

THE ARCHAEOLOGY OF THE KURDISTAN REGION OF IRAQ AND ADJACENT REGIONS

Edited by

**Konstantinos Kopanias and
John MacGinnis**

ARCHAEOPRESS ARCHAEOLOGY

ARCHAEOPRESS PUBLISHING LTD

Gordon House
276 Banbury Road
Oxford OX2 7ED

www.archaeopress.com

ISBN 978 1 78491 393 9
ISBN 978 1 78491 394 6 (e-Pdf)

© Archaeopress and the authors 2016

Cover illustration: Erbil Citadel, photo Jack Pascal

All rights reserved. No part of this book may be reproduced, in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior written permission of the copyright owners.

Printed in England by Holywell Press, Oxford
This book is available direct from Archaeopress or from our website www.archaeopress.com

Contents

List of Figures and Tables.....	iv
Authors' details	xii
Preface.....	xvii
Archaeological investigations on the Citadel of Erbil: Background, Framework and Results.....	1
<i>Dara AL YAQOOBI, Abdullah KHORSHEED KHADER, Sangar MOHAMMED, Saber HASSAN HUSSEIN, Mary SHEPPERSON and John MACGINNIS</i>	
The site of Bazyan: historical and archaeological investigations.....	11
<i>Narmin AMIN ALI and Vincent DEROCHE</i>	
Short notes on Chalcolithic pottery research: The pottery sequences of Tell Nader (Erbil) and Ashur (Qal'at Sherqat)	19
<i>Claudia BEUGER</i>	
New Evidence of Paleolithic Occupation in the Western Zagros foothills: Preliminary report of cave and rockshelter survey in the Sar Qaleh Plain in the West of Kermanshah Province, Iran	29
<i>Fereidoun BIGLARI and Sonia SHIDRANG</i>	
Activities of Sapienza-University of Rome in Iraqi Kurdistan: Erbil, Sulaimaniyah and Duhok	49
<i>Carlo Giovanni CERETI and Luca COLLIVA</i>	
The Achaemenid Period Occupation at Tell ed-Daim in Iraqi Kurdistan	57
<i>John CURTIS and Farouk AL-RAWI</i>	
'Inscription D' from Sennacherib's Aqueduct At Jerwān: Further Data and Insights.....	65
<i>Frederick Mario FALES and Roswitha DEL FABBRO</i>	
The Land of Nineveh Archaeological Project: A Preliminary Overview on the Pottery and Settlement Patterns of the 3rd Millennium BC in the Northern Region of Iraqi Kurdistan	75
<i>Katia GAVAGNIN</i>	
Animal husbandry and other human-animal interactions in Late Ubaid-Early Uruk northern Iraq: the faunal remains from the 2012 excavation season at Tell Nader.....	87
<i>Angelos HADJIKOUMIS</i>	
Hawsh-Kori and Char-Ghapi: Why the Sassanids built two monuments in the west of Kermanshah and the south of Iraqi Kurdistan	101
<i>Ali HOZHABRI</i>	
Across millennia of occupation: the Land of Nineveh Archaeological project in Iraqi Kurdistan: The prehistory and protohistory of the Upper Tigris rediscovered	125
<i>Marco IAMONI</i>	
The Iraqi Institute: Education for Archaeological Research and Conservation	135
<i>Jessica JOHNSON, Abdullah KHORSHEED and Brian Michael LIONE</i>	

Two seasons of excavations at Kunara (Upper Tanjaro): An Early and Middle Bronze Age city	139
<i>Christine KEPINSKI and Aline TENU</i>	
Excavations of the Chalcolithic Occupations at Salat Tepe on the Upper Tigris, Southeastern Anatolia	147
<i>Tatsundo KOIZUMI, Minoru YONEDA, Shigeru ITOH and Koichi KOBAYASHI</i>	
Insights into the settlement history of Iraqi Kurdistan from the Upper Greater Zab Archaeological Reconnaissance Project	163
<i>Rafał KOLIŃSKI</i>	
Two Ottoman Trade Buildings (<i>Qaisariya</i>) in the Bazaar of Erbil from Building Archaeology to Refurbishment Planning	173
<i>Dietmar KURAPKAT</i>	
Ninevite 5 – culture or regional pottery style?	181
<i>Dorota ŁAWECKA</i>	
Back to the Land of Muṣaṣir/Ardini: Preliminary report on fieldwork (2005-2012)	189
<i>Dlshad MARF</i>	
New Researches on the Assyrian Heartland: The Bash Tapa Excavation Project	201
<i>Lionel MARTI and Christophe NICOLLE</i>	
Materials from French Excavations in Erbil Area (2011-2013): Qasr Shemamok	209
<i>Maria Grazia MASETTI-ROUAVULT and Ilaria CALINI</i>	
Current Investigations into the Early Neolithic of the Zagros Foothills of Iraqi Kurdistan	219
<i>Roger MATTHEWS, Wendy MATTHEWS and Kamal Rasheed RAHEEM</i>	
About Bakr Awa	229
<i>Peter A. MIGLUS</i>	
Magnetic investigations in the Shahrizor Plain: Revealing the unseen in survey prospections	241
<i>Simone MÜHL and Jörg FASSBINDER</i>	
The Bazaar of Erbil within the Context of Islamic Trade Routes and Trade Buildings	249
<i>Martina MÜLLER-WIENER and Anne MOLLENHAUER</i>	
Halaf Settlement in the Iraqi Kurdistan: the Shahrizor Survey Project	257
<i>Olivier NIEUWENHUYSE, Takahiro ODAKA and Simone MÜHL</i>	
Contextualizing Arbīl: Medieval urbanism in Adiabene	267
<i>Karel NOVÁČEK</i>	
Filling the Gap: The Upper Tigris Region from the Fall of Nineveh to the Sasanians. Archaeological and Historical Overview Through the Data of the Land of Nineveh Archaeological Project	277
<i>ROCCO PALERMO</i>	
Satu Qala: an Assessment of the Stratigraphy of the Site	297
<i>Cinzia PAPPI</i>	

