

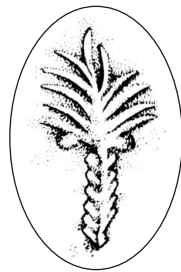
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PAOLA SCONZO* - HASAN AHMED QASIM**

with contributions by MOUSSAB AL BESSO[°]; BENJAMIN GLISSMANN*; ANDREA TITOLO^{°°}

INVESTIGATING JUBANIYAH, A LATE CHALCOLITHIC SITE ON THE UPPER TIGRIS RIVER, KURDISTAN REGION - IRAQ PRELIMINARY REPORT

ABSTRACT

Jubaniyah is a blufftop settlement of 4 hectares set on a terrace overlooking the River Tigris in northern Iraq (Iraqi Kurdistan) demonstrating a significant and almost exclusive occupation during the Late Chalcolithic period (ca. 4800-3000 BC). Besides an agricultural-pastoral orientation, the site presumably also functioned as a central hub in riverine communication and exchange with the hinterland during most of this long period. Set within the catchment area of the Mosul Dam reservoir, Jubaniyah is also one among more than 150 flooded sites which periodically resurface due to the reservoir's annual or cyclical water fluctuation, thus intermittently revealing the spolia of their past. This interim report presents the results of a multiscale research program undertaken by the University of Tübingen jointly with the KAO of Duhok, and aims at demonstrating the continued importance of such sites, and the necessity to develop a program for their monitoring and preservation. Intensive survey, targeted soundings, a salvage operation, and artefact analysis are herein outlined, supplemented by a study of the site's "emersion pattern" over the past 40 years, and a proposal for post-flood monitoring and future recording strategies.

KEYWORDS

Jubaniyah; Duhok; Iraqi Kurdistan; EHAS; Late Chalcolithic period; Ninevite 5 period; obsidian; KAO.

1. Introduction

In the summer of 2018, an unprecedented drought hit the Tigris valley, stretching from its headwaters in the Taurus Mountains of central Turkey to the gates of Baghdad in Iraq, turning half of the Fertile Crescent into a region of sand and dust.¹ This was the product of the combination and conflation of various factors, among which were the political strife between the two major riparian countries for the control of the dammed basins, the increasing population pressures, and, naturally, rising temperatures and continuous desiccation.²

One of the regions particularly affected by the phenomenon was the valley of the Upper Tigris in

northern Iraq, a stretch of flood plain extending from the Syro-Turkish border in the north to the point at which the Mosul Dam was erected over forty years ago, about 40 km NW from the city of Mosul as the crow flies. On account of this drought and the consequent lowering of the lake's level by several meters (the minimum water level was at 292.862 m), part of this area which had long been submerged by the waters of the artificial basin abruptly resurfaced, revealing thereby the *spolia* of several villages and archaeological sites once located along the river banks.³ Hence, a natural catastrophe nonetheless became a blessing for the heritage of northern Iraq, and the Kurdistan Regional Government (KRG) in particular, as it offered the unique opportunity of detecting, recording, and further investigating a large array of archaeological sites and features previously considered lost for good.⁴ At these sites, the ebbing waters had performed a sort of natural excavation through continuous erosion, thus often wholly removing the loose superficial soil (and uppermost archaeological deposits) and exposing thereby structures and their inventories buried for centuries under the surface.

One such site is Jubaniyah, a blufftop settlement of about 4 hectares set on a terrace overlooking the Tigris River and demonstrating a significant occupation during the Late Chalcolithic period.

Investigations at the site were undertaken in the framework of the Eastern Habur Archaeological Survey (henceforth EHAS), a large reconnaissance project of the University of Tübingen. This initially assumed the form of a full-coverage survey, and

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¹ <https://www.mei.edu/publications/iraq-wilting-how-creeping-drought-could-cause-next-crisis>; <https://www.middleeasteye.net/features/drought-dams-and-dry-rivers-iraqi-farmers-are-giving-hope> (accessed: 27/07/2021).

² AL-ANSARI *et alii* 2018; AL-ANSARI, ADAMO 2018.

³ After torrential downpours during Winter 2018, the lake's level rose again.

⁴ SCONZO, SIMI, TITOLO, in press. The Dokan lake, again in Iraqi Kurdistan, is experiencing a similar phenomenon (EIDEM 2015; 2020).

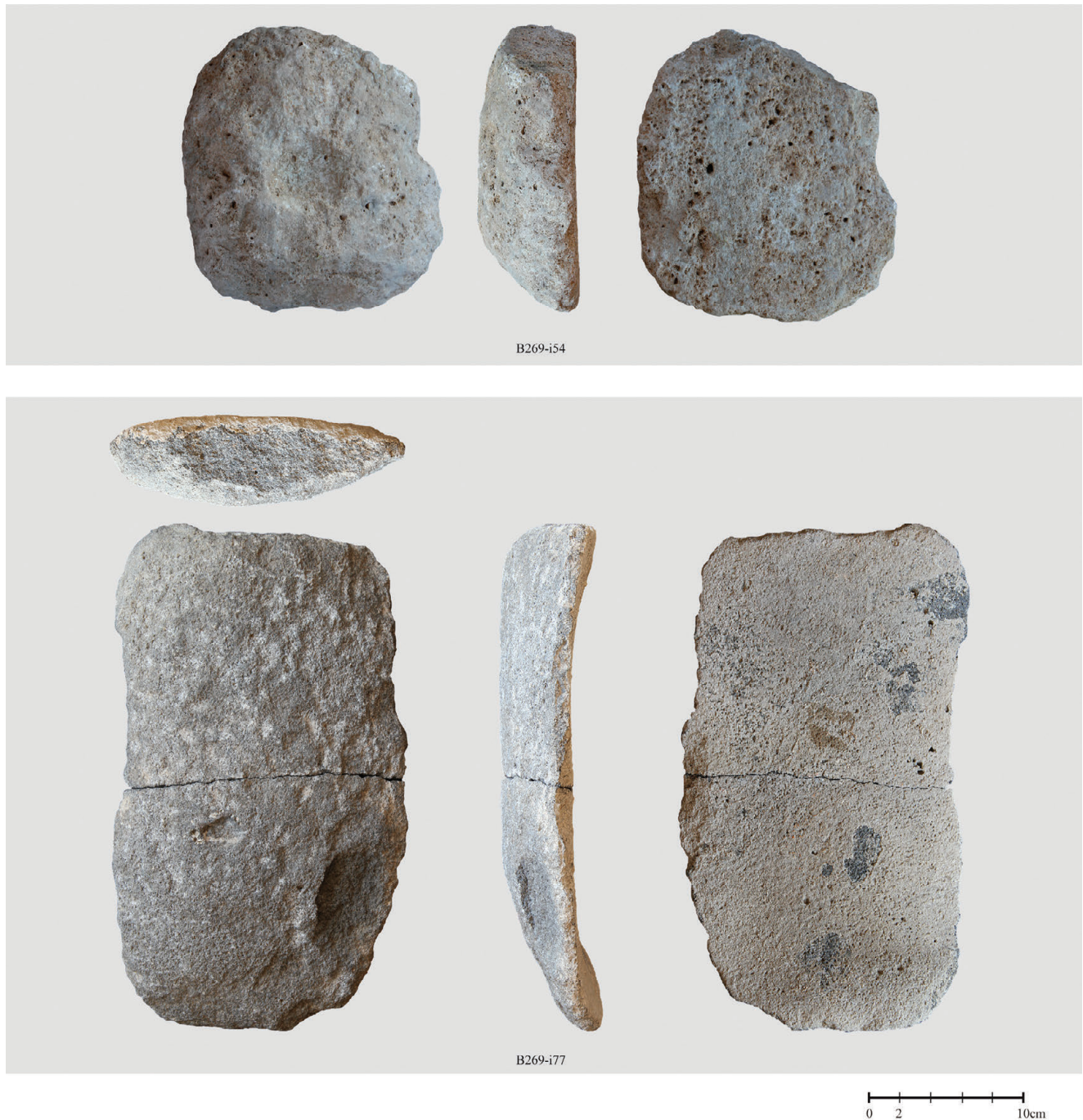


Fig. 8 - Surface finds: grinding stones and saddle querns (© EHAS).

