EXCAVATION AT BAKR AWA 2010 AND 2011

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The site of Bakr Awa is situated in north-eastern Iraq, in the Plain of Shahrizor. Excavations were undertaken in 1960/61by the Iraqi Department of Antiquities and 2010/11 by the University of Heidelberg/Germany. Occupation layers from the beginning of the Early Bronze Age tothe Ottoman period were uncoveredin the lower city and on the citadel. Archaeological evidence from the secondmillennium B.C. shows the most intensive settlement activities and apparent prosperity at Bakr Awa. Several forms of pottery, small finds and architecture reflect dynamic processes of cultural and political transformation at this site located in an area of transition between northern and southern Mesopotamia and western Iran.

The new excavation at Bakr Awa in north-eastern Iraq took place during two seasons from August to October 2010 and 2011. It was initiated by the Directorate of Antiquities of Sulaimaniyah Province, and supported by the Fritz Thyssen Foundation.[1] The first preliminary report on the 2010 season was published in the *Zeitschrift für Orient-Archäologie*.[2] This report presents a summary of the results of both campaigns.

The excavation at Bakr Awa was preceded by an archaeological survey carried out in the Plain of Shahrizor between the cities Sulaimaniyah und Halabja in September and October 2009. During this survey twenty archaeological sites on the north-eastern bank of the Tanjero River were investigated; the collected material consisted of pottery and other objects from the Neolithic to Islamic periods. Based on this new evidence, and on material from an earlier excavation, the site of Bakr Awa was chosen for further archaeological investigations. The threat of looting activities and the extension of the new village built on the site was another decisive factor.

Bakr Awa (35°13′14″N, 45°56′26″E) is situated about 70 kilometers southeast of Sulaimaniyah, near the city of Halabja at the Iraq-Iran border (Fig. 1).[3] It is the largest mound in the southern part of the Plain of Shahrizor, with a nearly 40 m high citadel in the middle of a *c.* 800 × 600 m wide lower city (Figs. 2–5).[4]

The site was dug by Ephraim Speiser, but only for a few days in 1927.[5] The first formal excavations were carried out in 1960 and 1961 by the Directorate General of Antiquities of Iraq.[6] These excavations focused on two areas; the south-western slope of the citadel mound and the eastern part of the lower city. The trench at the citadel contained seventeen layers, dated by the excavators as follows: "Islamic" (Levels I–VII), "Hurrian" (Levels VIII–X), "Old Babylonian" respectively "Isin-Larsa" (Levels XI–XV), "Ur III" and "Akkadian" (Levels XVI–XVII).[7]

The excavation area in the lower city shows a different stratigraphy: "Islamic" (Levels I–II), *c.* 800 B.C. (Level III), and second millennium B.C. (Levels IV–VIII)[8]. In Level IV some textual

[1] It is our pleasant duty to express our thanks to the participants of the excavation who worked with us in Bakr Awa during the seasons 2010 and 2011: Hussain Ali Hamza, Max Brendel, Rafał Fetner, Carmen Gütschow, Julia Hänsel, Manuela Heil, Anke Pauly, Zuhair Rajab Abdullah, Kristina Sauer, Alexander Sachsenmaier, Bernhard Schneider, Franciszek Stępniowski and Felix Wolter. We owe a debt of gratitude our representatives from the Antiquities Department of Sulaimaniyah, Hemin Noori Fatah, Nigar Uthman Ameen and Suhaib Wahab Hama, who facilitated our research. The project was generously financed by the Fritz Thyssen Foundation. The excavators are also grateful to the director of the Antiquities Department, Kamal Rasheed Raheem, and the director of the Museum in Sulaimaniyah, Hashim Hama Abdullah, for their help and support.

[2] Miglus, Bürger, Heil and Stępniowski 2011.

[3] AAI 1970: 335 Nr. 54; AASI 1975/76: map 77 no. 14.

[4] Height measurements above sea level will be marked with "+" in front of the numeric value.

[5] Speiser 1926/27: 13; information about the site from 1844 was given by Jones 1857: 205–6.

[6] Al-Husaini 1962; Madhloum 1965.

[7] The stratigraphic sequence of 15 layers given by Matouš (1961: 18), and two more layers representing the late third millennium occupation on the tell are marked in the section's photograph of the excavation report by Madhloum (1965: pl. 10). A closer description exists only for the upper levels I–V in the excavation report by Madhloum 1965. Additional information comes from the archive of the State Board of Antiquities and Heritage of Iraq. Cf. also the summary in Miglus, Bürger, Heil and Stępniowski 2011: 139.

[8] Al-Husaini 1962.

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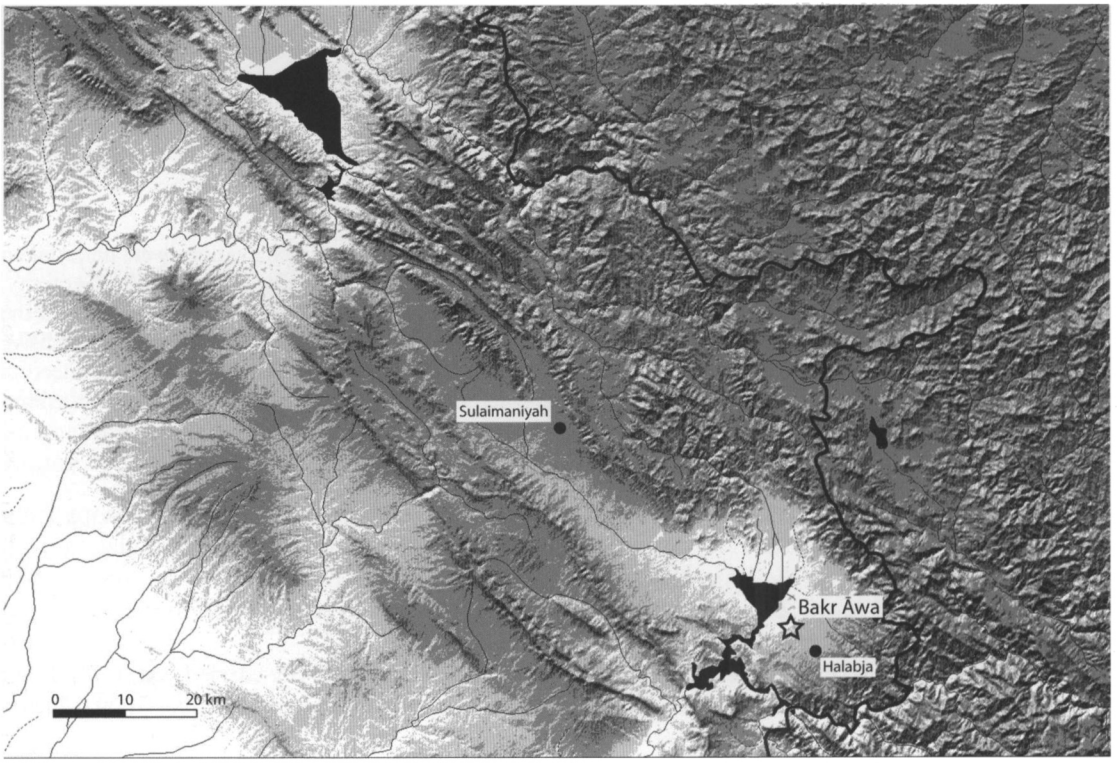


Fig. 1 Map of the Shahrizor Plain with the site of Bakr Awa.



Fig. 2 Satellite image of Bakr Awa (Quickbird, November 10th, 2010).

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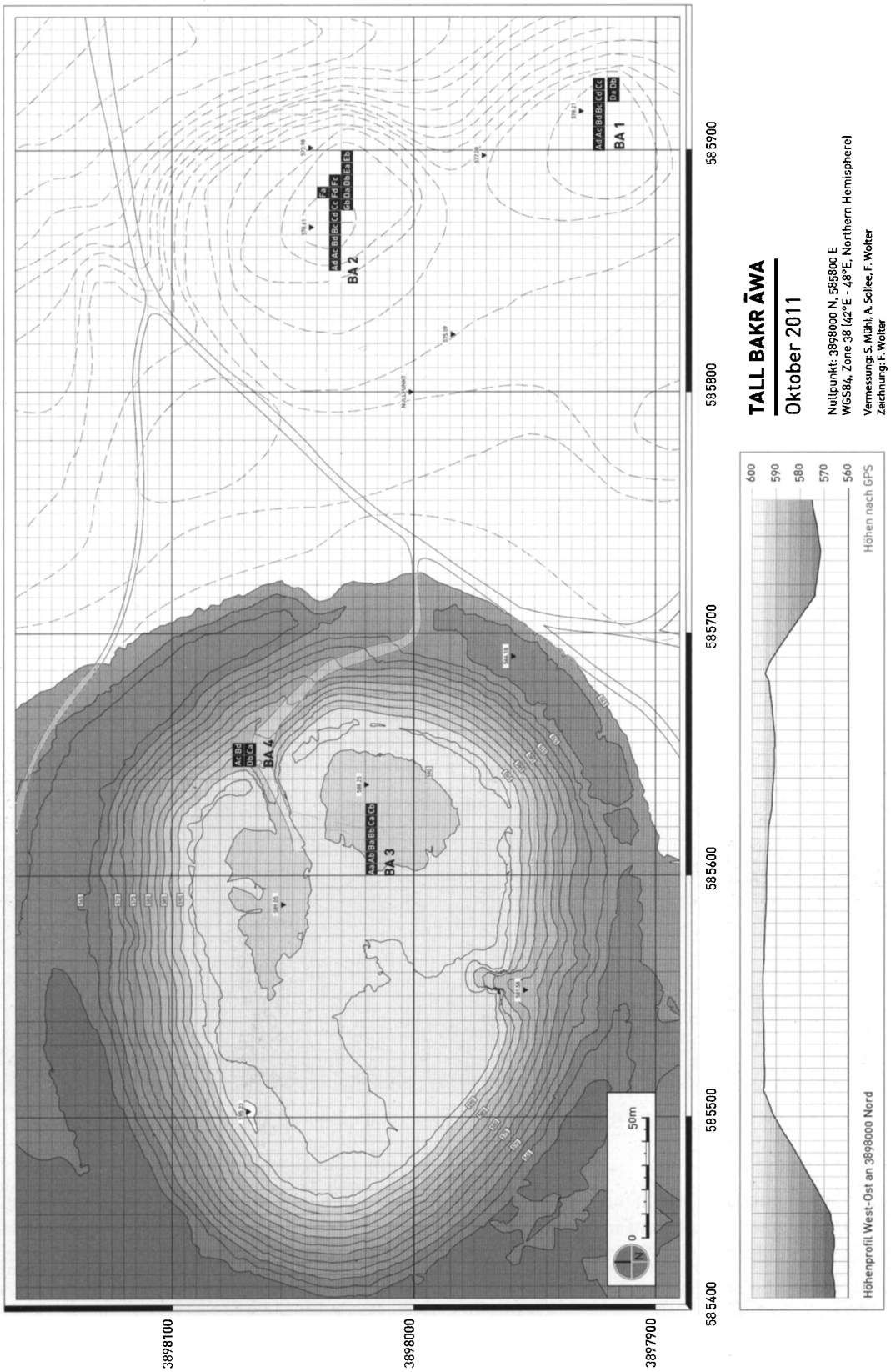


Fig. 3 Bakr Awa. Plan of the main mound and the eastern part of the lower city with excavation areas.

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Fig. 4 Bakr Awa. Southwestern slope of the citadel.



Fig. 5 Bakr Awa. Southeastern slope of the citadel.

evidence was found, of which only one tablet has since been published.[9] One Old Babylonian cuneiform document was found in Level VIII. According to the archive of the Iraq State Board of Antiquities and Heritage, another two tablets of this period were found in the trench at the citadel mound.

[9] Matouš 1961; the contents of the other tablets is also mentioned by Baqir 1961: 1–2; Al-Husaini 1962: 144, 147 n. 13; Weidner 1963: 224.

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There is also archaeological evidence from the Uruk period, which is not mentioned in the excavation reports, but published by B. A. al-Soof in his book on Uruk pottery.[10] This pottery was probably found in the lower city, but the levels (II–V) to which al-Soof refers are inappropriate to the stratigraphic sequence there. Further fragments of beveled rim bowls were found during the survey 2009.

According to Speiser, Bakr Awa might be identified as ancient *Atlila*.[11] This city was conquered and rebuilt by Ashurnasirpal II during his military campaign in *Zamua* (*c.* 880 B.C.) and renamed *Dūr-Aššur*.[12] This name later appeared in a Late Assyrian itinerary,[13] and in a military report of Ashurbanipal on his fifth campaign against *Aḫšēri*, king of *Mannāja* (*c.* 660 B.C.).[14] The proposed identification is not yet confirmed by any evidence from Bakr Awa itself, but the general importance of the city is proven by its dominant position in the Plain of Shahrizor, its size and its long-lasting occupancy. The excavated objects and architectural remains show that the site was already an extended and rich settlement in the third and second millennia B.C.

1. Excavations in the lower city

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At the eastern edge of the lower city, two trenches were opened. Area 1 is situated on a hilltop in the southeast, while Area 2 partially covers and extends the area of the old Iraqi excavation (Fig. 3). In both trenches the upper layers were badly damaged by erosion and disturbed by up to 2.5 m deep looting pits. Furthermore, a vast number of settlement and storage pits were dug from the Islamic horizon as deep as the Middle Bronze Age layers.

1.1 Islamic Horizon

The 2 m deep Islamic horizon consisted of up to four layers. The few architectural remains, such as walls and pebble floors, were badly preserved and cut by pits of different dimensions. A cemetery with about twenty graves was discovered directly below the surface in Area 2, but the upper parts of the burial pits were no longer recognizable due to modern looting. For this reason, and for the lack of burial objects, the accurate dating of the cemetery was not possible. Many *tannur*-ovens were excavated in Area 1, at least 13 ovens solely in layer 3.

The spectrum of finds (Fig. 6) included many fragments of glass arm rings and vessels, glazed terracotta and shell beads, metal objects like iron nails and knives, and stone mills. Pottery occurred most frequently, and all kinds of ceramic were represented: coarse cooking ware and storage jars as well as a fine ware with modeled ornaments, *thin ware*, and glazed pottery. A special type of object were terracotta-basins with four legs and glass inlays (BA 1000/74 and 85; BA 1008/2; BA 1017/1), of which several fragments, and in pit BA 2117 one nearly complete example (BA 2117/5), were found.[15]

1.2 Iron Age Horizon

The Iron Age stratum can be subdivided into two layers. The dating of the older layer to the Iron Age II (*c.* eighth to sixth century B.C.) is based on a fine reddish slipped ware, which is represented by two types of bowls (Fig. 7). The first type is of a carinated shape, with similar forms known from south Urartian sites.[16] Carinated bowls were the most common vessel finds of the Iron Age layer.

[10] Al-Soof 1985: 90, 183 = chart III, 186 = pl. III bottom (levels II-V). Four examples are illustrated, two beveled rim bowls and two other vessels, while five beveled rim bowls are mentioned in the text.

[11] Speiser 1926/27: 28; see also Ebeling 1932, Unger 1938, and Klengel 1965: 366.

[12] RIMA 2 A.0.101.1 ii 85–86: "I put a wall around it, founded therein a palace for my royal residence, (and) decorated it more splendidly than ever before. I stored therein barley (and) straw from all the (surrounding) land. I named it *Dūr-Aššur*".

[13] Johns 1901: no. 1096, rs. 3, 5, 8; Peiser 1901: 40–46; Weidner 1966: 43.

[14] Borger 1996: 220, B iii 16–22 (= Thompson 1940: 104, no. 25, Fragment of Prism B).

[15] Comparisons are known from Susa (Koechlin 1928: 26, pls. 11, 19), Samarra (Al-Janabi 1983: 322, pl. 32), Yassin Tepe (Museum Sulaimaniyah/Abbasid Period), and from the Iraqi excavation at Bakr Awa (Madhloum 1965: fig. 3, no. 12).

[16] Kroll 1976: 118–19, figs. 1 no. 11, 5 nos. 3 and 4, 18 no. 13, 38 no. 6, 39 no. 1 (corresponds to type 20 *'Schüssel' mit Schwerpunkt im 8. Jh. v. Chr.*).

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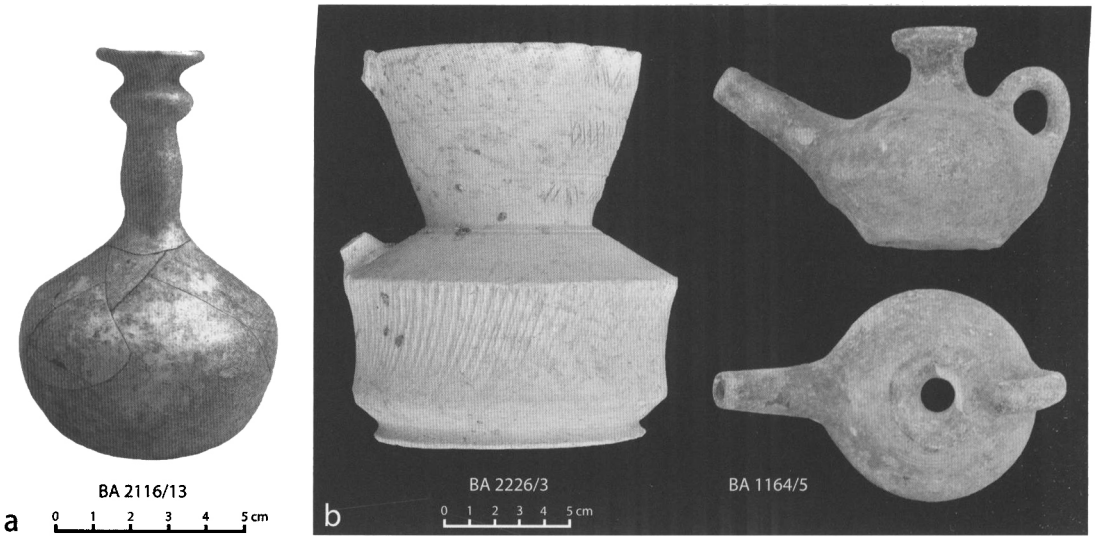


Fig. 6 Islamic vessels. a) Glass. Scale 1:2. b) Pottery. Scale 1:3.

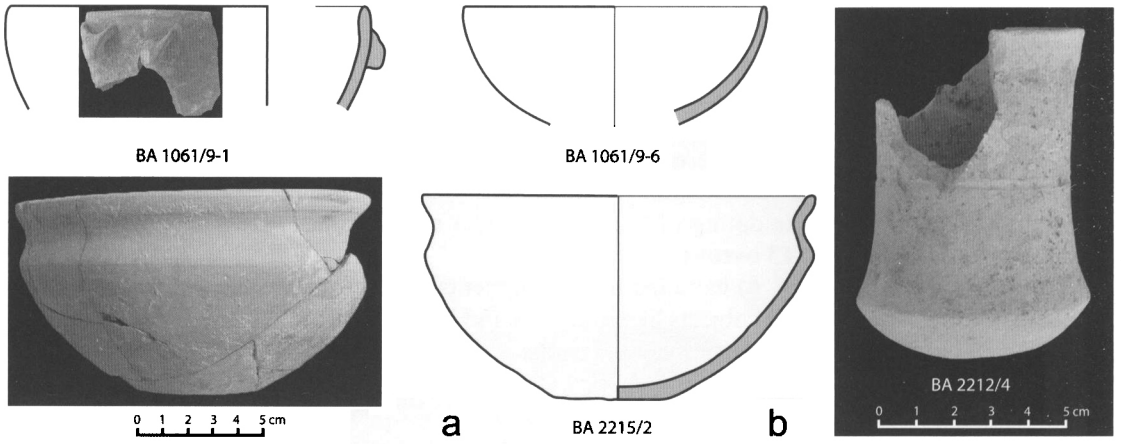


Fig. 7 Iron Age pottery. a) Bowls. Scale 1:3 – b) Beaker. Scale 1:2.

The second type has a rounded body; good comparators appear for example at Bastam, both in Urartian and Median contexts[17]. Some fragments from Bakr Awa carried applications of miniature bovid heads and patterns of small impressed circles (Fig. 7a).

Beakers with an indistinct edge between a rounded base and the slightly flared wall were another significant vessel type. In some cases a horizontal groove runs around the lower part of the body (Fig. 7b). The beakers[18] were of a medium-fine yellow-reddish ware and can be compared with similar pottery from Late Assyrian contexts at Tell ar-Rimah[19] and Ashur.[20]

Two extended rubble pavements were excavated in both trenches at levels of about +576.70 m (Area 1) and +576.45 m (Area 2). Two bovine skulls were lying on the older layer of the pavement

[17] Kroll 1976: 111, figs. 1 no. 13, 20 nos. 1 and 2 (corresponds to type 1 *'Schüssel' mit Schwerpunkt im 8. Jh. v. Chr.*), 151–56; Kroll 1979: 229–34, especially n. 8; Young and Levine 1974: fig. 45, no. 23.

[18] Cf. also Al-Husaini 1962: plan 7 no. 8.

[19] Postgate, Oates and Oates 1997: 71, pl. 77 top.

[20] Haller 1954: pl. 2 bm; Miglus 1996: pl. 55 (Ass 9866 h). Similar beakers were also found in an Old Assyrian grave, see Hockmann 2010: 50 (*Napf-Typ Na-1*) pl. 119 top row.