Helawa: A New Northern Ubaid/Late Chalcolithic Site in the Erbil Plain	309
<i>Luca PEYRONEL, Agnese VACCA and Gioia ZENONI</i>	
From the banks of the Upper Tigris River to the Zagros Highlands. The first season (2013) of the Tübingen Eastern Habur Archaeological Survey	323
<i>Peter PFÄLZNER and Paola SCONZO</i>	
Gre Amer, Batman, on the Upper Tigris: A Rescue Project in the Ilisu Dam Reservoir in Turkey	333
<i>Gül PULHAN and Stuart BLAYLOCK</i>	
In the Neo-Assyrian Border March of the Palace Herald: Geophysical Survey and Salvage Excavations at Gird-i Bazar and Qalat-i Dinka (Peshdar Plain Project 2015)	353
<i>Karen RADNER, Andrei AȘANDULESEI, Jörg FASSBINDER, Tina GREENFIELD, Jean-Jacques HERR, Janoscha KREPPNER and Andrea SQUITIERI</i>	
New investigations at Shanidar Cave, Iraqi Kurdistan	369
<i>Tim REYNOLDS, William BOISMIER, Lucy FARR, Chris HUNT, Dihad ABDULMUTALB and Graeme BARKER</i>	
Materials from French excavations in the Erbil area (2010): Kilik Mishik	373
<i>Olivier ROUAULT and Ilaria CALINI</i>	
Kurd Qaburstan, A Second Millennium BC Urban Site: First Results of the Johns Hopkins Project	385
<i>Glenn M. SCHWARTZ</i>	
The Sirwan (Upper Diyala) Regional Project – First Results	403
<i>Tevfik Emre ŞERİFOĞLU, Claudia GLATZ, Jesse CASANA and Shwkr MUHAMMED HAYDAR</i>	
Tracking early urbanism in the hilly flanks of Mesopotamia – three years of Danish archaeological investigations on the Rania Plain	411
<i>Tim Boaz Bruun SKULDBØL and Carlo COLANTONI</i>	
The Activities of the Italian Archaeological Mission in Iraqi Kurdistan (MAIKI): The survey area and the new evidence from Paikuli blocks documentation	417
<i>Gianfilippo TERRIBILI and Alessandro TILIA</i>	
The Kani Shaie Archaeological Project	427
<i>André TOMÉ, Ricardo CABRAL and Steve RENETTE</i>	
Philological and scientific analyses of cuneiform tablets housed in Sulaimaniya (Sleman) Museum	435
<i>Chikako WATANABE</i>	
‘Carrying the glory of the great battle’. The Gaugamela battlefield: ancient sources, modern views, and topographical problems	437
<i>Kleanthis ZOUBOULAKIS</i>	

Archaeopress Open Access

About Bakr Awa

Peter A. MIGLUS

The site of Bakr Awa (35°13'14"N, 45°56'26"E) situated on the outskirts of the city of Halabja is one of the biggest ancient settlements in the western foothills of the Zagros in Iraqi Kurdistan (AAI 1970, 335 no. 54; AASI 1975-76, map 77 no. 14). It consists of a c. 800 x 600 m large lower city (max. +579 m a.s.l.) and a steep citadel mound (max. +595 m a.s.l.) dominating the plain (approx. +565 m a.s.l.). The citadel is crowned by an earthen parapet wall while the mound is surrounded by a moat dug probably in the Islamic period (Fig. 1).

Bakr Awa is located in the southern part of the Shahrizor Plain near the junction of the Tanjaro river into the Diyala. It was a highly advantageous position since the Diyala, which creates a corridor between central Mesopotamia and the Iranian Highland, in this area crosses the transversal route of the Shahrizor coming from the lands accessed by the Lesser Zab. Moreover, the conspicuous feature of this landscape is its economic potential and flexibility. The population of this region used agriculture, pastoralism, and mixed farming as subsistence basis.



FIGURE 1. BAKR AWA ON SATELLITE IMAGE (QUICKBIRD 11TH OCTOBER, 2010, DIGITAL GLOBE INC.) WITH MARKED EXCAVATION AREAS.

The earliest reference to Bakr Awa was given by James Felix Jones (1857, 205-6) who visited this place in 1844. In 1927 the site was initially investigated by Ephraim Speiser (1926/27, 13), but the first extensive excavation by Iraqi archaeologists took place in the years 1960 and 1961 (Al-Husaini 1962; Madhloum 1965). The new excavation at Bakr Awa by the University of Heidelberg was carried out during four seasons 2010-11 (Miglus *et al.* 2011; 2013) and 2013-14 (Bürger *et al.* 2015; Bürger *forthcoming*; Miglus 2015a). It succeeded a survey in the southern part of Shahrizor Plain led by the author in 2009.

In the time that passed between the two excavations the site underwent several changes. The top of the main mound has been disturbed and reshaped in the course of the 1980-88 Iraq-Iran war, and a wide ramp at its eastern slope has been bulldozed for military purpose. Afterwards, around 1993, the whole area of the lower city has been badly damaged by heavy looting which destroyed the upper layers up to 2.5 m deep. Finally, the modern village of Bakr Awa eliminated in the 1980s was has undergone reconstruction from 2011 onwards.

During the Iraqi investigation two trenches were opened, one on the southwestern slope of the main mound, a second one in the eastern part of the lower city. The 17

layers uncovered in the first trench were reported to be from the Akkadian to Islamic periods, but the published information concerns only the uppermost Islamic Levels I-V (Madhloum 1965). The excavation in the lower city provided a slightly different stratigraphy: The uppermost layers (Levels I-II) have been recognize as Islamic, the third (Level III) as an Iron Age horizon dating to c. 800 BC, and the lower deposits (Levels IV-VIII) as settlement remains from the 2nd millennium BC (Al-Husaini 1962).

The new excavation started 2010 in Area 1 situated on a hilltop in the southeastern part of the lower city, and also the former Iraqi eastern trench, now called Area 2, was reopened. In season 2011 the new excavation Areas 3 and 4 have been established on the top of citadel mound, and two years later Area 5 has been set up at the edge of the citadel moat in the center of the site. The work in the Iraqi trench on the slope of the citadel mound, called here Area 6, should be continued in the next seasons.

Excavation results

The current stage of research in the Areas 1-6 is presented by the following stratigraphy table (Fig. 2) which illustrates the investigated occupation periods reached at the site from the Early Bronze Age to the Ottoman period.

Horizon	Period	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6
Modern village and cemetery							
Islamic	Ottoman	*					
	Middle Age						
	Abbasid						
Pre-Islamic	Sasanian (?)			*	*	*	*
	hiatus (?)	*					
Iron Age	Achaemenid			*			*
	Neo-Assyrian						
LBA	Hurrian/Kassite						
MBA	Late Old Babylonian						
	Isin-Larsa						
EBA	Post-Akkadian (Ur III?)						
	Akkadian						
	hiatus (?)		*				
	Older Early Dynastic						
strong evidence		occasional evidence					
* no evidence		not excavated					

FIGURE 2. OCCUPATION PERIODS REACHED IN THE EXCAVATION AREAS 1 TO 6 DURING SEASONS 2010-11 AND 2013-14.

1. Early Bronze Age (Early Tigridian) Horizon

The 3rd millennium BC remains excavated in the eastern part of the lower city date from the beginning of the Early Dynastic as well as from the Akkadian and Post-Akkadian periods. The Akkadian and Ur III layers had also been reached in the former Iraqi trench, Area 6, on the main mound (Levels XVI-XVII), but no details of the material found at this location were reported.

1.1. Early Dynastic I layers

In two deep soundings in Area 2 the earliest layers of the site consisted of several floors and a few sparse wall remains (Miglus *et al.* 2013, 65-7). This deposit was in total c. 1.5 m thick and contained numerous *Scarlet Ware* sherds and related painted pottery. Although the *Scarlet Ware* is characteristic in the eastern Tigris region for the Early Dynastic I-II (following the ARCANÉ terminology: Early Tigridian 2-4 / Early Central Mesopotamian 1-3) period, up to now the lands on the Tanjero and upper Diyala did not appear on the painted pottery distribution maps (cf. Rova 2014; Del Bravo 2014). The new finds from Bakr Awa fill this gap.