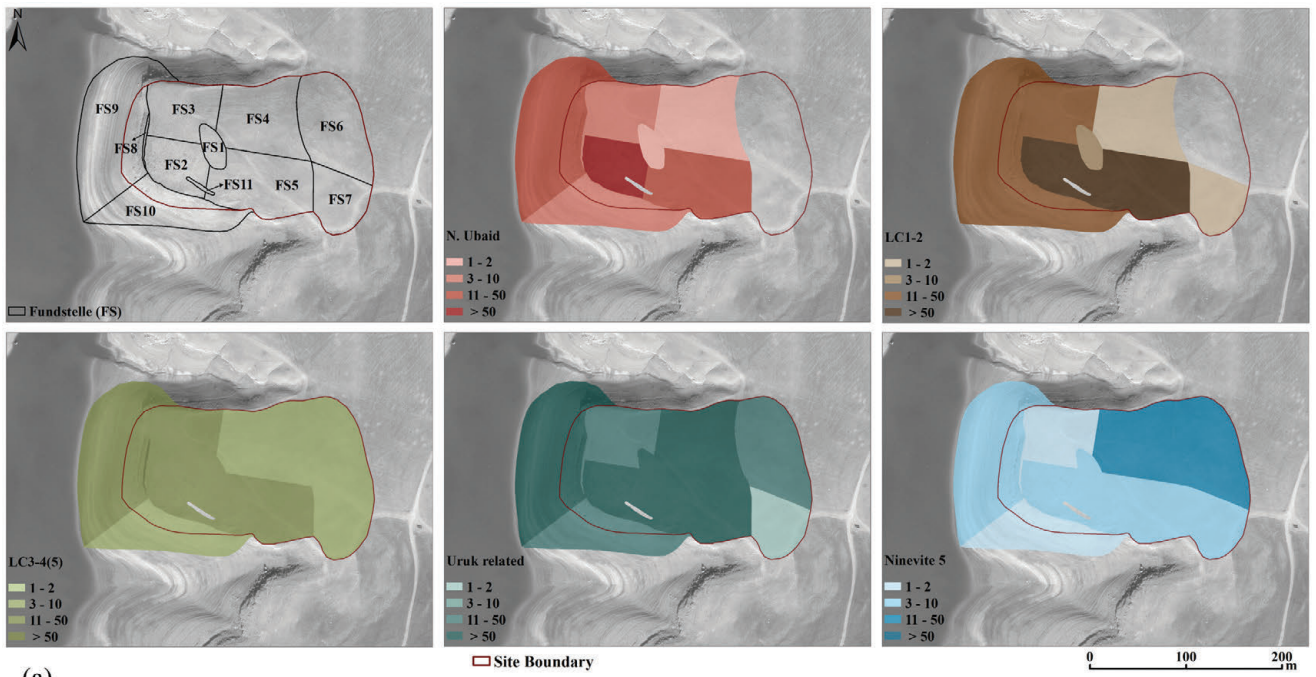
lished according to topography and numbered roughly clockwise from the core of the terrace towards its borders. The positions of corners and points along the boundaries of collection units were recorded using a GPS.

Unlike what was achieved at most other sites recorded in our survey, not all diagnostic sherds could be collected due to a lack of time and manpower. With a team of six people, this painstaking activity was prolonged for four days but ended up barely be-

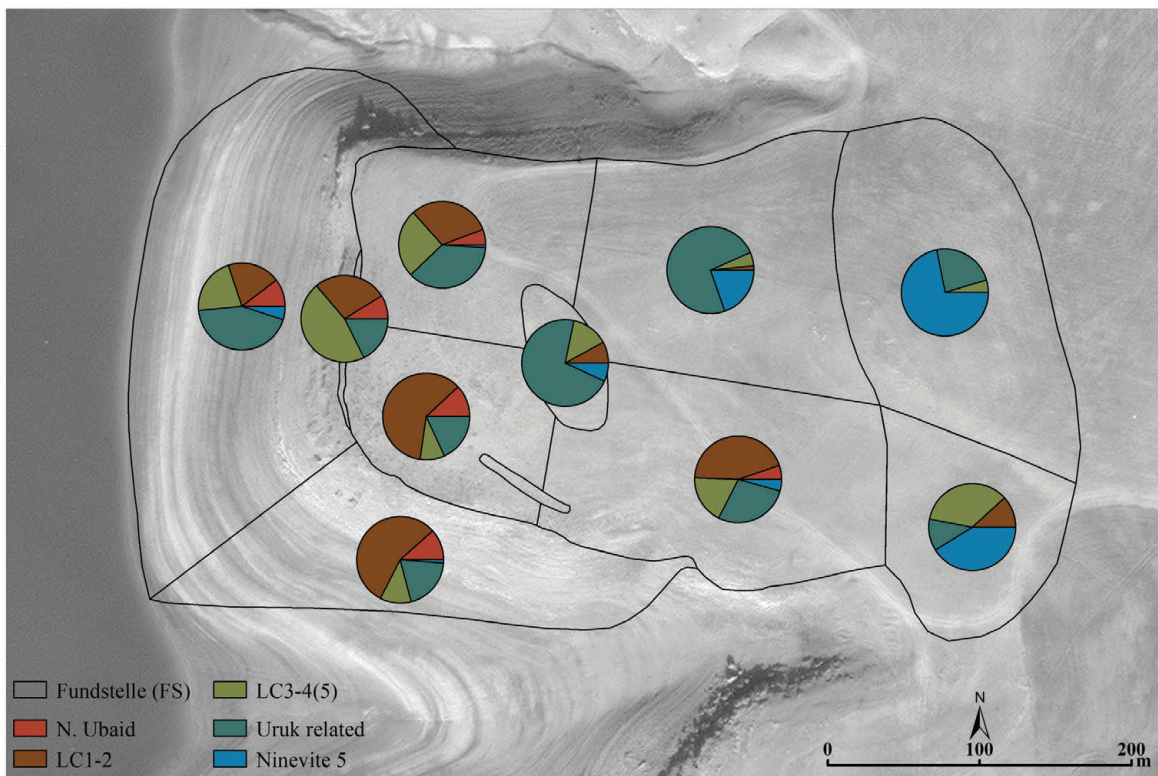
ginning to encompass the carpet of finds distributed on the investigated surface (Fig. 6:a,c-e).

Ultimately, about 2000 potsherds were collected, as well as a dozen spindle whorls (Fig. 7:b), two dozen grinding stones and mortars (Fig. 8), and a stone vessel; moreover, lithic tools and débitage were recorded in bewildering proportions. Among the latter, obsidian dominated the inventory (Fig. 7:a).

A first chronological assessment was accomplished by the first author, mainly drawing on the “Work-



(a)



(b)

Fig. 9 - Jubaniyah site biography (Basemap Digital Globe greyed out image) (© EHAS).

