EXCAVATIONS AT ZIYARET TEPE 2007-2008

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INTRODUCTION

The eleventh and twelfth seasons of archaeological fieldwork at Ziyaret Tepe took place during July-September 2007 and 2008. Dr. Timothy Matney (University of Akron) served as the project director and Dr. Lynn Rainville (University of Virginia) was the assistant director. Three fieldwork initiatives were undertaken at Ziyaret Tepe during the 2007-2008 seasons. Excavations on the eastern high mound were conducted by Dr. Dirk Wicke (University of Mainz) and concentrated on the excavation of the residential section of the Late Assyrian palace (Operation A/N) first discovered in 2000 (Matney et al. 2002; 2003). On the northern high mound, Prof. Dr. Kemalettin Köroğlu (Marmara University) continued our excavations in Operation L, where a well stratified sequence of remains has been uncovered dating from the early Iron Age through the Medieval periods. Work here in 2007 and 2008 concentrated on the Late Assyrian, Early Iron Age, and Middle Assyrian deposits (levels L4 to L6). In the southwestern lower town, excavations in four areas were overseen by Dr. John MacGinnis (Cambridge University) including work on the city’s gate and fortification system, public and domestic structures (Operations G/R, P, and Q).1

The two primary goals of the Ziyaret Tepe project during 2007-2008 were: (1) to continue our documentation of the layout and urban planning of the Late Assyrian city of Tuşhan and (2) to improve our understanding of the basic stratigraphical sequence from the Iron Age and later periods. This report is organized by excavation area, starting with the high mound excavations and moving then to the lower town. Both areas have a separate section within this report, and include discussion of artifacts of particular interest, as well as brief summaries of on-going ceramic and paleofaunal studies. At the end of this report we present our site-wide ground stone artifact typology implemented by Dr. Britt Hartenberger (Western Michigan University) in 2008. Finally, we present a revised chronology for Ziyaret Tepe/Tuşhan.

1 This season was generously supported by the regional Diyarbakır Museum and its director, Mehmet Akif Bilici, and staff. We would like to acknowledge financial support from a number of institutions: the National Endowment for the Humanities (Grant No. RZ-50721-07), the American Research Institute in Turkey, the Johannes Gutenberg-University of Mainz, the McDonald Institute for Archaeological Research, the Wainwright Fund of Oxford University, the Raising Trust, the Headley Trust, the Harding Trust, Neel Kreitman, Koc Shipping, the Wassersteins, Lord Browne, the Assyrian Community of Gothenberg, and private donors. Our work, including this report, is only possible because of the efforts and dedication of our field staff, too numerous to name here individually.
Ziyaret Tepe is a 32 hectare mounded settlement on the right bank of the Tigris River in the Diyarbakır Province of southeastern Turkey. It was first systematically recorded during surveys along the Tigris in the late 1980s (Algaze et al. 1991) and the current project was started by Matney in 1997 as part of broader salvage activities undertaken in advance of the Ilisu Dam across the Tigris River. Our previous archaeological work demonstrates a long, although incomplete, occupational sequence at the site dating from the Early Bronze Age through the Medieval periods, c. 3000 BC to AD 1500 (Matney 1998: 30; Matney et al. 2002: 72; Matney and Rainville 2005; Matney et al. 2007, and see below). Based on surface survey, Ziyaret Tepe reached urban proportions during the Middle and Late Assyrian periods, c. 1300 BC to 610 BC (Matney 1998: 12). At that time the site comprised a high mound or citadel of some three hectares and a surrounding lower town of 29 hectares. During its Assyrian apogee, the city was ringed with a substantial mudbrick defensive fortification wall and moat, the remnants of which are marked today by a low rise amongst the modern agricultural fields which surround the high mound (Fig. 1).

OPERATION A/N (THE “BRONZE PALACE”)

The highest part of the acropolis at Ziyaret Tepe was initially excavated as Operation A in 2000-2002 (Matney et al. 2002: 53-58; Matney et al. 2003: 186-187). In these excavations, parts of a monumental Late Assyrian building erected on a massive mudbrick platform were uncovered, showing evidence of at least two different building phases. Six rooms were delineated in association with a large courtyard area during these early excavations (Matney et al. 2002: 53-58). The character of the building, however, remained unclear to the excavators. One of the most intriguing finds in Operation A was the discovery of three rectangular pyrotechnical installations, containing very rich finds, in particular a large quantity of bronzes artifacts, hence our nickname for the building: the “Bronze Palace”.

In 2007 and 2008, the principal objective in this operation was to expose more of the Late Assyrian building in order to clarify its layout and architectural development. Moreover, the nature of the pyrotechnical installations recovered in previous seasons needed to be investigated in greater depth. The work of 2007 and 2008 was carried out as Operation N. Operation N comprised excavation in trenches N980E1170, N1000E1170 and N980E1180. Located on the exposed summit of the mound, the cultural deposits show a high degree of erosion, and the Late Assyrian layers have been further damaged by later occupational activities of the Medieval and Ottoman periods. Despite these

Operation N is contiguous to, and in some cases directly continues, the excavations of Operation A. For analytical purposes, these two operations can be treated as a single unit. Recording at Ziyaret Tepe is organized in a locus system. General areas of excavation are given Operation letters (A through Q). Each locus within the operation is given a three digit sequential number (e.g., A-001 to A-999). Excavation is carried out in 10m by 10m trenches which are numbered according to their southwestern corners with a northing and easting in meters referencing an arbitrary datum offsite. N980E1180, for example, has its southwestern corner 980m north and 1180m east of the datum. Individual small finds, or groups of sherds or bones, are given a sequential find number prefixed by the letters “ZT” (e.g., ZT 19106).
problems, important additions to the plan of the Assyrian building were achieved. Particularly fortunate was the discovery of additional undisturbed pyrotechnical installations in the courtyard of the Bronze Palace.

Five different major occupational levels can now be distinguished in Operation A/N. Level N0 is modern and consists of isolated features and pits. Level N1 is Ottoman in date and is represented by a stratum with stone architecture and a layer of pits. Level N2 is Medieval in date and comprises a stratum with mudbrick architecture and a second layer of pits. Level N3 represents an intermediate level with few isolated features. Elsewhere at Ziyaret Tepe, a similarly poorly-preserved level stratigraphically located between the Late Assyrian and Medieval levels has been dated provisionally to the Hellenistic period (Matney et al. 2007: 43-44 “Late Iron Age”; cf. Köröglu below). Although the evidence still is insufficient, Level N3 might be tentatively ascribed to this date. Level N4 is the Late Assyrian level and in Operation N comprises the palatial building with two distinct building phases.

**Level N1**

Work in Operation A/N yielded a great number of *tannurs* and pits as well as the rather flimsy remains of stone walls, resembling broadly the results in Operation L (Matney et al. 2007: 25-43). Remains of the upper layer (Phase N1) comprise thin walls of unworked stones, mostly medium-sized pebbles, in single or double-rows. In the following report areas delineated by these stone walls are designated as rooms, which should not be taken literally. The observed arrangement of walls could just as easily represent open activity areas.

In general, no coherent structure for the overall area can be recognised for the later occupation. The walls form single room-like units such as Room 1 in N980E1170 or Room 2 in N1000E1170. Some door-sockets were found still *in situ* even when the wall to which they were associated had already vanished, e.g., Room 4 in N980E1180.

One of the better preserved contexts is Room 1 and its connected features (Fig. 2a). Room 1 consists of two connected stone-walls N-162 and N-165, which are preserved to a height of two courses. Sandy bricks and remains of concrete-like, coarse mortar with pebbles remind one of Roman or Byzantine building-techniques that were continued into Islamic times although these techniques are rarely found in domestic architecture at Ziyaret Tepe. The room was entered from the SW, where it seems to be connected to a large rubbish pit. An oval pottery tray was placed upon a single brick at the outside of wall N-162. To the east a scatter of stones and a stone pavement belong to the same level. An oversized stone mortar was found adjacent to this pavement. A constructed storage pit (N-216) turned out to be rather conspicuous: a circular row of large stones was laid out at the bottom as a foundation. The lining consists of thin bricks with insets of three stones in

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3 The designations and final dating of the Levels N1 and N2 are preliminary only, awaiting a full consideration of the pottery by Vorderstrasse (cf. below). The levels are for now termed Ottoman and Medieval, but may require reassignment thereafter. In general, they describe differences observed in terms of architecture and stratigraphy. Early and late phases were assigned for Levels N2 and N4.
a horizontal row at irregular intervals. Organic remains from the bottom of Pit N-216 suggest it was originally used for grain storage. After the storage pit fell out of use, it was used as a dump, containing large amounts of bone and pottery in its upper layers (see below).

Room 2 is associated with a large tannur which was rebuilt several times as indicated by different linings and traces of remodelling of the cupola; the stoke-hole is orientated north. Further tannurs were found close by, attesting to the domestic use of this area over a long period of time. A similar outline of a room and a tannur was detected in Room 3 in N1000E1180. Here, two stone walls are associated with a floor and tannur and appear to form a domestic unit. All that remains of Room 4 is the door socket construction. The associated walls have been eroded away. The walls to Room 5, built of double rows of stone, are thicker and seem to be stronger although this room’s connection to other installations in Level N1 is uncertain.

In general, the remains of Level N1 give the impression of dispersed domestic occupation in this part of the acropolis, similar to the results in Operation L where these alignments of stones were associated with the erection of tents (Köroğlu 2007: Fig. 3). With the discovery of mortar fragments and door sockets in Operation A/N, such an interpretation becomes less likely, pointing rather to poorly constructed, although permanent occupation in Level N1.

**Level N2**

Directly underneath the remains of Level N1, mudbrick walls were found and attributed to Level N2. These walls were largely destroyed by natural erosion and the habitation activities of the occupants of Level N1. In contrast to the wall foundations and lower courses of Level N1, which were built of stone, the walls of Level N2 are made of mudbricks or pisé. Again, due to patchy preservation it was not possible to reconstruct a coherent plan of rooms or buildings. Significant, however, is an overall orientation of walls along a north-south axis across Operation A/N. The narrow alignment of walls N-009 and N-010 (Fig. 2b) and the corner of a room formed by A-131 and A-132 (not shown), resemble Level L2 in Operation L (Matney et al. 2007: Fig. 5). Unusual are two clay features, roundish “postaments” in association with mudbrick walls, which might have served as working installations.

More than thirty pits were assigned to Level N2 in the 2008 season alone. The proximity to the surface and later disturbances, however, made it difficult to discern a stratigraphical order to the pits. Nevertheless, two different stratigraphic horizons within Level N2 indicate an earlier and a later phase of occupation. The latter of these two horizons produced a particular type of glazed pottery, which contributes to the overall pottery sequence at Ziyaret Tepe.

**Level N2 Medieval Ceramics from the High Mound**

The excavations in Level N2 revealed pottery that was similar in form and ware to what had already been discovered in Operation L (Matney et al. 2007), strongly
suggesting that the two areas had been inhabited simultaneously. Our continuing analysis of these wares dates the Medieval occupation at Ziyaret Tepe from the late 13th to the early 15th century, with the bulk of the material dating to the 14th century AD. A number of new types of pottery wares were found in the course of the excavations in Operation N in 2007-2008. None of these new pottery types were particularly common, which could explain their absence in Operation L, excavated over an area of only 400m². The first new type is a white slipped pottery with a clear blue glaze and black and cobalt underpainted decoration. This pottery is probably related to 13th-14th century Sultanabad wares produced in Iran and copied in Syria and Egypt (Watson 2004: 373-405; Millwright 2008).