Two radiocarbon samples taken from the oldest and third oldest floor levels confirm the dating of the earliest settlement in the lower city to 2890-2860 respectively 2830-2820 cal BC. On the latter floor a jar rim bearing an imprint of a cylinder seal came to light (Miglus *et al.* 2013, 65-6 fig 30d) (fig. 3 a). Sealed storage jars like this specimen were found on several sites with Jemdet Nasr and Early Dynastic I occupation in the Hamrin region: Tell Gubba (Ii 1988, figs. 6-23 pls. 29-38), Tell Ahmed al-Hattu (Sürenhagen 1984, fig. 7; 2011, fig. 18. 9 a, b and 20 no. 1-7), Kheit Qasim (Lebeau 1984, fig. 3-5), Tell Madhhur (Watson 1984, fig. 24 no. 10-4), Tell Sabra (Tunca 1987, pl. 106-7), and Tell Yelkhi (Boehmer 1985, fig. 2). Furthermore, two sealings on clay and terracotta fragments of similar date have been found in the deep soundings.

Surprisingly, the painted pottery from both deep soundings was associated with numerous fragments of beveled rim bowls. Initially, pieces were thought to be later intrusions in the younger layers. However, it later became apparent that the lowermost Early Dynastic occupation layer in the eastern area of Bakr Awa rests directly on the virgin soil (at c. 570.30 m a.s.l.). An alternative supposition, that this material was transferred from another location, is hardly probable because apart from the beveled rim bowls no other Uruk pottery types have been found here. It looks as if this particular kind of pottery was still produced in the early 3rd millennium BC in the Shahrizor region, a phenomenon which was already observed at Tell Gubba in the Hamrin region (Fuji 1981, 160-1). This fact is contrary to the opinion that in the Tigris region the beveled rim bowl production

must have come to an end already in the outgoing Uruk period (cf. Rova 2014; Helwing 2014).

Neither during the old nor the new excavation at Bakr Awa were any Uruk settlement layers uncovered. A few well preserved Uruk specimens have been published by Al-Soof (1985, 90, 183 chart III, 186 pl. III bottom) as found in Levels II-V of this site, but these levels date to the 1st respectively 2nd millennium BC. Therefore, it must be supposed that the pottery Al-Soof referred to originates in another site. The entries in the inventory of the Iraq Museum in Baghdad specifying its location as 'Shahrizor' (without mentioning Bakr Awa) seem to support this assumption.

1.2. Akkadian and Post-Akkadian layers

In the higher layers of the 3rd millennium BC no specific evidence for the late Early Dynastic (Early Tigridian 4-5) was discovered. It could be a regional problem (cf. Lebeau 2014, table on p. xi), and probably the late Early Dynastic settlement at the site was less intensive than in the beginning and in the last centuries of the 3rd millennium BC. But the Akkadian occupation is striking: In Areas 1 and 2 foundations laid with large stones were excavated in layers containing the typical Akkadian and Post-Akkadian pottery known from the lower Diyala and central Tigris region (Miglus *et al.* 2013, 62-5). In Area 2 they constituted three building levels having a total thickness of c. 1 m (between +573.40 and +572.30 m a.s.l.). The only partially preserved wall sections do not allow reconstructing any building plans, and a freestanding single-room unit about 3.10 m wide and 5.30 m long, presumably a small shrine, was the only exception. Its ground plan brings to mind small single-room temples built in the eastern Tigris region during the 3rd millennium BC. The best comparative examples are the sanctuaries in strata V and IV at Tepe Gawra (Akkadian / Ur III) which also had foundations constructed of stones (Speiser 1935, 14-8 pls. V-VI).

The entrance to the supposed shrine equipped with a pivot stone was located in the southern wall. It was walled up in the final occupation phase. The original floor of the room was paved with large flagstones, the younger one, separated from the first by a thin layer of white organic substance, was of beaten mud. On the inner and outer walls remains of clay plaster were observed. The only fixed installation in the room was a mud bench or table in the northeastern corner. In the northwestern corner, a round flat basin with a spout (a libation installation?) was placed on the younger floor. Sediment accumulated under its bottom has been dated between 2270 and 2040 cal BC. In the area outside the building, which was paved with pebbles and pottery sherds, some fireplaces were excavated. A production zone with several ovens and fire places surrounded by thick ash deposits extended further to the East.

In Area 1 only the uppermost stone foundations have been excavated (in the first preliminary report, Miglus *et al.* 2011, 147-8, they were wrongly regarded as Middle Bronze Age structures). It consisted of four big rooms and a stone paved courtyard with an open sewer which seem to belong to two separated building units. Between them two big ovens were located. The ¹⁴C date from the southern one ranges between 2140 and 2030 cal BC. Another radiocarbon sample collected in the layer covering the stone foundations provided a possible dating from 2030 to 1890 cal BC. In this latter archaeological context dated to the turn of the Early to Middle Bronze Age a previously unknown burnished pottery painted with reddish vertical stripes came to light.

Concerning the political situation of Bakr Awa in the late 3rd millennium BC one can only speculate. At this time in the western Zagros foothills two political entities, the principalities of Lullubum and Simurru, are attested. Bakr Awa and the Shahrizor Plain were presumably under the control of one of these states co-existing in this region for some centuries. For a while the region was dominated by the Akkadian rulers, and afterwards the Gutian king Erridu-pizir led a campaign against Lullubum and Simurru (Altaweel *et al.* 2012, 10; Kepinski *et al.* 2015, 53-5; Sallaberger and Schrakamp 2015, 42, 45, 127-9).

2. Middle Bronze Age (Ur III / Isin-Larsa / Old Babylonian) Horizon

Towards the end of the 3rd and at the beginning of the 2nd millennium BC archaeological remains at Bakr Awa testify to a remarkable economic prosperity. The material culture was related to those in other Mesopotamian regions. According to the textual evidence at the turn of the 3rd millennium BC the region around the city of Bakr Awa was firmly embedded in the political landscape of Mesopotamia. The regional principalities Simurru and Lullubum were target of several military operations of the rulers of the Ur III Dynasty, and their territory was temporarily under the political control of Ur (cf. Altaweel *et al.* 2012, 10-1; Kepinski *et al.* 2015; Sallaberger and Schrakamp 2015, 50-1). During the demise of Ur the Shahrizor region belonged for a time to Simurru having a large territorial extension under the rule of Iddi-Sin und (An)Zabazuna (Frayne 1990, 19.1, 19.2; Shaffer *et al.* 2003; Frayne 2009-11).

This prosperous period of the city and its situation thereafter are reflected in the deposits in Areas 1, 2 and 6. In the first two areas architectural remains and numerous burials have been excavated. Results concerning the corresponding layers in Area 6 investigated by the former excavators have not been reported, but the material is at least partly known from the inventory of the Iraq Museum.