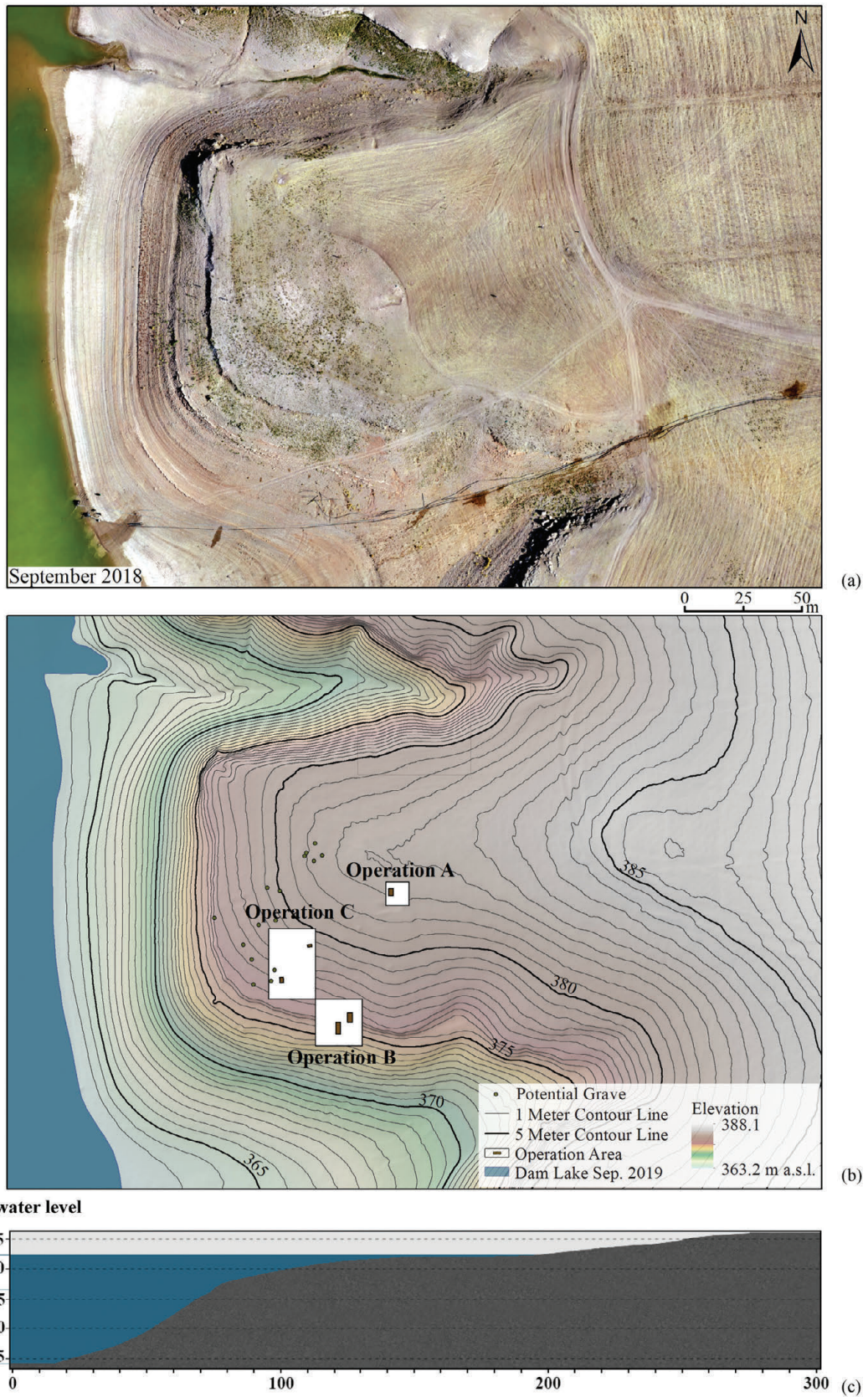


Fig. 10 - (a) Orthomosaic taken in September 2018; (b) contour map, showing the location of main trenches (A-C) and potential graves; (c) Mosul Dam water level fluctuation at Jubaniyah (2018-2019), created by A. Ahmadpour (© EHAS).

Fig.	Sherd no	Phase	Description	Selected parallels
22:66	19B-q161_19	B6	organic, calcite, mica; slip in and buff out; H-M; even	
22:67	19B-q161_16	B6	sand, calcite, mica; buff in and slip out; paint in and out; H-M; even	
22:68	19B-q161_17	B6	organic, calcite, mica; slip in and out, paint in; H-M; even	
22:69	19B-q132_7	B5	organic, calcite; slip in and out; paint in and out; H-M; even	
22:70	19B-q132_8	B5	organic, calcite; buff in and out; H-M; even	
22:71	19B-q134_11	B6	sand, grit; buff in and out; H-M; even	Tell Feres, levs. 9-7, levs. 9-7 (BALDI 2012a, pl. 6:7)
22:72	19B-q134_12	B6	sand, grit; buff in and out; H-M; even	
22:73	19B-q111_20	B5	sand, rock particles; polished in and out; H-M; even	Tell Feres, levs. 6-4 (BALDI 2012a, pl. 8:9-10); Hamoukar S. Ext., levs. 4-3 (ABU JAYYAB 2012, fig. 1:15-16, 5:9)
22:74	19B-q128_24	B5	rock particles, organic, calcite; scraped in, polished out; H-M; uneven	
22:75	19B-q132_9	B5	rock particles, organic, calcite; polished in and out; H-M; uneven	
22:76	19B-q128_22	B5	rock particles, organic, calcite; polished in and out; H-M; uneven	
22:77	19B-q111_27	B5	rock particles, calcite; scraped in and polished out; H-M; uneven	
22:78	19B-q128_35	B5	calcite, mica, dark mineral; buff in, self-slip out, pain out; H-M; even	
22:79	19B-q128_36	B5	calcite, mica; buff in and out, paint (sprig) out; H-M; even	Türbe Höyük (OZAN 2009, fig. 5:c-g); Gawra, levs. XIII-XII (TOBLER 1950, pls. 128:184; 133:243-245; 137:294-295; 139:310-311); Hamoukar S. Ext., lev. 4, lev. 4 (ABU JAYYAB 2012, fig. 3); K. Hatara (FIORINA 2001, fig. 3:25-27); K. Derak (BRENIQUET 1996a, figs. 24:2; 25:5, 26:1-2); Umm Qseir (TOMITA 1998, fig. 64:7); Thalathat II (EGAMI 1958; fig. 20:13-21)
22:80	19B-q128_34	B5	calcite, mica, sand; self-slip in and slip out, paint out; H-M; even	
22:81	19B-q136_13	B6	Paint out	Hamoukar S. Ext., LC 1-2 (ABU JAYYAB 2012, fig. 4:6)
22:82	19B-q134_14	B6	sand, calcite, organic; buff in and self-slip out, paint out; H-M; even	
22:83	19B-q128_38	B5	sand, calcite, organic; buff in and self-slip out, paint out; H-M; even	
22:84	19B-q132_17	B5	calcite; slip in and out, paint out; H-M; even	Hamoukar S. Ext., lev. 4 (ABU JAYYAB 2012, fig. 3:3)
22:85	19B-q111_14	B5	Sand, calcite, organic; buff in and out, comb-incised out; H-M; even	Nineveh, 67-64, LC 2 (GUT 1995, pl. 50:754-759); Helawa, Per. IVA (PEYRONEL <i>et alii</i> 2019, fig. 37:15); Gawra, lev. XIII-XII (TOBLER 1950, pl. 138:300,302); Tell Feres, levs. 9-7 (BALDI 2012a, pl. 6:4); Abada (JASIM 1985, fig. 214.G)
22:87	19B-q119_13	B6	sand; self-slip in and slip out; comb-incised; H-M; even	Helawa, Per. IVA (PEYRONEL <i>et alii</i> 2019, fig. 37:16); Gawra, lev. XIII (Tobler 1950, pl. 131:217); Gurca Chya, Late Ubaid (CARTER <i>et alii</i> 2020, fig. 10:13); Tell Madhur (MOON, ROAF 1984, fig. 20:7,13); K. Derak (BRENIQUET 1996a, fig. 17:1); Thalathat II (EGAMI 1958; fig. 53:3); Abada (JASIM 1985, fig. 214,D,H,I)
22:88	19B-q119_35	B6	sand; buff in and out; comb-incised; H-M; even	
22:89	19B-q170_2	B6	sand; buff in and out; comb-incised; H-M; even	
22:90	19B-q119_9	B6	sand, organic; buff in and out; H-M; even	
22:91	19B-q161_51	B6	organic; buff in and out; H-M; even	
22:92	19B-q161_58	B6	organic; buff in and out; H-M; even	
22:93	19B-q128_12	B5	rock particles, vegetal; slip in and out; H-M; even	
22:94	19B-q128_29	B5	organic, sand; buff in and out; H-M; even	
22:95	19B-q128_33	B5	organic, sand; buff in and out; H-M; even	
22:96	19B-q111_13	B5	sand, calcite, mica; buff in and out; H-M; even	