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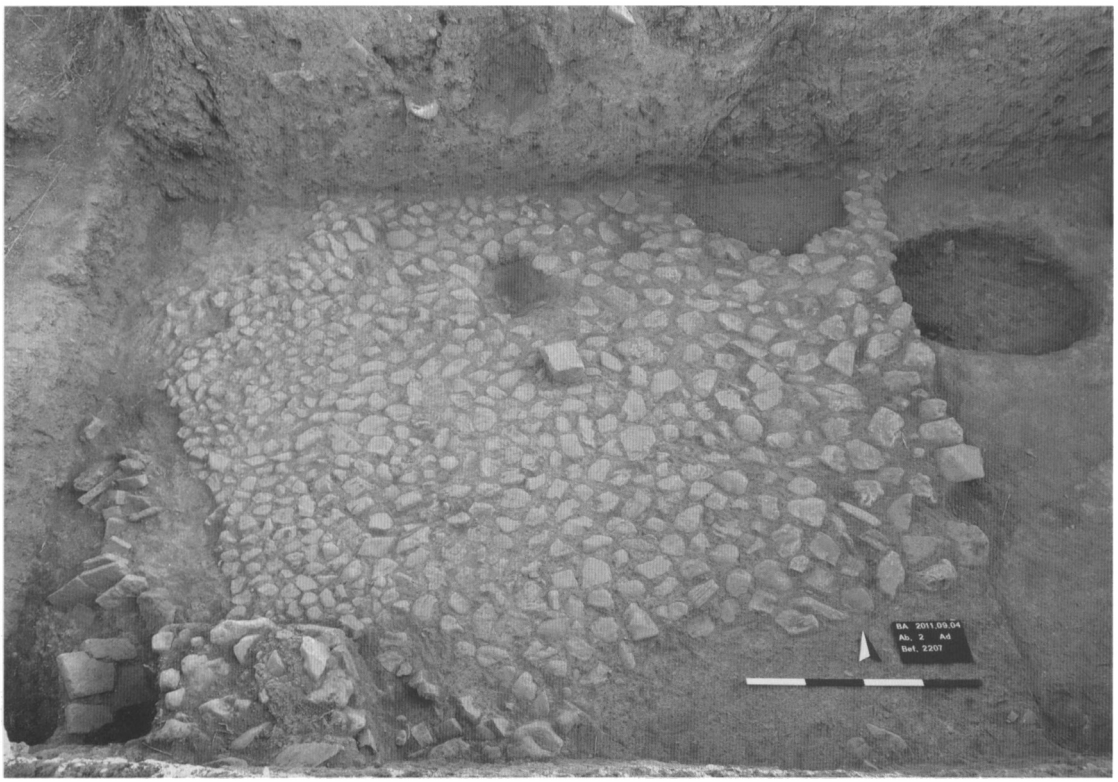


Fig. 8 Area 2-Ad. Iron Age pavement BA 2207.

in Area 1 (BA 1082/1 and 2), one of them (BA 1082/2) in connection with fragments of a large thin-walled vessel. The pavement of Area 2 (Fig. 8) was disturbed, cut by a pot burial of a baby (BA 2200), and adjacent to its southern edge a pithos grave (BA 2222) of an adult man was excavated.

These two jar graves and five more earth burials belong to the younger of the Iron Age layers. The dead were buried in crouched position, but without any regular orientation. Only a few objects were found in these graves; a kohl tube[21] made of bronze from grave BA 1085 (Fig. 9a) and a small handled jar[22] from the child burial BA 2200 (Fig. 9b) give evidence for a date in the Achaemenid Period.

1.3 Late Bronze Age Horizon

Area 2 provided two rooms of the Late Bronze Age (Figs. 10, 11). The eastern room (BA 2316) was 3 m wide and accessible through a door in the southern wall. The floor consisted of mud and pebbles, in the filling above two cylinder seals of frit (BA 2154/2 'Common Style' and BA 2143/2 'Cut Style') were found.[23] The western room (BA 2300) was partly destroyed by a bell-shaped Islamic-period pit, but on the preserved floor a huge number of broken storage jars and several smaller vessels were found. Two beakers (BA 2295/6 and 20; Fig. 12) bear a striking resemblance to a specimen (BA 2084/9; Fig. 14a) from double grave BA 2084 of the late Middle Bronze Age. Other examples from Bakr Awa were already published in the report on the earlier excavations by

[21] Cf. Qadir al-Tekriti 1960: pl. 11, nos. 2 and 3, and Fiorina 2007c: figs. 12, 53a, b. However, the kohl tube from Khirbat Hatara was found in the Akkadian level.

[22] Small bottle with two handles (BA 2200/4): cf. Woolley and Mallowan 1962: pl. 56, no. 212 (stout body with a different rim), cf. also pl. 57 [Late Babylonian-Persian Period]; Haerinck and Overlaet 1998: 12–13, ill. 4 pl. 42 b (with rounded bottom) [Iron Age III].

[23] Miglus, Bürger, Heil and Stępniowski 2011: 156, figs. 32 and 33.

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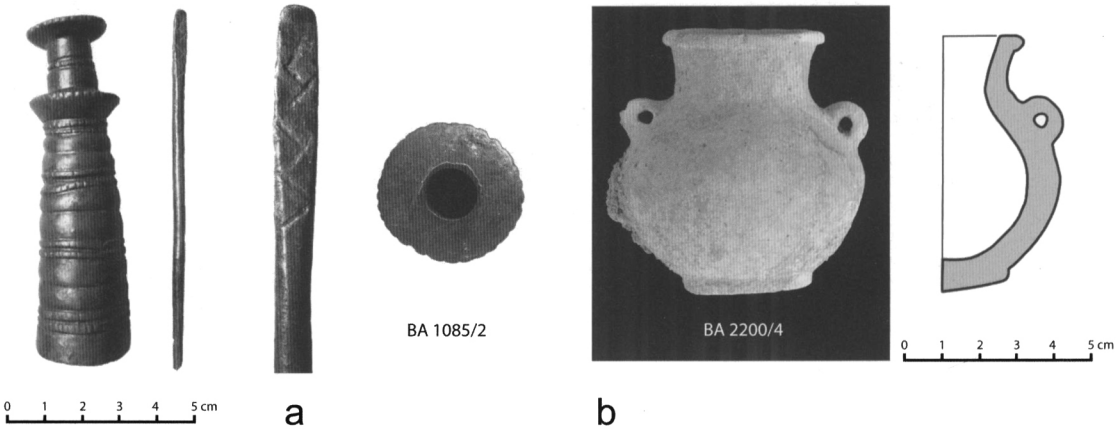


Fig. 9 Iron Age grave goods. Scale 1:2. a) Achaemenid kohl tube with applicator (restored). – b) Achaemenid pottery jar.

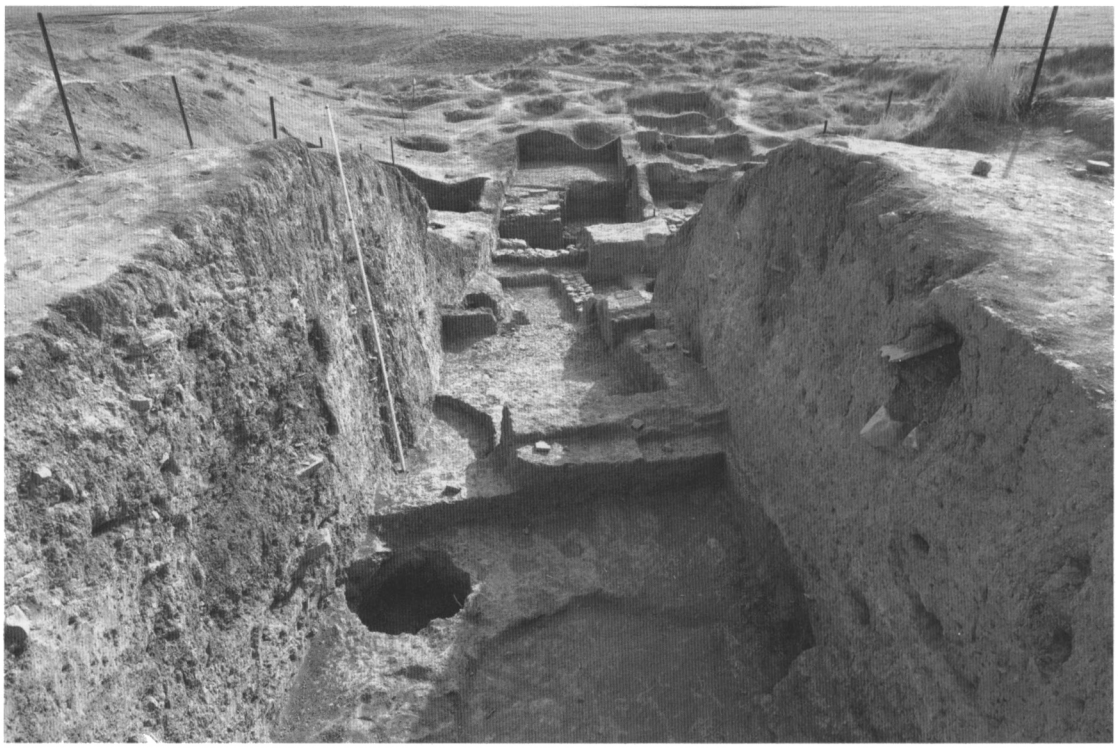


Fig. 10 Area 2 facing east.

Al-Husaini.[24] All these beakers find their best parallels in the Late Kassite period at Tell Yelkhi[25] and Tell Zubeidi.[26] A Mittani vessel from Tell ar-Rimah[27] and some Old Babylonian goblets from Khafajah[28] also show vague similarities. During the Iraqi excavation parts of another building were

[24] Al-Husaini 1962: plan 7, nos. 2 and 3.
[25] Valtz 2002/3: pls. 148. 149 (Kassite layers II and I).
[26] Boehmer and Dämmer 1985: pls. 109, 113 no. 85 (grave 63).
[27] Postgate, Oates and Oates 1997: pl. 72 no. 749.
[28] Delougaz 1952: pl. 132.

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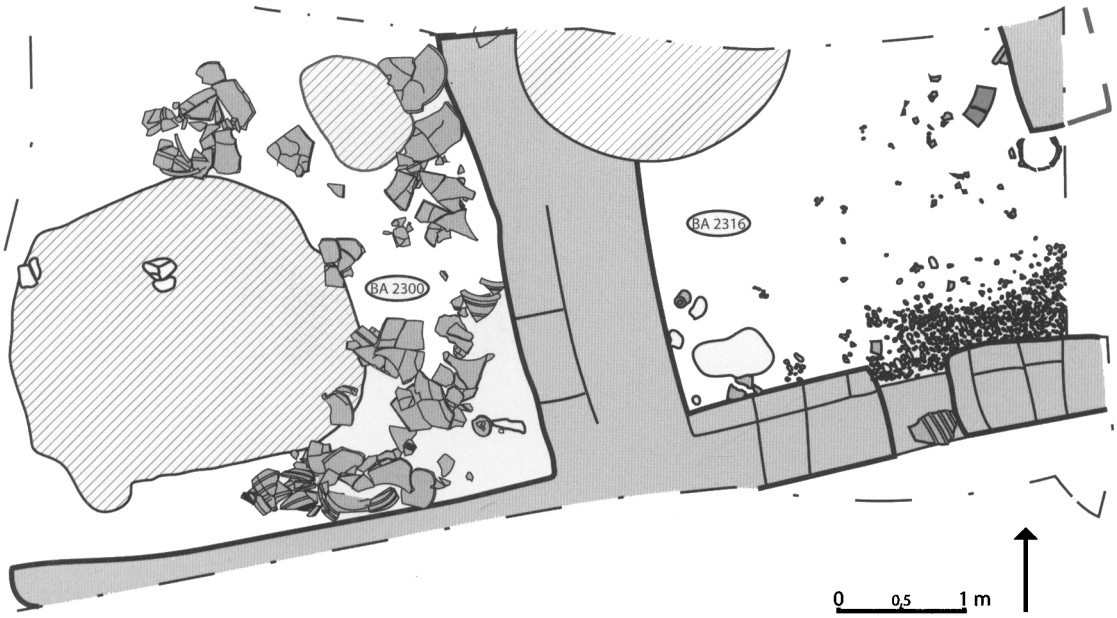


Fig. 11 Area 2. Storage room BA 2300 with pottery in a LBA building, partially destroyed by Islamic pits. Scale 1:60.

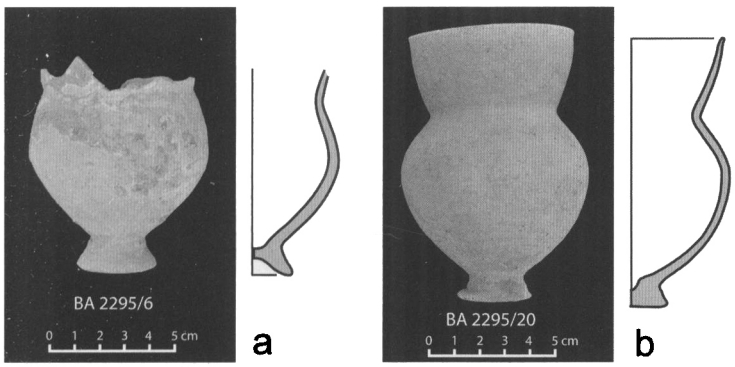


Fig. 12 Area 2. LBA beakers. Scale 1:3.

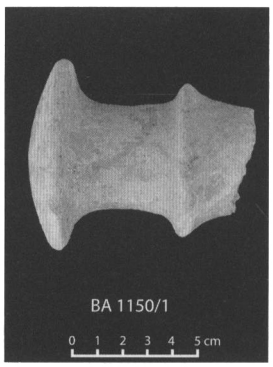


Fig. 13 Area 1. LBA or MBA clay cone. Scale 1:3.

uncovered further east at the same level. A series of cuneiform tablets from Rooms 54–56 was preliminary dated to the second half of the second millennium B.C.[29]

In Area 1 the Late Bronze Age was represented by a thin layer at the eastern slope with just a few finds. The most remarkable object was a clay cone (BA 1150/1; Fig. 13), which might be an indication of an official building existing in this area. Comparisons are known from Temple A in Nuzi;[30] other examples found in Tell ar-Rimah date to the Middle Assyrian and Old Babylonian Period.[31]

[29] Al-Husaini 1962: 147 and 160 plan 2: level IV A; room 54: IM 63985, IM 63986, IM 63987, IM 63988, IM 63989, IM 63990, IM 63991, IM 63992, IM 63998; room 55: IM 63994; room 56: IM 63995. At present only one tablet from Bakr Awa has been published, by Matouš 1961 as IM 63388 (probably IM 63988).

[30] Starr 1937/39: pl. 97 L–N, pl. 98 (B, C, D are slightly different).

[31] Postgate, Oates and Oates 1997: pl. 25 e (cf. also pl. 25 d Middle Assyrian): Site C, Palace.

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1.4 Middle Bronze Age Horizon

In the lower city Iraqi archaeologists identified three Old Babylonian levels (VI–VIII): Level VI contained many graves and some architectural remains, while Level VIII was represented by a large Old Babylonian house. Level VII consisted of just one floor from which grave 14 was dug into. The new excavation provided verification for levels VI (= BA-MBA Layer 1) and VIII (= BA-MBA Layer 2); Level VII appears to be a transition between the two strata.

1.4.1 BA-MBA 1. In layer BA-MBA 1, two more burials (BA 2084 and BA 2221) were discovered.[32] Double burial BA 2084 with several grave goods[33] was dug in the area of room 102 of an Old Babylonian house, at the northern limit of Area 2 (*c.* +573.46 m). The remains of the older skeleton (BA 2084/1) were in a secondary position, apparently moved during a second interment. The objects linked to the first burial were of bronze, a long toggle pin (BA 2084/6) with parallels in Temple E at Nuzi,[34] a small ring (BA 2084/5) and an anklet (BA 2214/7). The younger male skeleton was buried in a crouched position facing up on its right side (BA 2084/11) in a north-south orientation. The set of objects belonging to him included a lance head (BA 2084/2) and a dagger (BA 2084/12)[35] made of bronze, and three pottery vessels: bowl BA 2084/3,[36] beaker BA 2084/9[37] (Fig. 14a), and bottle BA 2084/10.[38]

Child burial BA 2221 might have been covered with some type of construction, of which one burned brick had fallen into the grave pit (Fig. 15). It contained two bowls (Fig. 14b), one carinated (BA 2221/3) and one rounded (BA 2221/4), of typical Middle Bronze Age shapes. A similar ensemble was found in the Old Babylonian tomb BA 1108 in Area 1 (see below and Fig. 24b–c).

A large oven (BA 2155), already noted by Iraqi archaeologists,[39] was situated above the northern wall of the main room (105) in the private house in 2-Cd. Cutting through a pebble floor succeeding the house, the oven also belongs to the phase BA-MBA 1. With a length of 2.65 m, it was a very large installation, with its walls covered by a layer of furnace slag up to 15 cm thick. The contents consisted

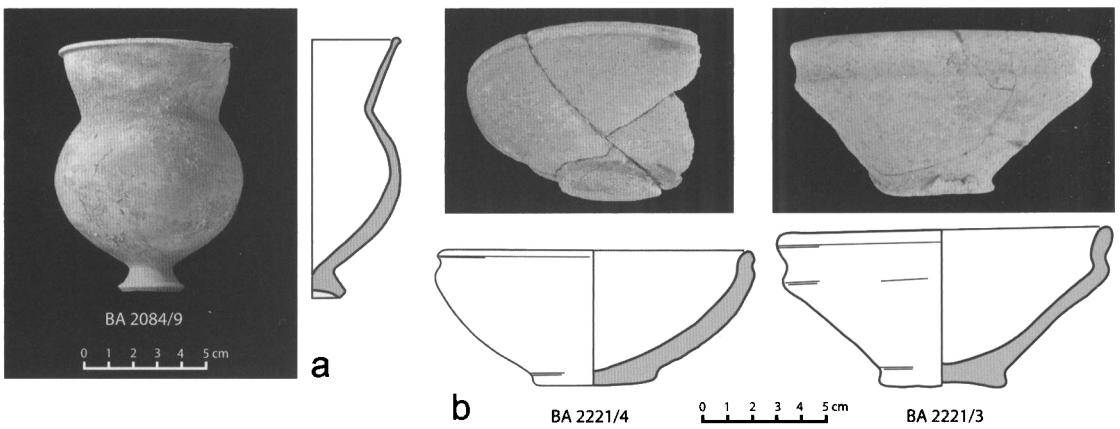


Fig. 14 a) MBA beaker from grave BA 2084 in Area 2-Fa. – b) MBA bowls from grave BA 2221 in Area 2-Fa. Scale 1:3.

[32] Grave 14 (old level VII) contained similar pottery as burial BA 2084.

[33] Miglus, Bürger, Heil and Stępniowski 2011: 173, pl. 7.

[34] Starr 1937/39: pl. 125 T; the type can be dated to the first half of the second millennium B.C. (Klein 1992: 88–89, pl. 100 nos. 3-6 [*Typ I.9A3, Ausprägung c*]).

[35] It shows similarities with daggers from grave 2/*42 in Ashur (Hockmann 2010: pl. 68 [Ass 20555n]) and from Tell Suleima (Müller-Karpe 1995: 332, fig. 20 no. 3). Daggers like these can be found from the late Early Dynastic period until the early second millennium B.C. (Hockmann 2010: 83).

[36] A parallel can be found in level 5 in Tell Yelkhi (Gabutti 2002/03: pl. 37 no. 11).

[37] Very close parallels are two beakers (BA 2295/6 and 20) from Bakr Awa itself, which were excavated in the Late Bronze Age context of room BA 2300. This is evidence for continuity of local pottery production from the Middle to the Late Bronze Age.

[38] Comparable are bottles from graves of the Isin-Larsa Period in Tell Razuk (Gibson 1981: 80, pl. 100) and Tell Hasan (Fiorina 2007a: 91, fig. 179a–b).

[39] Al-Husaini 1962: 152 n. 18.

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Fig. 15 MBA child burial BA 2221 from layer BA-MBA 1 in Area 2-Fa.

of ash, pieces of slag, pottery, brick fragments, and animal bones. High temperatures must have been reached, since some of the ceramic sherds were partially vitrified.

1.4.2 BA-MBA 2. A large private house (Fig. 16) was the main architectural unit in Area 2 representing our BA-MBA 2 level. The building had already been investigated during the Iraqi excavation as Level VIII. By then its mud brick walls were well preserved, except for the denuded eastern part in the range of the slope where the entrance may have been located. A central courtyard formed the core of the house, with a reception room (103) attached to its western side, and the main hall (105) behind. Smaller chambers ran alongside the northern, eastern and southern sides of the house. Its size and the presence of an altar in the main hall led the Iraqi archaeologists to interpret the building as a temple or palace.[40] Heinrich 1982 was the first to recognize that the building bore more resemblance to private houses.[41] The present authors also suspect the building to be the residence of a wealthier citizen. Good comparators of similar structure with a central courtyard are known from southern and central Mesopotamia during the Isin-Larsa and Old Babylonian Periods.[42]

During the 2010 and 2011 seasons, the now badly eroded remains of the house were re-exposed. In some rooms the original floors and other installations appeared, and at least two occupation levels were distinguished. It is apparent that the ground in the western part of the building area was uneven, and had to be partially leveled during the building's foundation. For example, a gravel layer

[40] Al-Husaini 1962: 153–54, pls. 1, 2, plan 4; Weidner 1963: 223.

[41] Heinrich 1982: 196, fig. 276.

[42] Miglus 1999: 7, 23ff. (*Hofhaus mit gefangenem Hauptsaal*); for Bakr Awa see pp. 49–50. Calvet 2003: 143–93, figs. 5–9, 13, 27, 28, 39, 40, 42 (Larsa); Franke 1978: 54–61, figs. 39–41 (Nippur WB, Level V/IV, House A); McCown, Haines and Hansen 1967: 50–53, pl. 59 (Nippur TB, Level IV, House I with hearth); Gasche 1978: 57–108, plans 2–4 (Tell ed-Der, Bâtiment Central with altar); Gasche 1989: 9–44, plans 2–4 (Tell ed-Der, Maison d'Ur-Utu); Woolley and Mallowan 1976: 95–166 pls. 122, 124 (Ur).