2.1. Building remains from the Ur III to Isin-Larsa periods

The early 2nd millennium BC architecture at Bakr Awa shows a new trend in building plans and construction techniques obviously adopted from Babylonia and the lower Diyala region. The stone foundation method was abandoned, and the houses were built wholly of sun dried mud bricks instead. Occasionally for special constructions burnt bricks were used. The best example is the main architectural unit excavated in Area 2 showing three occupation levels. The upper parts of its walls and the uppermost pavements had already been uncovered by Iraqi archaeologists, and because of its areal extent and the mud brick altar installed in the main room the building was thought to have been a temple (Al-Husaini 1962, 153-4). The results of the re-investigation of the original occupation level and a comparison with contemporary private architecture of southern Mesopotamian cities (Miglus 1999, 23-56) shows that the building has definitely to be regarded as a large residence of a wealthy family or an official (Miglus *et al.* 2013, 53-5; Miglus 2015a). Measuring not less than 660 sqm it was even bigger than the comparable large houses from the same period uncovered at Larsa and Ur (Miglus 2015a, 234-6).

The house was completely built of mud bricks. Only its western part, where the ground was uneven, and beneath the courtyard where a gravel layer was laid, and a few wall sections had stone enhancements or were partially founded on older stone structures. The location of the entrance proposed by Iraqi excavators in the eastern façade is uncertain. A central courtyard of c. 11 x 10.5 m paved with pebbles and mud plaster was surrounded by rooms. The most important of these were the reception room and the main hall forming the western part of the building. The first one was originally paved with burnt bricks, the second with small pebbles. The main hall had two significant installations: a mud brick table at the rear wall similar to the altars known from the main rooms at Ur (Woolley and Mallowan 1976, 29-30 pls. 43-6) or Tell Harmal (Bürger and Miglus forthcoming) and a large rectangular hearth constructed of clay and pottery sherds and bordered by bricks in the center of the room of a kind found at Tell Jokha (Al-Harbi *et al.* 2011, 61-2 fig. 14, 29), Nippur (McCown *et al.* 1967, 38-9), and Tell Halawa (Yaseen 1995, 30 pl. 6, 9A). Smaller rooms at the other sides of the courtyard contained ovens, fireplaces and ceramic jars serving for storage, supply, and production purposes. A doorway in the northern wall of the biggest northern room gave access to a second only partially excavated courtyard in side-on position indicating that the house could have had a bigger extension than previously supposed.

Architectural remains in Area 1 presumably belonged to two rather large building units, but since they have been

only partially recovered no complete plans can be worked out. Nevertheless, the building technique, installations, pottery and artefacts found inside correspond with those from the houses in Area 2. Among the objects excavated on two floors directly beneath the eastern building unit, two cylinder seals providing connections of Bakr Awa residents to the lower Diyala and southern Babylonia deserve special attention. Both seals are made of chlorite and bear a similar representation. The first one, coming from the younger building floor (Miglus *et al.* 2013, fig. 18), shows a date-palm altar flanked by two worshippers who raise one hand, and additionally a crescent and two vertical depicted snakes (Fig. 3b). The second seal, found on the older floor, offers a similar worship scene completed by different elements: two crescents, a waterfowl (goose?) and a scorpion (Fig. 3c).

Comparable specimens from Ur were dated to the Ur III period by Collon (1982, 139-43 no. 338-55 pl. XLII) who presumed, that the date-palm symbol could derive from the Urnamma stela. Gailani Werr (1988, 27 cat. 130k, 131j pl. XVII) gave the same opinion in case of Isin-Larsa seal impressions from Tell ed-Dhibai. Another seal from Tell Bismayah in the lower Diyala region came to light in a building complex (Level II) together with a mace head bearing an Urnamma inscription (Khairi and Ahmed 1987-88, 29 fig. 87). Frankfort (1955, pl. 67 no. 716) suggested for a related seal with erased inscription found on the surface at Tell Asmar the Isin-Larsa style. Another seal with worshipper at date-palm altar representation from Susa dated by Amiet (1972, 220 pl. 159 no. 1702) to the Ur III/Shimaski period could be younger, according to Roach's (2008, no. 2725) 'Popular Elamite (Old Babylonian/Sukalmah) Style'.

2.2. Burials

Until now human remains of 40-43 individuals in 30 burials have been excavated in the recent fieldwork in layers from the first half of the 2nd millennium BC. About 20 more graves came to light during the Iraqi excavations. Among these different burial practices are attested: single and collective burials, burials in pit graves, pot graves, brick tombs, and burials under the floors of private houses and outside of the living quarters. Most of the grave goods, especially bronze weapons and toggle pins, jewelry as well as pottery vessels found inside, display close affinities to middle and northern Mesopotamian types, but also connections to Babylonia and Iran. The burials are studied in detail by U. Bürger (forthcoming) and R. Fetner (2011; 2014a; 2014b; 2015).

2.2.1. Brick tombs from the Ur III to Isin-Larsa Periods

Under the early Middle Bronze Age houses some burials have been excavated in different locations. In the large house in Area 2 there was a pot burial of a baby found under the lowermost floor in one of the service rooms

and at least two individuals buried in a vaulted brick tomb beneath the courtyard (Fig. 4). This latter position is unusual in terms of Babylonian practice, since in the south the tombs were normally located beneath main halls (Miglus 1999, 74). The tomb contained pottery from the Ur III / early Isin-Larsa period, bronze weapons, and a bronze bowl. A skeleton of a dog, probably a sacrifice, lay in the shaft beside four ceramic bottles and a bowl (Bürger *forthcoming*).

Another brick tomb dating to the early 2nd millennium BC with remains of at least eight individuals has been excavated in Area 1 (Miglus *et al.* 2011, 149-53; 2013, 56-62). Their skeletons were scattered by looting and badly damaged by fallen bricks. The tomb inventory consisted of pottery and cooper vessels, bronze weapons, toggle pins of bronze and silver, and numerous stone beads. In this case, too, the tomb was located under the courtyard and in its entrance shaft three sacrifice animals (two goats and a pig) had been deposited. Furthermore, a baby pot burial has been found on the bottom of the shaft right at the bricked-up entrance to the tomb chamber.

An especially interesting feature of the Bakr Awa tombs is their construction. They were roofed by a pitched-brick vault resting on a base of limestones. The burnt bricks used were specially formed for vaulting. The pitched-brick vault technique which is already known from the late 3rd millennium BC constructions at Tell ar-Rimah seems to have found its way into the Mesopotamian sepulchral architecture in the early 2nd millennium BC. The tombs at Bakr Awa are among the oldest constructions of this type. Two other tombs roofed by a pitched-brick vault dating from the 20th century BC have been found at Tutub (Khafajah Mound D) on the lower Diyala (Hill *et al.* 1990, 222-3 pl. 58b). Between the 19th and 17th century BC such tombs were built in the Sinkašid-Palace at Uruk, in large houses at Larsa, at Umma, Sippar/Tell ed-Der, Tell Mohammad on the lower Diyala river, and Tell Mohammed Diyab on the Khabur (see Miglus 2015b).

2.2.2. Graves from the later Isin-Larsa to Old Babylonian Periods

During the Isin-Larsa period the cityscape of Bakr Awa changed. The built-up area decreased, and in the eastern periphery in the place of the former private houses a cemetery arose. The shift from the house burial tradition to the new burial custom reflects a sudden social change on the part of the population of Bakr Awa at this time. This development can be observed in both eastern excavation areas. Most of the graves were pit burials with modest grave goods. Better equipped burials have been found above the large building in Area 2, which can be understood as an indication that in subsequent times this location was still related to a higher social status (Bürger *forthcoming*).