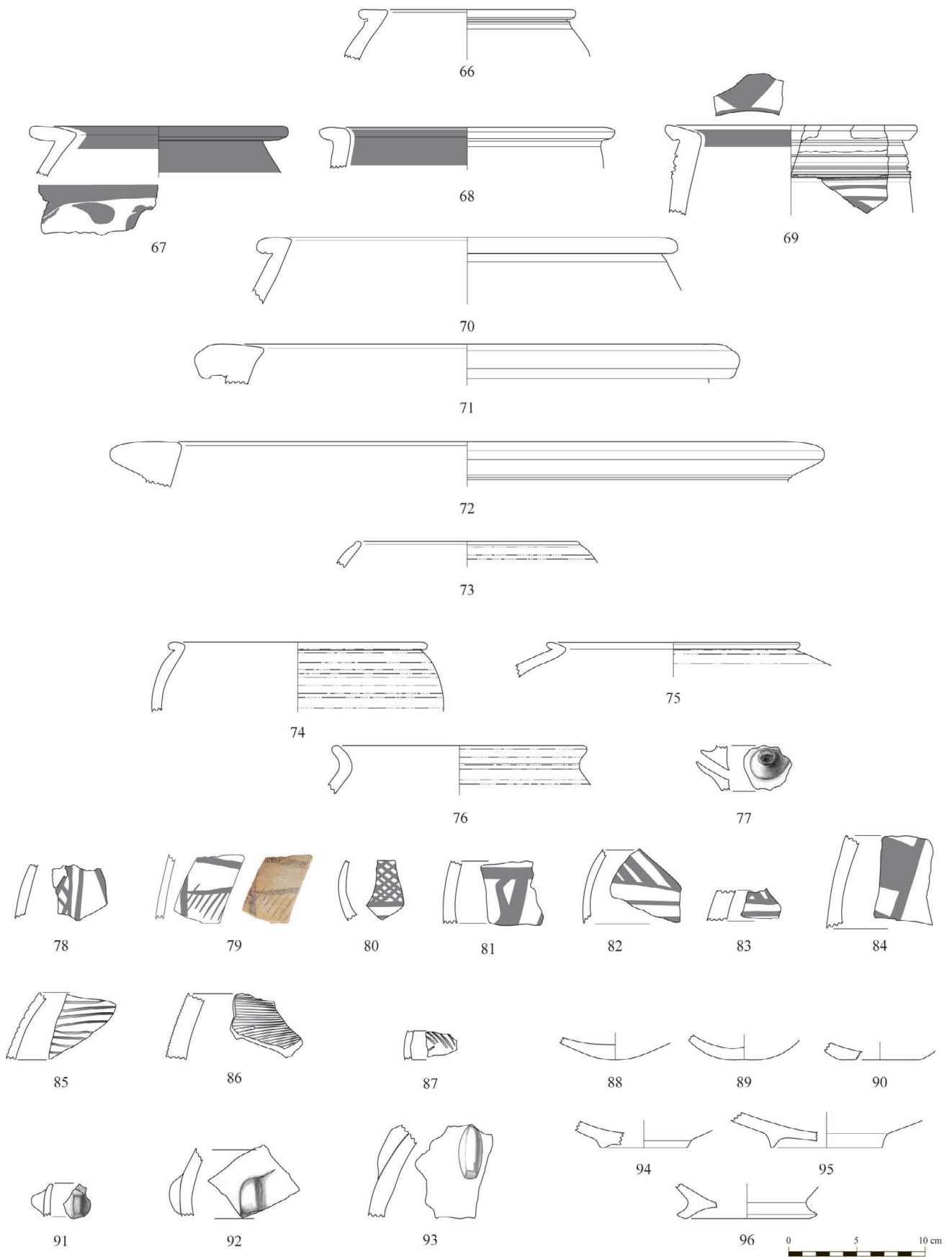


Fig. 22. Pottery from Phase B6-B4 (scale 1:4).

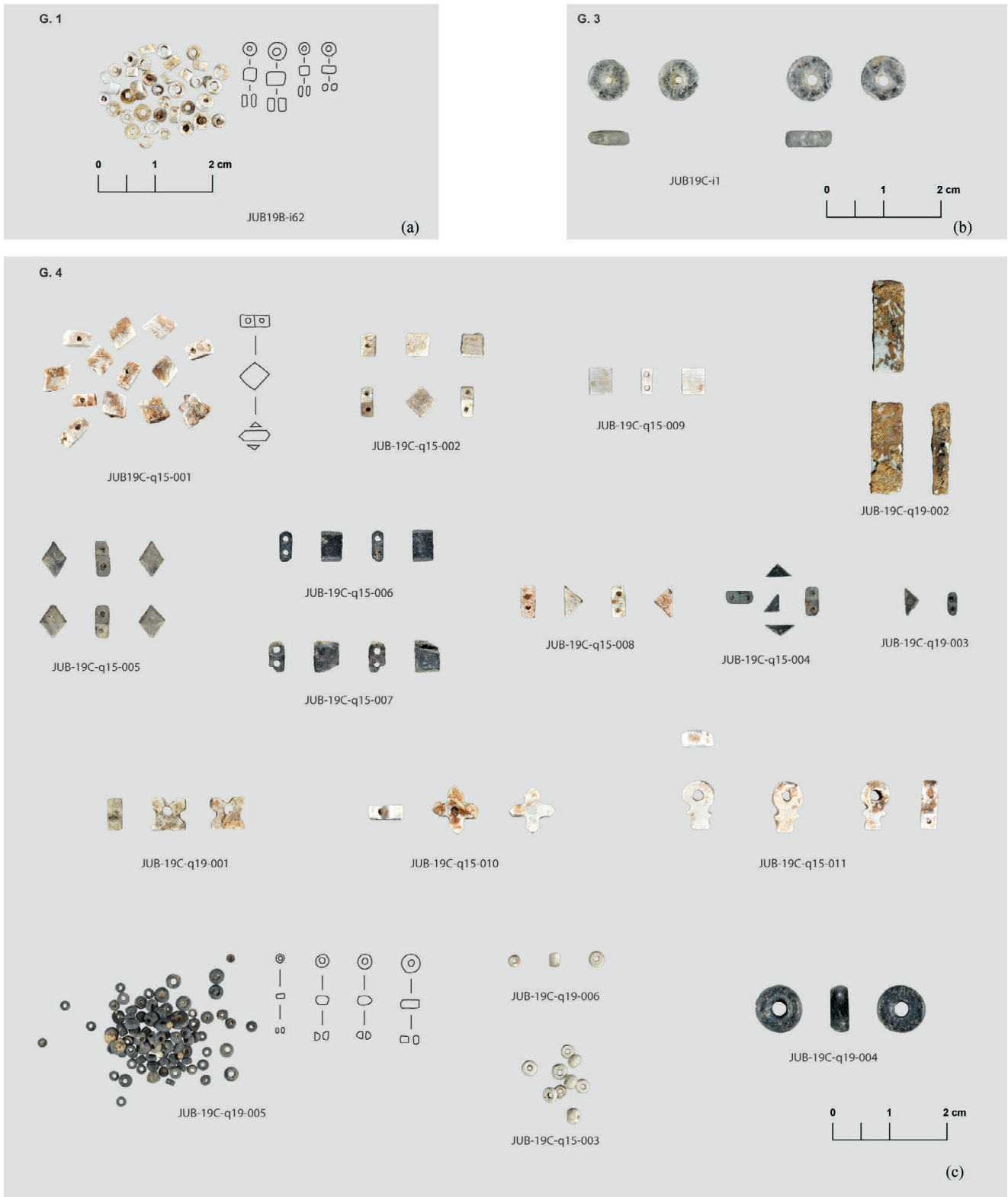


Fig. 30 - Beads from Graves 1, 3, and 4.

DAVIDE NADALI*

SMELLS, FLAVOURS, AND SOUNDS: A SENSORY ANALYSIS OF FEASTING IN THIRD MILLENNIUM MESOPOTAMIAN ICONOGRAPHY

ABSTRACT

Representations of banquet in the art of third millennium BC are largely present on sculpted plaques and cylinder seals, mainly. Banquet motif is made upon a kind of iconographic canon: next to the moment of feasting, that is the consumption of food and drink, the representations also encompass other moments, such as the music due to the presence of musicians playing lyres and harps and singers. The present paper focuses on the sensorial analysis of the banquet scenes: smell, taste and hearing, beyond sight, have a fundamental role in the construction of social ties that is in fact at the centre of the function and meaning of feasting in ancient Sumerian society.

KEYWORDS

Banquet, feasting, senses, music, social ties, kingship.

1. Introduction: The Banquet as Figurative Theme

In the art of Mesopotamia in the third millennium BC, the representation of banquets or, if one prefers, of people eating and drinking is quite widespread and common: such moments of conviviality are frequently depicted on cylinder seals, sculpted plaques, and inlays while they are almost completely lacking on larger monuments, such as steles and wall reliefs.¹ Based upon the iconographic sources at our disposal, it seems that the theme of the banquet was purposely chosen for small objects (seals) or objects that had a precise destination (temples for the plaques; temples of palaces for the inlays): because this characteristic is recurrent in the visual culture of third millennium Mesopotamia, it can be argued that this choice is not casual, but on the contrary it strongly depends on the message that this iconography conveyed in the societies of the Early Dynastic Period. This assumption is further confirmed by the progressive reduction of the frequency of banquets toward the end of the Early Dynastic Period and the passage to Akkad, when, for example, a single character (the king) is only represented with a cup in one hand in the act of drinking (thus going beyond the idea of occasions of community consumption) and the diffusion of the use of commemorative steles (mostly celebrating military victory) definitely increased.²

The tendency to use of banquet imagery has been associated with the period of formation of the royal power in ancient Mesopotamia, during the first half of the third millennium BC and this in fact also explains why the banquet lost its importance once the royal power, indeed the role and function of the king, became clear and manifest from both the political point of view (position and name of the office) and the iconography (kings have distinctive garments, attire, and paraphernalia).³ In the first half of the third millennium BC, on the contrary, the distinct presence of a king, both in written sources and iconography, is not recognisable: in the most ancient banquet scenes, one can only conjecturally suppose that the couple, usually in the top register of the composition, might portray the rulers but this is presumably the reason of the importance of the moment of commensality as it works for the formation of a stratified society,⁴ with the progressive marked identification of the rulers who, however, are not detached from the rest of the people, but rather they share the same political and cultural idea and vision with the invited banquetees and attendees. A banquet is a moment and occasion for sharing: not only sharing food and drink, but it presumably states, on one hand, and favours, on the other, the creation of strict ties of lineage among families from where it emerges the *primus inter pares*. The material sharing of goods, also via the distribution of rations to a wider number of people, transmits the material sharing of ideas, such as the political construction of early states and hierarchy:⁵ sharing and distribution are the key-terms that connote the political and cultural action of banqueting and, at the same time, they also describe the objects bearing the imagery of the banquet that are also distributed and shared (cylinder seals, in this respect, work perfectly

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¹ With the sole exception of the stele from Badrah that could in fact, in Romano's reconstruction, have represented a banquet in the top missing register (ROMANO 2011). See also RASHID 1975 who had already advanced this hypothesis.