The second type is an unusual type of luster ware. Unlike many luster wares, the Ziyaret Tepe examples do not have typical metallic copper luster painted in patterns onto a white ground. Rather, the luster is applied to the ground upon which is painted a design in blue-green decoration. The third new type is a white glazed, thin-walled pottery with similarities to other wares in terms of forms represented, but these examples are much thinner.

**Level N3**

The evidence for an intermediate Level N3 post-dating the Late Assyrian and predating the Medieval occupation is scant. Level N3 is attested in some pits and one tannur, and from a few painted pottery sherds which can possibly be ascribed to the Hellenistic period. Here, again the results parallel those from Operation L in previous seasons. On the other hand, the overall arrangement of parallel mudbrick walls somewhat resembles plans such as the area south of Ezida at Nimrud attributed to the Hellenistic period (Oates and Oates 2001: Fig. 165).

**Level N4: The Late Assyrian “Bronze Palace”**

As noted above, the dominant remains on the citadel date to the Late Assyrian urban occupation of Ziyaret Tepe (see Matney et al. 2002: 53-58; Matney et al. 2003: 186; Matney and Rainville 2005: 44). The recent excavations in Operation N confirmed earlier results from the 2000-2002 seasons by documenting two distinct late Assyrian building phases, which are clearly separated by a localized destruction layer and a slight remodelling of the building plan. The building itself is erected on a mudbrick platform constructed in order to create a level building surface. The platform varies in thickness with a maximum depth of nearly two meters, as was established in sections excavated along the edge of the citadel and in several pits across the area (Matney et al. 2003: 186-187). A preliminary assessment of the dates for comparanda of the small finds from Operation A/N suggests that there was only a short interval between the destruction layer and later renovation of the building, which is in accord with stratigraphic observations.

The plan of the Late Assyrian building recovered so far is arranged around a large Courtyard 5 covering at least 330m², the eastern edge of which has eroded off the high mound (Fig. 3). The principal walls for both phases of the Bronze Palace are directly cut into the mudbrick platform, the top of the platform itself being used as an initial floor or,
in places, as the foundation for the baked brick paving. In the upper Late Assyrian phase, the courtyard is paved with baked bricks laid out on a pebble substrate. Two major walls limit Courtyard 5 to the west and north. They are made out of distinctive red bricks set in grey mortar with walls four to five bricks in width. These walls were used in both Late Assyrian phases. The earlier phase walls were partially reused as foundations for the thinner walls of the later phase. In places, the walls are slightly offset so that the later walls abut the earlier ones lengthwise. The use of lengthwise abutting walls marks the renovation of the building shortly after its first destruction in a localized conflagration. In contrast, later added secondary walls are cut into the mudbrick collapse of the lower phase rooms and do not reach into the platform itself.

In terms of the plan, a major reception room (Room 7) was entered from Courtyard 5 by means of two steps and through a monumental entrance in grid square N990E1170. Remains of a three-stepped cover stone for the doorsocket (N-122) were discovered in situ along the inner face of wall N-143. The cover stone capped the actual socket chamber, which was constructed out of three layers of baked bricks with a monumental pivot stone coated in bitumen at the bottom (Fig. 4). Both the baked bricks and pivot stone were clearly re-used from earlier constructions. Upon further clearing of wall N-143, two areas of painted plaster were found lying horizontally within the rubble, apparently having fallen off the wall. The remains of one large plaster fragment shows a lotus flower-and-bud chain framed by rows of zigzag-ornaments. A second plaster fragment depicts rows of rosettes and circles, but figurative parts of the composition could not be retrieved. The ornaments are outlined in black and executed in bright colours of dark blue, light blue, and red against a white background (Fig. 5). An analysis of the pigments established the use of iron oxides for the reddish areas, and artificially created cuprorivaite (calcium-copper tetrasilicate or “Egyptian Blue”) for the blue. The white plaster background consists basically of gypsum but also contains a considerable amount of kaolin, which may occur naturally in the vicinity of Ziyaret Tepe.4

Dating of the upper Late Assyrian level can be approached, in part, stylistically through the painted plaster motifs. The zigzag ornament in particular is a good chronological indicator. It finds its best parallels in Nimrud, where it appears for the first time in the Central Palace or so-called “Upper Chambers” attributed to Adad-nerari III whose reign is typically dated 810 – 783 BC (Nunn 1988: 125, Pl. 96, 97; cf. Oates and Oates 2001: 70; Albenda 2005: 19, Pl. 5-7). More recent finds with a very similar zigzag pattern were discovered at Tell Masaikh, the ancient Kar-Assurnasirpal, dated to a phase ascribed to building activities of Nergal-eres, Assyrian governor at the time of Adad-nerari III in the early 8th century BC (Poli in Masetti-Rouault 2003: 581, Fig. 18; cf. Poli 2008: 538f. Fig. 10). Comparable rows of rosettes linked by parallel stripes like N-266 were discovered in rooms of the “Governor’s Palace” at Nimrud. The building is ascribed to the time of Adad-nerari III, again dating to the early 8th century BC, although Mallowan comments that some paintings might have been redone in the mid-8th century

4 The pigment samples were studied by IR-spectroscopy at the Institute for Mineralogy, University of Mainz. Our special thanks go to Prof. Dr. M. Hofmeister for his help on this matter.
BC (Mallowan 1950: 182, Pl. XXX:1-3). In any case, the wall-paintings at Ziyaret Tepe are unlikely to ante-date 800 BC. Another feature linking the Ziyaret Tepe building to Nimrud is the stepped lintel stone N-122 which finds parallels at Nimrud. Several similar examples were found stacked in the gate room SE 13 at Nimrud, probably for later reuse (Mallowan 1966: 420, Fig. 347; Oates and Oates 2001: Figs. 97, 101). Comparable cover-stones were discovered in various monumental Assyrian buildings, such as Nineveh and Assur, all indicating a date in the 9th or 8th centuries BC.5

The earlier Late Assyrian building (Fig. 6) shows a similar spatial arrangement. Here preservation is better due to intense burning and protection by thick mudbrick collapse layers. In general, the walls are thicker – up to five bricks wide – but no plaster decorations were discovered related to this earlier building. Rooms adjacent to the courtyard can be defined much better in the earlier building. Rooms 7a, 6, and 2 are all equipped with well built baked brick floors, set into a layer of fine sand. Entry into Room 2 was from the north over a limestone sill, showing traces of the central door stop. Room 6 seems to have functioned as a passage from the courtyard to the inner rooms. The plan of the room was largely destroyed by a pit, which obscured any signs of doors.

In the earlier Assyrian plan, the major reception Room 7 was of a smaller design, being divided into two rooms, here preliminary called 7a and 7b. Room 7a is a small room with a baked brick pavement. The flooring bricks are laid in bitumen and bitumen was also found along the bottom edge of the walls. An entrance might be reconstructed from Room 6, where irregularly laid bricks seem to suggest that arrangement. A connection to Room 7b is less likely. Room 7b is the major reception room of that suite. It could be entered from the courtyard through a small door in the middle of the long wall. The entrance is marked by a door-socket with stepped decoration, N-278, which is similar to N-122 but smaller. Two tram lines indicate the existence and location of a movable hearth, frequent in reception rooms of elite Assyrian buildings. Since tram lines are generally located further to one end of representative long rooms, this suggests that Room 7b will extend further to the south where excavations are still on-going. The floor to Room 7b was not paved but made of compacted beaten earth, showing traces of heavy burning.

Important finds on the floor of Room 7b include a Late Assyrian glazed vessel (N264, ZT 29777) with rolled rim and a decoration of blue, white and reddish petals. This vessel finds very good parallels in Nimrud, e.g., from royal tomb IV (Hussein and Suleiman 2000: Fig. 213; Oates and Oates 2001: Fig. 153), as well as in Late Assyrian contexts of Assur (Andrae 1923: Pls. 17a, 20; Curtis and Reade 1995: no. 142), Tell Sheikh Hammad (Kühne 1984: Fig. 67:16), Khirbet Khatuniyeh (Curtis and Green 1997: Fig. 38, No. 161) and in the 8th century BC layer of Tell Masaikh (Masetti-Rouault 2005: 680). However, precise dates cannot be claimed for the vessel, although the ceramics generally are paralleled most closely in the 8th century BC.

5 Cf. a collection of examples albeit not up to date in Damerji 1987: 155-158. Further examples have been unearthed in several more recent excavations such as Khirbet Khatuniyeh (Curtis and Green 1997: No. 112). A comprehensive study of Assyrian cover-stones is being prepared for the final publications.
A fragment of a cuneiform tablet (N-260, ZT 29795), discovered on the last day of excavation, represent the first evidence for cuneiform writing on the acropolis.

In grid square N1000E1170, findings from the earlier Late Assyrian level are less clear. The large number of pits has destroyed the central part of the area, but it seems likely that most of the trench once formed a single large Room 9. Several pits cut deeply through the mudbrick platform and into earlier occupation deposits. Occasional handmade pottery sherds from these pits suggest that the deposits immediately below the platform may represent local Early Iron Age or Middle Assyrian occupation levels. In future seasons, we hope to expose more of these layers in order to complement the stratigraphic sequence, established by means of the step trench in Operation E (Roaf in Matney et al. 2002: 62-68).

Another extraordinary small find is a basalt object (N-260, ZT 29749), which might be considered as a distorted version of a duck weight, weighing only slightly more than one kilogram. ZT 29749 was found on the floor of Room 7b of the lower Assyrian building phase. Roughly rectangular in shape it shows a Y-shaped incision on one tapering end. The bottom of the object is flat and smooth; the upper side is decorated with a protruding element that rather resembles a flower-bud, such as a closed lotus-blossom, and only faintly recalls the head of a bird turned back in the usual manner of Mesopotamian duck weights. However, it can be compared to contemporary objects from Tell Shiukh Fawqani (Makinson 2005: 548, pl. 37, No. 251 ascribed to level IX (= 7th century BC) or Zincirli (Andrae 1943: 27f., Fig. 17, Pl. 11f, g) of a wide early first millennium BC date range, both of which show similar distortions from the Mesopotamian antecedent. The use of basalt, found widely in the Diyarbakır region argues in favor of local manufacture.