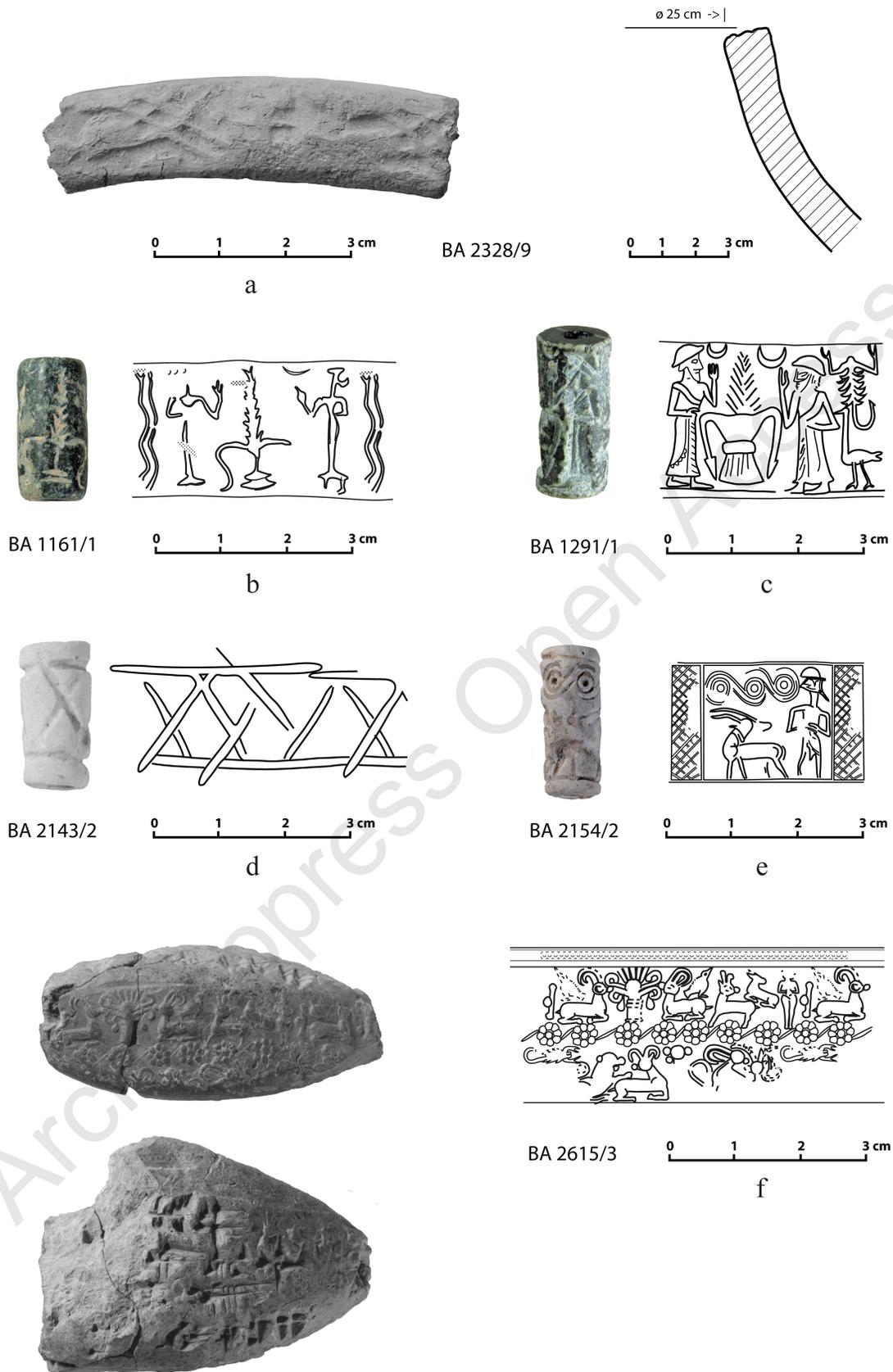


FIGURE 3. CYLINDER SEALS AND SEALINGS FROM THE 3RD AND 2ND MILLENNIUM BC: A) BA 2328/9 – EARLY DYNASTIC SEALED VESSEL RIM, 1.4 CM WIDE; B) BA 1161/1 – UR III/EARLY ISIN LARSA CHLORITE SEAL, 2.1 X 1.1 CM; C) BA 1291/1 – UR III/EARLY ISIN LARSA CHLORITE SEAL, 2.3 X 1.1 CM; D) BA 2143/2 – LATE BRONZE AGE SEAL OF FRIT, 2.1 X 1.0 CM; E) BA 2154/2 – 15TH-13TH CENT. BC SEAL OF FRIT, 2.2 X 0.9 CM; F) BA 2615/3 – CLAY BULLA, 4.9 X 3.4 X 2.1 CM, SEALED WITH A 15TH-14TH CENT. BC CYLINDER SEAL.



FIGURE 4. ENTRANCE TO BRICK TOMB BA 2500.

2.3. Cuneiform tablets

A small Old Babylonian cuneiform tablet inscribed on one side was found in room 104 of the large building in Area 2 (Level VIII) during the Iraqi excavation. Another document which came out in a higher layer (Level VI) could be younger. According to the entries in the inventory of the Iraq Museum, three more tablets which were excavated in Area 6 on the citadel mound in the uppermost Old Babylonian layer (Level XI) can be dated to a similar period to the latter document. The content of these texts is unknown, and until now it was not possible to trace these documents in the Iraq Museum collection.

3. Late Bronze Age (Kassite/Hurrian) Horizon

3.1. Building remains and finds

The settlement transition of Bakr Awa in the mid-second millennium BC is up to now unclear, but it obviously depended on political changes in the region. In the following period the city was at least temporarily under Kassite domination (Fuchs 2011, 255; Altaweel *et al.* 2012, 11-2), possibly at times it could also have been controlled by Hurrian rulers of the kingdom of Arrapha. The ceramic repertoire reflects this Hurrian-Kassite

neighborhood. Some vessel shapes and other small finds are still in the northern Mesopotamian tradition of material culture. Surprisingly, no examples of painted Mittani ware (Nuzi Ware or younger Khabur Ware) were attested. Instead, some forms have their best comparisons in the Hamrin region (the late Kassite occupation at Tell Yelkhi and Tell Zubeidi). Even fragments of the bases of Kassite goblets were among the pottery.

In Area 1 the Late Bronze Age horizon was relatively indistinct and without any significant architecture. On the other hand, Area 2 provided remains of solidly built architecture. Ten rooms have been uncovered during the Iraqi excavation (Al-Hussaini 1962: 147-8); they were completely made of mud bricks, with the floors of beaten mud, and in one case, of burnt bricks. However, the remains were not sufficiently well preserved to construe a comprehensible building plan. The recently excavated architectural remains in the western part of Area 2 belonged apparently to two building units. The eastern one consisted of two rooms – one was a storage room containing broken storage jars and numerous smaller vessels; in the other two cylinder seals of frit (Fig. 3d-e). were found in the fill above the pebble floor (Miglus *et al.* 2013, 49-51). The latter are distinctive examples of the contemporary North Mesopotamian glyptic (Miglus *et al.* 2011, 156 fig. 32-3). A thick façade with

buttresses and an adjoining courtyard or square belong to the second building unit in the western section of Area 2. The only partly excavated room behind the wall was filled with ash deposits and burnt debris. This structure seems to have been part of an official building, and a group of secondary burnt cuneiform tablets found in the close proximity are presumed to be a part of its archive.