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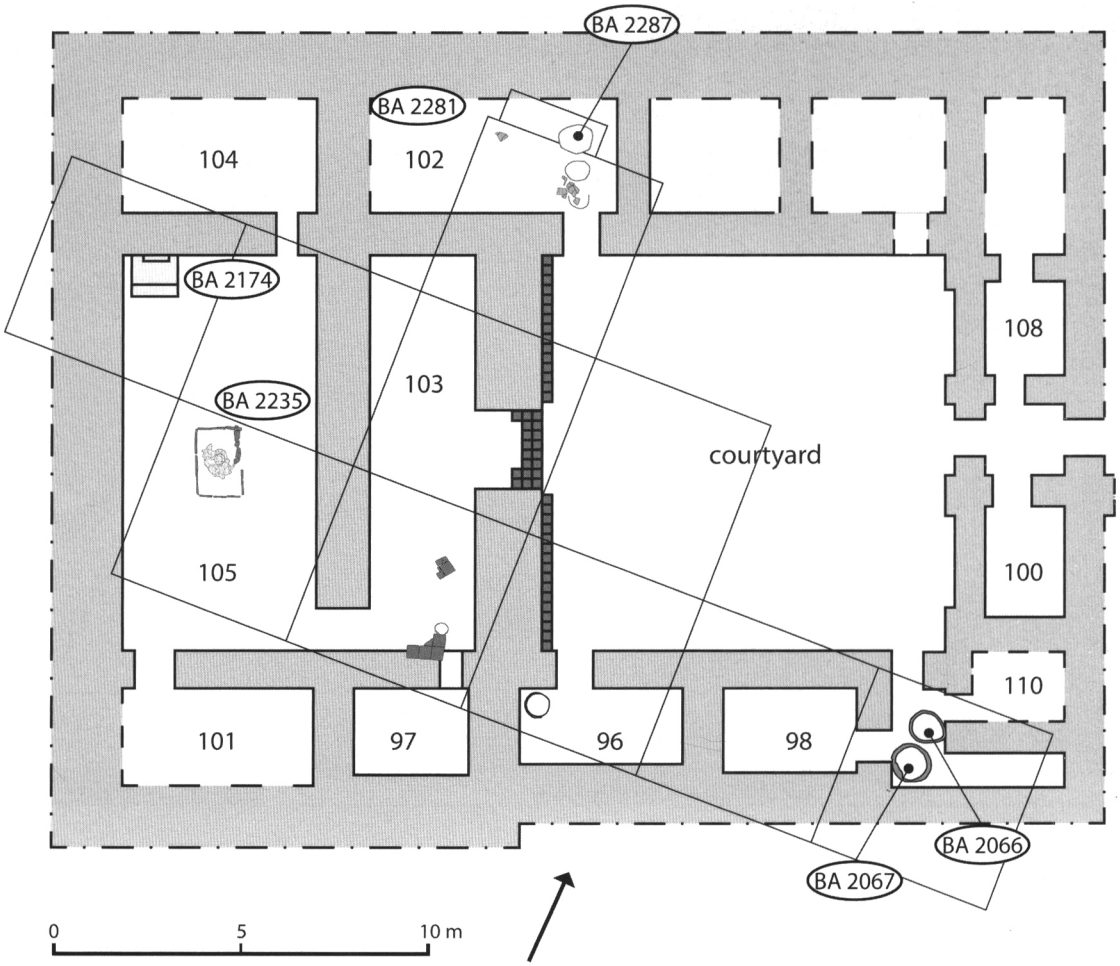


Fig. 16 Area 2. Plan of a MBA private house of Isin-Larsa type (results of the recent excavation combined with the Iraqi plan 4 by Al-Husaini 1962). Scale 1:200.

was heaped up below the floor and walls in the eastern part of the main hall (105), and the mud brick wall around its north-western corner reached down *c.* 0.80 m below the original floor level, whereas the wall base in other rooms was only one or two courses of brick deep.

The courtyard of the house, measuring *c.* 11 × 10.5 m, was originally paved with pebbles and mud plaster, and along its western wall ran a line of burnt bricks. The threshold of the door leading into the reception room (103) was also formed of burnt bricks. Here, in the reception room, scanty remains of the oldest floor (BA 2264: +573.35 m), also made of burnt bricks, were observed; a pottery vessel (BA 2264/1) was sunk into this floor, its rim flush with the bricks. A door at the southern end of the wall connected the reception room (103) and main hall (105). The latter was paved with small pebbles and had two significant installations: an altar and a hearth. The mud brick altar (BA 2174) in front of the northern wall had already been discovered by the Iraqi excavators, but never published in detail. Because of this, and due to the altar's top having weathered since the old excavation, its original shape is uncertain, but insofar as it can be seen corresponds to similar installations in the so-called "domestic chapels" at Ur[43] or Tell Harmal.[44] The second, recently excavated installation was a rectangular hearth (BA 2235; Fig. 17), 1.25 × 1.84 m, situated in the center of the room. Bordered with upright burnt bricks, its inner surface consisted of a layer of

[43] Woolley and Mallowan 1976: 29–30, 146, fig. 40, pls. 43–46a.

[44] Bürger and Miglus (forthcoming); cf. Miglus 1999: 72–73.

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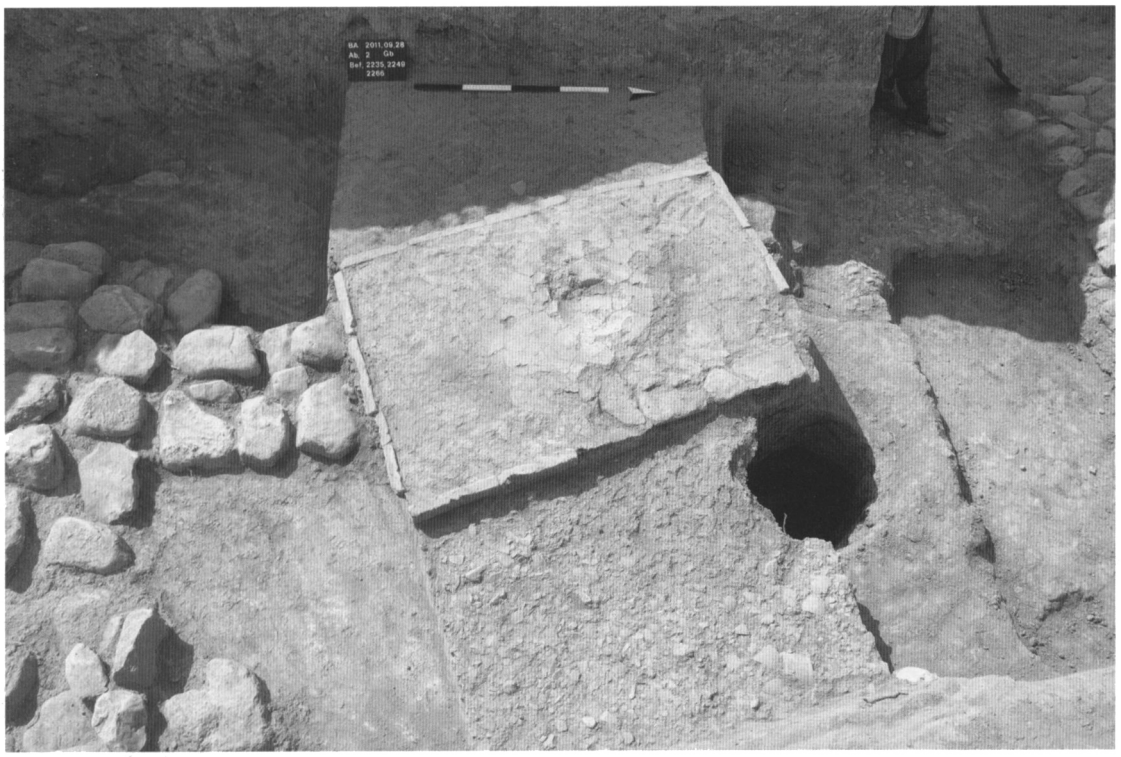


Fig. 17 Area 2. Fire place BA 2235 in main hall 105 of the MBA house.

pottery sherds and clay; a deep, round depression in the middle of the structure was coated by fine hard burnt mortar.

Some of the smaller chambers on the northern and southern sides of the house opening to the courtyard were also re-excavated during the last two seasons. The installations placed inside these rooms indicate a function as service units. Room 96 at the southern corner of the courtyard contained a *tannur*-oven and a fireplace. In Room 110, accessible from the eastern corner of the courtyard, two large round ovens (BA 2066 and BA 2067) of 1.06 m and 1.10 m diameter were built on the original floor level, and fragments of a large storage vessel were found in the fill above. Three other pithoi of this kind (BA 2287) were recovered *in situ* in room 102, where remains of a reed mat (BA 2281) were visible as thin white layer on the floor in front of the northern wall.

Apart from pottery, only a few small objects were revealed in the house. Neither here nor in other areas of the MBA horizon were terracotta figurines or plaques discovered, though they are characteristic finds in Mesopotamian settlements of this period. Furthermore, there was no epigraphic evidence except for the one fragment of a cuneiform tablet reported by the former excavators.[45]

Some limited remains of private houses were excavated in Area 1, and seem to be contemporary with layer BA-MBA 2 in Area 2. The north-eastern corner of a room surrounded by a mud brick wall (BA 1100) was discovered in square 1-Bd. A round structure, maybe a fireplace (BA 1104), and a storage jar of Old Babylonian type (BA 1099) were discovered. In a later phase obviously corresponding to BA-MBA 1, a child burial (BA 1107) was cut in; the burial included a bronze pin with a spherical fluted head.[46]

Another BA-MBA 2 building further east was represented by several parts of a pebble floor (BA 1110, 1161, 1165), some remains of mud brick walls (BA 1163, 1167, 1169) and what might be

[45] Al-Husaini 1962: 153.

[46] Klein 1992: 106–11, pls. 17, 113.

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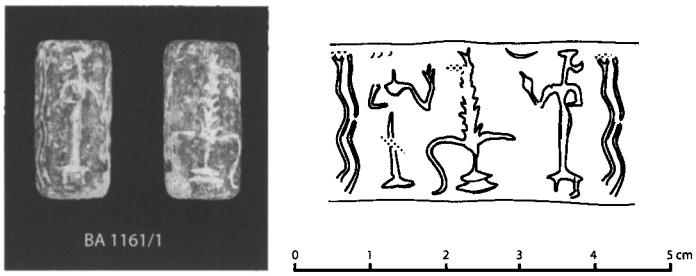


Fig. 18 Ur III cylinder seal from floor BA 1161 of the MBA house above tomb BA 1108 in Area 1. Scale 1:1.

a stone threshold (BA 1170: +575.67 m). On the eastern floor BA 1110 lay fragments of large storage jars, and a cylinder seal of dark stone (BA 1161/1; Fig. 18) was found on BA 1161. It depicts two persons, one on either side of a date-palm altar, the left-hand figure with an arm raised in adoration, the right-hand figure standing on a small pedestal. A crescent moon is placed in front of the right-hand figure's face, and two snakes are depicted behind the anthropoid figures. This scene, typical for the Ur III-Period, has its best parallels at Ur;[47] the seal might be a kind of heirloom.

Beneath the floor level of the house a tomb (BA 1108)[48] was discovered in 1-Cd. It was erected as a radial vault of burnt bricks on a socket of 1–3 layers of lime stones (Fig. 19). The burial chamber

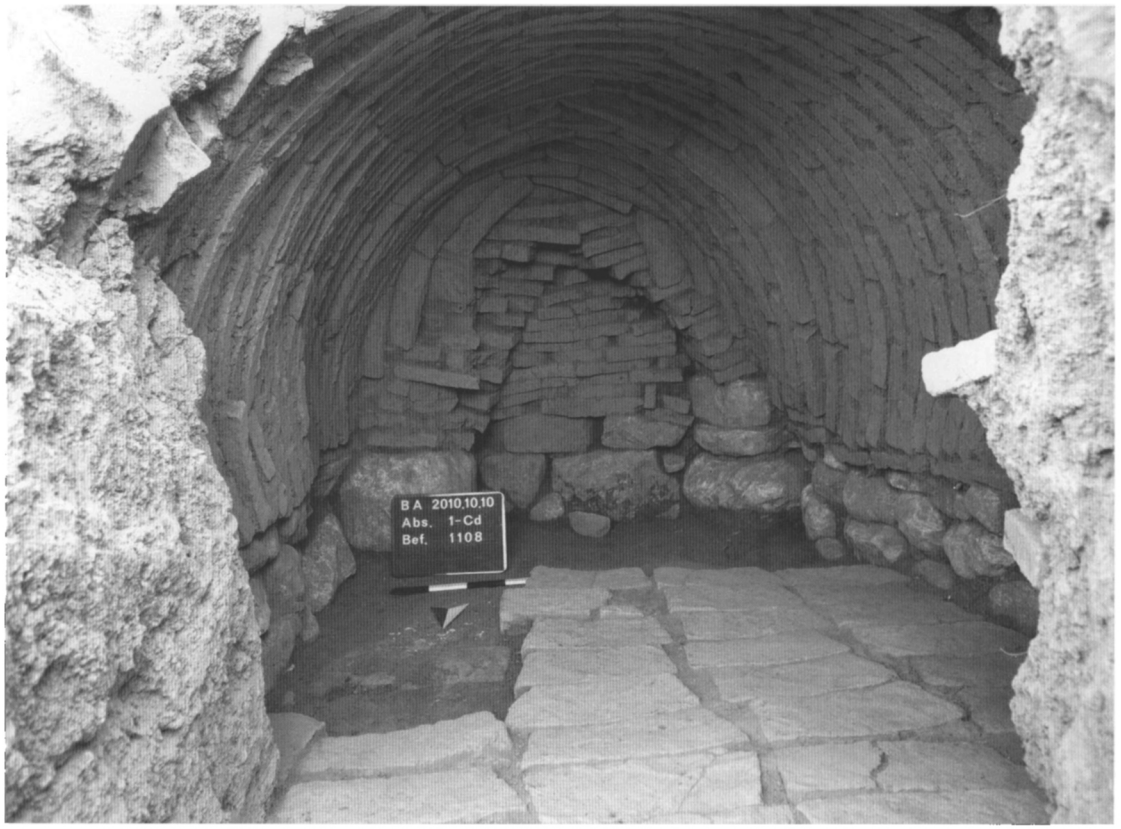


Fig. 19 Area 1-Cd. Chamber of MBA tomb BA 1108.

[47] Collon 1982: 139–43, pl. XLII, nos. 338–355; another example from Tell Asmar/Ešnunna was published by Frankfort 1955: pl. 67, no. 716.

[48] Top +575.07–575.26 m / floor +574.00–574.07 m.

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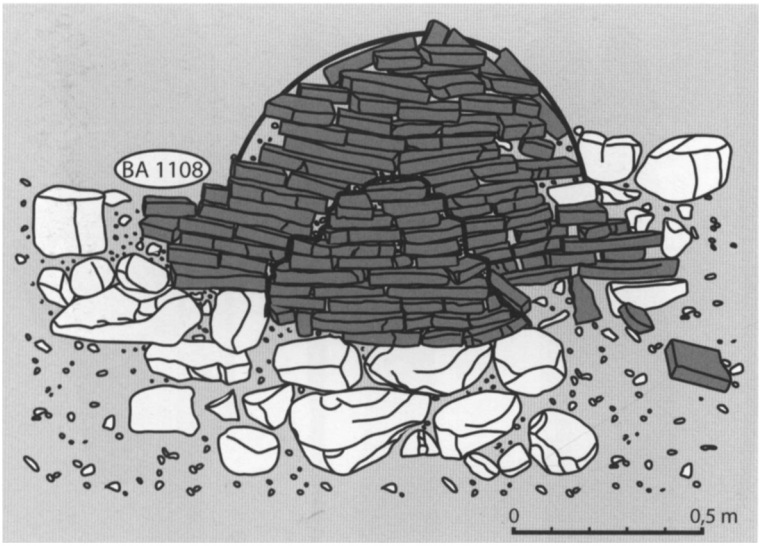


Fig. 20 Area 1-Da. Blocked entrance in the southern front of tomb BA 1108. Scale 1:20.

was 2.50 m long, 1.40–1.50 m wide and about 1 m high. It was oriented north-south and the entrance, in the south, was walled up with a corbel vaulting (Fig. 20). The thin bricks used for the vaults as well as for the floor pavement were of trapezoidal-arc shape and jointed with clay mortar, which also covered the exterior of the construction to a thickness of 2–3 cm. In southern and central Mesopotamia radial as well as corbel vaulting is very common in Middle Bronze Age architecture. The best parallels are known from Uruk,[49] where several radial vaults were excavated underneath the Palace of Sîn-kāšid and a private house of the early Old Babylonian period. Other examples of radial vaults were found at Larsa,[50] under houses B 27 und B 59, as well as in Khafajah[51], under rooms 1-M.75 and 10-M.75 of the so-called Sin Temple on Mound D.

Ancient theft caused the collapse of the north-eastern part of the tomb, and the chamber filled up with soil, clay, and bricks. Underneath this destruction layer, which was quite poor except for small pottery fragments, the first three (BA 1108/13, 79 and 162) of at least eight burials were found. Their bones were disturbed by the looting and the skulls badly damaged by fallen bricks. These three later burials rested on a solid 15–20 cm thick layer of mud and brick fragments on the level where the stone socket met the brick vault. It was obviously intended to cover the earlier five burials. The objects found with these include jewelry, a few vessels, and weapons.

The metal pins and several fragments can be identified as belonging to three different types (Fig. 21). Several represent the first type, which possesses a shaft with a thickened rounded end. Three needles (BA 1108/14 and 15 bronze; 1108/5 silver) belong to a second type, with a cone head and a shaft with a square section and, where preserved, a ring attached to its thickened upper part. The third type has the same kind of shaft but a head in the shape of a vase; all four examples of this type (BA 1108/10, 11, 150 and 189) were made of bronze. Comparable pins with cone heads have been excavated at Tell Suleima,[52] Kheit Qasim,[53] Tell Songor B,[54] Tell Asmar[55] and at the cemetery of Kalleh Nisar[56] in Luristan. Pins with vase shaped heads are known from sites in central and northern Mesopotamia.[57] The examples from Bakr Awa belong to a solid type characteristic of the

[49] Boehmer, Pedde and Salje 1995: 20–25, pls. 26–35.
[50] Huot 2003: 150, 157, figs. 17b, 34, pls. 5a–b, 7, 8a, 29c, 30, 31a–b.
[51] Delougaz, in: Hill, Jacobsen and Delougaz 1990: 223, pl. 58b.
[52] Hauptmann and Pernicka 2004: pl. 47, nos. 804–11.
[53] Fiorina 2007b: 155, fig. 8b; Hauptmann and Pernicka 2004: pl. 25, no. 399.
[54] Matsumoto and Yokoyama 1989: 253, fig. 16, pl. 81f.
[55] Hauptmann and Pernicka 2004: pl. 7, no. 77.
[56] Haerinck and Overlaet 2008: 40–42, fig. 19, pls. 18, 68 (C3–31); Haerinck and Overlaet 2010: 138–40, fig. 40, pls. 52, 68 (KN. AII. 18–4).
[57] They were defined as *Formgruppe 13, Typ 2, Ausprägung b – nordmesopotamische Nadelform der Mittelbronzezeit* by Klein 1992: 117–18, cf. pl. 120 nos. 3–6.

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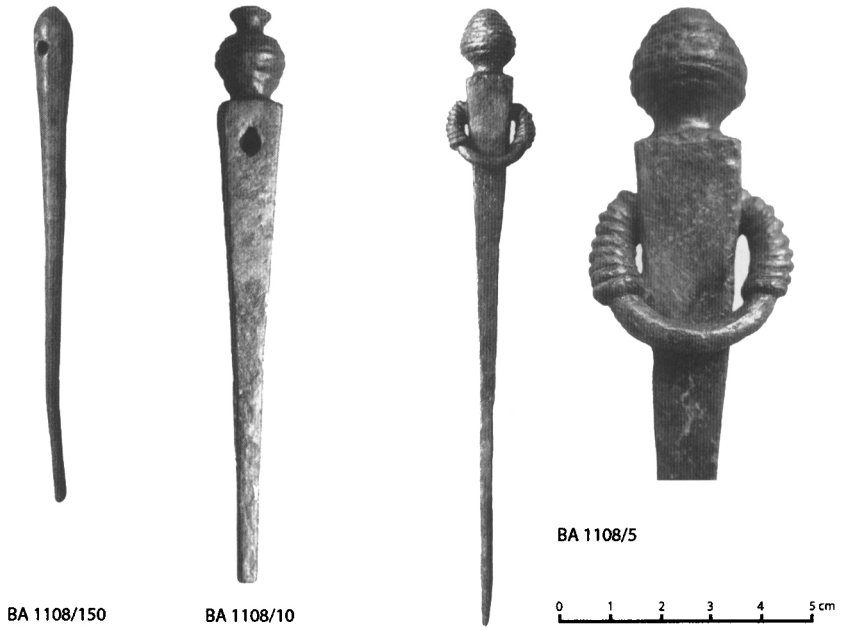


Fig. 21 Toggle pins from tomb BA 1108 (after restoration). Scale 2:3.

Eastern Central Tigris region. Comparable specimens are published from Nuzi,[58] from the Hamrin-Region in Tell Yelkhi, Tell Hasan,[59] Tell Songor A[60] and from Tell Baradan.[61] Pins from northern and north-western Mesopotamia are slimmer (see examples from Chagar Bazar,[62] level I/early second millennium BC, from Tuttul,[63] Palace A, level 3/reign of Zimri-Lim of Mari, from Haradum[64] and from Tepe Gawra,[65] level V/Isin-Larsa).

Also found in the tomb were weapons: two daggers and one spear head (Fig. 22). Both daggers have a simple blade with an extension for the handle and two rivet holes. Of the two, BA 1108/178 shows a more slender form than BA 1108/166. A fragment with rivets (BA 1108/169) gives evidence for a third dagger. Comparable daggers are known from Tell Asmar and Tell Suleima,[66] as well as from Kalleh Nisar,[67] burial 13, and Tell Baghuz[68] in western Mesopotamia.[69]

The spear head BA 1108/179 consists of a curved blade and an octagonal socket, and is 23.6 cm in length. It can be assigned to Graham Philip's Levantine "*medium-large spear head Type 5*" or "*intermediate-sized Type 6*",[70] which date to Middle Bronze Age I (*c.* 2000–1800 B.C.). Similar specimens but without octagonal section are known from Tell Suleima[71] and Tell Asmar,[72] as well as from Chagar Bazar[73] in the north and from Tell Baghuz[74] further west.[75]

The jewelry from tomb BA 1108 (Fig. 23) includes three hair rings made of gold (BA 1108/137) and silver (BA 1108/138 and 139), and 117 beads of gold, carnelian, agate and alabaster. One ornamented carnelian bead (BA 1108/190)[76] is extraordinary, because two nearly identical specimens

[58] Starr 1937/39, pl. 63 E, N and O.
[59] Dietre 2007, 171–72, 192–93, fig. 6 nos. 44–50; Hauptmann and Pernicka 2004: pl. 134 no. 2211.
[60] Fuji 1981: 72 fig. 40, nos. 7–8.
[61] Hauptmann and Pernicka 2004: 9, pl. 12, no. 152.
[62] "*Early intermediate period*" – Mallowan 1937: 132–33, 152, fig. 12 no. 6, pl. XVI B (nine pins are illustrated).
[63] Strommenger and Miglus 2010: 171, pl. 189 no. 33.
[64] Kepinski-Lecomte 1992: figs. 164 nos. 1, 12, 165 no. 4 (m 562).
[65] Speiser 1935: pl. 50.
[66] Müller-Karpe 1995: fig. 20 nos. 2–3.
[67] Haerinck and Overlaet 2010: 128–31, fig. 34, pls. 51, 65 (KN. AII. 13–5).
[68] Du Mesnil 1948: pl. LX, Z 193.
[69] Cf. Philip 1995: 136–41.
[70] Philip 1989: 89–93.
[71] Some of them were dated into the Akkadian Period by the excavators. See discussion by Müller-Karpe 1995: 294.
[72] Müller-Karpe 1995: figs. 31 no. 6, 32 no. 5; Hauptmann and Pernicka 2004: pl. 46 no. 783.
[73] "*Early intermediate level I*" – Mallowan 1937, fig. 13 nos. 10–11 (G 154).
[74] Du Mesnil 1948: pl. LXI, Z 227.
[75] Cf. Philip 1995: 133–36.
[76] Cf. Reade 1979: 15–16, 25, fig. 1 C4.