Late Assyrian pyrotechnical installations

The most enigmatic features excavated in Operation A during the 2000 and 2001 seasons were three pyrotechnical installations (A-242, A-252, and A-805) which were filled with a rich inventory of small finds. These were initially described as kilns used in metal-working (Matney et al. 2002: 55-56), but their interpretation now seems more complex, as discussed below. The three installations had been discovered in Courtyard 5 of the Bronze Palace and two of them (A-242 and A-252) were sealed by the brick pavement, while the third, stratigraphically later, (A-805) was cut into the pavement. Radiocarbon dates taken from A-252 have been recently reanalyzed and suggest a date for the stratigraphically earliest of the installations in the second half of the 8th or early 7th century BC.6

6 Three tightly-clustered radiocarbon dates were taken from A-252 and reported as AA-60278, AA-60279 and AA-60280 (Matney et al. 2005: 44). Recently these dates were statistically combined using OxCal 4.0 and then constrained to the time frame beginning with Ashurnasirpal’s resettling of Tušhan in 882 BC and ending with the last possible date for the cuneiform tablets found in Operation G, namely 610 BC. This provided a 2-sigma calibrated date of 754-613 BC, with the greater probability (58.7%) that the date is early, between 754 and 684 BC. See also, Matney et al. 2002, 55f., Figs. 5-10 for pottery; and for further pottery analyses cf. McDonald in Matney and Rainville 2005: 44-46
In 2007, a fourth pyrotechnical installation (N-070) was found in line with the other three, slightly further south and undisturbed by later pits (Fig. 7). The nearly rectangular installation N-070 measures roughly 2.70 x 1.40 m. The installation is dug into the courtyard pavement and paving bricks had been removed to facilitate the cut. Thus, N-070 belongs to the later phase of installations along with A-805. After burning, the pit of N-070 seems to have been backfilled without repaving the patch since bricks were not found covering the feature. Two different layers of infill were discernible in N-070: a thick layer – 15cm to 20cm – of yellowish-greenish ash on the bottom, mixed with bones, including human bones, and above that a roughly 30cm thick deposit of fairly hard, dark soil along with most of the pottery from that locus and some very brittle bronzes. Objects such as a ceramic flask (N-070, ZT 25250) appear unburnt and may have been deposited after burning, perhaps on the occasion of the closing of the pit. The very soft lower ash layer contained a large variety of heavily scorched luxury goods, such as stone vessels, beads and seals, carved ivories and ivory tubes, a glass vessel and a large number of bronze items such as vessels, rings, and sheet metal rosettes with engraved decoration.

In 2008, a narrow slot-trench was laid out in N980E1180 in order to cut through the four known installations and document their sequence and stratigraphical relationship (see Fig. 6 for the location of the slot-trench). Adjacent to A-805, we found a complete bronze vessel with horizontal rim on a conical stand (N-212, ZT 29212). The vessel contained burnt human bone as well as engraved ivory. Its location outside of A-805 suggests that these finds were perhaps removed and abandoned during a later disturbance of A-805.

While excavating the slot-trench, a fifth installation (N-212) was unexpectedly found. Installation N-212 was located between A-805 and N-070. Cut into the mudbrick platform deeper than both A-805 and N-070, installation N-212 was apparently discovered in antiquity during the construction of later N-070, but was subsequently carefully re-sealed with bricks and appears otherwise undisturbed. Measuring 2.25m by 0.80m, it is the smallest of the five installations, but clearly recognizable by its distinct burnt orange clay lining and the thick deposit of greenish ash on its bottom. N-212 is rectangular in outline and has a small protrusion at the eastern end, resembling the shape of A-242 and A-252. Finds from N-212 proved to be fewer in number than the ones from N-070, but as rich in quality. Noticeable are finds of ivories engraved with figurative and geometric designs. Other finds are briefly discussed below.

In the ashy material of both N-070 and N-212 a large quantity of very badly burnt human bone was discovered. Greenfield was able to single out some infant finger bones and milk teeth, documenting the presence of several individuals. The human bones await further anthropological analysis. Traces of heavy burning on the objects found inside the pits attest to temperatures between 1100-1200°C reached during firing. Most indicative of the high temperatures is the warping of the bones, the discolouration of the ivories, and

Possibly faint traces of an orange burnt border to a similar installation was discovered beneath A-252 in section only. This may represent an installation which was also cut and cleared off on occasion of the construction of A-252 and would thus represent a sixth and earliest pyrotechnical installation.
the burst stone vessels. Scorching on the surrounding bricks indicates that the burning took place on the spot.

In total, installations N-070 and N-212 yielded well over 300 small finds during the 2007 and 2008 seasons, of which only very few distinctive items are presented here in preliminary form as they are immediately relevant to the chronological assessment of the deposits. Stylistically, the finds date the pyrotechnical installations to the 8th or 7th centuries BC, which had also been suggested by the radiocarbon dates for A-252. The carved ivories are particularly important for dating. Figurative ivories with rows of courtiers (N-249, ZT 29636) resemble the Assyrian style of the late 8th century BC (Fig. 8a). Most obvious is the arrangement of hair as a close bunch at the neck, typical of Sargonid art. An ivory dish with a handle in shape of a hawk’s head (N-249, ZT 29615) is a unique example of Assyrian ivory-carving (Fig. 8b). It finds its closest parallels in a stone bowl with figurative handle from royal tomb I at Assur (Haller 1954: 173, Pl. 41a-c) and in a stone saucer with figurative handle from Nineveh, which resembles the general shape of the dish as well (Seajright et al. 2008: No. 518, Fig. 49:518). Likewise, stone bowls with double rims (not shown) are generally dated into the 8th to 7th centuries BC. Gypsum vessels such as two ovoid alabastra (not shown), which were found unburnt above the burials, also support this chronological ascription. The stone vessels are discussed in the specialist’s report below.

Several bronze rosettes with engraved decoration were discovered (not shown), which have almost exact parallels in the Assyrian heartland, e.g. in a find from Assur, dated to the last decades of the Assyrian empire (Ass 21569a from house i6:2: Miglus 1996: 177, Pl. 16d). A tripartite bronze fibula (N-249, ZT 29610) (Fig. 8c) has a chronological range of the 7th to 6th centuries BC (Typological group D3: Pedde 2000: 299-301, with further references). In general, the royal tombs from Nimrud provide a large number of good comparanda to the numerous bronze vessels from Ziyaret Tepe, e.g., tall and narrow beakers, bowls with vertical rims, carinated bronze vessels, and bowls with swinging handles (cf. Hussein and Suleiman 2000).

Four stamp seals were found in Operation N also generally of 8th to 7th century date. ZT 25244 (N-056) is a scaraboid and shows a female worshipper standing in front of a presumably female seated deity with flat-topped, three-horned crown on a throne with high back-rest adorned with little spheres at the back (Fig. 8d). The worshipper wears a round cap and robe with vertically tasselled fringe. The iconography of the seated goddess is not precise enough to allow for an identification to be made; the illustration resembles depictions of Gula8 or Ninlil/Mulissu9 on similar thrones.10 Several comparisons can be made with other Assyrian stamp and cylinder seals11. Two close examples, are linked to the reign of Adad-nerari III: a seal in the Ashmolean Collection

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8 On cylinder-seals: Collon 2001: 122 Nos. 232-238, identified due to the combination with a dog.
10 Cf. discussion by Herbordt 1992: 75-77, who stresses that this image prevails in the 8th-7th century BC.
with the inscription of Nabû-ša-uṣur, a high official of Adad-nerari III and a sealing from the 8th century BC phase of Tell Masaikh (Buchanan 1966: 114, No. 633 Ashmolean 1922.61; Poli in Masetti-Rouault 2005: 682, Fig. 16). The latter example comes from phase NA2 at Tell Masaikh and is considered to represent the work of Nergal-ereš, local governor under Adad-nerari III in the early 8th century BC.

The cone-shaped seal ZT 25349 (N-070) depicts a worshipper in front of a table beneath a crescent (Fig. 8f). The worshipper wears a long belted garment and has his arm raised. Only half of the seal is preserved, but there is enough space for a deity behind, opposite the table (cf. Herboerd 1992: Pl. 2:1-5; compare as No. Ninive 135 with two adorants). It is of the Assyrian modelled style, although not many details are visible. ZT 25505 (N-070) possesses a very simple plant motif resembling a tree with ten branches growing off the vertical stem (Fig. 8e). An impression of a very similar stamp seal was discovered in Gezer, dating to 651 BC (cf. Herboerd 1992: 168 No. Gezer 2, with reference to another example from Tell Halaf); further comparisons are attested from Babylon (Jakob-Rost 1997: Nos. 456, 457). An interesting parallel is provided by the decorative use of a similar design on an 8th century BC Assyrian jar from Tell Masaikh, which attests to the widespread use of seals (MK08 2202: Masetti-Rouault 2004: 552, Fig. 20). A simple but carefully rendered design of crescent and eight-pointed star between two simple crosses is attested on seal ZT 29612 (N-249) (Fig. 8g). The rendering of the star with a central dot can be compared to a seal from Assur found in Late Assyrian tomb No. 867 (Jakob-Rost 1997: Nos. 400, 404).

A Late Assyrian Bronze Hoard: N-234

In the process of excavating N-212, parts of the surrounding pavement were removed. Sealed beneath a single brick of the pavement was a hoard of more than twenty bronze objects (N-234), including a number of luxury vessels. The bronze vessels were crammed into a small space hollowed out under the brick, accordingly bent and distorted; the covering baked brick itself was scooped out at the bottom to accommodate the objects better. Initially, a carinated vessel on a stand and some small cups, a bell, some cylindrical objects with embossed decoration, and further small items were placed in the pit. On top of that were found: a large vessel with vertical rim and swinging handles, a juglet with a Cypriot style palmette handle similar to ZT 7279 (A-252, cf. Schmidt and Reimann in Matney and Rainville 2005: 46f., Fig. 17), three additional bowls with central omphalos, and more cylindrical elements with embossed decoration. These artifacts resemble types from the royal tombs at Nimrud (Hussein and Suleiman 2000), but they require further treatment before they can be discussed in detail.

Interpretation

In sum, the Bronze Palace from Ziyaret Tepe closely resembles the plans of Assyrian buildings such as the Governor’s Palace and the Burnt Palace in Nimrud, or palaces in Late Assyrian provincial centres such as Arslan Tash, Zincirli, Til Barsip, and Tell Masaikh. From historical documentation, we know that Ashurnasirpal II lists as one
of his accomplishments the foundation of a “royal palace” at Tušhan in the year 882 BC, providing a terminus post quem for construction on the citadel (Roaf in Matney et al. 2002: 49-51). Tempting as it is to posit that the Bronze Palace is the palace of Ashurnasirpal, there is nothing specifically to link our early phase in the Bronze Palace to this date. The observation that the wall paintings of the Bronze Palace are stylistically similar to those of the early 8th century BC could argue that the Bronze Palace was in use at least by that time and that the examples found in the late phase palace represent an archaizing tradition. Likewise, there is nothing which dates the end of the Bronze Palace to the latest Assyrian occupation of the site, established via cuneiform tablets at 611/610 BC (Matney et al. 2003: 189-191), although the presence of multiple phases of architecture suggest a long use-life. In terms of the pyrotechnical installations, the radiocarbon dates and the small finds associated with them argue for a date in the late 8th century or early 7th century BC, as noted above. As the installations were not part of the original building plan, the Bronze Palace must have been constructed before this time. Tentatively, then, we might suggest that the Bronze Palace was built in the late 9th-early 8th century BC and fell out of use sometime in the early-mid 7th century BC, bearing in mind that earlier palaces in the same spot may have been entirely removed during renovation.

Until now we have not commented on the function of these pyrotechnical installations. When we first uncovered A-242 and A-252, we believed them to be metal-working kilns based on the presence of considerable quantities of greenish slag (Matney et al. 2002: 55-56; Matney et al. 2003: 186; Matney and Rainville 2005: 44-47) and the intensity of burning seen in the installations themselves. Furthermore, preliminary results of the analysis of the slag from the two stratigraphically earlier kilns recovered in 2000-2002 seemed to support this conclusion.

Subsequent excavation of more installations and the continuing analysis of the older materials now suggest that this interpretation is, at best, only partially correct. As noted above, both N-070 and N-212 contained quantities of burned human bone. Its identification was exceedingly difficult because of the intensity of fires which consumed the bulk of the bone material, leaving only an ashy residue which had become subsequently stained green from the bronzes. The evidence for seeing these pyrotechnical installations as cremation burials is now quite strong.