3.2. Cuneiform tablets

In the eastern part of Area 2 Iraqi archaeologists found twenty cuneiform tablets lying in a few rooms of Level IV (mostly in rooms 54-56, above the large building of Isin-Larsa period; cf. Al-Husaini 1962, 160 plan 2). Only one tablet, a copy of the Babylonian Almanac, has been published (Matouš 1961, 17-66 pl. I-II). During the last two seasons 17 more tablets, originally belonging to the same archive, were uncovered in the western section of Area 2. They were found in a secondary context disturbed by the early Islamic occupation, but approximately in line with the Late Bronze Age building layer. The paleography and the contents show that the texts must have been written in the second half of the 2nd millennium BC.

The collection comprises administrative documents, one letter, fragments of divination texts (extispicy omnia), the almanac tablet already mentioned, and other fragments with unclear content, as well as two sealed bullae. The administration documents mention different procedures concerning fields, villages, people, crops, livestock, and copper, for example delivery of ploughs, grain supply, organization of harvest work. A number of towns and villages under the supervision of administrative officials are listed.

The bullae, which were originally fixed to a string, had been sealed with the same cylinder seal (Fig. 3f). The seal representation is divided horizontally by a row of eight-petalled rosettes. In the upper field two goats lie opposite each other flanking a volute tree. Other elements are birds, a straight-horned animal, a calf, a nude female figure, and a 'ball-and-staff'. Below, a lying goat reverses its head to the left towards an attacking lion, and another goat with its head reversed right and a scorpion are also shown. At the top of the impression a groove and traces of a fine guilloche pattern were left by a metal cap of the seal. The style and the motifs of the seal are comparable to the iconography on the tablets from the Šilwa-Teššup archive at Nuzi (Stein 1993). The one complete preserved bulla bears a short inscription referring to male kids.

In some texts there are personal names with the element 'Teššup', indicating the presence of Hurrians at Bakr Awa, but names of Babylonian origin, such as Warad-Uruk and probably Iddin-Marduk are also mentioned. A

small group of texts deserves special attention because they appear to be written in an undetermined language.

The ethnic and linguistic background of Bakr Awa is still not well known. The city was probably inhabited by different population groups, but the Hurrians were obviously one of the predominating. Already in the Akkadian and Ur III periods rulers or high officials of Simurru bore Hurrian names (Puttim-atal, Tappan-Darah, Kirib-ulme). Hurrians were also among the servants of Iddi-Sin and (An)Zabazuna (Teheš-atal and Zili-ewri).

4. Iron Age (Assyrian/Median-Achaemenid) Horizon

4.1. Assyrian / Median level

The 1st millennium BC horizon in the eastern part of the lower city corresponds with the Iron Age II-III and is composed of two layers (Al-Husaini 1962, 146; Miglus *et al.* 2011, 143-7; 2013: 47-9). The older one dates from the 8th to 6th century BC. The excavated remains contained only a few architectural structures, most notably extended stone pavements lying in the similar height in Areas 1, 2 and 5. In Area 3 a strong mud brick wall came to light in a depth of 5-6 m, but no related occupation floor has been recognized. In Area 6 at the southern slope of the citadel mound the former excavators did not ascertain any Iron Age remains.

In Area 4, in the upper part of the eastern citadel slope, a wall of red mud brick which was exposed by the modern ramp has been investigated (Miglus *et al.* 2013, 79-81). It was a foundation at least 6.5 m thick which presumably carried a pre-Islamic fortification wall. Both the brick size and pottery sherds found within the wall and indicate a dating to the Iron Age, but it is still unclear whether it was built in the Late Assyrian or Post-Assyrian period.

From the 9th to 7th century BC the Shahrizor Plain belonged to Assyria as a part of its province of Mazamua/Zamua (Radner 2006-08, 51-2; Altaweel *et al.* 2012, 12-4). According to Speiser, Bakr Awa may possibly be identified as Dūr-Aššur, an Assyrian fortress founded upon the conquered city of Atlila c. 880 BC by Ashurnasirpal II. (Grayson 1991. A.O.101.1 ii 85-6). However, the proposed identification is not confirmed by any evidence. Neither artefacts nor pottery from the Iron Age occupation layers prove Assyrian presence at Bakr Awa. They reflect a local, Non-Assyrian tradition.

The diagnostic pottery are two types of bowls made of a fine reddish slipped clay. The first type is a carinated bowl with flat base (Miglus *et al.* 2011, pl. 1a-c) which can be compared with similar vessel forms from south Urartian sites, corresponding to type 20 distinguished by Kroll (1976: 118-119). The second type with rounded

body (Miglus *et al.* 2011, pl. 1a-c) has analogies in Urartian and Median material (Kroll 1976, 111 – type 1; Young and Levine 1974, fig. 45 no. 23). Fragments of this latter bowl with applied bovid heads are especially remarkable (Miglus *et al.* 2011, pl. 2a-d).

4.2. Achaemenid level

In the younger Iron Age layer in Areas 1 and 2 human remains of c. 10 individuals have been excavated buried outside of the living quarters in graveyards. Most of the individuals had been buried in simple earth graves, only two, one adult and one child, in vessels. The individuals lay in crouched position without any regular orientation. They were provided with a few grave goods, among them a small handled jar and a bronze kohl tube dating them into the Achaemenid Period (Miglus *et al.* 2011, fig. 16; 2013, fig. 9). It was impossible to determine either the level from which the burials were dug or the grave cuts. The occupation level of this period seems to have been exposed to erosion on the surface for a long time. As a result, the next layer with its Early Islamic walls and installations lay directly above the skeletons.

5. Sasanian / Parthian period

There was no evidence for Parthian presence at Bakr Awa. Some Sasanian pottery occurred in secondary context, but it was not possible to identify any related occupation layers. Also the Iraqi excavators did not report any finds or architectural remains between Iron Age and Islamic levels. The former assumption of Sasanian and Parthian layers (Levels 9 and 10) in Area 3 on the citadel, suggested in the second preliminary report (Miglus *et al.* 2013, 75-6), must be corrected. The pottery collected in the layers concerned was Early Islamic, and a 14C sample from burnt beams in Level 10 provided a 2-sigma dating 675-725 AD or 740-770 AD, i.e. the period of the Umayyad or early Abbasid Caliphate.