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Fig. 22 Bronze weapons from tomb BA 1108 (after restoration). Scale 1:2.

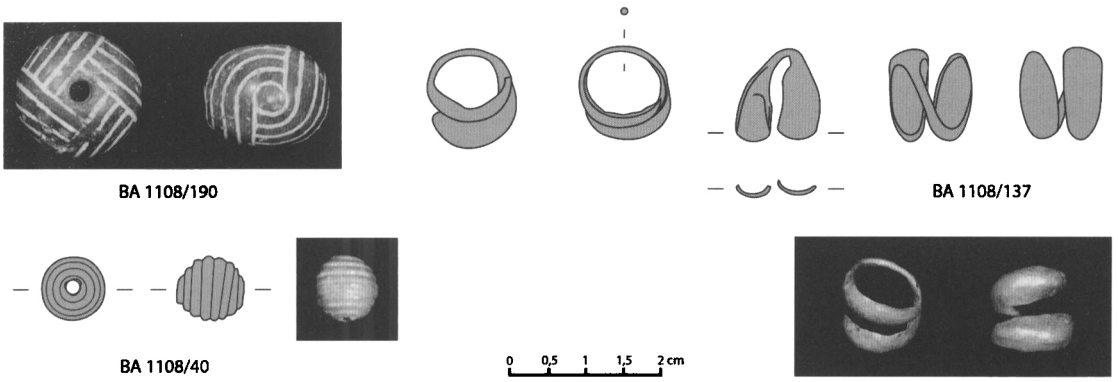


Fig. 23 Jewelry from tomb BA 1108: beads of carnelian and gold, golden hair ring. Scale 1:1.

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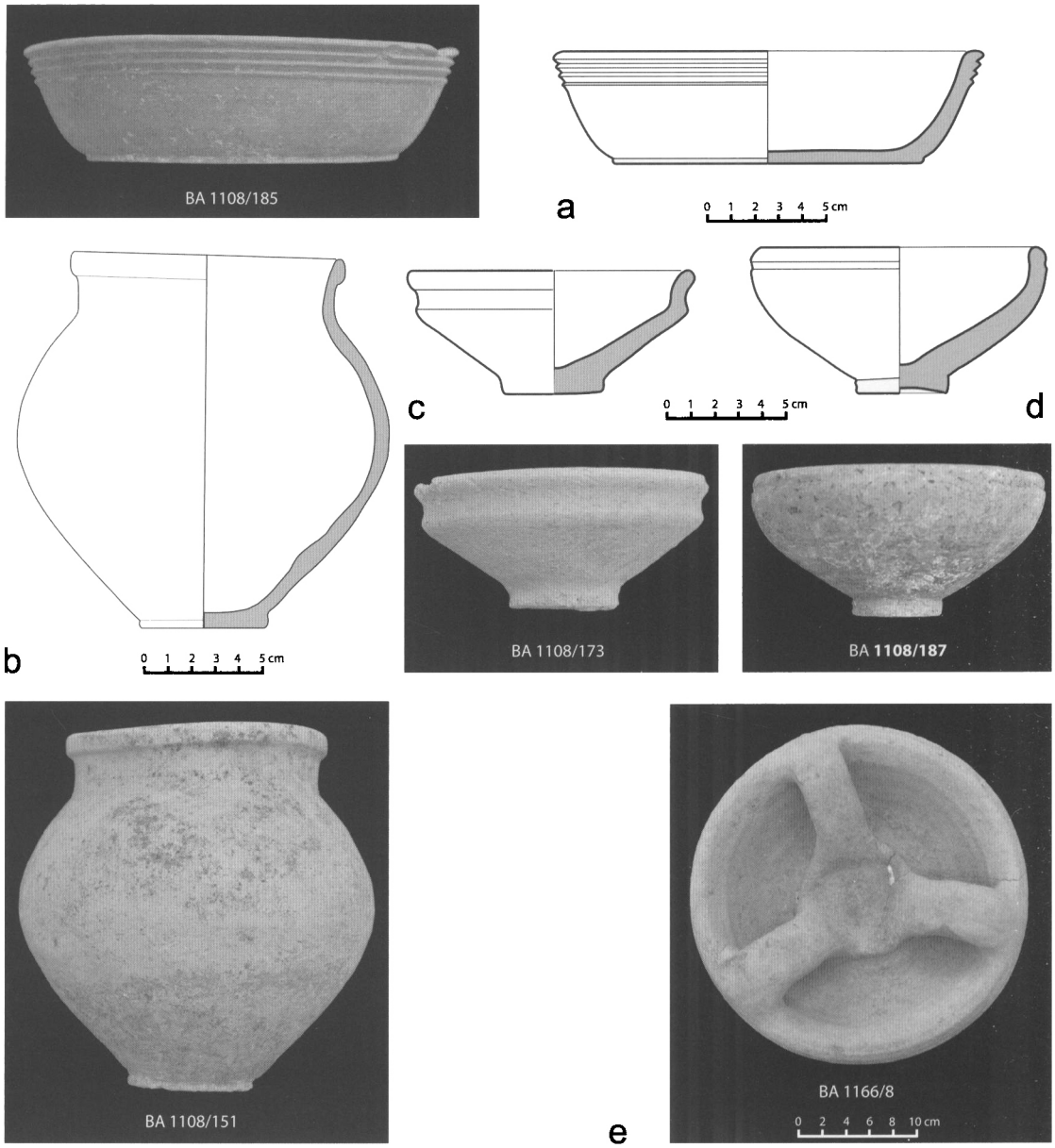


Fig. 24 a–d) Pottery from tomb BA 1108. Scale 1:3. – e) Tray BA 1166/8 from the entrance pit. Scale 1:6.

are known from Ashur,[77] burial Ass 20504 (Grab 20/*37)/*kārum* II period, and from Kalleh Nisar,[78] burial 41.

Four complete pottery vessels were found in the tomb, a small pot and three bowls (Fig. 24a–d). The body of the pot (BA 1108/151) is round with a short neck, a thickened rim and a small flat base. A vessel of similar shape was published for Tell Yelkhi.[79] The first bowl (BA 1108/173) has a conical shape with a carination under the rim, its base is flat and pronounced. This type of vessel and its variants are characteristic for the Middle Bronze Age and known from Tell Yelkhi,[80] Tell Harmal[81]

[77] Haller 1954: pl. 10a; Hockmann 2010: pl. 61; Harper *et al.* 1995: 53, pl. 6 no. 30.

[78] Haerinck and Overlaet 2010: 146–47, fig. 47, pls. 55, 71, XXV (KN. AII. 41–14).

[79] Gabutti 2002–2003: 177, pl. 73 no. 7 (level Vb).

[80] Gabutti 2002–2003: 129, pl. 39 nos. 11 (level Va), 14 (level IIIb).

[81] Bürger and Miglus (forthcoming): TH 97–81/2.

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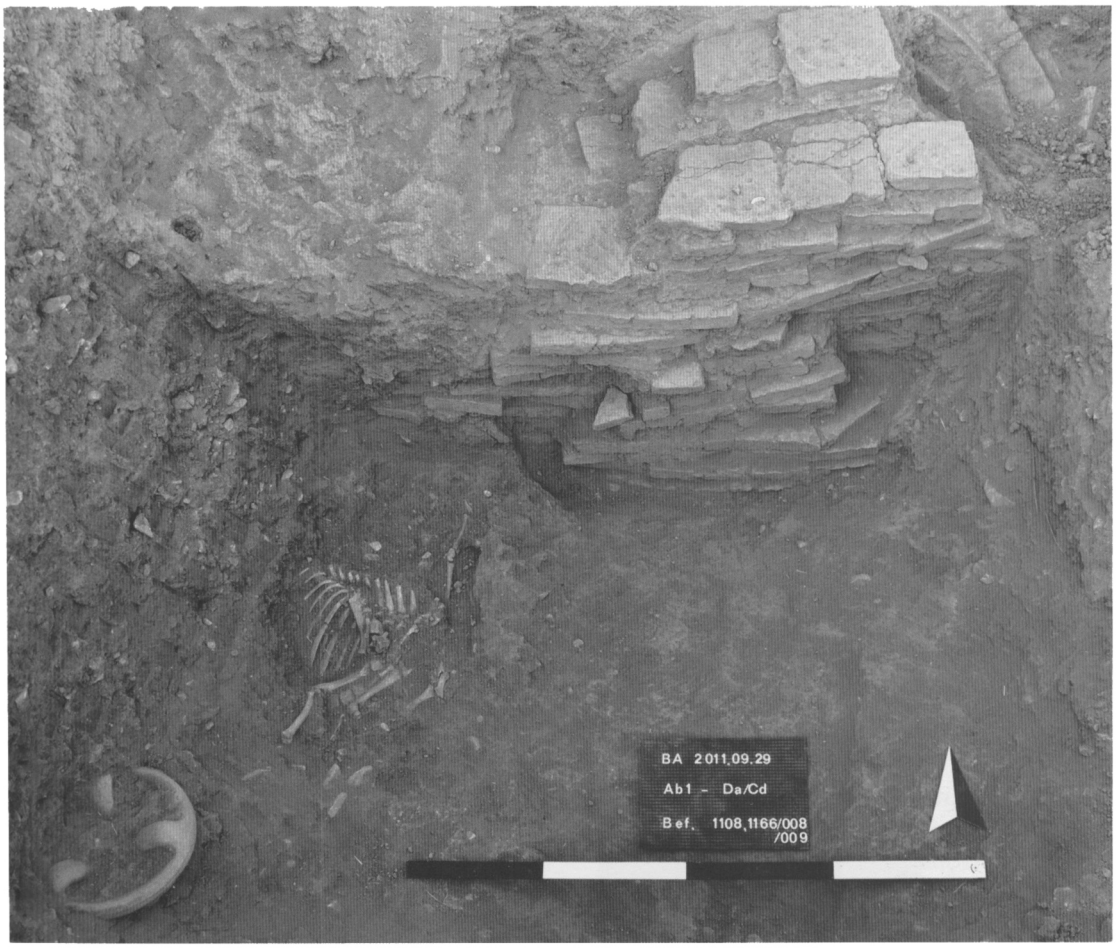


Fig. 25. Area 1-Da. Entrance pit of tomb BA 1108 with animal offering.

and Ashur.[82] The second bowl (BA 1108/187) possesses a rounder body than the former, with a horizontal groove around its rim. Comparable material, but without the groove, is known from Tell Yelkhi.[83] For the third bowl (BA 1108/185), no parallels could be found in north-eastern Mesopotamia. It has a short but quite steep wall with three sharp ridges under the slightly protruding rim. The diameter of the mouth is only slightly greater than that of the base, which is flat, and only differentiated from the vessel wall by a very small recess. Two of the bowls (BA 1108/187 and 185) were placed in the chamber directly at the walled-up entrance of the tomb. Outside, in front of the entrance, a pot burial (BA 1175) of a child aged twelve to eighteen months was discovered.

Finds in the entrance shaft (BA 1166, 1174) indicate ritual activities. Two goats and a young pig were sacrificed in the pit (Fig. 25). Above them a special vessel (BA 1166/8) was placed: a tray with three radial handles extending from the rim and meeting in the center of the bottom (Fig. 24e). This type is known quite well from the Middle Bronze Age, but also from the Early Dynastic III to Ur III periods. Similar trays were found in the context of private houses at Tell Asmar[84] and Nuzi,[85]

[82] Hockmann 2010: pls. 67, 72, 76, 79, 84.

[83] Gabutti 2002–2003: 111, pl. 29 nos. 1, 2 (level Vc), 4 (level IVb).

[84] Delougaz 1952, pls. 116, 117a, b, 118b, 190 D.201.201. All specimens were found in or around private houses: variant with three handles in layer III (post-Akkadian–Ur III), variant b with four handles (layers V–II/ED III–Ur III).

[85] Starr 1937–1939: 405, pl. 95 A–B, located in H19 and I3 (Ur III).

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Fig. 26 Area 2-East facing southeast. Stone foundations of the late 3rd millennium BC.

cemetery "A" at Kish,[86] and sanctuaries at Tepe Gawra[87] and Tell Yelkhi.[88] A miniature model from Bismayah[89] showing such a vessel as feeding bowl for goats seems to connect the tray with the animal offerings in front of the entrance.

1.5 Early Bronze Age Horizon

1.5.1 BA-EBA 1–4. Parts of a ground plan formed by stone foundations (BA 1073, Rooms BA 1091–1094) in Area 1 were discovered during the first campaign 2010. They seemed to belong to an earlier Old Babylonian phase into which tomb BA 1108 was cut.[90] According to new evidence from Area 2, the dating of the stone foundations now has to be corrected to the late third millennium B.C., to the Akkadian or Post-Akkadian periods.

Underneath the Old Babylonian house four building levels (BA-EBA 1–4) consisting of similar stone foundations were uncovered (Fig. 26). This horizon is about 1 m thick (top of BA-EBA 1: +573.40 m/BA-EBA 4: +572.30 m), dating to the second half of the third millennium, to the Akkadian and Post-Akkadian period (Fig. 27). The wall remains do not allow the reconstruction of the entire building structures, with the exception of a small shrine in BA-EBA 2, which was excavated completely (Figs. 28– 29). The shrine was built of stone (wall BA 2266), about 3.10 m wide and 5.30 m long, expanding from east to west. Two projections cantilevered from the western wall, and a mud brick altar (BA 2311) coated with sherds and clay was attached to the outer north-western corner. A second mural of larger stones strengthened the eastern wall of the shrine; its further course is uncertain. The shrine's entrance, situated in the western part of the southern wall, led into a single slightly trapezoidal room (BA 2306).[91] The original floor was paved with large flagstones inclining to the east (+572.85–75 m). A longish paver flanked by two stones, the eastern one being a pivot

[86] Mackay 1925–29: 131, 150, pls. XLIV no. 12/2000, LII nos. 25, 26 (ED III)
[87] Speiser 1935: pls. XXIX B, LXXV 212; room 409 (level IV/Ur III).
[88] Gabutti 2002–2003: 248, pl. 129 no. 8 (level III/Old Babylonian).
[89] Delougaz 1952: pl. 116b.
[90] Cf. Miglus, Bürger, Heil and Stępniowski 2011: 147.
[91] Internal dimensions 1.40 (east)/1.80 (west) × 3.40 m.

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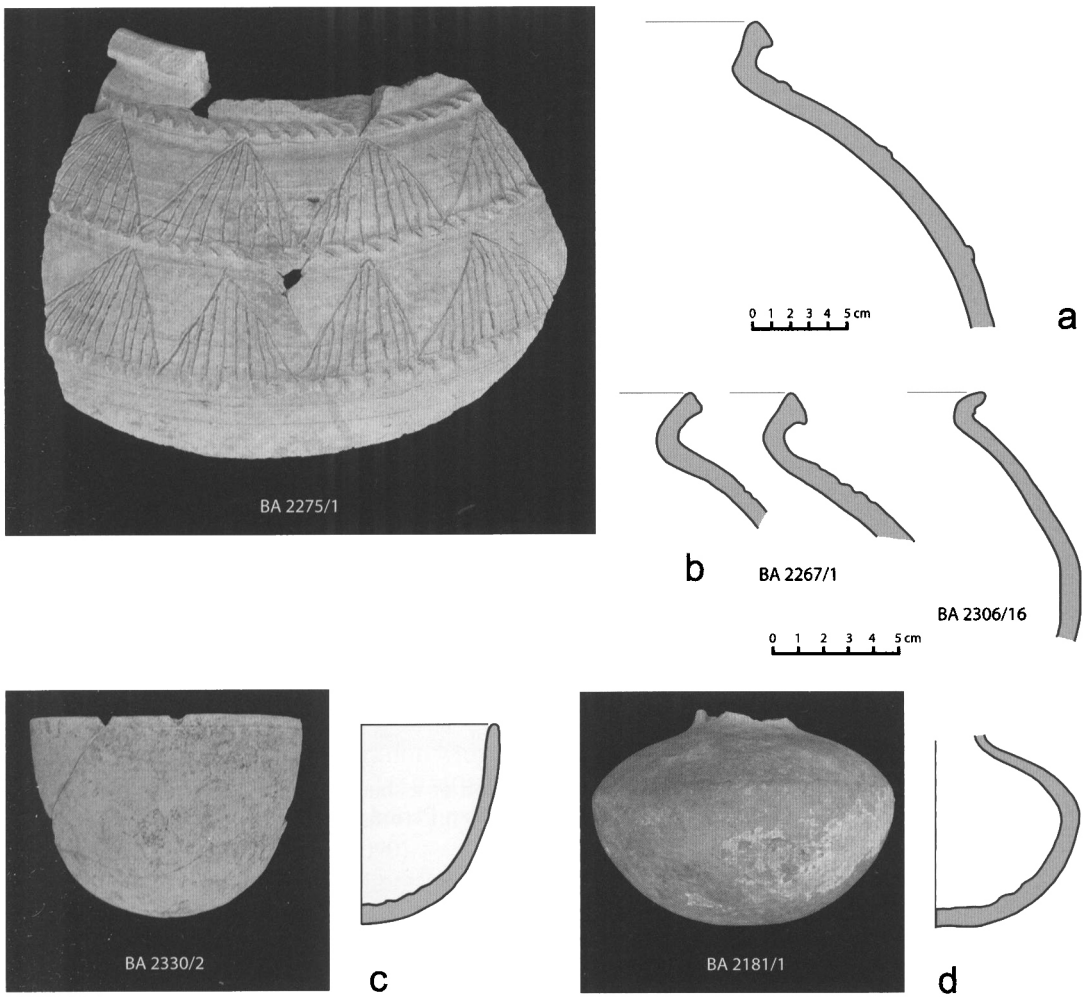


Fig. 27 Akkadian/Post-Akkadian pottery from layers BA-EBA 12 in Area 2-East. Scale 1:4 (a) and 1:3 (b–d).

stone (BA 2306/8: top +572.92 m), made up the threshold. A niche was cut into the southern wall east of the door, its fill containing many pottery sherds. In some places a 10 cm thick clay plaster was observed on the inner and outer walls. The only preserved installation in the room was a mud bench (top +572.84 m) in front of the eastern half of the northern wall, with a bottle (BA 2306/12) situated next to its western edge. Fragments of another vessel (BA 2306/7) and a grinding stone (BA 2306/10) were found near the pivot stone, with more vessels lying lined up along the northern wall. In the north-western corner, a round flat basin with spout (BA 2306/1)[92] was uncovered in the fill of the room, directly beneath the eastern border of the fire place of the Old Babylonian house. The basin probably belonged to a younger phase, which was separated from the original floor by a thin white layer. When the shrine was abandoned the door was walled up with stones. The surrounding area was paved with pebbles and pottery sherds. Five fireplaces (BA 2265, 2269, 2274, 2279, 2286) were observed; in one of them (BA 2265) two skeletons were discovered. Another part of a stone foundation (BA 2144) of the same level BA-EBA 2 ran north of the shrine in an east-west direction.

The ground plan of the shrine corresponds to the type of the so-called *Herdhaus*,[93] which was characteristic of small single-room temples in the eastern Tigris region during the third millennium B.C. Early examples are two small temples built of mud bricks in Khafajah dating to the Early

[92] Cf. Delougaz 1952: pls. 118a, 196, type D.800.102, from Tell Asmar (houses III or II/Post-Akkadian/Ur III).

[93] Heinrich 1982: 14–15.

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Fig. 28 Area 2-Gb/Da, facing east. Foundation of a small shrine BA 2306 of the Akkadian-/Post-Akkadian Period.

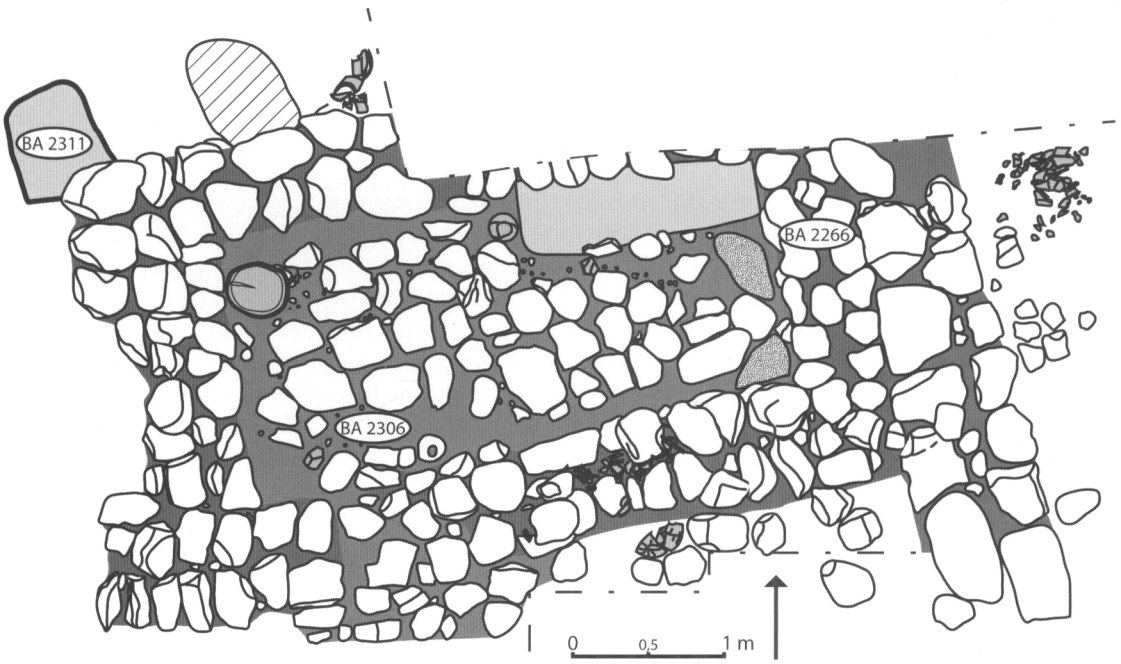


Fig. 29 Area 2-Gb/Da. Plan of the shrine BA 2306. Scale 1:50.