Pit cremation burials (“Brandgrubengräber”) are rarely attested in Late Assyrian contexts. The closest parallel to the installations in Operation A/N can be found at the site of Tell Sheikh Hamad, in excavation area “Unterstadt II” where fifteen pit cremation burials found there were compared by Kreppner to Roman “bustum” type of burials (cf. Kreppner 2008). Likewise, cremation burials of a different type from the Late Assyrian period have been reported from the village site of Kavuşan Tepe nearby to Ziyaret Tepe (Kozbe, pers. comm.).

Two caveats must be borne in mind regarding this interpretation. First, there is no a priori reason to think that these installations must exclusively represent either cremation burials or metal-working installations; they could have been both. In other words, these installations might have been used for producing copper or bronze for some
time before their final usage as a cremation pit for human bodies. Second, there is a morphological difference between the installations which must be explained. As noted earlier, one group of installations have semi-circular plastered depressions on the short ends, as very clearly seen in A-242 and A-252 (Matney et al. 2002: Fig. 8). The second group does not have these semi-circular areas, but are rather simple deep rectangular pits lined with mud-plaster. One possible explanation is that these depressions represent where tuyères were inserted in the installations which functioned as simple bowl furnaces for producing copper and bronze (Hodges 1981: 68). Alternatively, these depressions could have been used for ventilation during cremation. At the end of their use-life A-242, A-252 and N-212 were then used as cremation furnaces. The disappearance of the semi-circular depressions in the later installations, then, might signify that the original function of these installations for metalworking in the earlier phase of the Bronze Palace had been abandoned and that later installations were simply intended as cremation pits.

In any case, the wide range of artifacts and materials found in these installations emphasizes the importance of the individuals cremated in the living quarters of the Bronze Palace. The practice of cremation burials is attested in the Middle Assyrian period and considered to be derived from Syrian inspiration, although as noted earlier it is not a common Assyrian custom (cf. Kreppner 2008, with further references). In contrast, the type and style of objects suggest a close connection with the Assyrian capitals and the placement of the burials adjacent to the reception room in the courtyard of the palace links them to the Assyrian rulers. This combination of local and foreign elements needs to be interpreted as a phenomenon of cultural contact.

ZOOARCHAEOLOGICAL REMAINS FROM OPERATION A/N

Intensive sampling of animal bones from Operation A/N was undertaken during both the 2000-2002 and the 2007-2008 campaigns. This preliminary report focuses on the Late Assyrian and Medieval levels in this area, as these are the periods with the highest frequencies of zooarchaeological remains. The general strategy for collecting animal bones has been to sieve primary contexts (e.g., deposits on or just above the floors and within features) and to hand collect the secondary contexts (e.g., fills, building collapse) across the area of excavation. While this strategy allows excavations to proceed at a reasonably rapid pace, necessary for broad-scale excavation, it does create a bias towards medium and large mammal representation. Micro-faunal remains collected via microdebris sampling are not included here. All frequencies represent NISP.

The faunal sample size from Operation A/N is large (n=18460) and allows us to make a robust assessment of the animal usage across the periods represented in this area. By far the largest number of specimens comes from Medieval (n=7527; 41% of the total assemblage from Operation A/N) and Late Assyrian (n=4486; 24%) contexts, while the remainder of the animal bones come from modern, uncertain, or intermediate deposits. The Ziyaret Tepe assemblage is extremely well preserved; almost all bones (>99%) are lightly weathered, regardless of period. Similarly, the bone element analysis provided below suggests that even fragile elements are well preserved. A higher frequency of
bones were burned in the Assyrian period (n=264; 5.9% of the Assyrian assemblage) than in the Medieval period (n=126; 1.7% of the Medieval assemblage) perhaps reflecting different functional uses in the area over time.

**Late Assyrian faunal assemblage**

Domestic species dominate the Late Assyrian assemblage, representing 97.5% of bones that were identifiable by taxon (n=930). Wild species are few in number (n=24) and represent a small percentage of the bones identifiable by taxon (2.5%). Fish and wild birds are nearly absent from this period. As seen in the chart showing age distribution by taxon, based on NISP and using only those elements that provided age indicators, the three principal domestic species, *Bos*, *Capra*, and *Ovis*, have similar patterns of exploitation with an emphasis upon subadults, followed by adults (Fig. 9). *Sus scrofa dom.* patterns are different in that juveniles are more numerous than adults. Older individuals are preferred in the other species, both domestic (*Equus*) and wild (*Bos, Sus*) although the sample size for these groups is very small. An analysis of element representation for the Late Assyrian assemblage suggests that there is no clear preference for specific choice cuts of meats among domesticates, particularly among *Bos, Ovis, Capra* and *Sus* This sample is associated with the Bronze Palace, where it was expected that there would have been selection for choice cuts of meat for the elite in the palace, but this does not appear to be the case. Overall, only a small percentage of bones are butchered (n=66, 0.9%). Again, since this was the location of the palace, we anticipated a larger percentage of butchered bones from food preparation would be found. Given the balanced representation of all sections of the body (distal and proximal limb; thorax; crania), butchering appears to be occurring in and around the palace. The paucity of butchering marks might imply careful use of meat and efficient use of butchering technology by specialized butchers. Most of the butchered bones are from domestic animals and only two are from a wild species (*Cervus elaphus*). Of particular interest was the recovery of bones from *Gallus gallus*, domesticated chicken, in good Late Assyrian contexts in Operation A/N.

Most of the animal bones from Late Assyrian contexts with evidence of use wear polish are fragmentary and not assignable to a species or to a clear tool/ornament category (n=111). Those bone tools that could be identified (n=7) are entirely comprised of *Ovis/Capra* bones. Astragali rubbers are the most common type found (n=4). The absence of bones related to tool production implies that this activity took place elsewhere at Late Assyrian Tušhan. Bearing in mind that we have only worked in a restricted area of the palace, kitchen facilities might have been located elsewhere in the unexcavated portion of the building.

**Medieval period faunal assemblage**

In the Medieval period, domestic species again dominate with 97.4% of the total assemblage (n=1798). Significantly, domestic camels appear in this period. Amongst the wild animals (n=49; 2.6%), deer dominate the collection. Fish are again absent. Most
domestic species, including *Bos, Capra, Equus, Ovis, and Sus* appear to have similar patterns of exploitation in the Medieval period as they did in the Late Assyrian period. The pattern differs significantly with wild species. There are several wild patterns of exploitation strategies; among Capreolus and Sus, there is no preference for particular age groups; among Bos, there is a clear preference for adults; and Canis and Cervus demonstrate a preference for subadults, followed by adults. Of the entire wild assemblage for this period, only Sus and Capreolus had a younger age class present (juvenile).

As in the Late Assyrian period, based on bone element representation, there does not appear to be a preference between limbs of animals for any of the species. This reflects a full utilization of all parts of the animal, which further indicates that butchering and food preparation probably occurred in the area. It also indicates no clear preference for specific limbs or cuts of meat.

The Medieval period has a higher frequency of butchered bones (n=118) than the Late Assyrian period; most are from domestic animals (93.5%). The most frequent taxon represented in the butchered assemblage was *Bos taurus* (n=27) followed by *Ovis/Capra* (n=20), *Ovis aries* (n=10), *Sus scrofa* (n=10), *Capra hircus* (n=11) and Equids (n=9). Five examples are from wild species. Non-diagnostic polished bones are common (n=111), while other tools such as rubbers, scrapers, and awls are represented by only four specimens. *Capra hircus* is the only taxon represented in the Medieval bone tools.

Broadly, the frequencies of taxa represented in the zooarchaeological collection from Ziyaret Tepe are similar for both the Late Assyrian and Medieval periods. Both have high frequencies of *Ovis/Capra, Bos taurus and Sus scrofa*, although the patterns of exploitation by age require further analysis. During the Medieval period in Operation A/N, there is an increase in the variety of species represented, perhaps suggesting more diversified exploitation patterns. Bone element representation indicates utilization of all animal parts for both periods and the lack of contrast between the Late Assyrian Bronze Palace and the Medieval domestic contexts is surprising. The lack of a specialized meat economy and butchered bones from the Assyrian Bronze Palace begs for further investigation.


Excavation in Operation L at the northern edge of the high mound at Ziyaret Tepe started in a single 10m by 10m trench (N1080 E1030) in 2004. This area was expanded in 2006 when three additional trenches (N1070E1030, N1090E1030, and N1080E1040) were opened up (Szuchman and Kayser in Matney and Rainville 2005: 35-37, Matney et al. 2007: 24-47). Much of these first two seasons was devoted to recovery of remains dating to the Ottoman (Level L1) and Medieval (Level L2) periods and the results published in our preceding report in this series. Brief notes on the remains of two earlier periods dating to the Late Iron Age/Hellenistic period (Level L3) and Late Assyrian period (Level L4) were also published there, although the excavations had not been completed. In 2007 and 2008, work in Operation L concentrated on completing the excavation of levels L3 and L4, as well as the elucidation of two earlier levels dating to
the Early Iron Age (Level L5) and, tentatively, to the Middle Assyrian period (Level L6). Consequently, this report will focus on the stratigraphical and architectural description of levels L3 through L6.

**Level L3: Hellenistic Period**

The remains of building Level L3 were uncovered in trenches N1070E1030, N1080E1030, and N1090E1030. These remains were located stratigraphically above the Late Assyrian level (L4) in all three trenches and were badly disturbed by the Medieval (L2) pits above. Level L3 comprises walls belonging to two different buildings in the southern and northern parts of the excavated area and three drainage channels in trench N1090E1030. It was also discovered that the courtyard pavement belonging to building Level L4b unearthed in trenches N1080E1030 and N1090E1030 (see below) was expanded by laying pebbles and continued to be used in Level L3, suggesting that there was only a short gap in occupation between these two levels (Fig. 10).

The Level L3 walls in N1070E1030 belong to a two-roomed building. It was not possible to identify a detailed plan or actual floors of this building because of disturbance by Medieval pits in this area. Only parts of the foundations below the floor level were preserved. The wall foundations were 50-60 cm wide and made of small- and medium-sized unworked pebbles held together with mud. A second two-roomed building in grid square N1090E1030 was evidenced by a long wall and partition wall added to the south. Traces show that one-and-a-half brick thick walls were used atop these foundations. The entrance to the building must have been from the north, as shown by the stone door socket found in the eastern part of the wall. Two drainage channels belonging to Level L3 were uncovered to the north of this wall. Drainage channel L-411 extends eastwards along the wall foundation and is cut by a pit (Fig. 11). A second drainage channel to its north is made of baked clay pipes and ends in the same pit.

In general, stone was used more frequently in Level L3 than in either the succeeding Medieval (Level L2) or the preceding Late Assyrian (Level L4) buildings. In addition, the drainage channels and baked clay pipes suggest that this period was characterized by significant architectural constructions which unfortunately lie outside the area of excavation. The orientation of the channels suggests that important buildings of
this period were perhaps located in the slightly higher part of the mound to the west of Operation L.

