the ceramics for function some general considerations have to be made. (1) Jars are characterized by their rim diameter being considerably smaller than the widest part of the body. A hand can only enter jars with rim diameters of about 10 cm. while a scooping implement can only enter rims with larger diameters. Most medium and all small jars can be tilted or lifted for pouring. (2) Bowls are characterized by the fact that their rim diameter is considerably wider than the height of the vessel. A hand with a scooping implement can enter a bowl with a rim diameter larger than about 10 cm. Most medium and all small bowls can be tilted or lifted for pouring. (3) In our system both pots and cups have a rim diameter approximately the same as the height of the vessel. There is more latitude between the proportion of the rim to the height in cups than pots. The rim diameter of a cup allows access to the contents only by lifting or tilting. A hand can enter pots of about 10 cm in rim diameter while a hand holding a scooping implement can enter larger rim diameters. As for jars and bowls, most medium and all small pots can be lifted or tilted. In our system cups and pots are considered open forms.

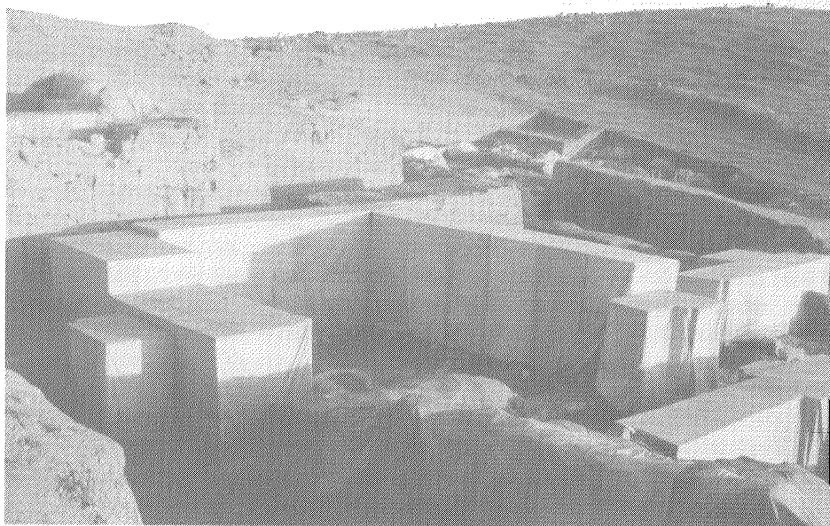
In Fig. 20 these categories are applied to three sectors of the AK service wing: Sector B a storage sector, Sector D the kitchen, and Sector C which we understand as a possible scribal quarter (see above). It is clear from this graph that the three sectors exhibit a rather different ceramic distribution when looked at in this fashion. The two sectors in which the patterns are closer are B and D. They both had a large number of small and medium bowls. The kitchen contained a similar percentage of small to medium jars but a higher percentage of larger jars and a smaller percentage of small bowls. Vessels that are

²⁹ J. Black/A. Green, *Gods, Demons and Symbols of Ancient Mesopotamia*, London 1992, p. 184.

³⁰ This system is a continuation of that used in analyzing the pottery from Terqa, see M. Kelly-Buccellati/W. R. Shelby, *Terqa Preliminary Reports No. 4: A Typology of Ceramic Vessels of the Third and Second Millennia*, *Syro-Mesopotamian Studies* 1(1977) 182-185; G. Buccellati/M. Kelly-Buccellati, *IIMAS Field Encoding Manual (Non-Digital)*, ARTANES 2, Malibu 1978, pp. 21-23.



Ill. 14 Sector D of the AK wing of the palace with wall coverings (looking south).
Photo V12d9451, Federico Buccellati.



Ill. 15 Same as Illustration 14, looking southeast.
Note the earlier style of wall covering in the foreground.
Photo V12d9453, Federico Buccellati.

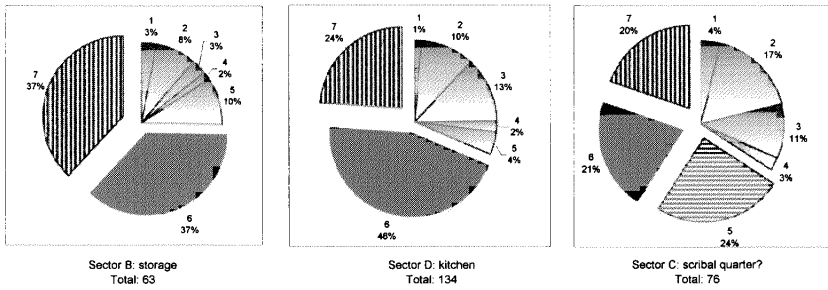


Fig. 20 Distribution of vessels by function within sectors
 Functions with frequency higher than 20% are highlighted.

too large to be easily moved are found in greater quantities in Sector B. All of these patterns are logical for the proposed function of the two areas. The similarity between these two sectors points to an even greater interconnection between these two areas than can be seen when only taking into consideration the architectural plan and the seal impressions. Sector C contained a much more even distribution of function types with all the categories concentrated in the medium to large range, both in the closed and open forms. If in Sector C the use was primarily as a scribal center, these medium to large vessels may have been employed by the scribes for holding water and clay. These general conclusions support our previous ideas as to the function of these spaces³¹.

³¹ In the case of Sector D, the kitchen, we had hypothesized that it would be a kitchen even before digging it. This was based on a careful study of third millennium palaces and especially the Mari palace in comparison with what we had already excavated of the Urkeshe palace.