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Dynastic I and III periods.[94] Similar stone constructions are known from the Akkadian and Post-Akkadian period at Tepe Gawra, levels V and IV.[95] The temple in level V was equipped with a pivot stone and a bench along the wall opposite its entrance, like the shrine at Bakr Awa.

1.5.2 BA-EBA 5-8: Deep Soundings. Four older layers of the third millennium (BA-EBA 5–8) were cut through by two deep soundings located north (2-Fd) and south (2-Da) of the shrine. A quite homogenous horizon was observed in 2-Da underneath the traces of a pebble floor at +572.51 m, while the occupation levels in 2-Fd could be distinguished at +571.85 (floor BA 2293), +571.39 (floor BA 2322), +571.12 (floor BA 2324) and +570.90 m (floor BA 2328), no architectural remains were preserved at all.

The objects from the deep soundings included flint blades, fragments of painted pottery (Fig. 30a), beveled rim bowls (BRB; Fig. 30b) and the head of a terracotta bull (BA 2308/20; Fig. 30c). The authors would like to stress the fact that sherds painted like scarlet ware and the BRB were associated in all four layers; similar observations have been made in Early Dynastic I levels at Tell Brak,[96] Tell Gubba,[97] and in the Proto-Elamite levels at Arisman.[98] The fragment of a storage jar with a seal impression on top of its rim (Fig. 30d) was discovered above floor BA 2328. This kind of labelling is characteristic for the Jamdat Nasr and ED I Period in the Hamrin region, e.g. at Tell Gubba[99] and Tell Ahmed al-Hattu.[100]

1.5.3 Radiocarbon analysis. Radiocarbon analyses were conducted for two samples from the BA-EBA layers in Area 2.[101] The first sample (BA-P2/44: Laboratory No. Beta-320651) consisted of organic sediment, and was taken from a filling above the stone pavement floor of shrine BA 2306 in Area 2-Gb (covered by basin BA 2306/1), which is our layer BA-EBA 2. The conventional radiocarbon age of this sample is 3740±30 BP (Fig. 31).

The results of the 2 Sigma calibration with 95% probability are: Cal BC 2270–2260 (Cal BP 4220–4210), Cal BC 2200–2110 (Cal BP 4160–4060) and Cal BC 2100–2040 (Cal BP 4050–3990).

Their intercepts with the calibration curve are: Cal BC 2190 (Cal BP 4140), Cal BC 2180 (Cal BP 4130) and Cal BC 2140 (Cal BP 4090).

The results of the 1 Sigma calibration with 68% probability are: Cal BC 2200-2160 (Cal BP 4150-4110), Cal BC 2150-2130 (Cal BP 4100–4080) and Cal BC 2080-2060 (Cal BP 4030–4010).

The focal point of these results lies in the twenty-second century B.C., which fits well with our dating of the shrine to the Akkadian/Post-Akkadian period, based on stratigraphy and finds, especially pottery.

The second sample (BA-P2/45: Laboratory No. Beta-320652) consisted of charred material. It was taken from floor BA 2328 at the bottom of the deep trench in Area 2-Fd, which is our layer BA-EBA 8. The conventional radiocarbon age of this sample is 4060±30 BP (Fig. 32).

The results of the 2 Sigma calibration with 95% probability are: Cal BC 2830–2820 (Cal BP 4780–4770), Cal BC 2660–2640 (Cal BP 4610–4590), Cal BC 2640–2560 (Cal BP 4590–4510), Cal BC 2560–2550 (Cal BP 4500–4500) and Cal BC 2540–2490 (Cal BP 4490–4440).

Their intercept with the calibration curve is: Cal BC 2580 (Cal BP 4530).

The results of the 1 Sigma calibration with 68% probability are: Cal BC 2620–2570 (Cal BP 4570-4520) and Cal BC 2510-2500 (Cal BP 4460-4450).

Considering the finds characteristic for the Early Dynastic (I) and even the Uruk period, the oldest result, of 2830 to 2820 Cal BC, should be taken as the most probable dating. The association of beveled rim bowls and painted pottery of scarlet ware style was also observed in the later fills between the three floors above BA 2328, and there was no pottery typical for the second half of the third millennium B.C.

[94] Delougaz and Lloyd 1942: 104–7, pl. XVII A (small temple in O.43); 113–116 figs. 105–107 (small single shrine in S.44).

[95] Speiser 1935: 14–18, pls. V, VI.

[96] Oates and Oates 1993: 178–84 (Area TW).

[97] Fuji 1981: 160–61, fig. 20 no. 4.

[98] Helwing 2011: 213–19.

[99] Fuji 1981: 46, 161, fig. 22; Ii 1988: 110–34, figs. 6–23, pls. 29–38 (levels VII–VI).

[100] Sürenhagen 2011: 18 figs. 18.9a,b, 20 no. 1–7.

[101] The AMS radiocarbon dating was conducted by Beta Analytic Ltd., London. The laboratory calibrated the data with reference to the INTCAL09 database (May 5, 2012).

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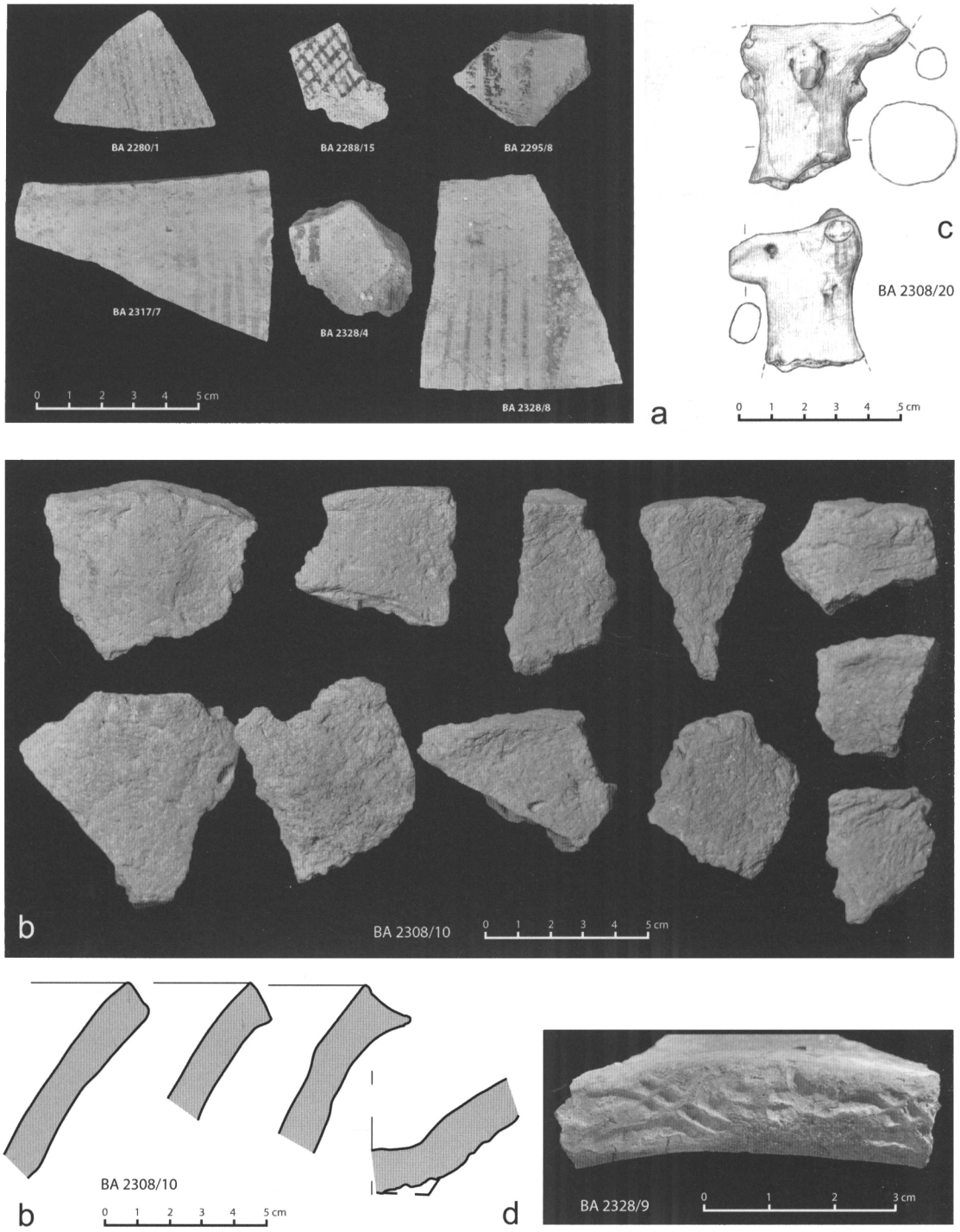


Fig. 30 EBA finds from the soundings in Area 2-Da and 2-Fd. a) Painted pottery. Scale 1:2. – b) Beveled rim bowl fragments. Scale 1:2. – c) Head of a terracotta bull. Scale 1:2. – d) ED I cylinder seal impression on a storage vessel rim fragment. Scale 1:1.

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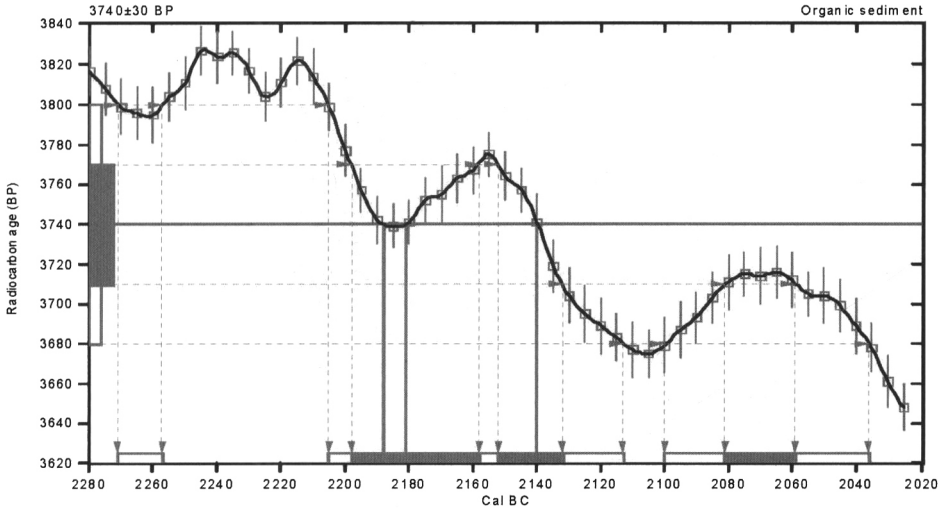


Fig. 31 Radiocarbon dating of shrine BA 2306 (layer BA-EBA 2) in Area 2-Gb/Da.

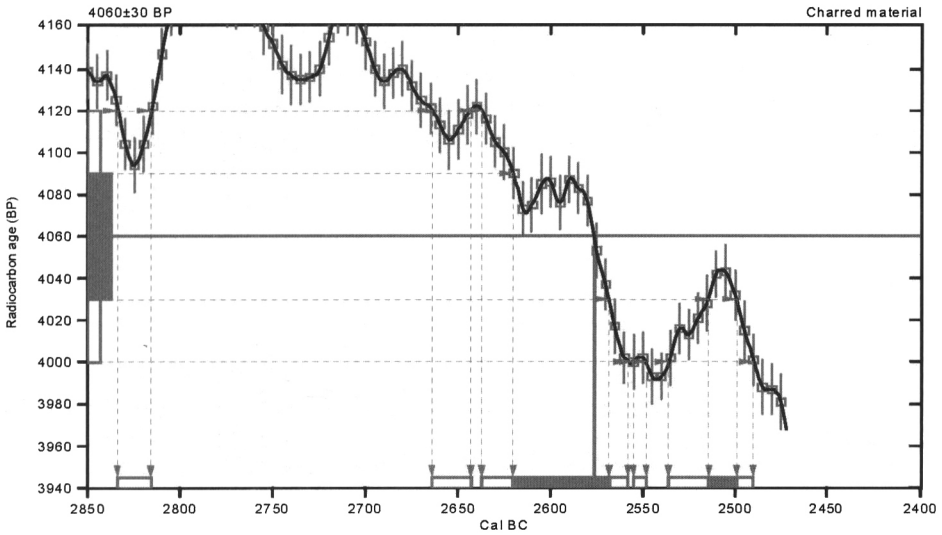


Fig. 32 Radiocarbon dating of floor BA 2328 (layer BA-EBA 8) in the deep trench in Area 2-Fd.

1.6 Summary

The lower city of Bakr Awa was settled for not less than five millennia. The Islamic horizon was two to three metres in depth, and contained material of the Middle Ages and the Abbasid period, with early Islamic finds predominant. Indications of Sasanian activity were almost entirely absent,[102] though such activity is attested for the Shahrizor Plain in historical sources and archaeological evidence from other sites.

The Iron Age horizon consisted of two layers, the younger of which included graves dating to the Achaemenid period. The older layer with its remains of stone pavements is contemporary with the Late Assyrian period, though no traces of an Assyrian presence were found, despite the fact that the area of Bakr Awa was a part of the province *Mazamua/Zamua*.[103] Instead, the local pottery of this

[102] A few pottery fragments from the sounding on the main mound of Bakr Awa are thought to be Sasanian.

[103] Cf. Radner 2006–2008: 51–52.

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level shows close relations to Iranian bowl types, and only some beakers show similarities with specimens of the northern Tigris region.

The material of the Late Bronze Age layer has some similarities to that of the northern Mesopotamian sphere. A cylinder seal of the Common Style is a good example of this connection. Otherwise, the pottery indicates strong ties to Kassite Babylonia, and proves a cultural continuity from the late Middle to the Late Bronze Age.

The first half of the second millennium B.C. seems to have been a time of prosperity and far-reaching contacts for the city of Bakr Awa. Its material culture is influenced by both northern and southern Mesopotamia. The architecture, in the form of the large private house in Area 2[104] and the radial vaulted tomb in Area 1, is of a southern style. Most of the objects, especially weapons and pins from the graves, show closer affinities to middle and northern Mesopotamian types. The pottery fits into the wide range of Middle Bronze Age ceramic shapes, but is also of a special local character.

The layers of the Early Bronze Age give evidence for the settlement to be integrated into the Mesopotamian cultural sphere. The small shrine in Area 2 is consistent with the tradition of architecture in middle and north Mesopotamia at the end of the third millennium B.C., and strong Akkadian influences are apparent in the pottery in general.

Even during the late Uruk and the beginning of the Early Dynastic period, the settlement seems to have been extended over the entire area of the lower city. This conclusion is based on the distribution of beveled rim bowls found in the course of excavation and the survey. Based on the association of beveled rim bowls with pottery painted like scarlet ware in the deep soundings, settlement continuity at the transition from the fourth to the third millennium can be postulated.

The archaeological material from Bakr Awa, with its transitional forms of pottery, small finds and architecture, reflects dynamic processes of cultural and political transformation in the contact area between northern and southern Mesopotamia and western Iran. It is the mixture of these influences, in combination with local characteristics, that gives the site its individual character through time.

2. Excavations on the Citadel

SIMONE MÜHL *and* ALEXANDER SOLLEE

The main mound of Bakr Awa measures 29 m from base to top, and rises 13 m above the lower city,[105] from which it is separated by a moat on all sides (Fig. 3). The diameter of the tell is *c.* 300 m from west to east and 220 m from north to south. Its slopes are very steep, as can also be observed at several other sites, not only in the Shahrizor Plain but also in the Hamrin region.[106] This phenomenon can be explained by better preservation of mud bricks in some places or medieval measures of fortification (see below). The top of the main mound of Bakr Awa is surrounded by an earthen rampart, supposedly a fortification measure of the Ottoman and Islamic Periods, which was reused for gun emplacements during the Iran-Iraq War. Ruins of at least two concrete buildings built during the late 1980s are still visible. On the eastern side, a ramp leads from the bottom of the moat to the top of the citadel (Fig. 5).

The 1960–1961 excavations

In 1960, a team from the Directorate General of Antiquities and Heritage, Baghdad, conducted the first excavations on the citadel. A section of 35 × 5–8 m was opened in the center of the southern slope (Fig. 4). 17 occupation levels were distinguished, and dated to the "Islamic" (I–VII), "Hurrian" (VIII–X), "Old Babylonian" (XI–XIII), "Isin-Larsa" (XIV–XV), "Ur III" and "Akkadian" Periods (XVI–XVII).[107] Only the upper five Islamic levels have been published. Level I was badly disturbed, as villagers living nearby reused the baked bricks from the site as building material for houses until

[104] *Hofhaus mit gefangenem Hauptsaal* (cf. Miglus 1999: 7, 49–50).

[105] Speiser 1926–1927: 40, map 3, measured a height of 90 feet (= 27.43 m) for the tell. Data giving a height of nearly 40 m result from measurements taken by the Iraqi Darband-i Khan Dam survey team that produced T. Madhloum's sketch of the site. According to the report, the reference value for the deepest point of the surrounding plain was taken in a deep wadi, resulting in an artificially high elevation for the mound of 41.40 m above plain level (Madhloum 1965: 77 and map 1).

[106] McG. Gibson, pers. comm.

[107] See n. 7.

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modern times. In levels II to IV, a series of fortification walls was observed at the edge of the citadel.[108] On the inner face of the walls, each layer produced mostly residential structures built of mud bricks, and according to Madhloum's report, many *tannur*-ovens were detected. The floors of level III were paved with mud bricks of different sizes, as well as with marble slabs. The level IV occupation showed carefully constructed mud brick walls resting on stone foundations, with floors paved with baked bricks (29 × 35 × 2.5 cm), pebbles, marble slabs and fragmentary bricks. The preserved citadel wall of this level was cut by a new wall that was founded upon it. According to the excavators, the level IV wall was 1.90 m wide and constructed of blocks of adobe.[109] If the wall of the citadel had already existed in level V it is not clearly stated in the publication. Several fragments of walls side by side might represent different construction phases of a single wall, or they might belong to private dwellings. Layer V was disturbed by many pits from the upper layers. The residential walls of stratum V were built of red mud bricks (34 × 34 × 9 cm) with stone foundations. The floors consisted of red stamped mud.

In the course of the 2011 season, a new topographical map (cf. Fig. 3) and a three-dimensional model of the citadel were created,[110] which also included exact measurements of the Iraqi trench.

On a stone floor, also visible in the 1960 section and presumably to be correlated with floor IX of the Iraqi excavations, some sherds were found that have close ties to Late Assyrian pottery. The floor was found at a depth of *c.* 3.5 to 4 m below the surface. This discovery confirmed our expectations of an Iron Age settlement on the citadel which had probably not been recognized as such during the excavations in the 1960s. These observations supported the decision to open a trench on the citadel.

2.1 Area 3

A depression located on the south-eastern part of the citadel was chosen for Area 3 (cf. Fig. 3). The topography of the area showed less destruction by recent military activities and robbers' pits than other parts of the citadel, while the height of the surface in relation to the re-measured Islamic floors of the 1960 section led us to assume that pre-Islamic levels could be reached more easily at this location.

Three trenches (BA 3-A, B, C), each measuring 5 × 10 m and divided from another by a baulk, were opened in the south eastern part of the mound. The excavation was started as the area slopes down eastward, with an elevation of +590.52 m at the western end and +588.38 m at the eastern end.

2.1.1 Ottoman Period. Beneath the surface (Levels 1–2), which is characterized by a thin level with surface debris and pits, Levels 3–4 encompass the Ottoman Period occupation on the citadel. They contain only little architecture of this period. The foundations of the walls consist of broken bricks and mid-sized rocks. Aside from these foundations, only elements of stamped mud and pebble floors, and a number of *tannur*-ovens have survived.

The first stratigraphic unit consisted entirely of two *tannur*-ovens (BA 3030 and BA 3041) in Trench 3-A (Fig. 33). One oven showed a vertical comb-incised decoration on the inside; the other was crowned with three decorated sockets on its rim. The two were set in between the foundations of two walls (BA 3071 and BA 3072). As the western oven seems to have been built in two phases, one might make a differentiation between phases 3a and 3b.

A small room with a poorly preserved stamped mud and pebble floor (BA 3034) comprised the next level (4). The southern wall of the room (BA 3021a) and two *tannur*-ovens (BA 3025 and BA 3070) seem to belong to the final phase of this building (4a). A threshold (BA 3021b) adjacent to the western end of the southern wall may have marked an entrance to the room. We were able to distinguish at least two older phases (4b-4c) by the floors connected to oven BA 3013.

No other structures dating to the Ottoman Period have been preserved in the excavated areas, as many pits dug from the upper layers and filled with ashes, mud and sherds of different periods (e.g. fragments of Kassite goblets and gray ware sherds) have disturbed these contexts.

Due to time constraints, work in Trench 3-A was put on hold in the Ottoman layers and excavations only continued in trenches 3-B and 3-C.

[108] Cf. Madhloum 1965: pls. 2, 10.
[109] Madhloum 1965: 80.

[110] We would like to thank Felix Wolter and Alexander Sachsenmeier for carrying out and editing the 3D scans, as well as photogrammetry.