² PINNOCK 1994, 16; RENETTE 2014, 63-68; SUTER 2018, 142-143.

³ MARCHESI, MARCHETTI 2011, 196-203.

⁴ POLLOCK 2003, 19; RENETTE 2014, 74.

⁵ POLLOCK 2003, 25-26; ROMANO 2012.



Fig. 1 - Cylinder seal from Ur (U.8615) from PG 337 (University of Pennsylvania Museum, B16828). From <http://www.ur-online.org/subject/8191/> (CC BY-NC-SA 4.0).

for this because they are given to selected officials who, by enrolling the object onto the clay, not only mark a property but also spread the meaning of the content of images).

It is also interesting to notice that a special use of the imagery of banqueting as a marker of social and even familial ties concerns the celebration of funerals: banquets were in fact organised during the burial and at recurring moments when the dead were remembered and visited by the tomb, and finally banquets were engraved on objects that entered the grave goods, in a kind of circular and referential pattern (this relationship is very clear in the tombs of the Cemetery of Ur).⁶ This special link with funerals and the celebration of the dead can also be seen in later periods and in other regions of the Near East, such as in Syria:⁷ the organization of banquets for the worship of dead ancestors is well-documented in the written sources of the second millennium BC,⁸ the archaeological evidence (e.g. the royal hypogeum of Qatna),⁹ and iconography of funerary monuments in the Iron Age portraying the dead drinking or with a cup in hand in front of a set table.¹⁰

The iconography of people drinking and eating is nearly canonical, independently from the object it is carved and engraved upon:¹¹ people feasting are arranged by couples (facing each other and sometimes even drinking with straws from the same pot in the middle) or in a group.¹² In this respect, it is interesting to notice, although it is not a general rule, a distinction between banquets on cylinder seals and

banquets on sculpted plaques, the two common Mesopotamian objects documenting this iconography: the figurative space of cylinder seals, particularly in the central and final phase of the Early Dynastic Period (ED III), is usually divided into two registers: the upper register shows the couple(s) or those who we might identify as the main protagonists;¹³ the lower register shows several seated people, suggesting a group taking part in the feasting (Fig. 1). The sculpted plaques, divided into three registers, in fact present a similar arrangement, with the couple of banqueteers facing each other in the top register, but with a narrative attempt - the central and bottom registers show people fighting, playing music, carrying goods, and large, heavy jars, animals, and

⁶ STEIN 2021, 443-444, 448-451.

⁷ PINNOCK 1994, 21-24.

⁸ TSUKIMOTO 1985. See also the contribution collected in PFÄLZNER *et alii* 2012.

⁹ PFÄLZNER 2012.

¹⁰ BONATZ 2016.

¹¹ For a typology of the banquet scene in the art of third millennium Mesopotamia, see SELZ 1983.

¹² PINNOCK 1994, 16; SUTER 2018, 146-147.

¹³ This is for example clear in the cylinder seals from the tomb PG 800 of Ur where the cuneiform caption registers the name of the owner (MARCHESI, MARCHETTI 2011, pl. 61:2,3).

NAOHIKO KAWAKAMI*

RECONSTRUCTING THE ANCIENT COURSE OF THE TIGRIS IN THE NORTHERN AND CENTRAL PARTS OF SUMER IN THE UR III PERIOD USING A GIS ANALYSIS

ABSTRACT

Studies on historical geography indicate that the ancient course of the Tigris may have passed through the center of the northern and central parts of Sumer during the Ur III period. This article investigates whether ancient fluvial levees consistent with this are discernible on Digital Elevation Model (DEM) 3D contour maps of this region using geographical information system. Furthermore, maps of the region's distribution of ancient sites are georeferenced on the DEM 3D contour maps and the relationship between the discerned ancient fluvial levees of the supposed ancient course of the Tigris and the settlement patterns of the ancient sites dated to the Ur III Period is analyzed. With this information, whether these ancient fluvial levees were active during the Ur III Period can be established. Based on this comparative validation analysis, the location of the ancient course of the Tigris in the northern and central parts of Sumer during this period is ascertained.

KEYWORDS

Sumer; Ur III; Tigris; ancient course; GIS; DEM.

I. Introduction

I.1 *Previous Studies*

Before the 1990s, most studies undertaken to reconstruct the ancient course of the Tigris in the northern and central parts of Sumer adopted historical geography, using various pieces of topographical information contained in ancient documents. In particular, researchers before the late 1970s, by referring to various ancient documents, tentatively identified the ancient course of the Tigris in the central and southern parts of southern Mesopotamia with the present-day Gharrāf Canal.¹ The ancient cities mentioned in these documents in connection with the Tigris were Girsu, Lagaš, Larsa, Umma, and Uruk (Fig. 1), all located in the lower reaches of the Gharrāf Canal. Thus, this must have been a reason for this tentative identification.²

The reconstruction of ancient fluvial systems throughout the entirety of southern Mesopotamia and

along the eastern part of the present courses of the Tigris and Diyala Rivers was largely performed by Th. Jacobsen and R. McC. Adams in their studies on the settlement patterns of ancient sites and historical geography based on the topographical information contained in ancient documents from the 1950s to the early 1980s.³ Their work on the settlement patterns of the ancient sites led them to conclude that the ancient course of the Tigris was to the east of its present course, at least from the beginning of the fourth millennium BCE until the Neo-Babylonian period, around the end of the sixth century BCE. Later, it changed its course to the west and began to follow its present course. They established this hypothesis for the ancient course of the Tigris as falling to the east of its present course on the latitude between the north of Baghdad and the diversion point of the Gharrāf Canal from the present course of the Tigris. In the center of the alluvial plain of southern Mesopotamia, west of the present course of the Tigris, from their studies of historical geography, they concluded that a river system was formed by the ancient course of the Euphrates and that several major watercourses branched off from it. This perspective was supported by a large number of researchers and became established as the accepted picture.⁴

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¹ According to P. Buringh, the Gharāf Canal is synonymous with the Arabic Šaṭṭ-el-Ḥai: BURINGH 1960, 182. The Gharāf Canal is a tributary of the present course of the Tigris, which branches off to the south-southeast from the present course of the Tigris at the point where the town of Kut is located.

² POEBEL 1914, 43; 1926, 225-226; LAMBERT 1956, 143, fn. 4 and 146; EDZARD 1957, 116 and fn. 585; SOLLBERGER 1959, 345-346, fn. 2; DE VAUMAS 1965, 89-90 and map; SAUREN 1966, 119-125; KIFISHIN 1968, 74; JACOBSEN 1957, 96-97; 1969, 105-106; PETTINATO 1970-71, 310. Later, in the 1970s, Poebel's view continued to be supported comprehensively: PETTINATO 1970-71, 320; EDZARD, FARBER 1974, 269; EDZARD, FARBER, SOLLBERGER, 1977, 217. Although J. Renger did not state a reason, he also supported Poebel's view: RENGER 1970, 77, fns. 23 and 78.

³ ADAMS 1957a, 139-141; 1957b, 270-273; 1958, 101-103, figs. 1-6; JACOBSEN, ADAMS 1958, 1252; JACOBSEN 1957, 96-97; 1960, 175-179; 1969, 103-109; ADAMS 1965; 1972; 1981; ADAMS, NISSEN 1972.