6. Islamic Horizon

The most impressive evidence from the Islamic period was provided by the excavations in areas 3 and 6 on the main mound. In Area 6, during the old excavation seven building levels have been cut on the southern slope. Five are published (Madhloum 1965). They show a densely built edge zone of the citadel joining the fortification wall. The excavation in Area 3 in the center of the citadel resulted in a stratigraphic sequence of ten main layers from Early Islamic times to the most recent past (Miglus *et al.* 2013, 69-78). The modern and Ottoman remains were poorly preserved and damaged by several pits. Substantial architectural structures appeared in the Middle Islamic horizon (Level 6) approximately 2.5-3 m deep, and probably a large building complex built of burnt bricks existed here during this time. The Early

Islamic Levels 8-10 contained stone architecture with monumental features.

In contrast, the lower city Islamic horizon consisted of up to four occupation layers. Scanty building remains were perforated by a vast number of modern looting pits as well as old storage and garbage pits. These latter installations, scattered buildings with poorly constructed walls, and a large number of bread ovens between them gave the impression of a rural settlement around the citadel.

Some areas of the lower city were also used as cemeteries. Graves of 32 individuals buried on two cemeteries have been excavated in Area 2 and Area 5 (Fetner 2011; 2014a; 2014b). Graves in Area 2 were very destroyed. They lay directly below the surface and the upper parts of the burial pits were not recognizable because of lootings. In Area 5 the grave pits were protected by coverings of flat stones, and the skeletons stayed intact. According to the Islamic burial custom all individuals were buried in extended position on a side and facing Mecca, in this case to south-west, and they did not contain any grave goods. For this reason, and because of unclear stratigraphic position, the accurate dating of the cemeteries was not possible.

The repertoire of pottery involves coarse ware and storage jars as well as thin ware, modeled fine ware, and different sorts of glazed pottery vessels with *sgraffito* decoration, and painted porcelain. Among the excavated finds there was a large number of glass artefacts, especially arm rings and vessels in different forms, and metal objects like iron nails and blades. The dated coins came from secondary contexts: a cooper coin of the Atabeg of Erbil, Muzaffar ad-Din Gökböri (1190-1233), from the uppermost layer of the Iraqi trench on the citadel, and a silver coin of the Ilkhanid ruler Taghaytimur (1336-1353) from the surface close to Area 3.

Acknowledgment

The Bakr Awa project was initiated by the Directorate of Antiquities of Sulaimaniyah province. It is my pleasant duty to express thanks to Kamal Rasheed Raheem, the director of the Department of Antiquities, and Hashim Hama Abdullah, the director of the Museum in Sulaimaniyah, for their commitment and assistance. I owe a debt of gratitude to the Qais Hussein Rasheed, Director of the Iraq Museum in Baghdad, who kindly provide me information concerning the Iraqi excavation at Bakr Awa. I am grateful to the staff of the Department of Antiquities at Sulaimaniyah, especially to our representatives Hemin Noori Fatah, Nigar Uthman Ameen, Suhaib Wahab Hama and Rebin Mohammed Rashid, who facilitated our research. The excavation was generously supported by the Fritz Thyssen Foundation (Fritz Thyssen Stiftung).

Illustration credits

J. Aguilar: fig. 3c-f (photos), 4b; U. Bürger: fig. 2, 3b (drawing); P. A. Miglus: fig. 3a, 3b (photo), 3d-e (drawings), 4a; A. Pauly: fig. 3c, f (drawings); Digital Globe Inc.: fig. 1.

Bibliographical References

AAI. 1970. *Archaeological Sites in Iraq, Department of Antiquities and Heritage*. Bagdad: Department of Antiquities and Heritage.

AASI. 1975/76. *Atlas of the Archaeological Sites of Iraq, Directorate General of Antiquities*. Bagdad: Department of Antiquities and Heritage.

AL-GAILANI WERR, L. 1988. *Studies in the Chronology and Regional Style of Old Babylonian Cylinder Seals*. Bibliotheca Mesopotamica 23. Malibu: Undena Publications.

AL-HARBI, S. H., N. A. MUTAWALI, and K. M. KHALEEL. 2011. Chukha (Umma). ‘The Excavation Results of Third and Fourth Seasons (2001-2002).’ *Sumer* 56:49-92.

AL-HUSAINI, M. B. 1962. ‘The Excavations at Tel Bakr-Awa.’ *Sumer* 18:140-64.

AL-SOOF, B. A. 1985. *Uruk Pottery. Origins and Distribution*. Bagdad: State Organization of Antiquities and Heritage.

ALTAWHEEL, M., A. MARSH, S. MÜHL, O. NIEUWENHUYSE, K. RADNER, K. RASHEED, and A. S. SABER. 2012. ‘New Investigations in the: Environment, History, and Archaeology of the Iraqi Hilly Flanks. Shahrizor Survey Project 2009-2011.’ *Iraq* 74:1-35.

AMIET, P. 1972. *Glyptique Susienne des Origines à l’Époque des Perses Achéménides. Cachets, Sceaux-Cylindres et Empreintes Antiques découverts à Suse de 1913 à 1967*. Mémoires de la Délégation Archéologique en Iran 43. Paris: P. Guethner.

BOEHMER, R. M. 1985. ‘Glyptik aus den italienischen Ausgrabungen im Hamrin-Gebiet.’ *Mesopotamia* 20:5-21.

BÜRGER, U. Forthcoming. ‘Cultural encounters and local traditions: A discussion of the Middle Bronze Age evidence at Bakr Awa.’ In *ZAGrosSTudies* 1, edited by J. Eidem. Leiden.

BÜRGER, U., and P. A. MIGLUS. 2015. ‘Erforschen statt zerstören.’ *Archäologie in Deutschland* 2015(3):14-9.

BÜRGER, U., and P. A. MIGLUS. Forthcoming. ‘Internal-Handled Bowls – Puzzling pots from Bronze Age Mesopotamia.’ In Volume in honour of Christine Kepinski, edited by B. Perello and A. Tenu. Paris.

BÜRGER, U., and P. A. MIGLUS. Forthcoming. *Tall Harmal – Šaduppām I. Architektur und Kleinfunde*.

BÜRGER, U., R. FETNER, C. GÜTSCHOW, W. MEINHOLD, and P. A. MIGLUS. 2015. ‘Bakr Āwa Excavation.’ Website: http://www.assur.info/Themen/Bakr_Awa/bakr_awa.html.

COLLON, D. 1982. *Catalogue of the Western Asiatic Seals in the British Museum. Cylinder Seals II. Akkadian – Post Akkadian – Ur III-Periods*. London: British Museum Publications.

DEL BRAVO, F. 2014. ‘“Scarlet Ware”: Origins, Chronology and Developments.’ In Lebeau 2014, 131-47.

FETNER, R. 2012. ‘Bakr Awa (Iraq), seasons 2010-2011.’ *Bioarchaeology of the Near East* 5:54-65.

FETNER, R. 2014a. ‘Human remains from Bakr Awa, Iraq, 2013.’ *Bioarchaeology of the Near East* 8:119-23.

FETNER, R. 2014b. ‘The Results of Anthropological Research of Human Remains from the Old Babylonian Tomb from Bakr Āwa, Iraq.’ In *Proceedings of the 8th International Congress on the Archaeology of the Ancient Near East 30 April – 4 May 2012, University of Warsaw*, edited by P. Bieliński et al., Vol. 3:319-28. Wiesbaden: Harrassowitz Verlag.