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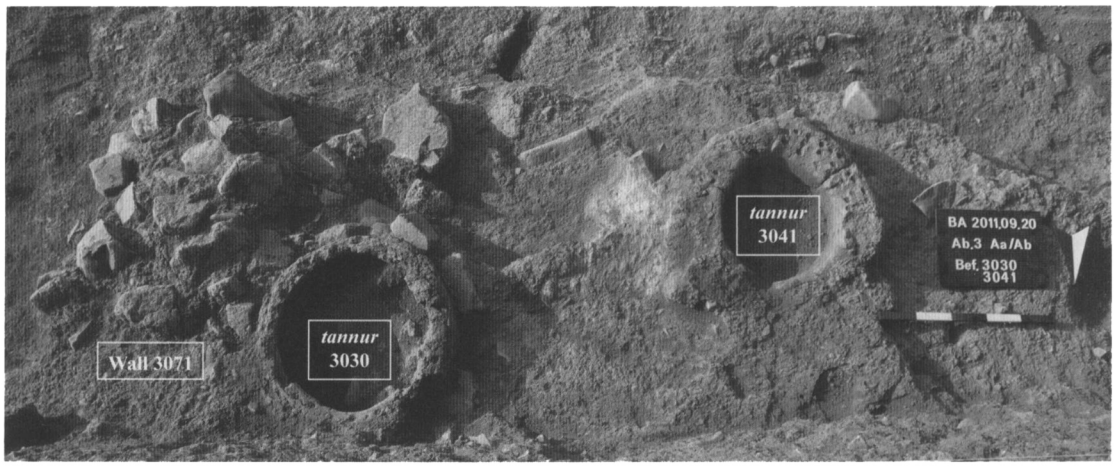


Fig. 33 Area 3-A. Installations of level 3.

Pottery and Small finds. The Ottoman date of Levels 3 and 4 is confirmed by the pottery and small finds such as fragments of terracotta pipe bowls (Fig. 41a). Earthen ware vessels, such as jars and dishes, had a monochrome green to green-turquoise colour glaze. Plain jars are represented by so-called Kurdish ware. This is a hand-made ware with a thick red spatula polished slip. It is tempered with little organic and more mineral material, such as quartz and gold glitter-like minerals. Cooking ware shows strong black burning on the smoothed surface (Fig. 41d). Decorations such as astral or floral symbols were scratched in after burning.

2.1.2 Islamic and Late Classical Periods. The Ottoman structures are followed by sediments and pits that cannot be connected to any architectural units. This intermediate level is defined as Stratum 5. The succeeding levels (6–9) are to be dated to Islamic periods, as indicated by the pottery and small finds.

Only fragmentary architectural features can be assigned to Level 6. One wall constructed of burnt bricks (BA 3063) was observed in Trench 3-B (cf. Fig. 34), while two similarly built walls (BA 3126 and BA 3127) were found in Trench 3-C. Only a thin pebble floor (BA 3058) can be connected to wall BA 3063. A coin (BA 3053/8) found on this floor is currently awaiting restoration (see below). The pottery assemblage suggests an Islamic period date, but no other artifacts that would have helped to establish a more precise dating were found.

Below Level 6, the area must have lain open for a certain period of time, as sedimentation, Level 7, which is partly disturbed by pits of Level 6, bears no signs of architecture. How long the area was not in use cannot be determined, as it might have been intentionally filled with sediments as part of the preparations for the building activities seen in Level 6. The Middle Islamic period is, therefore, represented only by the surface find of an Ilkhanid Period silver coin, and pottery from secondary or unsecured contexts (see below). Beneath Level 7 lay the remains of the next stratigraphic unit (Level 8) which has provided the most substantial architecture in Area 3 so far (Fig. 35). A narrow street (BA 3067), flanked by the stone foundations of two walls (BA 3062 and BA 3076) and slanted to the south, must have grown over several years, as is proven by the three subsequent massive packages of pebbles to be seen in the western section of Trench 3-B. The house to the west of the lane could not be excavated, but seemingly a water-channel was created by adding another small wall (BA 3069) only *c.* 35 cm to its east. In the room east of the road, an oven (BA 3092) within a rectangular ash-pit (BA 3093) was discovered. Next to the pit a structure of three burnt bricks, set in the form of a horseshoe (BA 3101) and filled with ashes and charcoal, might represent a smaller cooking facility, possibly meant to carry a smaller cooking pot (Fig. 36). This kind of installation (*tannur* with hob nearby) was a common feature of early Islamic houses excavated by the Directorate of Antiquities Sulaimaniyah in Arbat.[111] To the north of the oven, the ash-pit was bounded by a mud

[111] K. Rasheed, pers. comm.

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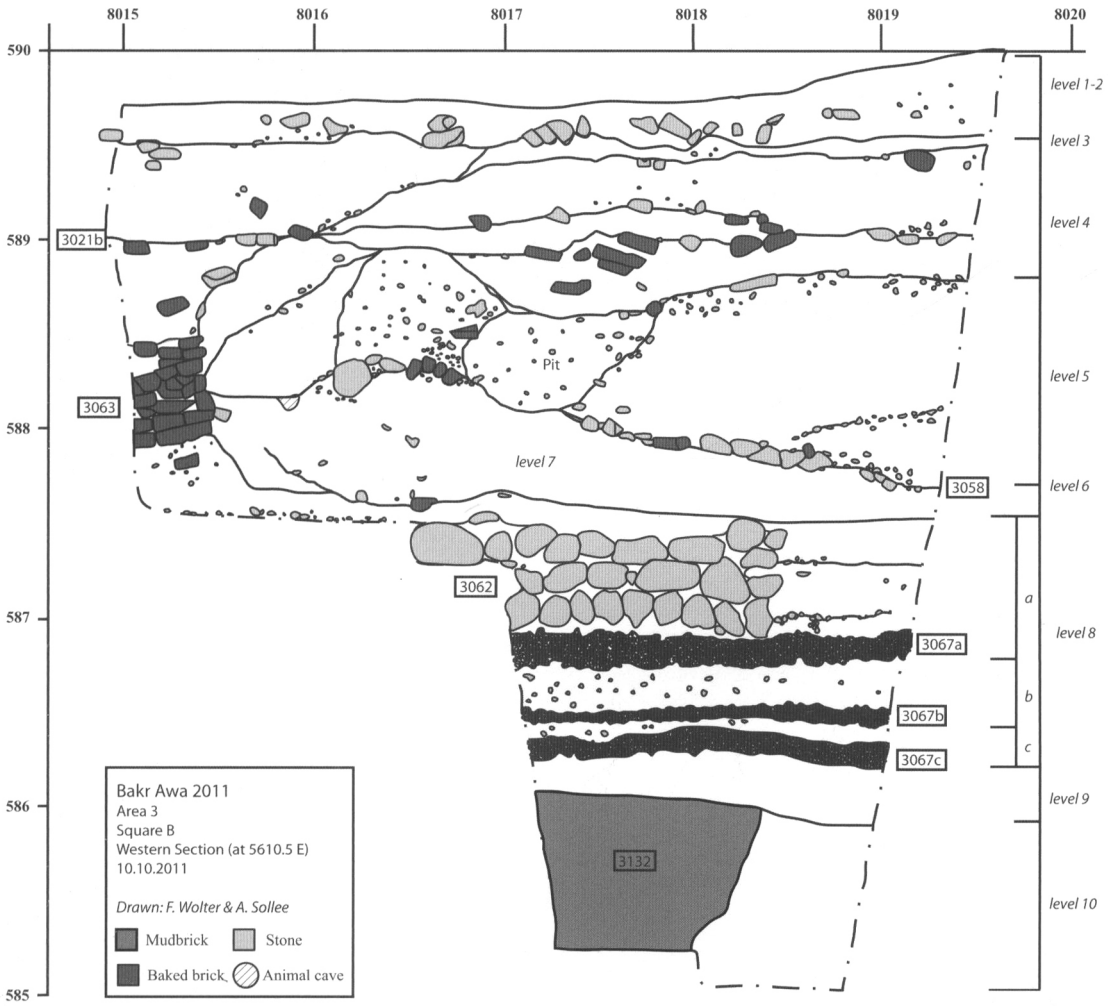


Fig. 34 Western section of Area 3-B. Scale 1:40.

brick wall (BA 3096)[112] with a burnt brick foundation. On the floor next to the oven, parts of a moulded globular bottle were found (cf. Fig. 36), similar to specimens from level III of the Iraqi trench (cf. Fig. 41e).[113] From the fill of the street, large amounts of glazed sherds, animal bones and fragments of iron were recovered.

The north-eastern corner of Trench 3-B was chosen for a sounding to further investigate the stratigraphy of the citadel (Fig. 34). The two lower bands of pebbles most probably represent older sub-phases of Level 8 (8b–8c). The deepest band touches an older house (8c) that was covered by younger structures (8b). Between the foundations of the walls of the Level 8c house, early Islamic glazed sherds were found. In Trench 3-C, this stratum is probably represented by a floor of smaller pebbles (BA 3099 at +586.26 m) running against a thick and deeply founded stone wall (BA 3095) which must have already been built in Level 9. However, the western pebble floor (BA 3099) of the structure, which presumably continues westward beneath the unexcavated parts of Area 3-B, lies at the same height as the lowest street level of Trench 3-B (Level 8c; cf. Fig. 34).

A floor of small pebbles and stamped mud (BA 3103 at +585.75 m) might be attributed to the terminal stage of the wall (Level 9a). In this phase, the stone walls BA 3095, 3098, 3128, 3129 and 3137 enclosed the northern part of a room. Walls BA 3098b and 3095b had been reinforced on their

[112] The mud bricks measured 32 × 32 cm. Their thickness could not be recorded as only the lowest course was left.

[113] Madhloum 1965: pl. 8 no. 1 E.

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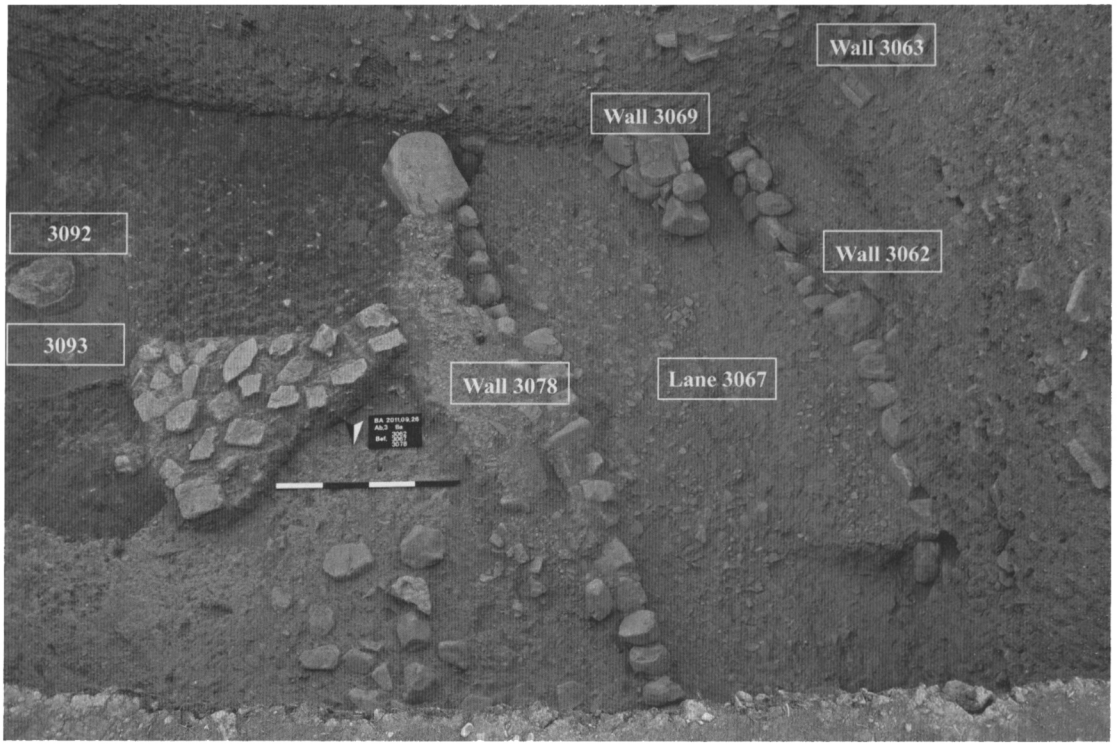


Fig. 35 Area 3-B. Architectural remains of level 8a.

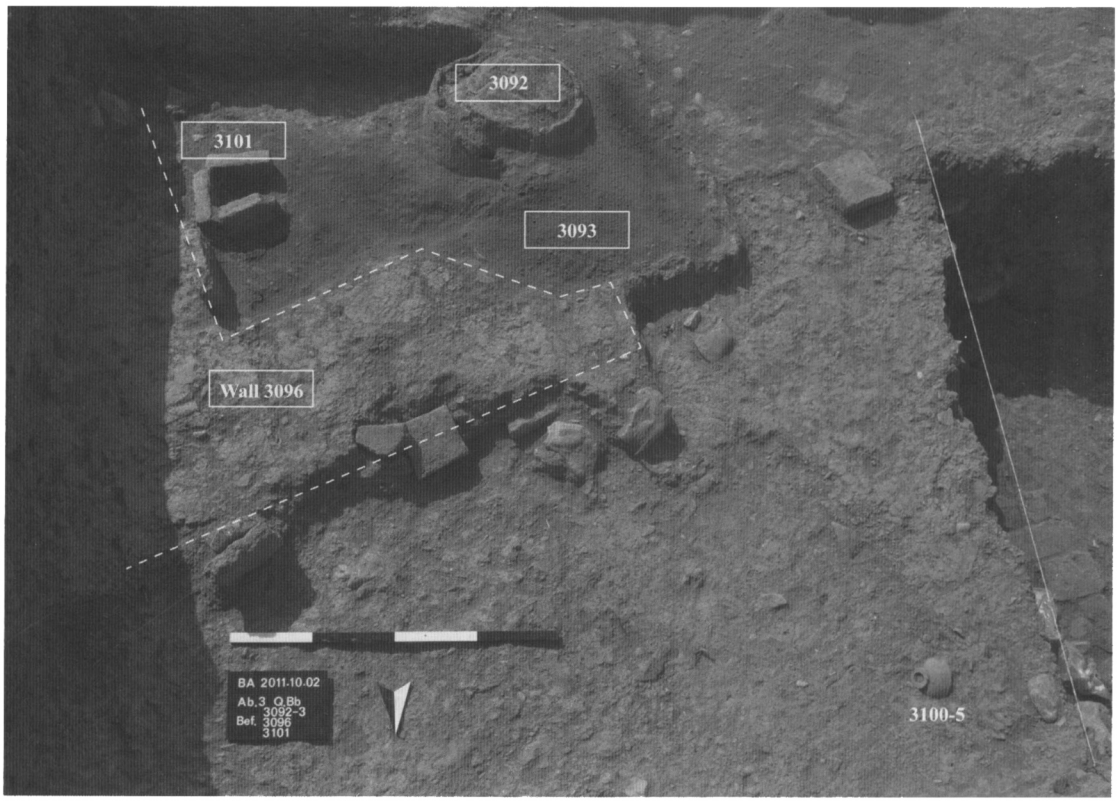


Fig. 36 Area 3-B, level 8a. Cooking area.

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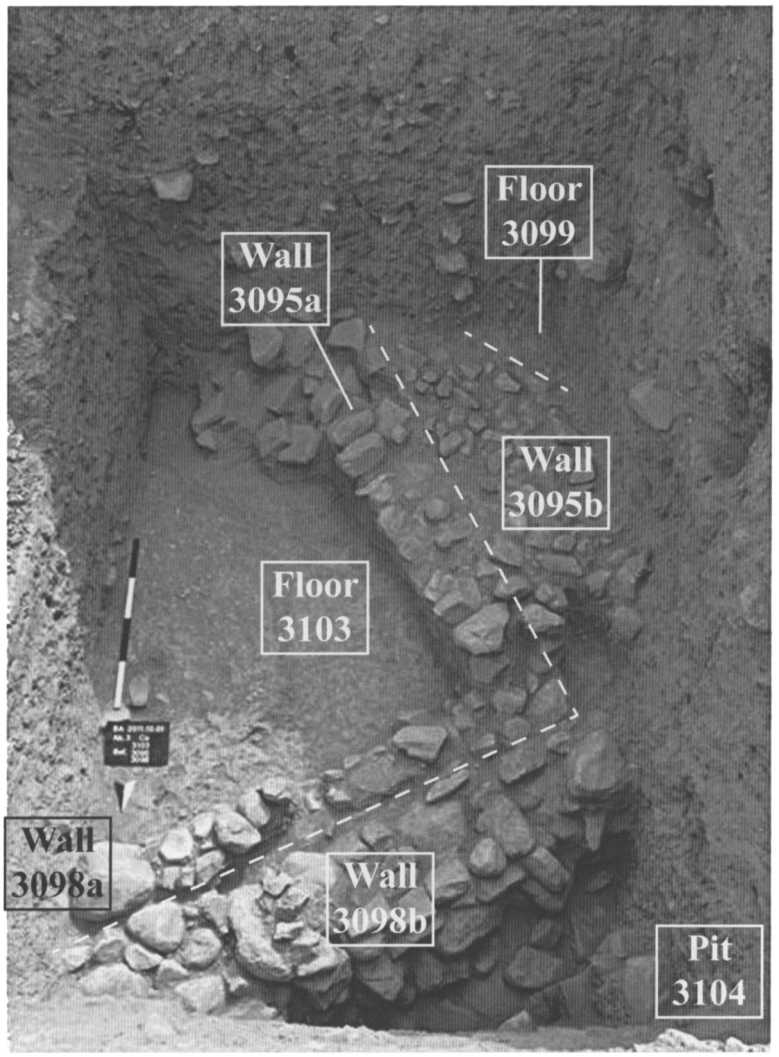


Fig. 37 Area 3-C. Architectural remains of level 9a.

southern (BA 3098a), respectively their eastern edges (BA 3095a) at this time (cf. Fig. 37). Beneath, an older floor consisting of a reddish band of beaten mud (BA 3124 at +585.42 m) represents Level 9b, which is connected to walls BA 3095b, 3098b[114], 3128 and 3129. Scarce remains of very lowly preserved, thin walls of brown mud bricks, became visible below reinforcement-walls BA 3095a and BA 3098a. The oldest floor (Level 9c), presumably connected to walls BA 3095b and BA 3098b, consists of mid-sized rocks and pebbles, and was still partially covered by a surface of stamped mud (floor BA 3113 at *c.* +585.31 m–584.90 m; Fig. 38)[115]. The room might have been used as a kitchen, as two *tannur*-ovens (BA 3123 and BA 3130) stood on floor BA 3113, both of which seem to have remained in use during Level 9b. Two pits (BA 3133 and BA 3135) cut through the floor, the former being filled with great amounts of soft and greenish sediment, animal bones and glazed sherds. On the edge of pit BA 3135, brought down from Level 9b, we discovered a rim of a bowl that can be dated to the early Islamic or Sasanian Period (cf. Fig. 41g)[116].

[114] Pit BA 3104 allows these conclusions. The pit disturbed the outer corner of walls BA 3095 and BA 3098 and reaches down to an elevation of +585.36 m. As the pit did not cut through the masonry completely, we must assume that the walls are founded even deeper. Thus, it is very likely that floor BA 3113 was also connected to them.

[115] The elevation of the floor drops toward the east, probably because the surface was already sloped in antiquity.

[116] Cf. Northedge, Wilkinson and Falkner 1990: fig. 15 no. 1; Nováček *et al.* 2008: fig. 21 nos. 31–33.

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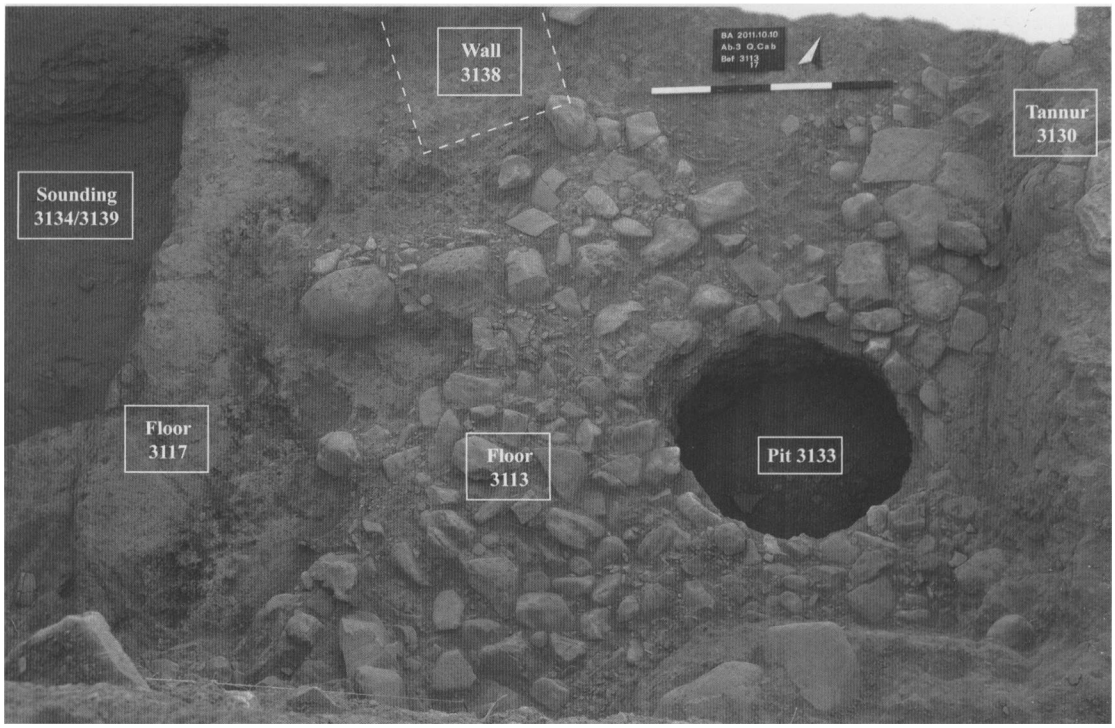


Fig. 38 Area 3-C. Architectural remains of levels 9c and 10.