⁴ GIBSON 1972a, 5-7, 13, fns. 56-63, and 316, fig. 69; 1972b, 119, map; NISSEN 1972, 42; 1976, 20; 1988, 144; POSTGATE 1976, 77-100; DEL MONTE, TISCHLERIN 1978, 530; GRONEBERG 1980, 287-288; NASHEF 1983, B III 7; RÖLLIG 1988, B II 7; 1991,

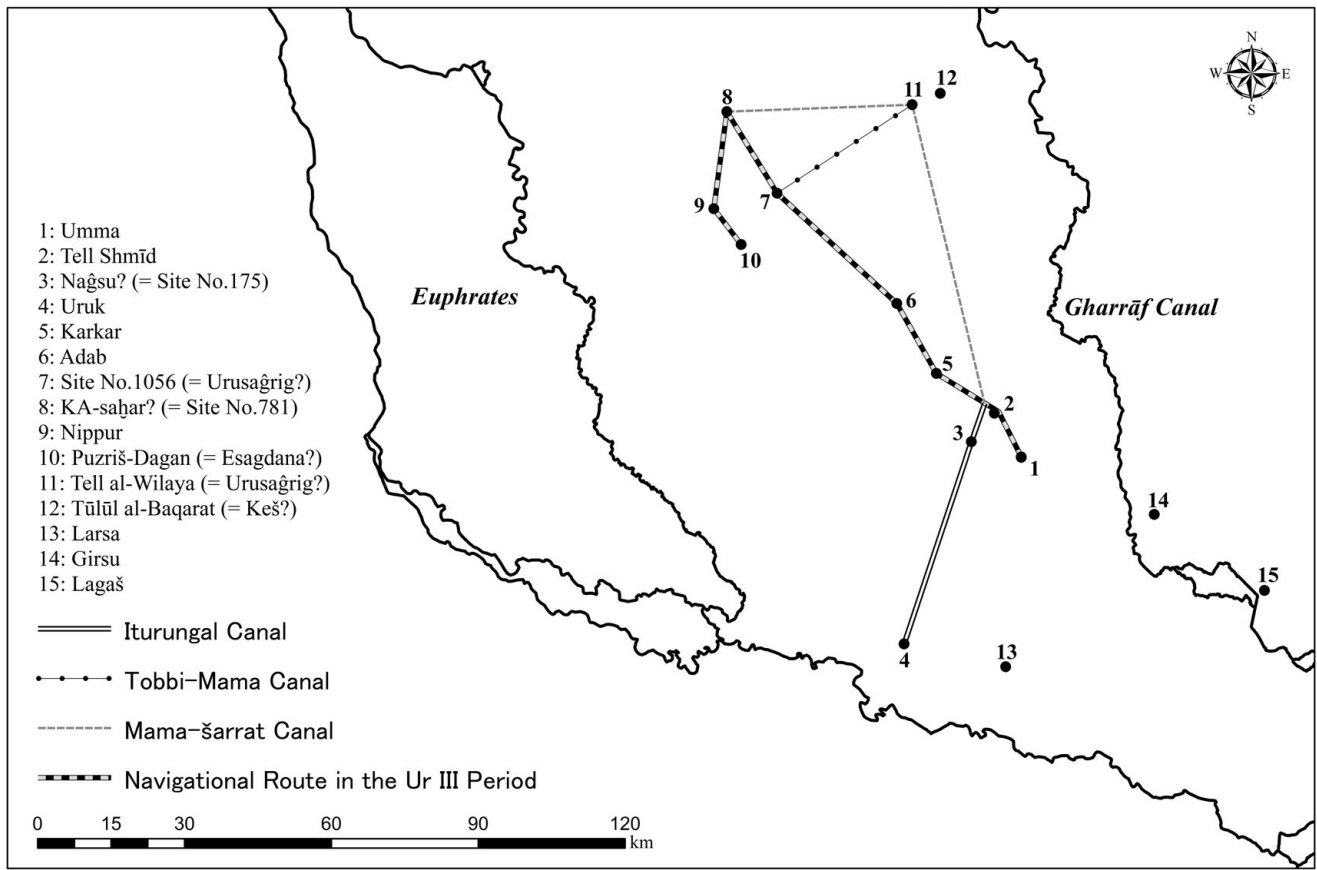


Fig. 1 - Map of toponyms and watercourses referred to in the Chapters I and II.

In 1965, R. D. Biggs, however, from a study of historical geography using documents of the Kassite period, was the only researcher to suggest that the ancient course of the Tigris may have been in the center of the central part of southern Mesopotamia in the vicinity of Nippur.⁵ This view was later supported by W. Heimpel in 1990 and P. Steinkeller in 2001. Drawing on studies of historical geography in documents of the Ur III period, they demonstrated that the ancient course of the Tigris flowed in the center of the northern and central parts of Sumer during the Ur III period as well.⁶ Thus, Heimpel and Steinkeller's view proves that the accepted picture of Jacobsen and Adams was most likely incorrect.⁷

As seen above, the ancient course of the Tigris in the northern and central parts of Sumer was reconstructed by studies on the settlement patterns of ancient sites and historical geography based on the topographical information contained in ancient documents. Regarding actual investigation of the fluvial levees of the ancient course of the Tigris on the surface of the alluvial plain of southern Mesopotamia before the 1990s, it was only performed with aerial photographs and field surveys in partially restricted areas by Adams and H. J. Nissen.⁸

The outbreak of war in 1980 that was followed by other wars and a deterioration in local security made continuing field reconnaissance in southern Mesopotamia impossible. As a result, since the late 1990s, remote-sensing techniques using satellite imagery, GIS, and DEMs have been used to identify and reconstruct the ancient fluvial systems in southern Mesopotamia.

B II 8; ROAF 1990; WALL-ROMANA 1990, 204-245; FINKBEINER, GRONEBERG 1991, B II 12; FRAYNE 1992, 41-48, map 4. R. Zadok also supported Adams's view. However, later he changed his opinion and argued that the ancient course of the Tigris in the Neo-Babylonian period is uncertain: ZADOK 1978, 304 and 332, map; 1985, 361.

⁵ BIGGS 1965, 95-102.

⁶ HEIMPEL 1990, 204-213; STEINKELLER 2001, 22-84.

⁷ In terms of historical geography, archaeology, and geomorphology, S. W. Cole and H. Gasche presented a different view from that of Jacobsen and Adams in their reconstruction of the ancient course of the Tigris, although it is not in the southern and central parts of southern Mesopotamia, but in its northern part: COLE, GASCHE 1998, 1-64; 1999, 87-110; 2001, 197-210; COLE *et alii* 2002, 531-544. C. Hritz and J. Jotheri show different views for the ancient course of the Tigris in the northern part as well, mainly in terms of geomorphology: HRITZ 2010, 184-202; 2014, 259-262; JOTHERI 2016, 121-122, figs. 4.1-4.6.

⁸ ADAMS, NISSEN 1972; ADAMS 1981.

CRISTINA TONGHINI* - ONUR USTA#
MESOPOTAMIAN WATERSCAPES: WATERMILLS
IN THE 'LAND BEHIND MOSUL'¹

ABSTRACT

This paper summarises the results of an ongoing research focused on the water-driven grain mills of the hinterland north of Mosul (present Northern Iraqi Kurdistan). This line of research developed in the context of the 'Land behind Mosul' programme, within the 'Land of Nineveh Archaeological Project' (LoNAP). More specifically, this study concerns a group of watermills located in the wadi Bandawai area. A constructional and occupational sequence is formulated on the basis of the stratigraphy, typological elements and radiocarbon dating of the mortar; this stretches from the 7th-8th centuries until the early 20th century. Data from the archaeological analysis are combined with those derived from the written sources, with an in-depth study of those pertaining the long Ottoman period.

KEYWORDS

Watermills; Horizontal-wheel mills; Islamic Settlement and resource's management; Ottoman Settlement and resource's management; Islamic archaeology; Ottoman archaeology; Ottoman history

1. Introduction

This paper sets out to summarise the results of an ongoing archaeological research project on the hinterland to the north of Mosul (present Northern Iraqi Kurdistan) and on its water-driven grain mills.

This research started as part of an integrated archaeological survey programme, the 'Land of Nineveh Archaeological Project' (LoNAP). Launched in 2012, it covers an area of 3000 sq km that constitutes part of the Mosul hinterland east of the River Tigris, with the plain of Dohuk and the Zagros foothills to the north, the Eski Mosul Dam lake to the south-west, and the Navkur plain and the Bardarash region to the south-east (Fig. 1). This area had never been systematically explored, but it can be regarded as a comprehensive observatory providing useful data to address a number of key issues related to settlement dynamics, land use and resources management in a *long durée* perspective.² In the framework of LoNAP, the project 'Land behind Mosul' was developed, with a focus on the Islamic period from the 7th to the early 20th centuries. Water-driven mills are a very important

feature of the landscape. Although they are rapidly disappearing, a number of them have survived. These structures are not peculiar to the Mosul hinterland; they appear in other areas of the Mediterranean and of the Middle East, where they have been recorded by regional multi-period survey projects; in spite of their value for the understanding of past societies and their economies, very little in-depth and specifically conceived research has so far been devoted to them. In particular, the difficulty in establishing a chronological framework for these structures strongly limits their documentary value in the reconstruction of regional histories. 'Land behind Mosul' has therefore developed a specific line of research on this key element of the landscape.

The area covered by the LoNAP survey is part of the Mosul hinterland (Fig. 1). Throughout history this area has often played an important role as the granary of the region, thus acquiring a strategic position in the economic agenda of the various political entities that have succeeded one another in controlling that territory.³ It was especially with the rise of the Abbasid caliphate that the Mosul region came to play a major role in supplying food to the newly founded capital, Baghdad.⁴ The region managed substantially to maintain this role in the following centuries, although the political instability of some periods brought inevitable setbacks. With the Mongol invasions of the 13th and late 14th centuries, the region became a frontier area, with the consequent loss of its productive capacity.⁵ It was only in the 16th century, thanks to the Ottoman Empire's policy of investment, that the region resumed its role as a supplier of grain (Paragraph 4).