The dating of Level L3 is based in part on the observation that a distinctive type of ceramic ware – triangle-and-festoon ware – is related to this architecture, although most of our examples of this ware come from deep Medieval pits. This type of pottery has been reported from Üçtepe, Kavuşan, Giricano, Salat Tepe and Hırbemerdon Tepe in the upper Tigris River region, as we noted in our previous report (Matney et al. 2007). At Üçtepe, for example, there are two Hellenistic building levels associated with this pottery (Üçtepe Level 5-6) above the Late Assyrian level (Level 7). There are no signs of settlement in between the two periods at Üçtepe. At all of these other sites this painted pottery is associated with levels which post-date the Late Assyrian period. The Ziyaret Tepe finds fit this scenario and, based on all these clues, we propose that triangle-and-festoon ware can be dated to the Hellenistic period (Köroğlu 2008). However, the dating of the building Level L3 to the Hellenistic period leaves several centuries of the Late Iron Age undocumented, as is the case for other mounds in the upper Tigris River basin. Understanding this gap demands further archaeological investigation.

**Level L4: Late Assyrian Period**

Architecture and small finds of the Late Assyrian period in Operation L point to the existence of an important building centered around an open courtyard in this area during the early phase L4b of the Late Assyrian period. Subsequently, in the later Late Assyrian phase L4a the area was the site of a more modest domestic settlement. Late Assyrian period remains were uncovered in three trenches (N1070E1030, N1080E1030, and N1090E1030) in Operation L. Parts of two Level L4 buildings were uncovered separated by a large courtyard. The northern building is limited to a single room, while parts of several rooms from the building south of the courtyard were investigated. The walls of both buildings were oriented in a NE-SW direction, in line with the slope of the site. Level L3 foundation pits and drainage channels, as well as the deep Medieval pits of Level L2, disturbed the Level L4 architecture. Nevertheless, the work in Operation L provided important data about how the high mound was planned, and the phases that the buildings went through during the Late Assyrian period. Since the later phase (L4a) reused some portions of the earlier architecture (L4b), the earlier phase is presented first.

**Late Assyrian Period, Early Phase: L4b**

The principal architectural remains from Level L4b are a large building and associated courtyard which extends throughout the three trenches excavated in 2007-2008 in Operation L (Fig. 12). The building site slopes downwards towards the south, while also commanding an overview of the citadel’s northern edge and a panoramic view of the Tigris River a few hundred meters to the north. The building and courtyard together measure 25.5m measured north to south and the excavator estimates the total area of the building to be over 500m². The plan consists of a large courtyard to the north and associated rooms to the south.
Two walls of the courtyard are located within the excavated area. They are 80-85 cm wide and made of mudbricks. Whole (40 by 40 cm) and half (40 by 20 cm) bricks were used in the construction. The foundation trench for the eastern wall (L-770) is deeper than the others. This wall also functioned as a retaining terrace wall and the interior (western) face of this wall is packed with rubble and pottery sherds up to floor level. The southern courtyard wall (L-795) could be identified only as a thin trace at the foundation level. It seems that the whole area was leveled at the time of the construction of the courtyard and the resulting rubble was deposited in the deeper part.

The surviving remains show that the southern part of the courtyard was paved with baked bricks (L-455), while the northern portion had mud floors. The courtyard pavement was in use through building levels L4b, L4a and partly during L3. In some areas, the disturbed parts of the baked brick pavement were overlaid by stones (L-287) in building Level L3 (Hellenistic period), when drainage channel L-409 was inserted into the middle of the courtyard, as discussed above.

The main entrance of the courtyard is not preserved. It is possible that a small patch of pebble pavement laid partly over the wall marks the entrance to the courtyard from the east. Two door sockets were found by southern wall L-795 of the courtyard. The socket to the west is larger and probably related to the main door leading to the rooms to the south. The smaller socket in the east most likely belonged to a narrower door.

To the south of the courtyard there is a corridor varying in width between 2.0 and 2.6 m and a series of three rooms adjacent to the corridor. In situ pottery sherds were found on mud floor L-807 of the corridor. The walls and floors of the westernmost two rooms were better preserved. The middle room is 2.8 by 3.6 m in extent (Fig. 13). An in situ assemblage that allow good dating of the large building with the courtyard comes from these two room floors and includes a grinding stone, pots of various sizes, an almost complete bottle with two handles, and sherds from a Palace Ware dimpled beaker found on floor L-747. While a number of Medieval pits (e.g., L-732, L-710, L-731, and L-702) are cut into the building, this assemblage appears to be otherwise intact. Likewise, in situ finds uncovered on floor L-746 in the northeastern portion of the trench were grouped around a rectangular hearth made of bricks. These two deposits, L-746 and L-747, are key to understanding the dating and function of the Level L4b building in Operation L at Ziyaret Tepe.

In L-746, a largish jar and a bowl of Late Assyrian style, along with a grinding stone, were grouped around the hearth. In this group a fragmentary closed-form indigenous Iron Age pot was also found. This is significant evidence pointing to the continued use of this local type, which is generally dated to the Early Iron Age but now clearly continues until at least until the end of Late Assyrian Empire. Other pottery forms, tokens, bronze and iron fibulae recovered in Operation L also support this dating. Finds from L-746 and L-747 are also paralleled by exemplars from Operations A/N, G/R, K, and Q, where extensive Late Assyrian period architecture has been excavated.
Late Assyrian Early Phase: L4b pottery

As noted above, the pottery of Level L4b as represented by two primary floor contexts L-746 and L-747 and consists of known Late Assyrian forms. The assemblage includes a large liquid storage jar missing its rim (Fig. 14a), the rim of a large bottle with burnishing on the exterior (Fig. 14b), two incomplete medium size jars (Fig. 14c, d), another bottle, almost complete, with two handles (Fig. 14e), a pot-stand (Fig. 14f), two deep bowls (Fig. 14g, h), and a palace ware beaker with dimples (Fig. 14i). The fabric of these vessels, with the exception of the palace ware beaker, fits with the most common fabric type observed for the Late Assyrian pottery found at Ziyaret Tepe, as previously described for the assemblage from the public buildings in Operation G (Matney et al. 2007: 45-47, Figs. 18 and 19). This fabric is characterized as a medium quality fabric with brown, orange-brown, and reddish brown colors and occasional to common fine mineral, sparse to occasional fine vegetal, and occasional fine mica inclusions.

Late Assyrian Period, Late Phase: L4a

It is clear that the courtyard pavement stayed partly in use after the collapse of the building at the end of Level L4b. In this later phase a room, of which two walls were exposed, was built over the north edge of the courtyard and a street coming from the east was paved with small pebbles. The street and the room of this phase are stratigraphically situated above the Level L4b phase courtyard but below the Level L3 remains. The eastern wall of the room is built over the Level L4b courtyard wall L-770. Mudbricks in this room are different from those of the earlier phase and are made of red clay with common lime temper. Indistinct traces of walls made of the same clay can be observed in the western section of Operation L within the fill above the courtyard building, but no coherent plan of structures was recovered here. Two complete jars from the northeast corner of trench N1070E1030 can be firmly associated with this phase of occupation.

Level L5: The Early Iron Age

After the removal of the courtyard pavement of the Late Assyrian occupation, Level L4b, a pit (L-831) yielding a group of pottery of a completely different character marked the discovery of a distinct period of occupation in Operation L. Half of this broad shallow pit is located in the western section of trench N1080E1030, and has a 2.4m diameter and a depth of 60cm; the other half lies outside the excavated area (Fig. 15). The dimensions and the structure of the pit do not resemble storage pits. It was entirely filled with fine ash with a very small amount of coal in the ash fill. This fill reminds us of the ashes that remain after the burning of animal dung, which is a continuing tradition in the region. No architecture related to the pit was observed. Early Iron Age pottery was retrieved from within the pit fill. A pot cremation burial (L-839) with a Groovy Pottery bowl placed as a lid on the top belong to this level and were found both stratified below building level L4b and outside of the Pit L-831 (Fig. 16).
Early Iron Age Pottery

The pottery coming from Level L5 is of a completely different character than that of Late Assyrian manufacture. This pottery is a product of a common culture of the Keban and Karakaya regions, the Van basin and Transcaucasia in the north, and the upper Tigris River region in the south (Bartl 2001; Karg 2001; Kozbe 2006; Koroğlu 1998; 2003; Roaf and Schachner 2005; Tekin 2006). This tradition started in the Early Iron Age and continues through the Middle Iron Age at least in the upper Tigris River region.

Level L5 pottery consists of two main types, both of which are represented in the L-831 assemblage. The first type is handmade, and is represented by bowls with grooves (Fig. 17a, c), and other closed forms with (Fig. 17b) or without grooves (Fig. 17d). The fabrics are of medium to coarse quality, with occasional to abundant fine and medium mineral and vegetal inclusions, with colors ranging from brown to pale yellow (see catalog). The second type is a painted ware (Fig. 17e-g). The fabric is of fine to medium quality, with sparse to occasional fine mineral and vegetal inclusions with colors ranging from reddish yellow to very pale brown to pale yellow, and is commonly wet-smoothed. There is red painted decoration on the exterior surfaces and sometimes on the rim.

Level L6: Middle Assyrian Period (?)

In the last week of the excavations in 2008, Level L6 architecture was reached below the Early Iron Age pit that corresponds to Level L5. Only mud floors and traces of mudbrick wall foundations at the same elevation were preserved from this level, which was largely cut and flattened during the construction of the Late Assyrian courtyard. No findings that enable us to unequivocally date this building were uncovered. The architecture has 40-50cm wide walls and packed mud floors, suggesting that they belonged to a domestic building.

Overall, the sequence of occupational levels L4 to L6 in Operation L fits nicely with the stratigraphy of Operation E where, according to Roaf, a Middle Assyrian level was reached immediately beneath the Early Iron Age pit E-071 (Roaf and Schachner 2005). The dating of Level L6 to the Middle Assyrian period is tentative.

An Inscribed Gaming Board from Operation L

During the 2007 season an inscribed baked brick (L-680, ZT 24413) was found in Operation L in a Medieval context (Fig. 18). The brick was 32cm long, 19cm wide, and 7cm thick, common dimensions at Ziyaret Tepe for bricks of the Late Assyrian period. A gaming board covering nearly the entire surface is inscribed on the obverse of the brick. The board consists of a box of twelve squares (3x4) on the right and extending from those squares to the left edge of the brick is a line of six squares. There are most likely two squares extending from the end of that line down, but the details are difficult to make out given the quality of preservation. This layout of squares represents an evolved form of the traditional Game of Ur. The traditional Sumerian game has a box of six squares on the left; these have now been straightened out to form a line of six extending from the box. The
lack of decoration, or method of demarcating unique squares, is characteristic of later layouts (Finkel 2007: 17).

The Game of Ur is most famous from exemplars found in the Royal Cemetery of Ur by Sir Leonard Woolley (Woolley 1934: 274-279). The examples from Ur are highly decorated and inlaid pieces of exquisite beauty. However other examples exist in simpler settings and decoration. For example, a wooden board was found in Iran by an Italian team with a decoration of a coiled snake carved onto its surface (Piperno and Salvatori 1983: 179-191). In the palace of Mari four bricks were found in Courtyard 154 with the same game board inscribed on the obverse (Parrot 1958: 12-13). They were placed in the paving of the courtyard: two by the north wall and two by the south wall. An additional incised brick was found at Mari in Room 47 again in the paving of the floor (Parrot 1958: 182-183). Two bricks were also found at Tell Halaf with the same inscribed game board (Hrouda 1962: Pl. 42, Fig. e and f).