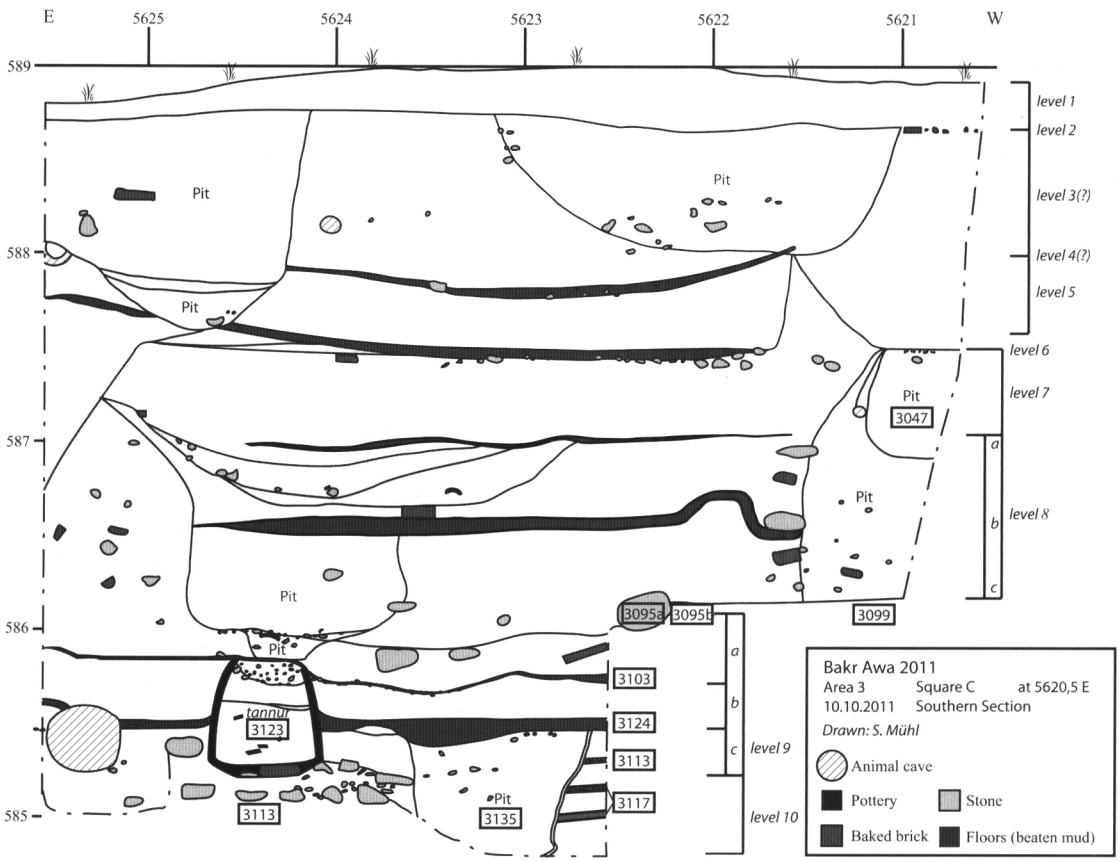


Fig. 39 Southern section of Area 3-C. Scale 1:40.

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Level 9c might be the oldest Islamic or latest pre-Islamic level reached on the citadel, but finds relevant for dating were scarce. However, a number of sherds from floor BA 3113 were glazed, and a bottle lying on the floor is comparable to jars found in Arsacid Ashur (Fig. 41i).[117]

Pottery. It was not possible to establish a clear pottery sequence for the Islamic layers. Few objects were found *in situ*, and most sherds came from pits or fillings. Nevertheless, some general observations can be made. Porcelain with blue paint and glazed earthen ware were abundant in the heavily disturbed upper layers. S-shaped cooking pots with horizontal banded handles and secondary burnings were represented in Levels 1–8. Their shapes remained similar throughout all Islamic levels. Additionally, it can be observed that the temper of the ceramics changes, in that the glimmer particles enclosed in sherds of the upper strata were not added to the clay of cooking ware in the lower Islamic strata.

Comparable to the results of the Iraqi excavations at the edge of the citadel, fragments of plates with sgraffito decoration, as well as Champlevé ware, were found above the structures which are roughly dated to the Abbasid period by association with pottery and small finds known from Samarra. The quantity of glazed pottery in the assemblages shrinks remarkably from a relative depth of 2.5–3.0 m downwards, while relief-decorated wares increase.[118] From this depth on, the number of egg and spinach ware fragments also grows.

Throughout all layers, the glazed vessels often bear signs of repairs, as many sherds were perforated. This may indicate a higher value of glazed pottery, or that it was held in high esteem at the site. At the same time, it cannot be ruled out that the perforation of the vessels might have been functional, as several fragments show glaze in the holes as well. However, a functional explanation would not necessarily contradict the posited high value of the specimens.

Fragments of pottery found in the lowest level (9) are finger- and nail-impressed, and some have double-grooved rims. This may indicate a transition in the pottery sequence from the Sasanian to the Early Islamic period.[119] A broken jar retrieved from floor BA 3113 in Level 9c might be dated to the Parthian period (see above). The picture will become clearer when, in future campaigns, Levels 8 to 10 will be excavated on a larger scale, providing a statistically more relevant number of sherds and stratified small finds.

Small Finds. The small finds from the Islamic levels mainly comprise tiny fragments of glass vessels and twisted glass arm rings. Few coins were found. One of them (BA 3053/8) lay upon pebble floor BA 3058, but since this has not yet been restored it cannot yet give any further information as to the date of the floor. A silver coin which was found in surface debris can be assigned to the late Ilkhanid ruler Taghaytimur (1336–1353 A.D.).[120] A conical loom weight made of ivory seems to be a rather exceptional find from fill in Layer 8 (Fig. 41b). It might be dated to the Late Assyrian Period, as good parallels are known from well 4 (court 80) of the North-west Palace at Nimrud.[121] Late third and early second millennium B.C. finds also came from secondary contexts. Among them is a pottery rim fragment with one or two impressions of a cylinder seal depicting an adoration scene (Fig. 41c).

2.1.3 Pre-Islamic Period. Two deep soundings—one in the north-eastern corner of Trench 3-B, the other just east of wall BA 3095—enabled us to look beneath the early Islamic and late classical levels.[122]

In Trench 3-B, Levels 9 and 10 were reached during the last two days of the campaign. Here we found levels free of glazed sherds at a higher elevation than in Trench 3-C, which is presumably the result of the sloping nature of the ancient surface. Even though no floors belonging to these levels have yet been found, three mud brick walls (BA 3132, 3136, 3140), running parallel to one another,

[117] Cf. Hauser 1996: 78, fig. 4 no. 1.

[118] It has to be taken into account that also the size of the soundings had to decrease due to logistic issues and that the observations on quantities of pottery types are therefore less representative statistically than in the upper levels, excavated on a larger scale. The size of the deep soundings did not exceed *c.* 5.5 × 6 m in Trench 3-B and 1 × 2 m in Trench 3-C.

[119] Cf. observations in Keall and Keall 1981.

[120] Double Dirham, mint not visible, year off (1343–1345), Iraqi type IC. This information was kindly provided by S. Heidemann with a reference to Album 1984: 99.

[121] IM 127969: Herrmann and Laidlaw 2008: pl. 121 no. 398.

[122] As the stratigraphy could not be sufficiently clarified yet, the layers remain unnumbered for now.

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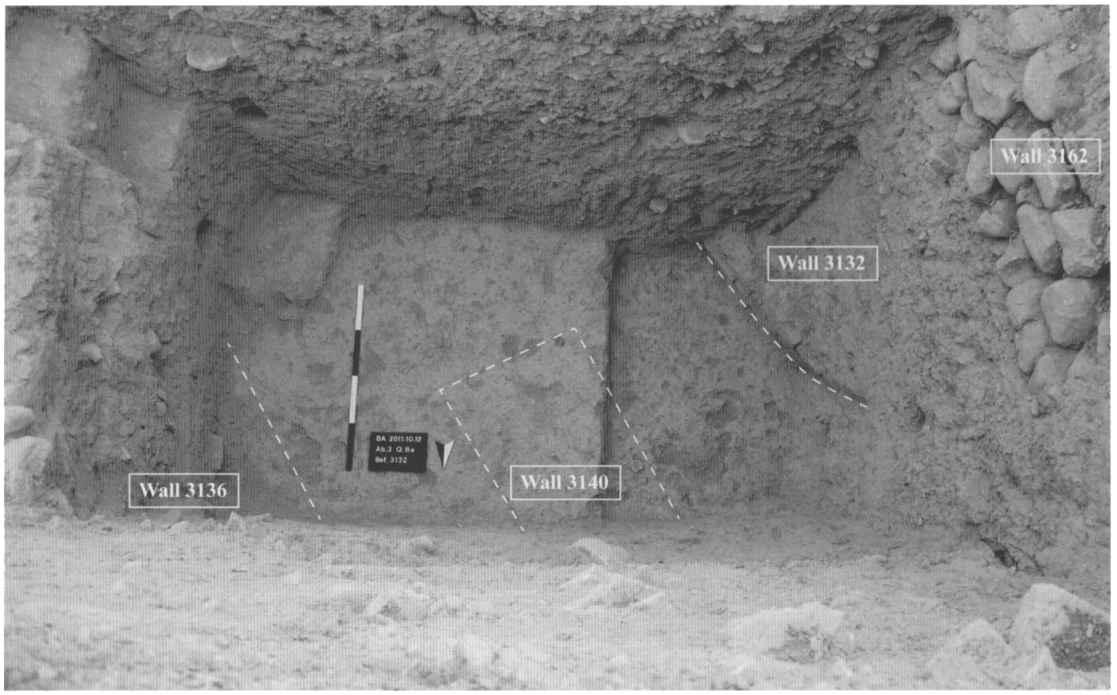


Fig. 40 Deep sounding in Area 3-B.

were excavated (Fig. 40). No precise date can be established as yet, but the measurements of the Level 10 mud bricks of wall BA 3132 (36 × 36 × 10–12 cm) differ significantly from the Islamic examples found in Trench 3-B,[123] and fall well within the range of Late Assyrian standards.[124] The face of wall BA 3132 is well preserved but does not bear any traces of mud plaster. The wall is built of brown mud bricks, whereas red bricks were used for walls BA 3136 and BA 3140. This may hint at a construction during different building phases, which cannot be specified at present.

In Trench 3-C, the bottom floor (BA 3113) lies upon the heavily burnt Level 10 with a beaten mud floor (BA 3117 at *c.* +584.85 m) and a poorly preserved mud brick wall (BA 3138; cf. Fig. 38). Not enough material has been recovered from this level, but so far no further glazed sherds are among them.[125] However, the pottery does not show clear connections to the Iron Age, as diagnostic sherds account for only a small part of the finds (see above). We assume that the burnt level may represent a late Iron Age or, in terms of the pottery sequence, a transitional level to the Parthian period, which is indicated for Level 9. The architectural layout seems to differ significantly from the later levels, as indicated by the position of mud brick wall BA 3138. To establish a more precise dating, more evidence needs to be collected in future campaigns. The sherds from below floor BA 3117 (Fig. 41j–m) seem to be of earlier date, but cannot be ascribed to any specific period as the material from this context appears to be mixed. However, since glazed sherds remain absent, we are fairly confident that pre-Islamic structures and layers may be reached soon.

Due to the lack of clearly stratified inventories and higher quantities of diagnostic pottery sherds, the dating of the lowest levels must remain uncertain for the present. Future work in the deep soundings on the citadel will produce a clearer picture of the occupation of Bakr Awa during the Iron Age, late classical and the Early Islamic periods.

2.1.4 Conclusion. The 2011 campaign in Area 3 on top of the citadel of Tell Bakr Awa revealed substantial Ottoman and Islamic occupation, resulting in 4–5 m thick levels. A great number of

[123] Cf. mud brick wall BA 3096 with bricks of 32 × 32 cm.
[124] Cf. Miglus 1999: 136.
[125] Additionally, two charcoal samples were collected, but these have not yet been analysed.

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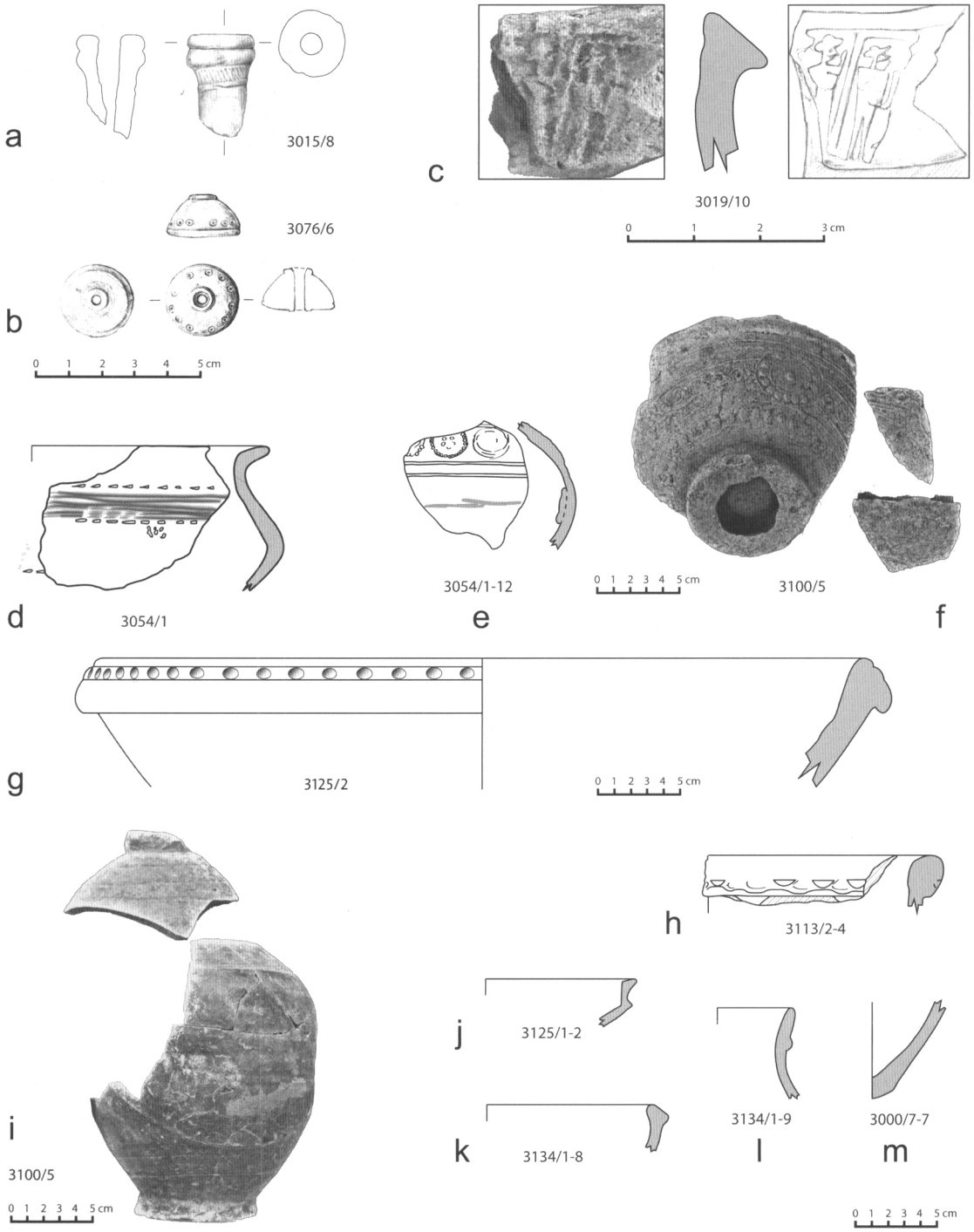


Fig. 41 Finds from Area 3.
a) Terracotta pipe bowl. Scale 1:2. – b) Concave spindle whorl from ivory with circular drillings around the lower edge. From a mixed context in level 8. Scale 1:2. – c) Pottery rim with seal impression of an adoration scene; reddish with straw temper. Scale 1:2 (section) and 1:1 (sealing). – d) Kurdish ware bowl; handmade, surface smoothed with spatula; dark red to black burnish, little organic temper (<1 mm), crushed quartz (1–2 mm). D. 28 cm. Scale 1:4. – ef) Moulded globular jars. Scale 1:4. e) body built from two parts; grayish ware, little organic temper (<1 mm). D. of body max. 18 cm. – g) Bowl from level 9 pit BA 3135; yellowish ware with mineral and organic temper. D. 46 cm. Scale 1:4. – h) Rim fragment from floor BA 3113 (level 9c); light yellow to white, tempered with sand and organic material (2 mm). D. 27 cm. Scale 1:4. – i) Plain jar from floor BA 3113. Scale ca. 1:4. – jm) Iron Age pottery from the deep sounding BA 3134/3139 in Area 3-Ca. Scale 1:4.

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reused burnt bricks (26–28 × 26–28 × 6–7 cm and 20 × 20.5 × 6–7 cm) were found in the excavated architectural remains of Levels 1–5, and it can therefore be assumed that one or several large buildings constructed of burnt bricks may have existed on the citadel during the first half of the medieval period. It is probably a coincidence that no larger buildings built from this material have been discovered as yet. The extraordinarily high density of Islamic glazed sherds from the excavated contexts on the main mound, compared with the relatively small number found in the lower city, is interesting; the situation may reflect a settlement pattern in Islamic times. Perhaps the population, or at least the wealthier parts of it, lived on the citadel, while at least the eastern and southern parts of the lower city were only partially settled, and partly used as a cemetery.[126] This interpretation would correspond to survey results for sites in the wider Shahrizor Plain, which show extensive settlement on the tops of higher tells from the late classical to Islamic periods.[127]

Specimens of Late Assyrian and Late Babylonian pottery, among them Assyrian palace ware, were found in secondary contexts and debris throughout all levels. Iron Age occupation therefore has to be expected on the citadel, a supposition supported by the results of the work in Area 4 (see below). A preliminary survey[128] undertaken in the northern parts of the very large lower city also recovered Iron Age pottery, indicating first millennium B.C. settlement activities in this part of the site as well.

The importance of Bakr Awa as a strategic point of control in the southern Shahrizor during the Islamic periods is supported by the massive defensive structures excavated in all Islamic levels by the Iraqi mission in 1960. Even though the thickness of the late structures might present a problem for excavating pre-Islamic structures on a larger scale on top of the main mound, it is expected that Iron Age levels will be reached in Area 3 in future campaigns. Furthermore, extended investigations promise better insights into the transitional phases between the Iron Age, classical and Early Islamic periods, enabling us to understand the stratigraphic buildup of the citadel, and perhaps helping to fill gaps in the lower city sequences, to offer a better knowledge of the development of the entire site. We hope eventually to establish a complete stratigraphy of the citadel that will explain the history of the settlement, and offer a pottery sequence for the southern Shahrizor Plain.

TABLE 1: Preliminary stratigraphy of Area 3.

Levels Area 3	*Period*		*Iraqi Excavation (Citadel)*
1 2	recent	20th century A.D.	
3			I
4a b	Ottoman	16th–17th century A.D.	
5 6	Late Islamic	15th–16th century A.D.	II
7	Middle Islamic	11th–15th century A.D.	II–IV
8a b c	Abbasid	7th–11th century A.D.	V
9a	Sasanian/Begining of Islamic Period ?	3rd–7th century A.D.	
b c	Parthian to Sasanian/Begining of Islamic Period ?	2nd century B.C.–7th century A.D.	VI–VII ?
10	Pre-Islamic ?	undefined	

[126] In the first season, various Islamic graves and a building level mainly consisting of *tannur*-ovens were excavated (cf. Miglus, Bürger, Heil and Stępniowski 2011: 142–43, 154–55). Preliminary survey results from the northern and western lower city also revealed Islamic building activities, indicated by large quantities of burnt bricks (c. 22 × 22 × 6 cm) and Islamic pottery.

[127] Cf. Altaweel, Marsh, Mühl, Nieuwenhuyse, Radner, Rasheed and Saber 2012.

[128] Carried out on September 7–8 2011 by S. Mühl, K. Radner and S. A. Saber, with the technical support of F. Wolter and A. Sachsenmaier.

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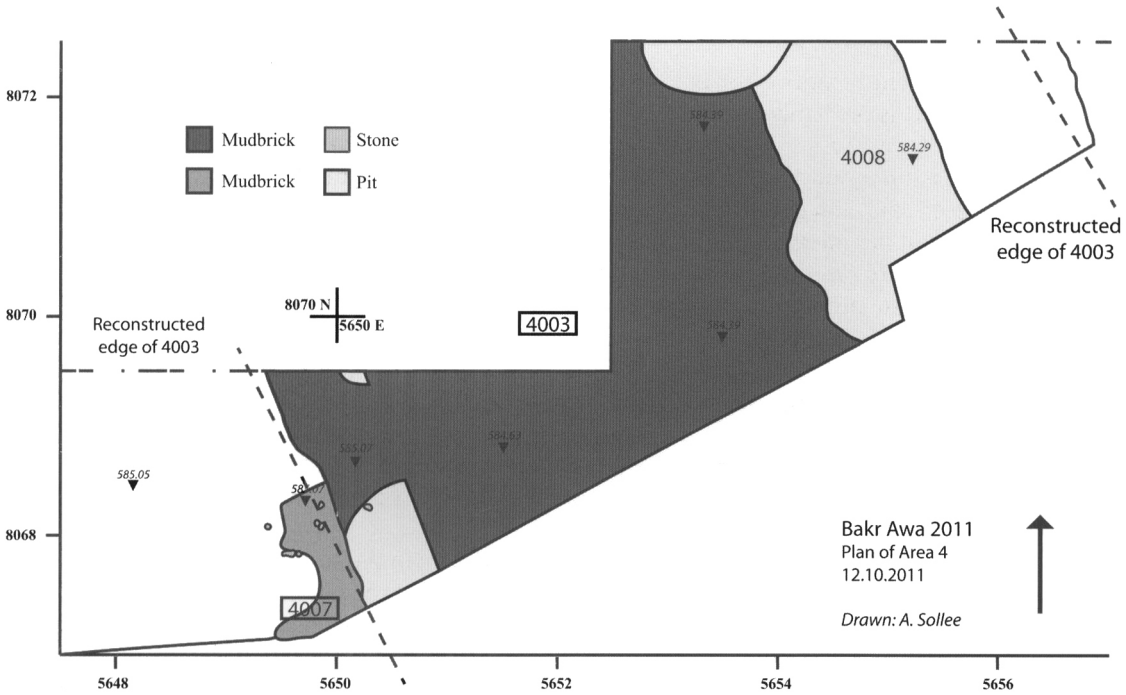


Fig. 42 Plan of Iron Age (?) wall in Area 4. Scale 1:70.