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¹ Paragraphs 1-3 by C. Tonghini; Paragraph 4 by O. Usta. Rectified photomosaics (Figs. 7, 10, 16) by E. Reali and L. Tarducci. The photomosaics combine an orthophoto created with DigiCad 3D (above ground portions) with orthophotos obtained from a 3D model (excavated portions). 3D model: 3DF Zephyr, courtesy 3Dflow; instrumental survey: Leica *TCRA 1205*. All maps are by LoNAP (A. Savioli).

² MORANDI BONACOSSO 2014; 2016; 2017a-b; 2018a-b; 2020.

³ MORANDI BONACOSSO 2018 a-b.

⁴ ROBINSON 2000; KENNEDY 2011; HONIGMANN, BOSWORTH 1990.

⁵ HONIGMANN, BOSWORTH 1990.

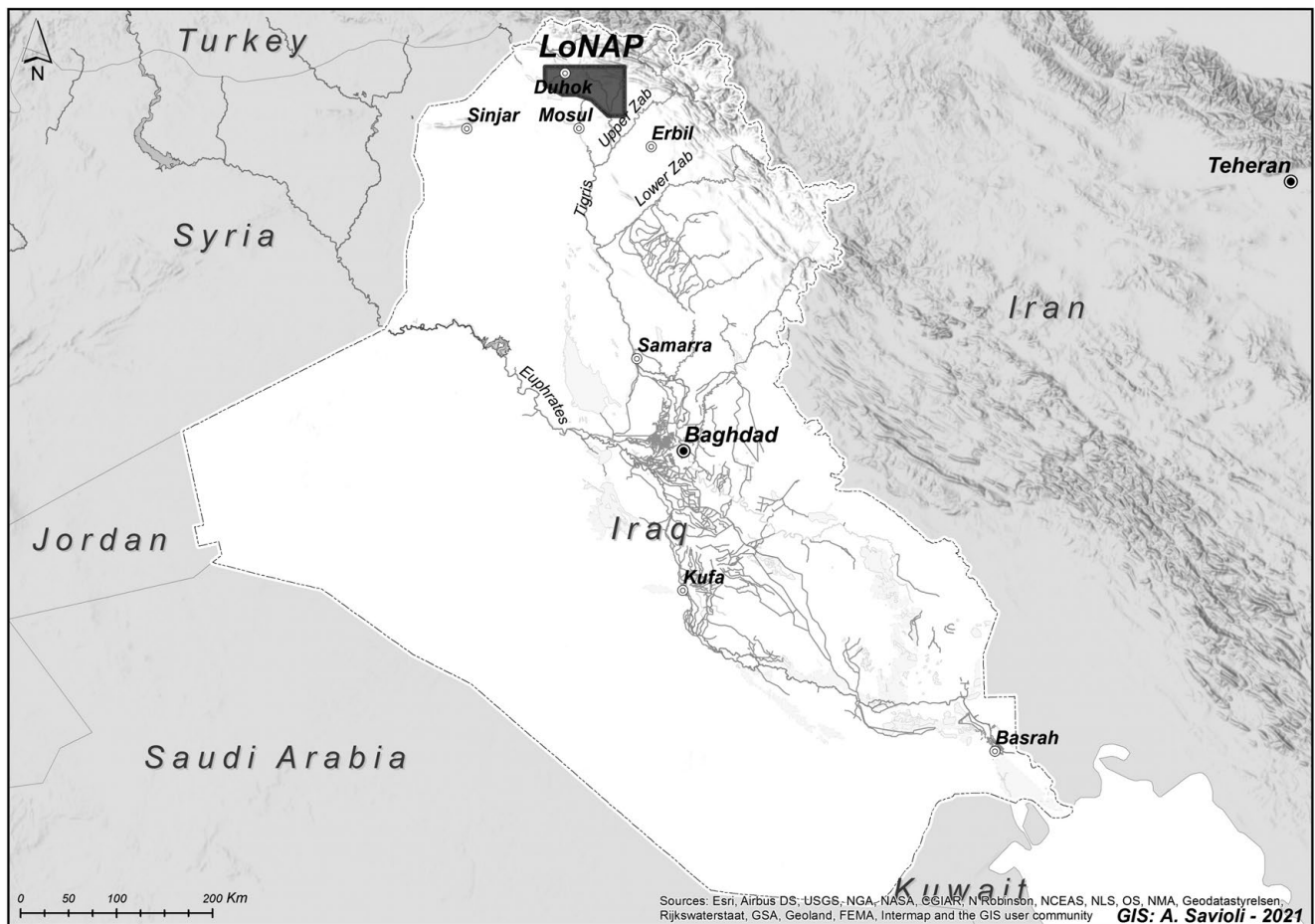


Fig. 1 - General map of the LoNAP survey area (A. Savioli).

Preliminary results from the LoNAP survey/’Land behind Mosul’ programme have in many respects confirmed these major trends, with a boom in settlement in the Early Islamic period and continuity patterns in the Middle Islamic Period (Fig. 2).⁶ On the contrary, the Ottoman period remains difficult to assess because of a lack of solid comparative evidence: archaeology dealing with the Ottoman period is still under-developed, and the material culture of the Ottoman period remains out of focus, especially in a rural context.⁷ Moreover, given the state of our knowledge, it is impossible to differentiate settlements pertaining to a 16th century horizon from those of the 19th century, and thus to understand the changes of the political economy on an archaeological basis in the long Ottoman period.

By contrast, the written documentation on the Ottoman period is particularly rich, and analysis of this yields a variety of data to elucidate a number of key issues concerning settlement, land use and agricultural production. The following pages offer a summary of the research on this period, with specific reference to watermills (Paragraph 4).⁸

2. The watermills in the ‘Land behind Mosul’: research issues and methodology

The area covered by the LoNAP survey comprises topographically distinct zones, with the foothills of the Zagros Mountains to the north, upland plains to the west and valley-floor plains to the south-east (Figs. 1-2). Numerous streams – seasonal as well as permanent – water the plains, flowing down from the first Zagros foothills: tributaries of the Tigris ((Rubar Dohuk, Bandawai Stream, Rubar Dashqalan, and River Khosr) and of the Upper Zab (Rivers Gomel and

⁶ TONGHINI, VEZZOLI 2020; MORANDI BONACOSSI, TONGHINI forthcoming.

⁷ BARAM, CARROLL 2000 and especially SIMPSON 2011.

⁸ The research programme of ‘Land behind Mosul’ included a survey of the written documentation provided by Syriac, Arabic, Persian and Ottoman sources. MORANDI BONACOSSI, TONGHINI forthcoming, chapters by V. Berti, S. Cristoforetti, M. Melčák, O. Usta.