Although the Ziyaret Tepe brick was found in a Medieval context reused as an architectural element, it almost certainly came originally from the Late Assyrian levels below, as the Medieval occupation has badly disturbed the earlier levels, as discussed above. Our brick was probably part of the earlier Late Assyrian pavement where it served as a means for visitors to pass the time while waiting in the courtyard. In the Medieval period it had been re-used as a wall for a storage bin.

EXCAVATIONS IN OPERATION G/R

Excavations in the southwestern portion of the lower town since 2001 have revealed the presence of two large mudbrick buildings comprising over forty rooms dating to the Late Assyrian period (Matney et al. 2005: Fig. 6). These buildings are best known for a series of well-preserved black-and-white pebble mosaic floors using a checkerboard pattern, as well as for a cache of cuneiform tablets. Based on the inscribed material, Parpola has suggesting that the eastern building, Building 1, was perhaps part of a treasury to the Temple of Ishtar (Parpola in Matney 2005: 29-31). The excavations in 2007 and 2008 concentrated on recovering the southern portion of the western building, Building 2, whose precise function remains uncertain. In 2007, portions of a third building underlying the far western edge of Building 2 were observed. The plan of this structure, Building 3, has only been recovered in a few places, and its importance at the moment lies in demonstrating a long Late Assyrian occupation of the area with at least one major phase of rebuilding in the southwestern lower town. A total area of 500m² was excavated in 2007 and 2008 comprising five 10m by 10m grid squares (N850E820, N850E830, N850E840, N860E820, and N860E830).

Operation G/R: Post-Assyrian Phase

Generally speaking, the preservation of post-Assyrian remains across Operation G/R is poor and is usually limited to a few pits or an occasional grave. The area south of Building 2, however, presented some in situ features which are not precisely dated, but
stratigraphically post-date the abandonment of the Late Assyrian city. These remains comprised three circular bread ovens, a small round pit, and a pottery kiln, all associated with preserved surfaces. An initial assessment of one of the bread ovens (R-025) produced unglazed medieval pottery; the dating of the other ovens is uncertain. The best preserved bread oven (R-028) was placed within a large surface of rough irregular stones (R-032). A similar rough stony surface lay to the east and a further surface of compacted mud and small pebbles was associated with an oval pottery kiln (R-043). These remains represent an area of low-level or domestic production particularly characterized by baking, as indicated by the bread ovens and a number of basalt querns and grinding stones which were also found at this level. Except for the medieval pottery noted above for R-025, an earlier post-Assyrian date is preliminarily suggested by associated pottery and supported by the restriction of these remains to the areas adjacent to, but not spatially overlapping, the major Late Assyrian structures. It seemed that the Late Assyrian building was still standing, although probably in ruins, during the use-lives of these later features. There is no evidence for architecture in Operation G/R during the post-Assyrian period, suggesting that this area was separate from residential settlement, which was probably centered on the high mound.

The excavation of well-preserved pottery kiln R-043 provided details on the construction of such installations in antiquity. The north end of the firing chamber floor was intact with three circular flues along the short end. A deep oval fire pit was preserved below, cutting through the Assyrian period walls beneath. The floor of the oven was a concave surface of close-packed, medium sized stones. The structure is similar to a larger oven found to the north in Operation G in 2004 which was interpreted as a pottery kiln (G-242, Matney et al. 2005: 29, Fig. 9) and a similar interpretation is most likely for R-043. When the fire pit below the oven was excavated, a deposit consisting of two almost complete vessels (ZT 30555 and ZT 30556, both from R-077), four loom weights, and some animal bones was found sitting on top of the ashy lower fill of the oven. This deposit was covered to the top of the fire pit with an unburnt fill rich in greenish slag and debris from the oven structure. Significantly, only the underside of the pots and loom weights were burnt suggesting they were placed on top of the hot ashes after the fire was extinguished for the last time. A possible interpretation is that this is a ritual deposit placed in the oven after its final firing to mark the end of its use-life.

The two vessels from the oven fill (R-077) are not of typical Assyrian types. One of them is a deep bowl (ZT 30555) with a missing foot (Fig. 19b). This vessel is handmade, of medium fabric quality, with occasional fine mineral, mica, and vegetal inclusions, and is burnished on the rim and the exterior surface. The other (ZT 30556) is a trefoil jar with a handle, with the rim broken where it comes to a spout (Fig. 19a). It is also of medium fabric quality with similar inclusions and colors: yellowish red surfaces and reddish brown paste and core (see catalog). The forms of these vessels, together with their stratigraphical location, suggest an early post-Assyrian date. This interpretation is also supported by parallels from other sites. An example of such parallels comes from Bastam in northwest Iran, where forms similar to both vessels have been excavated in Urartian contexts (see Kroll in Kleiss et al. 1988: 208, Fig. 3: 1, 3).
Operation G/R: The Late Assyrian Phase

The area excavated in 2007-2008 covered five trenches, as noted above. Both the southern and western limits of Building 2, a large structure of Late Assyrian date, were reached in Operation G/R. Six rooms were added to our previous plan of Building 2 (Fig. 20). At the same time, a series of four small rooms abutting the southern wall also appear to be contemporary with Building 2, as discussed below. Building 2 was planned around a large, roughly square Courtyard 11 with a pebble mosaic floor. The mosaic marked the easternmost and southernmost excavated area of the building prior to 2007. Excavations now show that Courtyard 11 is surrounded by two rooms to the south (Rooms 39 and 37) arranged as a single range of rooms. The western edge of Courtyard 11, on the other hand, is bordered by a double range of rooms (Rooms 27, 26, 30, 31, and 32), although there appears to be an internal division separating Rooms 31 and 32 and creating two very small spaces. The function of Room 33 is discussed below.

The completion of excavations in Courtyard 11 revealed a pebble-paved gutter running along the south side of the pavement. Projecting from the east wall of the southeastern courtyard corner, a steep pebble-paved ramp was found rising from the level of the courtyard pavement, through a turn of 90°, up to a higher level of pebble-paving. Only a fragment of this upper level was preserved just below the topsoil in the very northeast corner of the trench. This ramp appears to have been a later addition built over the courtyard paving. A short mud brick retaining wall was added to the south side of the ramp at a later point following the partial collapse of the southern side. This ramp suggests the existence of a second storey in Building 2, access to which was achieved in the building’s later phase directly from Courtyard 11.

A doorway in the southern wall of Courtyard 11 led to a large, roughly square entrance hall, Room 37. Room 37 had three doorways. The doorway leading from Room 37 into Courtyard 11 was paved with large threshold stones which formed a step down into the room from the courtyard level. A similar stone paved doorway led south out of Room 37 to an outside area. The third doorway led east to an adjacent room (Room 25); here the doorway floor was a compacted mud surface at the same level as the floors in both rooms. On excavation, Room 37 was found to be filled with layers of ashy building collapse full of layers carrying the impression of reed matting and lumps of heat-hardened mudbrick. One extensive collapse layer near the floor level was interrupted by linear strips which seem to be decayed roofing beams. This appears to have been the ceiling of Room 37 with the material above representing debris from an upper storey room. From this debris over 300 small clay tokens were recovered, mostly concentrated in an area in the southwest of Room 37. They seem to have been dispersed within the fill as they fell from the upper storey.

To the west of Room 37, a long Room 39 runs along the south side of the courtyard. In the center of the floor, four baked bricks form the support for a column or other heavy object. To the west of this, a small Room 28 paved with baked bricks was found. One of the paving bricks near the southern side of the room had a round hole through it. The brick then connected to a subterranean baked brick drain running south. This was clearly another bathroom.
To the south of Building 2 lay a large external area (marked as 38 on Fig. 20) with a rough pebbly surface containing a small bread oven. This area gave access to a series of structures adjacent to the southern side of the main building. Against the exterior southern wall of Building 2 a small three-sided chamber (Rooms 40 and 43) opening southwards had been built, with a similar chamber (Room 42) facing it across a roughly paved path. This path runs into a further small room with a drain running under it (Room 41). To the west, the pavement runs around two sides of the southern three-sided chamber and into the south west corner of the trench. The buildings to the south of Building 2 are less solidly built and less well preserved than the main building itself. It seems likely that these were rough structures for workshops or animal keeping, possibly stabling, and were not residential spaces.

The western range of rooms excavated in Operation G/R in 2007-2008 included a classic Late Assyrian bathroom (Room 27) set off of the western side of Courtyard 11 (Fig. 21). Room 27 measured 2.5m by 3m and was paved with a floor of baked bricks set in bitumen. There was a gap in the eastern side of this paving measuring 0.75m by 1.2m, undoubtedly the site for a stone drain slab which was either robbed out or never installed. Near the north side of the room was the aperture to a drain consisting of a baked brick with a 12cm diameter hole through it. Removal of this and the adjacent brick revealed a baked brick channel running southwest. Bathroom 27 was accessed from Courtyard 11 via a connecting room (Room 26) measuring 3.5m by 4.5m. This room clearly functioned as an antechamber and, as such, was perhaps a changing room. There were very few finds on the floor of Room 26 although in the upper debris a few tokens were found along with a broken cylinder seal (G-911, ZT 22400). At some stage in its use-life, the entrance from Courtyard 11 into Room 26 was blocked. An extension of the cobbled pavement marks where the threshold was, but the corresponding doorway in the wall could not be found despite close attention. Perhaps this was the same time at which the majority of the baked bricks laid in the entrance between Room 26 and Room 27 were robbed out.

The southwest corner of Building 2 comprised an area cut by a number of pits. This area was designated Room 33, although the line of the walls here was not clear. It is possible that this area may not have been a room as such but rather part of an outside area. This would mean, however, that the overall layout of the building was unorthodox, i.e. the building does not form a rectangle but has an irregular jig in the southwest corner. The initial reason for proposing that this was an open space is that the western wall of the building could not be identified in the southwest corner, but there is also a plausible explanation for the arrangement in that a substantial septic tank was cut into the floor of Room 33. It would make sense that the architect would avoid including such a feature within the walls of the building. The tank itself was lined with large cobbles and baked bricks and had an internal diameter of 1m. It was excavated to a depth of 2.5m, at which point work had to be suspended due to safety considerations. Higher up in the deposit, the fill was of dark cohesive soil, changing to a lighter brown soil with a sandier composition lower down. The lowest excavated level contained no large pieces of pottery. Finds from the upper levels, in addition to pottery and bone, contained a cylinder seal (G-962, ZT 22605) and a cowrie shell (G-962, ZT 22606). Approximately 60cm from the top of the tank a baked brick channel with a gentle slope led into the shaft from the northeastern
side. This would appear to connect with the drain leading out of Bathroom 27 and confirms that the feature is a septic tank and not a well. Comparative levels show that the septic system maintained a fall of 42cm over 6m, or a 7% grade. The sandy fill in the cesspit is very similar to the fill found in the drain in the bathroom. The pottery from this area, on first impression, is the standard Late Assyrian assemblage, as described for the Operation G pottery in our previous report, noted above. Further fine-grained analysis may reveal both functional and perhaps even chronological distinctions within the Late Assyrian corpus.