2.2 Area 4

ALEXANDER SOLLEE

A ramp created by the Iranian army in the late 1980s cuts deeply into the eastern slope of the citadel (cf. Figs. 3, 5). At the point where the ramp turns westwards, remains of a wall built of red mud bricks (BA 4003) were noticed protruding from the debris. After collecting some pottery samples from the area and measuring the top of the wall at about +585.10 m, we conjectured that it might be pre-Islamic in date. The fact that the wall had been cut by the ramp and was easily accessible encouraged us to open a small sounding (Area 4) in order to investigate it further.

Due to the situation on the eastern edge of the main mound, it was decided to create an L-shaped trench in order to excavate as much of the wall as possible within the limited time-frame available (Fig. 42). Only a very few later structures were encountered above the remains of the wall of red mud bricks (BA 4003). The younger structures are represented by a low mud brick wall (BA 4004) dating to the Islamic period. While excavating the latter, a lapis-lazuli bead and a fragment of a terracotta figurine of a nude woman (Fig. 43a)[129] were recovered, demonstrating how mixed the surface material really is. Underneath the Islamic structure lay a large pit filled with debris, ashes and broken mud bricks (BA 4008). The pit must have destroyed most of wall BA 4003, as the drawing of the section wall shows (Fig. 44). It is noteworthy that it seems as though the pit itself was cut when the main mound acquired its extremely steep slopes. This might confirm the supposition that the steep slopes and deep moat were created in the Middle Ages, as numerous examples of Islamic glazed pottery were found within pit BA 4008.

As we reached the red mud brick wall BA 4003, it became clear that only its foundations survive. However, the dimensions were quite impressive. The wall apparently ran NNW–SSE and was at least 6.5 m wide[130] (cf. Fig. 42). By comparison, the so-called *Binnenwall* of Ashur built by Shalmaneser III measured about 7 m in width.[131] In order to understand more about its structure, the wall was

[129] Because of its slim thighs, the object can be compared to specimens from early first millennium Babylon (cf. Klengel-Brandt and Cholidis 2006: pl. 16 no. 186), although a late second millennium date also seems possible.

[130] It is difficult to establish the original width of the wall, as its eastern edge seems to have suffered from erosion.

[131] Andrae 1913: 6.

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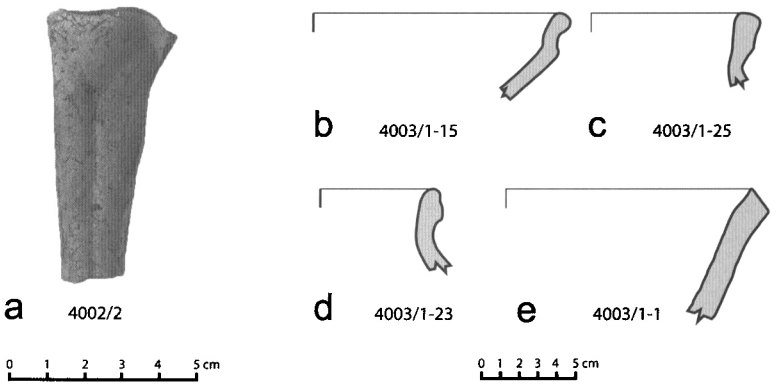


Fig. 43 Finds from Area 4.
a) Fragment of a moulded terracotta-figurine of a nude woman. Backside and oblong sides are flat and smoothed; yellowish colour, with straw temper. H. 7.1 cm. Scale 1:2. – b) Rim of a carinated bowl; red slip, middle organic temper. D. 26 cm. Scale 1:4. – c) Rim of a jar; light reddish slip, middle organic temper. D. 12 cm. Scale 1:4. – d) Rim of a jar; reddish slip, middle organic and mineral temper. D. 12 cm. Scale 1:4. – e) Rim of beveled rim bowl; very crude, red-brownish surface, coarse organic temper; handmade. D. 26 cm. Scale 1:4.

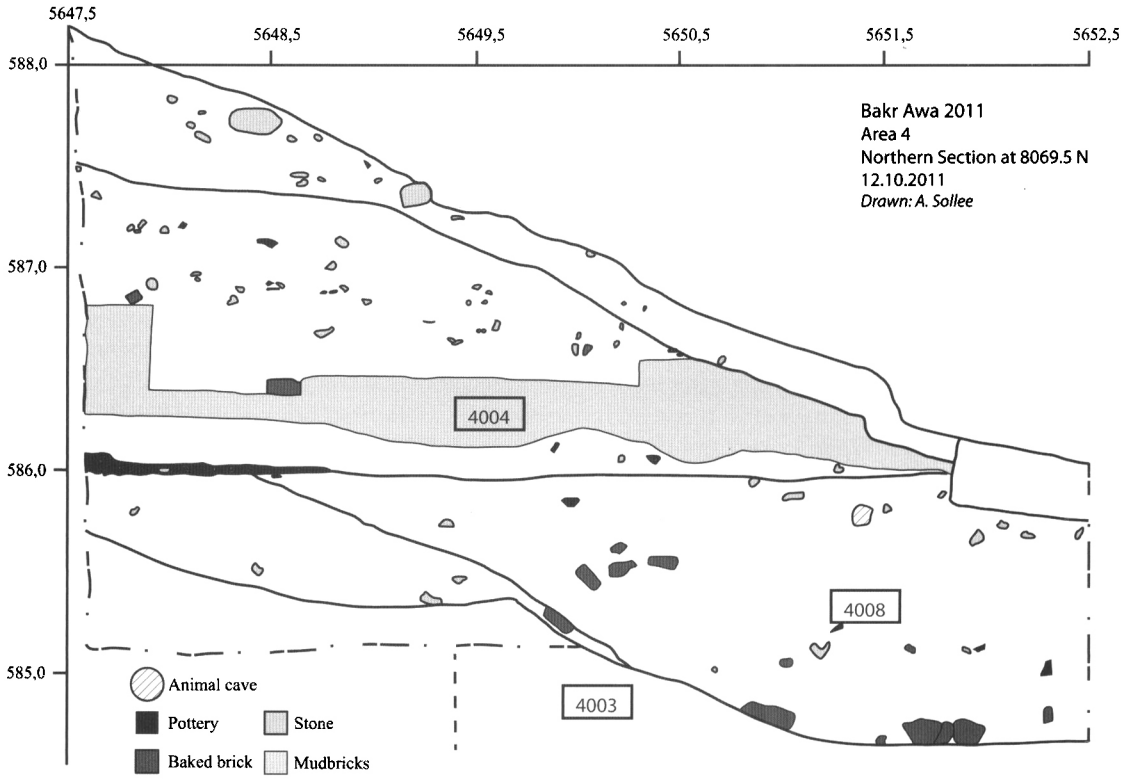


Fig. 44 Northern section of Area 4. Scale 1:40.

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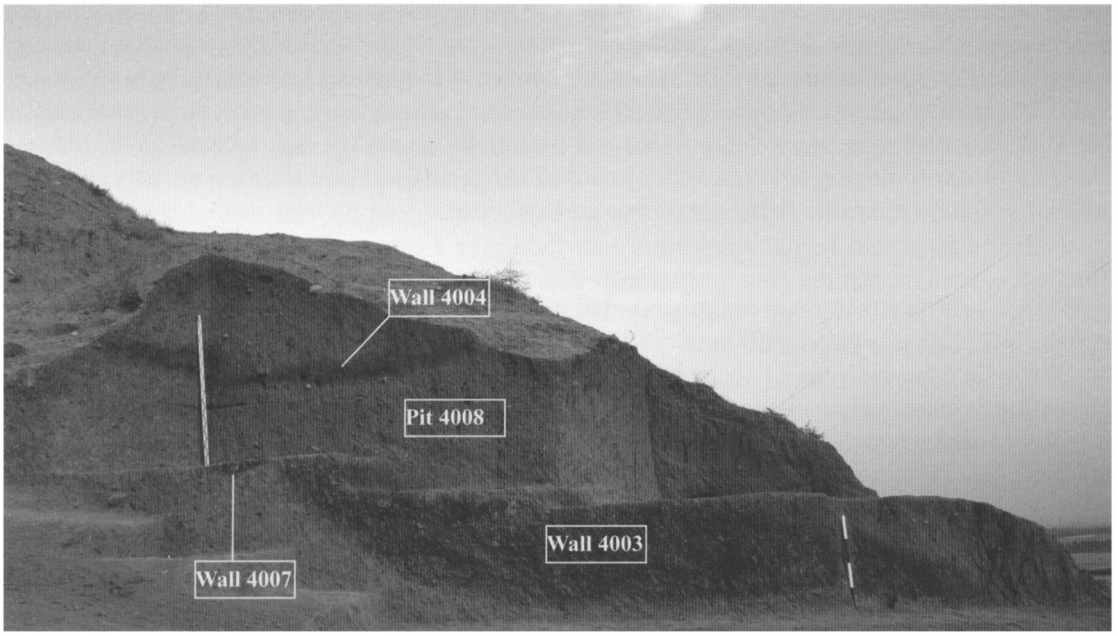


Fig. 45 General view of Area 4, facing north.

cross-cut (Fig. 45). The section shows that the wall was set into a foundation pit, but we were unable to excavate any floor levels connected to the western edge of the wall.

A substantial quantity of pottery was recovered when the wall was cut; the sherds are mixed from various periods. As well as Iron Age (Fig. 43b, c)[132] and Bronze Age (Fig. 43d)[133] shapes, even fragments of beveled rim bowls were found embedded between the mud bricks (Fig. 43e).

Wall BA 4003 is tentatively dated back to the Iron Age. Due to the lack of stratified finds from a connected floor, our suggestion must derive from the sherds found within the wall and the bricks used to build it. As for the latter, the mud bricks measured 40 × 40 × 10–12 cm, suggesting a pre-Islamic date.[134] Among the recovered fragments of pottery, there are no glazed examples, nor anything that could be positively dated later than the Iron Age. Furthermore the elevation, at +585.10 m, seems realistic for a wall belonging to the pre-Islamic levels encountered in Trenches 3-B and 3-C of Area 3 (see above). A link to a Late Assyrian settlement on the citadel seems possible, but still needs confirmation with further evidence. The wall may turn out to be post-Late Assyrian, possibly even Achaemenid or even younger. Nonetheless, if Bakr Awa should indeed turn out to be ancient *Dūr-Aššur*, this wall would fit well with Ashurnasirpal II's description of surrounding the city with a fortification wall.[135] We hope to continue excavating in Area 4 in order to resolve the many questions it has raised.

Preliminary anthropological report

RAFAŁ A. FETNER[136]

During the 2010 and 2011 seasons of excavation at Bakr Awa, features containing human remains were found in Areas 1 and 2, both located in the lower city. In total, fifty-six features containing

[132] Cf. Hausleiter 2010: pl. 63 no. 2; Reiche 1999: 255, fig. 10g.

[133] Cf. Valtz 2002–2003, pl. 154 no. 26.

[134] These dimensions fall within the range of Late Assyrian mud bricks from Ashur (cf. Miglus 1999: 136).

[135] Miglus, Bürger, Heil and Stępniowski 2011: 142; RIMA 2 A.0.101.1 ii. 84–86.

[136] The author would like to thank A. Sołtysiak for critical comments on the manuscript of this report.

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human remains were explored. These dated to the Islamic period, the Iron Age, the Middle/Late Bronze Age, and the late third millennium B.C. Most were single burials, however in a few cases multiple burials were discovered. The minimum number of individuals unearthead in both seasons was sixty-two. The present author studied all human remains found during excavation seasons 2010 and 2011, together with one skeleton found in a pit dug for an electric pole located on the modern cemetery. Anthropological field research was aimed at age-at-death and sex assessment, as well as a preliminary study of health, living conditions and activities.

Material

In Area 1, fifteen features containing human remains were found. Thirteen of these were single burials, including one grave with bones in a secondary context, one multiple grave (BA 1108) and two secondary burials, one of them in a robbery pit (BA 1173). In Area 2, forty-one features containing human remains were found. In five cases (BA 2008, BA 2020, BA 2053, BA 2062, BA 2196) human remains were retrieved from animal bone assemblages. Three graves (BA 2041, BA 2084, BA 2089) contained at least two individuals. In one case (BA 2265) a complete skeleton was found in a fire pit, next to a burial in a secondary context.

One skeleton found during a rescue operation (labelled as BA 0000/013) came from a modern cemetery (see above).

Methods

Human skeletal remains were examined using the standard protocol.[137] Wherever possible, alongside the age at-death and sex assessment, several metric measurements were also taken and non-metric traits were recorded. The information recorded also included tooth-wear scores, tooth measurements and a description of pathological conditions.[138] The age of sub-adult individuals was assessed according to tooth development stage[139] and ossification stage of long bones,[140] and for adults according to morphology of pubic symphysis,[141] auricular surface,[142] tooth wear[143] and suture closure.[144] Sex was assessed according to morphology of skull and pelvis[145] and measurements of long bones.[146] Stature was estimated using formulas for American white males or females.[147]

Along with age-at-death, sex and stature, several stress markers like linear enamel hypoplasia (LEH)[148] and pathological conditions were described.[149] The standard fieldwork protocol was completed by a description of several activity-related traces (e.g. geometry of long bone mid-shafts; non-pathological modification of articular surface). In a few cases, directional asymmetry of first metatarsals was noted. Selected muscle attachment areas were described using a 3-point scale (0—not visible; 1—light to moderate; 2—developed enthesis). Other activity-related traits, as, e.g., Allen's notch, were scored as present or absent.

Results

The minimum number of individuals (MNI) for both excavation areas (including one individual from modern times) is sixty-two.[150] All human remains were in bad condition. The completeness of ~50 per cent of the individuals was less than 50 per cent, and in most cases the bones were in small unidentifiable fragments. Sex was determined for 58 per cent of the adult individuals (fourteen males and thirteen females); age was assessed for all individuals, but with varying precision and confidence.

[137] Bukistra and Ubelaker 1994.
[138] Hillson 1996.
[139] Ubelaker 1989; Gustafson and Koch 1974; Smith 1991.
[140] Scheuer and Black 2000; Schaefer, Black and Scheuer 2009.
[141] Todd 1920; Brooks and Suchey 1991.
[142] Lovejoy, Meindl, Pryzbeck and Mensforth 1985.
[143] Lovejoy 1985.
[144] Meindl and Lovejoy 1985.
[145] Bukistra and Ubelaker 1994; Comes 1960; Novotny 1975.
[146] Oliver 1960.
[147] Trotter 1970.
[148] Schultz 1988.
[149] Ortner 2000; Waldron 2008.
[150] MNI for features BA 2008, BA 2020, BA 2053, BA 2062 is 1.

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Stature was estimated for eleven individuals (six males and five females). Average stature is 171.7 cm for males and 159.4 cm for females. Periodontal diseases as well as dental caries, enamel hypoplasia, dental calculus, abscess and ante mortem tooth loss (AMTL) were the most frequent pathological condition. In a few cases, degenerative joint disease (DJD) was noted. 54 per cent of the adult individuals exhibit high scores for activity-related traits (seven males and eight females). In a few cases root etching was noted on bone surfaces.

Most interesting was the Old Babylonian chamber tomb (BA 1108, see above). The type of this tomb and the material of construction suggested that individuals buried there had a high social status. Unfortunately, the human remains were disturbed in secondary context in the chamber, and it was impossible to complete any skeleton. The minimum number of individuals (MNI) was assessed at six, based on the number of mandibles and left mastoid processes. Assuming the MNI=6, it is possible to estimate a completeness of these skeletons at ~80 per cent, but the preservation of bones was poor, and many were broken *post mortem*. During the exploration of the tomb chamber eight clusters of skull fragments were found (Miglus *et al.* 2011: 149–51), but it is likely that some clusters of fragments came from the same skeleton. At least four adults (two mature females, two mature males) and 2 sub-adults were buried in the tomb (see Table 2). Stature was estimated for only two individuals, at 172 cm for one male and 159 cm for one female. The most frequent paleopathological condition was linear enamel hypoplasia. Caries were visible only on the occlusal surfaces of two teeth. Degenerative joint disease of finger/toe segments and vertebral column were also noted. The muscle attachments of the lower limbs were well developed. The secondary context of discovery does not allow us to ascribe paleopathological lesions to an individual, and further paleoepidemiological interpretations, including frequency of pathological condition according to age or sex, are impossible.

A fireplace (BA 2265) dating to the late Early Bronze Age contained two burials. The first unearthed was a secondary burial of an adult male individual containing skull, some few vertebrae and a humerus. The remains of this individual were probably removed from their original place during the digging of this pit. Below the secondary burial was a primary burial of a woman 17–23 years old. The presence of carious lesions and alveolar resorption (gingivitis) indicate poor oral hygiene; moreover, the compact fracture of a lumbar vertebra may be related to osteoporosis, and be caused by overloading of the spine. Some muscle attachments of both upper and lower limbs were well developed. A directional asymmetry of the upper limbs, with both right humerus and ulna at least 10 mm longer than the left, is noteworthy. The biological condition of this individual as well as the type of burial seem to indicate low social status.

Conclusions

The low number of individuals in the samples does not allow for significant comparison between the given periods, but some observations can be made. Newborns were found only in layers from the late third millennium B.C. in architectural contexts. Moreover, newborns were not found in layers from other periods. Children younger than twelve months were found only in Area 2; this might be explained simply by the larger area of investigation, or by burial customs, e.g. burying very young children under the floors of houses.

In general, in the studied sample a high death rate among young children and mature adults is observed. The most frequently observed pathological conditions were periodontal diseases (affecting 18/62 individuals), which can indicate poor oral hygiene. Adult females were more affected by oral pathologies, excluding LEH, but the difference is not more than one individual in each period. Linear enamel hypoplasia was also frequent (15/62 individuals); this is an indicator of environmental stress in childhood. More than half of the adult population shows high scores of some activity-related traits, but pathological conditions related to activity were not very common (6/46 adult individuals). In the Islamic period females exhibited more activity-related traits, in contrast to the Iron Age where activity-related traits were more frequent on the remains of males. There was no significant difference between the sexes in the development of activity-related paleopathologies.

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TABLE 2: Catalogue of human remains from the site of Bakr Awa, excavated in seasons 2010 and 2011, according to period of burial.

Burial	*Completeness*	*Age*	*Sex*	*Stature*	*Pathologies*	*Activity*
			Modern			
0000/13	40%	adult	?		Schmoerl's nodes	+
			Islamic Period			
2004	65%	18–24	female		LEH, dental caries	+
2008	5%	adult	?			
2020	5%	adult	?			
2021	5%	adult	?			+
2027	60%	1,5				
2031	30%	4			dental calculus	
2037	70%	13–16	female		LEH	
2039	25%	40–55	male		dental caries	
2040	40%	30–35	male		Schmoerl's nodes, LEH	
2041	10%	adult	?			
	20%	5–6				
2045	70%	30–40	female		LEH, dental caries	+
2046	15%	adult	?			+
2051	15%	adult	male			+
2052	70%	3				
2053	5%	adult	?			
2056	80%	20–34	female	165	LEH, dental caries, dental calculus	+
2061	50%	6–7			dental caries	
2062	15%	40–55	?		LEH, dental caries	
2064	15%	adult	?			+
2072	20%	20–30	?		AMTL	
2080	40%	35–39	female			
2083	65%	20–35	female	160	dental caries, DJD	+
2101	50%	40–45	male	178	AMTL, dental caries	
2150	10%	adult	male	176		+
2184	20%	adult	?		DJD	+
2196	20%	30–40	male		LEH, dental caries	
	20%	24–35	female	156	LEH	+
			Iron Age			
1049	95%	20–30	female		LEH, AMTL	+
1080	30%	30–40	?			
1085	15%	11			LEH	
1088	70%	20–30	male		LEH	+
1089	50%	40–50	?			+
1090	50%	20–24	?			+
1148	20%	2				
1156	85%	40–45	male	164		+
1157	90%	25–30	male		AMTL, abscess, spina bifida, dental caries	+
2087	5%	adult	?			
2088	5%	adult	?			
2089	70%	35–45	female		dental caries	+
2200	90%	0,5–1				
2222	85%	40–50	male		LEH, spondylosis, DJD	+
			MBA/LBA			
1095	15%	adult	?			+
1107	30%	6				
1108	80%	6			dental caries, LEH, DJD, Schmoerl's nodes, spondylosis, CO[151]	+
		10				
		30–40	female	159		
		40–50	female			
		30–45	male	172		
		40–50	male			

Continued

[151] Because of the secondary context of the burial, pathologies and activity-related traits cannot be ascribed to particular individuals.

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TABLE 2: *(Continued)*

Burial	*Completeness*	*Age*	*Sex*	*Stature*	*Pathologies*	*Activity*
1162	90%	3			CO	
1175	30%	1–1,5				
2084	95%	20–24	female		LEH, dental caries	+
	90%	40–47	male	176	AMTL, LEH, dental caries	+
2189	20%	16–23	?			
2221	50%	4			dental caries	
2264	5%	adult				
				EBA		
2265	20%	adult	male	164		
	95%	17–23	female	157	dental caries, gingivitis, fracture	+
2288	50%	38 f. weeks				
2304	95%	34 f. weeks				
2305	95%	38 f. weeks				
2323	5%	less than 15				
				Looting pit		
1173	5%	adult	?			

Illustration credits

U. Bürger: Fig. 1, 8, 11, 15–18, 20, 28, 29, 30a, b, d; C. Gütschow: Fig. 6a, 9, 21, 22, 29; M. Heil: Fig. 14a; P. A. Miglus: Fig. 4, 5, 6b, 7, 9, 10, 12–14, 18, 19, 23, 24, 26, 27, 30a, b, d, 33, 41e, f, i, 42a; S. Mühl: Fig. 38, 39, 41d, e, g, h; A. Pauly: Fig. 7, 9, 11, 12, 14b, 20, 23, 24; K. Sauer: Fig. 11, 14; B. Schneider: Fig. 25; A. Sollee: Fig. 34–37, 40, 41g, 41j–m, 42-45; F. Wolter: Fig. 3, 9, 12, 18, 30c, 34, 41 a–c. Beta Analytic Ltd., London: Fig. 31, 32; Quickbird—Digital Globe Inc.: Fig. 2.

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