FETNER, R. 2015. ‘Human remains from Bakr Awa, Iraqi Kurdistan, 2014.’ *Bioarchaeology of the Near East* 9:55-59.

FRANKFORT, H. 1955. *Stratified Cylinder Seals from the Diyala Region*. Oriental Institute Publications 72. Chicago: The University of Chicago Press.

FRAYNE, D. R. 1990. *Old Babylonian Period (2003-1595 BC). The Royal Inscriptions of Mesopotamia: Early Periods*, Vol. 4. Toronto: University of Toronto Press.

FRAYNE, D. R. 2009-11. ‘Simurram.’ *Reallexikon der Assyriologie* 12:508-11.

FUJI, H. 1981. ‘Preliminary report of excavations at Gubba and Songor.’ *Al-Rāfidān* 2:3-129.

GASCHE, H. 1989. *La Babylonie au 17e siècle avant notre ère: approche archéologique, problèmes et perspectives*. Mesopotamian History and Environment, Series II. Memoirs 1. Ghent: University of Ghent.

GRAYSON, A. K. 1991. *Assyrian Rulers of the Early First Millennium BC (1114-859 BC), The Royal Inscriptions of Mesopotamia. Assyrian Periods, 2*. Toronto: University of Toronto Press.

HELWING, B. 2014. ‘Bevelled Rim Bowls.’ In Lebeau 2014, 31-9.

II, H. 1988. ‘Seals and Seal Impressions from Tell Gubba.’ *Al-Rāfidān* 9:97-134.

JONES, J. F. 1857. *Memoirs of Baghdad, Kurdistan and Turkish Arabia*. Slough: Archive Edition,

KEPINSKI, C. et al. 2015. ‘Kunara, petite ville des piedmonts du Zagros à l’âge du Bronze: Rapport préliminaire sur la première campagne de fouilles, 2012 (Kurdistan Irakien).’ *Akkadica* 136:51-88.

KHAIRI, A. H., and A. A. AHMED. 1987-88. ‘Preliminary Report on the Bismayah Excavation.’ *Sumer* 45: 9-32.

KROLL, S. 1976. *Keramik urartäischer Festungen in Iran. Ein Beitrag zur Expansion Urartus in Iranisch-Azarbaidjan*. Archaeologische Mitteilungen aus Iran, Ergänzungsband 2. Berlin: Reimer.

- LEBEAU, M. (ed.). 2014. *ARCANE Interregional I. Ceramics*. Turnhout: Brepols.
- LEBEAU, M. (ed.). 1984. 'Notes sur les sceaux et empreintes de sceaux de Kheit Qasim.' *Sumer* 40:115-8.
- MADHLOUM, T. 1965. 'The Excavations at Tell Bakr-Awa.' *Sumer* 21:75-88.
- MATOUŠ, L. 1961. 'L'Almanach de Bakr-Awa.' *Sumer* 17:17-66.
- MCCOWN, D. E., R. C. HAINES, and D. P. HANSEN. 1967. *Nippur I. Temple of Enlil, Scribal Quarter, and Soundings*. Oriental Institute Publications 78. Chicago: University of Chicago Press.
- MIGLUS, P. A. 1999. *Städtische Wohnarchitektur in Babylonien und Assyrien*. Baghdader Forschungen 22. Mainz: Philipp von Zabern.
- MIGLUS, P. A. 2015a. 'Private house or temple: Decoding patterns of the Old Babylonian architecture.' In *Household Studies in Complex Societies. (Micro) Archaeological and Textual Approaches*, edited by M. Müller: 229-242. Oriental Institute Seminars 10. Chicago: Oriental Institute of the University of Chicago.
- MIGLUS, P. A. 2015b. 'The Vault in 4th, 3rd and 2nd Millennium BC Mesopotamia.' Paper read at the *IWH Symposium Appropriating Innovations. Entangled Knowledge in Eurasia, 5000-1500 BCE*, 15-17 January, Heidelberg.
- MIGLUS, P. A., U. BÜRGER, R. FETNER, S. MÜHL, and A. SOLLEE. 2013. 'Excavation at Bakr Awa 2010 and 2011.' *Iraq* 75:43-88.
- MIGLUS, P. A., U. BÜRGER, M. HEIL, and F. M. STĘPNIOWSKI. 2011. 'Ausgrabung in Bakr Āwa 2010.' *Zeitschrift für Orient Archäologie* 4:136-74.
- PIĄTKOWSKA-MAŁECKA, J. 2015. 'Different types of animal economy at Bakr Awa, Iraq, in the Bronze Age.' *Bioarchaeology of the Near East* 9:1-19.
- RADNER, K. 2006-08. 'Provinz. C. Assyrien.' *Reallexikon der Assyriologie* 11:42-68.
- ROACH, K. J. 2008. 'The Elamite Cylinder Seal Corpus, c. 3500-1000 BC.' Ph.D. Diss. University of Sydney.
- ROVA, E. 2014. 'Post-LC 5 North Mesopotamian Developments.' In Lebeau 2014, 1-29.
- SALLABERGER, W., and I. SCHRAKAMP. (ed.). 2015. *ARCANE III. History & Philology*. Turnhout: Brepols.
- SHAFFER, A., N. WASSERMAN, and U. SEIDL. 2003. 'Iddi(n)-Sin, King of Simurrum: A New Rock-Relief Inscription and a Reverential Seal.' *Zeitschrift für Assyriologie und Vorderasiatische Archäologie* 93: 1-52.
- SPEISER, E. A. 1926/27. 'Southern Kurdistan in the Annals of Ashurnasirpal and Today.' *Annual of the American Schools of Oriental Research* 8:1-41.
- SPEISER, E. A. 1935. *Excavations at Tepe Gawra*. Philadelphia: American Schools of Oriental Research.
- STEIN, D. 1993. 'The Seal Impressions.' In *Das Archiv des Šilwa Teššup*, Vol. 8, edited by G. Wilhelm. Wiesbaden: Harrassowitz Verlag.
- SÜRENHAGEN, D. 1984. 'Ahmad al-Hattu 1978/79.' *Sumer* 40:186-93.
- SÜRENHAGEN, D. 2011. 'Urban Centers and Rural Sites in the Diyala Region during Early Dynastic I and II.' In *Between the Cultures. Conference Heidelberg January 22nd-24th, 2009*, edited by P. A. Miglus, and S. Mühl: 5-28. Heidelberg: Heidelberg Orientverlag.
- TUNCA, Ö. 1987. *Tell Sabra*. Akkadica Supplementum 5. Leuven: Peeters.
- WATSON, P. J. 1984. '4. The small finds from Tell Madhhur.' *Sumer* 43:159-63.
- WOOLLEY, C. L., and M. E. L. MALLOWAN. 1976. *Ur Excavations VII. The Old Babylonian Period*. London: British Museum Publications.
- YASEEN, G. T. 1995. *Old Babylonian Pottery from the Hamrin. Tell Halawa*. EDUBBA 4. London: NABU.
- YOUNG, T. C., and L. D. LEVINE. 1974. *Excavations of the Godin Project: Second Progress Report*. Royal Ontario Museum Occasional Paper 26. Ontario: Royal Ontario Museum.