EXCAVATIONS IN OPERATION Q: THE “KHABUR GATE”

In 2007 we commenced excavations in Operation Q, the site of a major gateway into the city through the southern fortification wall. The location of this gate was revealed by a very clear image in both magnetic gradiometry and electrical resistivity surveys which showed a chambered gate with projections (Matney and Somers 1999: 210-211, Fig. 7; Matney and Rainville 2005: 40-42, Fig. 14). The aim of Operation Q was, therefore, not so much to recover the plan of the gate as it was to gain insights into the occupational and architectural history of the complex. Nevertheless, in terms of the actual excavation, identifying outlines of the walls to “ground-truth” the geophysical surveys was a priority. One difficulty encountered was in identifying the mudbrick wall lines and mortar joins themselves until significantly below the surface. This is a result of at least three factors: (1) the site has been severely disturbed by ploughing, irrigation ditches, root action and animal holes; (2) the presence of a large number of pits cut from above; and (3) the poor quality of the mudbrick itself.

Our work during 2007-2008 in Operation Q yielded a much more detailed picture of the city gate than was accessible through geophysical survey alone (Fig. 22). In the course of two seasons, we opened up two 10m by 10m grid squares (N750E890 and N760E890), as well as half of the grid square to the east (N760E900). The northern half of this area covered the gate chambers while the southern half revealed the street leading in between the projecting buttresses flanking the gate. In the gate itself we were able to identify at least three major phases of construction and occupation. The lowest phase (Phase 1) was characterized by a 3m-wide pebble road, with a curious stone block in the middle of the thoroughfare. The second phase represented a major reconfiguration. Phase 2 walls were built on top of the Phase 1 surfaces and the area of the gate was very significantly enhanced: the floor level was raised by laying a low platform of mudbricks and massive slabs of grey limestone were installed in the threshold itself. A number of distinct floors were associated with this phase. In the eastern chamber, the last level of the Phase 2 flooring, running under the Phase 3 wall, appears to present the most intact deposit of in situ material identified so far in Operation Q. Features within the eastern chamber include a narrow mudbrick partition wall, a hearth, and a bin (not shown). In Phase 3, the massive slabs were themselves covered over and the level of the passage was raised once again. Curiously only one door socket was found for each of the earlier
phases (that of Phase 1 on the east, that of Phase 2 on the west) and none for Phase 3, perhaps because the missing sockets had been re-used elsewhere on the site.

The three phases of construction inside the gate correspond closely with the sequence that emerged from excavations of the street leading up to the gate. This was a cobbled street, very well constructed by first laying down a bed of local clay on top of which was laid a layer of larger cobbles (up to 20cm in diameter) and then a band of smaller pebbles (up to 6cm in diameter) on top, the whole construction totaling about 40cm thick in all. The sequence (clay, then large pebbles, then small pebbles) was replicated three times. The top two streets demonstrably corresponded to the top two constructional phases of the gate itself, and at this stage it seems highly likely that the lowest level of the street corresponds to Phase 1 of the gate.

A large number of small potsherds were present in the highest surface. By contrast the lowest pebble surface contained very little in the way of ceramics, but it did contain a large number of baked clay objects: “Hands of Ishtar” and square pegs up to 15cm long. There were at least 25 fragmentary examples of these in a small sounding excavated at the northern end of the street. It was very satisfying that in one case we were able to make a join, completing a whole hand of Ishtar consisting of the lion’s paw molded onto the peg with which it would have been fixed to the wall. This allowed us to solve the mystery of identifying the various other pegs which had from time to time been found around the site.

It is noteworthy that the plan of the area outside of the gate is not symmetrical, at least in its final phase. The eastern projecting wall continues straight out from the door of the gate, whereas on the western side it is offset by 2m to the west. It does not appear that this arrangement existed in the earlier phases. The projecting walls were approximately 10m long. They were not excavated to their full width but from the resistivity it can be seen that the projections were approximately 8m, forming massive towers to guard the entrance to the city.

Abutting the gate complex, in the northwest corner of N760E890 we uncovered one small room of a domestic unit which had been built right up against the gate complex. The room was defined by a wall two bricks thick on the western side. The practice of constructing domestic structures abutting the interior of the city fortifications in Operation Q has close parallels with more extensive domestic architecture excavated in Operation K in previous seasons (Köroğlu in Matney and Rainville 2005: 31-35, Fig. 10).

**Operation Q Graves**

There were graves in both the street and the gate complex in Operation Q. In the street, there were at least four areas where post-Late Assyrian graves may have been cut into the street, two marked by small mounds of stones and two by patches of broken baked bricks. None of these were excavated. Additionally, in the gate area there were three graves (Q-037, Q-043, Q-093) neatly dug along the inner walls of the western chamber of the gate, all of which were excavated. Each grave contained a single burial. All were mature adult males; the preservation of the bones was not always good.
Grave Q-037 was badly disturbed by animal action. The skeleton was not well preserved and no preserved grave goods accompanied the body. The occupant of the grave was a male aged between 35 and 45 years based on the robusticity of the bones and tooth wear.\footnote{We would like to acknowledge Jennifer Walborn for her preliminary analysis of the human skeletons from Operation Q.}

The skeleton in Grave Q-043 on the whole was very well preserved, with some bones missing due to animal action around the left arm and ribcage (Fig. 23). Preliminary study suggests the occupant of the grave was a male aged between 25 and 35 years based on mandibular molar wear and the morphology of the pelvis which was well preserved. Finds with the body in Q-043 included: a bronze fibula (ZT 27298) \textit{in situ} at the right shoulder; and six accompanying ceramic vessels: a fine ware beaker (ZT 31170) located inside a cylindrical pot (ZT 27262), a dish (ZT 27307) sitting on a tortoise shell (ZT 27319), a carinated bowl (ZT 27308) in which the right hand was resting, a two-lugged storage vessel (ZT 27306), and a globular flask (ZT 31171).

In Grave Q-093, the skeleton was also badly preserved. The occupant of the grave was a male aged between 35 and 45 years based on tooth wear and the robusticity of the femur and tibia fragments. Grave goods in Q-093 included an iron fibula (ZT 27292) \textit{in situ} in the area of the right shoulder and two accompanying ceramic vessels: a palace ware-like beaker (ZT 27310) and a dish (ZT 27311).

Although all of these graves clearly cut through the Phase 2 flooring, it was only in the case of Grave Q-093 that the cut was observed from higher up, from a level where it clearly cut through the mudbrick collapse fill of the chamber (and indeed partially cut the northern wall of the chamber itself). However, the neat arrangement of the three burials makes it certain that they are contemporary and accordingly all three may be assigned to an immediately post-Late Assyrian period. After preliminary study, we might suggest a possible Late Iron Age or early Achaemenid date, although the finds require further analysis.

**Excavations in Operation P**

Operation P was excavated during the 2007 excavation season. Here we hoped to explain the presence of a large circular geophysical anomaly seen previously during electrical resistance survey (Matney et al. 2007: 48-49; Fig. 22). Excavations in Operation P were carried out along a 5m by 15m area in grid squares N820E930 and N820E940 in the western lower town. Near the modern surface, our excavations recovered a number of ancient cobbled surfaces which did not extend across the entire trench, but rather formed a complex series of partially overlapping exterior spaces. The pottery from this area was almost entirely Late Assyrian in date suggesting that, whatever their function, these surfaces belonged to that period. Three notable features were recovered. First, a well-constructed drain similar to those found elsewhere at Ziyaret Tepe was found running across the NE corner of the trench. This comprised a stone-lined drainage channel with
large flat stones set over the top of the drain. The second feature was an intrusive burial cut into the northern portion of the trench down to a depth of approximately 1.0m. This burial appears to disturb a very deep feature consisting of fine gravels which fill a linear ditch nearly 80cm deep. The fine gravel deposit perhaps represents the foundations of a roadway. A deep sounding across the trench to a depth of 2.5m failed to reveal the nature of the circular geophysical anomaly. There were no walls found in this trench, suggesting the area functioned as a large open space in Late Assyrian times.

PRELIMINARY REPORT ON THE ZIYARET TEPE GROUND STONE ASSEMBLAGE

A majority of the ground and polished stone (hereafter ground stone) excavated at Ziyaret Tepe between 2000 and 2008 has now been examined. Ground stone is defined here, following Wright and Adams, to include stone that has been ground or polished as well as stone artifacts used to grind other materials (Wright 1992; Adams 2002: 1). Out of the 631 pieces of ground stone analyzed, 89% were recorded for their form, function, raw material, and dimensions. The ground stone from Ziyaret Tepe presents a unique opportunity to examine the use of stone at one site over a long period of time, from the Early Bronze Age to the Ottoman period. This range is particularly useful since there are few studies of ground stone from the Bronze and Iron Ages in the Near East (Ebeling 2003; Rowan and Ebeling 2008). About 73% of the ground stone assemblage (n = 459) has been assigned a date so far, providing a large sample of material for diachronic analyses. Of the dated pieces, 25% are from the Late Assyrian period and 24% from the Medieval period, with another 22% from modern contexts. The remainder date to the Bronze Age (11%), Ottoman (6%), Late Iron Age/Hellenistic (5%) and Middle Assyrian (4%) periods, and a few from the Early Iron Age (3%).

The ground stone assemblage was divided into forms using a typology adapted from one developed for the prehistoric Near East (Wright 1992), with additional categories created for grinding stones and vessels. These types are strictly morphological and not necessarily functionally specific (Wright 1994). The major forms found in the assemblage (combining all time periods, n=631) are grinding stones (15%) (Fig. 24a, b), vessels (15%) (Fig. 24d, e), handstones (12%) (Fig. 24c), and door sockets (10%) (Fig. 24g). Mortars and pounders/pestles (Fig. 24f, h) each made up 4% of the assemblage and weights make up 2%. The predominance of these types parallels findings nearby at Middle Bronze Age Hirbemerdon Tepe, where their major types are also grinding stones and mortars as well as pounders/pestles (Schwartz 2008: 193). The remaining 38% of the Ziyaret Tepe assemblage is composed of other forms in less significant frequencies, in types ranging from weapons (maceheads and axe/celts) to loom weights and spindle whorls.

The ground stone pieces are made of raw materials that vary from coarse basalt, limestone, and conglomerate to finer-grained stones such as serpentine and alabaster. Patterning is evident in the types of raw material used for particular tools; for example, the majority of grinding stones (91%), handstones (88%), and mortars (78%) were made out of basalt. Of the various types, only door sockets were made predominantly of limestone instead of basalt, with a greater proportion of limestone being used in the
Medieval period (85%) compared to the Bronze and Iron Age (45% and 50%). Fine-grained materials were common in vessels.

The major common tool forms show little variety and continue in the same form for long periods at Ziyaret Tepe. The vast majority of the grinding stones are of the saddle-shaped quern type, found in Middle and Late Bronze Age contexts and also found through the Late Assyrian and into the Medieval period at the site (Wright 1992: Type 6). One subtype of these grinding stones has a groove extending longitudinally across the dorsal side (Fig. 24b), and these so far have been found at Ziyaret Tepe dating to the Late Assyrian period and later. The most common handstone type, a bifacial planoconvex form suited for one or two hands, is present from the Middle Bronze Age through the Ottoman period (Wright 1992: Types 35 or 43). One diachronic shift is the great prevalence of vessels dating to the Late Assyrian period, which make up one third of all the vessels analyzed. A minimum of 15 stone vessels in fine-grained materials such as alabaster, serpentine, and low grade marble or dolomitic limestone were found, mostly from Operations A/N where a number were placed in the pyrotechnical installations discussed above. The stone bowl profiles copy 7th century BC Palace Ware ceramic forms (A. Keskin, pers. comm.; Searight et al. 2008: 51-53, with further references; examples from Assur assembled by Miglus 1996: Pl. 58, 59) and the alabaster or calcite lug-handled jars resemble ovoid jars typical in Egypt in the Third Intermediate Period (Aston 1994: 162-3; Searight et al. 2008).

Continued study of the ground stone from Ziyaret Tepe will provide more data on the relative persistence of the major tool types over the long occupation of the site. In addition to diachronic patterns, research will also concentrate on the fine-grained stone vessels, raw material sources, and intra-site spatial distribution of the various tool types.

REVISED CHRONOLOGY

Since the inception of the Ziyaret Tepe project in 1997, one of the primary goals has been to document the long occupational sequence of the site. Our initial chronological chart of the city, published after the 1997 surface survey season, was based on the few ceramic parallels made between the largely unknown materials of the upper Tigris River valley and outlying areas with better documentation, such as northern Syria and Iraq, and the Euphrates River valley to the west (Matney 1998: Fig. 16). Numerous surveys and excavations have taken place over the past twelve years in the upper Tigris River valley and it is appropriate now to revise our chronological chart (Fig. 25). Most importantly, we have removed reference to the Neolithic and Chalcolithic periods since there is no clear evidence from our excavations that Ziyaret Tepe was occupied at these times. Rather, we now posit a long unbroken sequence from the Early Bronze Age through the Middle Iron Age. Significantly, we have also added important new information on the periods after the collapse of the Assyrian Empire through excavations in Operations L, J, and G/R, such that we now have a much firmer grasp of the dates and nature of the post-Assyrian use of the site than we were able to discern from surface surveys alone. Continued work at Ziyaret Tepe in future seasons will lead to further modifications and improvements of this chronology of the settlement.
WORKS CITED


Watson, O., 2004 – Ceramics from Islamic Lands. London: Thames and Hudson.


Work in the past two seasons has concentrated on Operations A/N, L, G/R, P, and Q.

Fig. 1. Topographic plan of Ziyaret Tepe showing areas of excavation, 2000-2008.

Fig. 2. Operation A/N. (a) Architecture belonging to the Ottoman period, Level N1, facing south. Features shown here belong to Room 1. (b) Two walls of Level N2, showing the type of construction used in the Medieval buildings, facing north.
Fig. 3. Operation A/N. Architecture belonging to the Late Assyrian period, Level N4, late phase.

Fig. 4. Doorsocket chamber (N-122) consisting of a reused pivot-stone, the chamber and three-stepped coverstone.
Fig. 5. Fallen wall paintings in the courtyard of the Bronze Palace in Operation A/N. Above: locus N-247. Middle: locus N-266 during excavation. Below: locus N-266.
Fig. 6. Operation A/N. Architecture belonging to the Late Assyrian period, Level N4, early phase.

Fig. 7. Photograph of pyrotechnical installation N-070 in Operation A/N. Note that baked bricks from the surrounding pavement to the south and east were removed before this photograph was taken.
Fig. 8. Small finds from Operation A/N: (a) engraved and burnt ivory fragments N-249, ZT 29636; (b) ivory dish with figurative handle in the shape of a hawk’s head N-249, ZT 29615, note different scale; (c) bronze fibula N-249, ZT 29610; (d) stamp seal N-056, ZT 25244; (e) stamp seal N-070, ZT 25505; (f) stamp seal N-070, ZT 25349; (g) stamp seal N-249, ZT 29612.
Fig. 9. Frequency distribution of age classes by taxon for the Late Assyrian and Medieval assemblages from Operation A/N. Note that these numbers represent the NISP of ageable specimens only.

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Fig. 10. Pavement in Operation L, showing later repairs in Level L3 to the Late Assyrian baked brick pavement L-455. Notice the reuse of doorsockets in a repair to the pavement towards the bottom of the photograph. The stone pavement is L-287.
Fig. 11. Ceramic drainage pipes (L-410) *in situ* from Level 3 dated to the Hellenistic period.

Fig. 12. Plan of Late Assyrian architecture in Operation L, Level L4b.
Fig. 14. Ceramic catalogue

a) L-747 ZT 24559/1
Large liquid storage jar, missing its rim, reconstructed. Medium fabric quality. 7.5 YR 6/4 light brown exterior surface, 2.5 YR 6/4 reddish brown interior surface, paste and core. Occasional fine black and white mineral, mica, and vegetal inclusions.

b) L-747 ZT 24562/1
Rim and neck of large bottle, reconstructed from sherds from ZT 24561 and 24562. Rim diameter: 9 cm. Medium fabric quality. 10 YR 8/4 very pale brown exterior surface, 10 YR 8/4 very pale brown (upper part) and 10 YR 5/1 grey (lower part) interior surface, 10 YR 5/1 grey paste and core. Occasional fine black and white mineral, occasional fine mica and vegetal inclusions. Slipped on the exterior and upper part of the interior surface, burnished on the exterior surface.

c) L-747 ZT 24564/1
Neck and shoulder of medium jar. Medium fabric quality. 7.5 YR 6/4 light brown exterior and interior surfaces, 7.5 YR 4/1 dark gray paste and core. Occasional fine black and white mineral, occasional fine mica, and occasional fine vegetal inclusions. Wet-smoothed.

d) L-747 ZT 24561/1
Medium jar, missing rim and base. Medium fabric quality. 5 YR 5/4 reddish brown exterior surface, 5 YR 5/4 reddish brown (upper body) and 5YR 5/1 grey (lower body) interior surface, 5YR 6/6 reddish yellow paste and core. Occasional fine black and white mineral, occasional fine mica, and sparse fine vegetal inclusions. Wet-smoothed.

e) L-747 ZT 24568
Bottle with two handles, missing the base, which probably was rounded/conical. Fine-medium fabric quality. Rim diameter: 8 cm. 5 YR 6/6 reddish yellow interior and exterior surfaces, paste, and core. Occasional fine black mineral, occasional fine mica, sparse fine vegetal inclusions.

f) L-747 ZT 24562/2
Potstand. Medium fabric quality. 5 YR 6/4 light reddish brown exterior surface, 5 YR 5/6 yellowish red (lower part) and 5 YR 4/1 (upper part) dark grey interior surface, 5YR 2.5/1 black paste and core. Occasional fine black, common fine mica, common medium vegetal inclusions.

g) L-746 ZT 24569/1
Bowl. Medium fabric quality. 5YR 5/6 yellowish red exterior and interior surfaces and paste, 5YR 4/1 dark grey core. Occasional fine black mineral and mica, occasional fine and sparse medium vegetal inclusions.

h) L-746 ZT 24569/2
Bowl. Medium fabric quality. 2.5 Y 5/6 red exterior surface, interior surface not visible due to encrustation, 2.5 YR 5/6 red paste, 2.5 YR 4/1 dark reddish grey core. Occasional fine black mineral, mica, and vegetal inclusions.

i) L-747 ZT 24563
Fig. 13. Pottery in situ on floor in L-747, from the earlier phase of the Late Assyrian occupation in Operation L.

Fig. 14. Late Assyrian period pottery from L-747, Level L4b.
Fig. 15. West section of Operation L, Trench N1080 E1030, showing the location of L-831.

Fig. 16. Pot burial L-839 as recovered adjacent to the excavation baulk. Note the small hole drilled below the rim of the lower vessel. The remaining sherds of the upper vessel were recovered and the vessel restored.
Fig. 17. Early Iron Age pottery from L-831, Operation L, level L5.

Fig. 18. Late Assyrian gaming board (L-680, ZT24413).
Fig. 17. Ceramic catalogue

a) L-831 ZT 28495/19

b) L-831 ZT 28471/15
Handmade. Medium fabric quality. 7.5 YR 5/4 brown, and &.5YR 2.5/1 blackened (lower part) exterior and interior surfaces and paste, 7.5 YR 3/1 very dark grey core. Abundant fine and medium white mineral, occasional fine mica inclusions. Horizontally burnished, especially nicely on the exterior.

c) L-831 ZT 28471/1
Handmade bowl. Rim diameter: 23 cm. Coarse fabric quality. 5 Y 8/2 pale yellow exterior and interior surfaces, 5 Y 7/3 pale yellow paste and core. Occasional medium black mineral, common medium white mineral, occasional fine mica, abundant fine and medium vegetal inclusions.

d) L-831 ZT 28495/44
Pot rim. Coarse fabric quality. Rim diameter: 18 cm. 5Y 8/3 pale yellow exterior and interior surfaces, 10 YR 7/4 very pale brown paste and core. Occasional fine black mineral, occasional medium white mineral, occasional fine mica, common medium vegetal inclusions. Wet-smoothed on the exterior and interior.

e) L-831 ZT 28495/47
Painted body sherd. Medium fabric quality. 10 YR 7/4 very pale brown exterior surface with 2.5 YR 4/6 red painted decoration, 10 YR 7/4 very pale brown interior surface, paste, and core. Sparse fine black and white mineral, sparse fine mica, sparse fine vegetal inclusions. Wet-smoothed.

f) L-831 ZT 28471/21
Fine fabric quality. 7.5YR 7/6 reddish yellow exterior surface, with red (10R 3/4 dusky red, 10R 4/8 red, depending on the local thickness of paint) painted decoration, 7.5YR 7/6 reddish yellow interior surface, 10R 5/6 red paste and core. Occasional fine black mineral, sparse fine mica, occasional fine vegetal inclusions. Wet-smoothed on the exterior and interior.

g) L-831 ZT 28495/50
Medium fabric quality. 2.5 Y 8/2 pale yellow exterior surface with 2.5 YR 4/4 reddish brown paint, 2.5Y 8/2 interior surface, 7.5 YR 8/4 pink paste and core. Occasional fine black mineral, occasional fine mica, occasional fine vegetal inclusions. Wet-smoothed.
Fig. 19. Post-Assyrian pottery from R-077.

Fig. 19. Ceramic catalogue

a) R-077 ZT 30556
   Trefoil jar with handle. Medium fabric quality. 5YR 5/6 yellowish red exterior surface, ashy interior surface, 5YR 5/4 reddish brown paste and core. Occasional fine black and white mineral, fine mica, and fine vegetal inclusions.

b) R-077 ZT 30555
   Handmade deep bowl with foot missing. Medium fabric quality. 5YR 5/8 yellowish red (on the rim) and 5YR 5/6 yellowish red (on the body) exterior surface, 5YR 5/4 reddish brown paste and core. Occasional fine black and white mineral, occasional fine mica and vegetal inclusions. Burnished on the rim and on the visible exterior surface.

Fig. 20. Plan of architecture in Operation G/R showing Late Assyrian buildings. Shading represents the location of pebbled mosaic courtyards.
Fig. 21. Operation G/R. Building 2, Room 27.
Late Assyrian bathroom paved in baked bricks with drainage opening.

Fig. 22. Plan of the gateway in Operation Q showing the pebbled surface, interior gate chamber, and the location of the post-Late Assyrian graves. Phase 2 limestone slabs are seen near the center of the plan.
Fig. 23. Grave Q-043 with burial offerings in situ. Notice the placement of the right hand inside the vessel.

Fig. 24. Ground stone types from Ziyaret Tepe. Grinding stones (a: ZT16034, b: ZT19749), handstone (c: ZT6661), vessels (d: ZT20208, e: ZT29605), pestle (f: ZT3316), door socket (g: ZT22405) and pounder (h: ZT4422).
Fig. 25. Revised chronological chart showing the principal periods of occupation, representation of periods by excavated Operation, and approximate chronological dates.