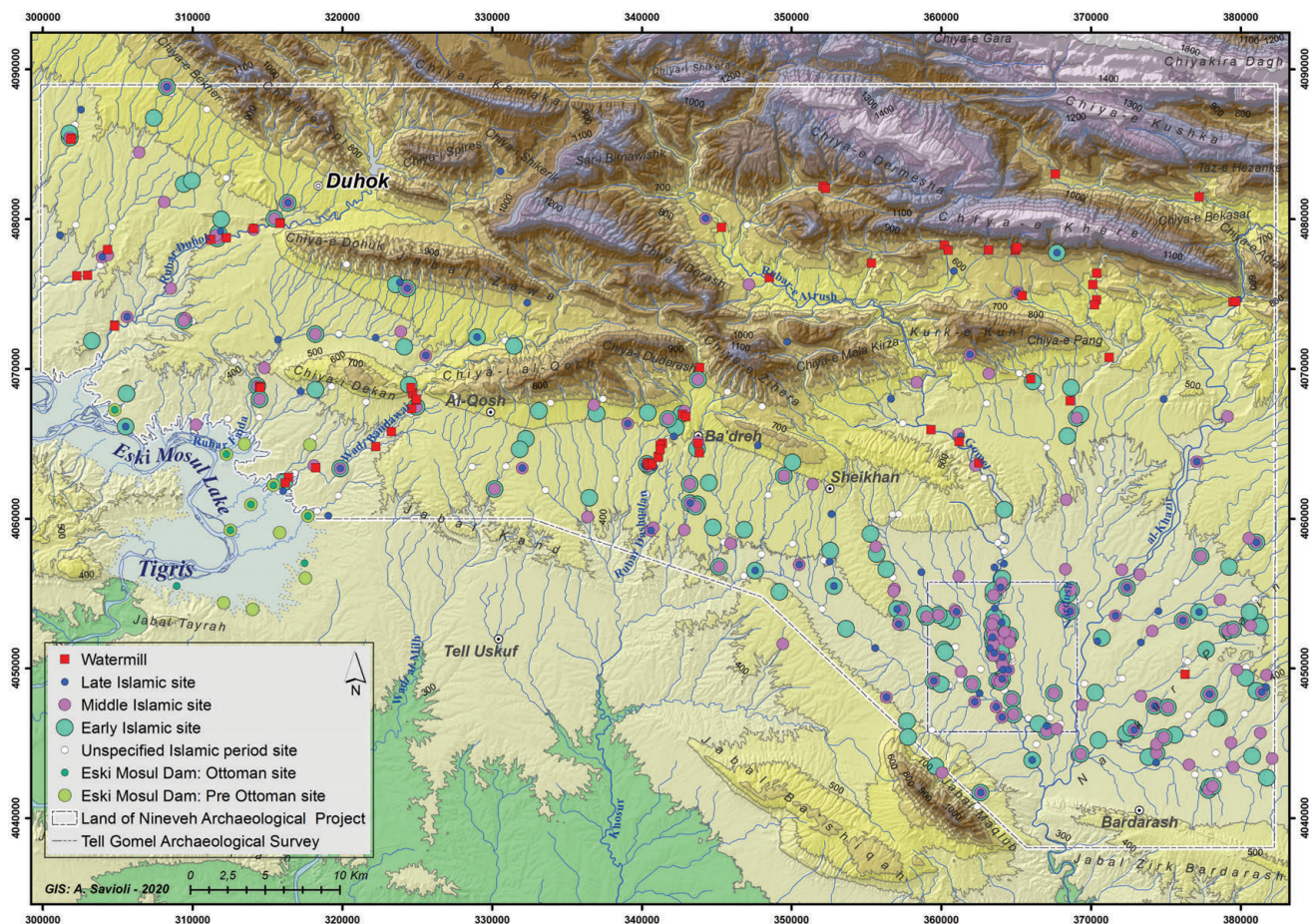


Fig. 2 - LoNAP survey, settlement distribution map: sites attributed to the Islamic period and watermills (A. Savioli).

Al-Khazir). Soils and climate, with mean annual rainfall of 450-600 mm a year (300-450 mm in drought years), allow cereals to be grown with a dry-farming system, wheat being the most widely spread crop. In the fertile, well-watered Navkur plain to the west of the survey area rice and a variety of fruits and vegetables can also be cultivated besides cereals.⁹

The remains of watermills have been located in the proximity of the numerous watercourses that cross the area under investigation: watermills constitute prominent built features of many valleys (Fig. 2).

The structures identified in the 'Land behind Mosul' area can all be associated with watermills with horizontal wheels, a type which is especially widely spread in regions where water streams feature low volumes.¹⁰ Previous studies have shown that this choice is related to hydrology and climate rather than reflecting technological, cultural or chronological factors.¹¹ Milling structures recorded in present-day Jordan, Lebanon, Cyprus and Iran feature the same technology and similar architectural patterns, showing what can be defined as a Near Eastern/Mediterranean/Levantine type.¹²

In the survey area watermills are located on a slope, in the vicinity of water streams. They all feature a tower-shaped structure, the so-called drop-tower.¹³ The mill comprises one or more drop-towers, located uphill of the mill house. The façade of the drop-tower is straight or slightly sloping.¹⁴ The drop-tower is pierced by a chute, which is always circular in the area under study.

⁹ MORANDI BONACOSI 2020.

¹⁰ The bibliography is vast. For a selection relevant to the present study, see: HARVERSON 1993; GARDINER, MCQUITT 1987; GREENE 1995; MCPHILLIPS *et alii* 2019; MCQUITT 1995 and 2004; NEELY 2011; SCHRIWER 2015.

¹¹ SCHRIWER 2015, 94; MCPHILLIPS 2016, 145. Horizontal water wheels are described in historical texts of the Islamic world as early as the 9th c: AL-HASSAN, HILL 1986, 53.

¹² SCHRIWER 2015, see especially p. 81.

¹³ This element is also referred to as 'penstock', or using the Hebrew term, *aruba* (AVITSUR 1960): SCHRIWER 2015, 4-5. For typological definitions see GARDINER, MCQUITT 1987, 31; HARVERSON 1993; SCHRIWER 2015, 7-9.

¹⁴ For a typology of façades see SCHRIWER 2015, 9.

MATERIAL CULTURE AND FOOD IN (GREATER) MESOPOTAMIA FROM THE IRON AGE TO THE PARTHIAN PERIOD

67th Rencontre Assyriologique Internationale - Turin

Between 12th and 16th July 2021 the 67th Rencontre Assyriologique Internationale has been hosted in Turin, with the support of the Università degli Studi di Torino, the Museo Egizio and the Centro Ricerche Archeologiche e Scavi di Torino per il Medio Oriente e l'Asia (CRAST). The conference's main theme was *Eating and Drinking in the Ancient Near East*. The organizing committee was formed by Stefano de Martino, Elena Devecchi, Christian Greco, Carlo Lippolis, Vito Messina, Maurizio Viano.

In these following pages we have collected the proceedings of a workshop organized on that occasion and coordinated by Michael Jursa. The workshop, entitled *Material Culture and Food in (greater) Mesopotamia from the Iron Age to the Parthian Period*, brought together researchers of the Università degli Studi di Torino, specialized in the study of the Hellenistic and Parthian Middle East, and members of the Franco-Austrian ANR/FWF project "Material Culture of Babylonia during the 1st millennium BC".

From Turkmenistan to Mesopotamia to Egypt, the workshop addressed aspects of food-related material culture of different periods and regions, discussing continuity and change across traditional disciplinary boundaries.

As for the chronological frame of the workshop we focused on the first millennium BCE with special interest on "late periods", Seleucid and Parthian, with its different source materials and hermeneutics.

Notwithstanding the different nature of the data presented and discussed during the workshop a fruitful dialogue has been outlined.

The first study (Alessandra Cellerino) focuses on the glass industry's revival in the Neo-Assyrian thanks to the production of transparent vessels and on the visual appeal of wine consumption.

Another contribution is a cross-study (Benjamin Dromard, Gersande Eschenbrenner Diemer) of the archaeological evidences and textual sources from Babylonia (Egibi's archive from Babylonia) and Egypt mentioning objects and furniture in wood.

To the same chronological is addressed a frame study (Olga V. Popova, Louise Quillien) focuses on the first half of the 1st millennium BCE and on the *pišannu*, an object of worship for which several translations have been proposed: garment, bag, basket, or box.

Another presentation (Rosaura Cauchi, Michael Jursa) considers the archival documentation for salt, a crucial component of everyday nutrition but attested rarely, from first millennium Babylonia until the late Achaemenid period. For the following period (Vito Messina), Seleucid Babylonia (with centres like Seleucia on the Tigris and Uruk) played a pivotal role in the trade of salt in the network system of the "Hellenistic world".

The rich coroplastic repertoire of Seleucia on the Tigris (Roberta Menegazzi, Carlo Lippolis) includes miniature models of food and offering plates: the aim of this study is to investigate their functions and possible connections with cult practices.

The 2nd and 3rd cent. CE food customs at Hatra are the subject of another paper (Enrico Foietta), where archaeological, iconographical and epigraphical data involving directly and indirectly cooking, drinking and banqueting are discussed.

ALESSANDRA CELLERINO

TRANSPARENT GLASS DRINKING BOWLS AT THE ASSYRIAN COURT: VISUAL APPEAL OF WINE CONSUMPTION

ABSTRACT

In the Neo-Assyrian period, the glass industry revived thanks to the production of transparent vessels. Transparency, created adding to the batch antimony oxide as decolouriser, represents the new trend when glass industry resumed its production at the beginning of the first millennium BCE. Usually colourless, vessels were cast in moulds and finished by grinding and polishing.

Hemispherical bowls are the most common glass form came into use, probably at the beginning of the eighth century BCE, but shallow bowls, plain or decorated with engraved, ribbed or petalled designs, were also manufactured. The majority of these glass vessels, dated to the first half of the first millennium, were found at Nimrud in palatial contexts (North-West Palace, Fort Shalmaneser, Burnt Palace).

The size and shape of these bowls suggest that they were used, along with precious metal bowls, as individual drinking vessels, probably for wine, during official banquets, feasts or ritual royal libations as attested by many Neo-Assyrian stone reliefs. At the Assyrian court, the possession and consumption of wine denoted high status and authority, and the practice of drinking grape wine in luxury bowls of refined craftsmanship had a strong social value. The transparency of the glass could enhanced the sensory perception and appreciation of the material and the shine of the red or white liquid through the thin wall of the bowls could obtain particular appealing and charming optical effects. As gold, glass could embodied symbolic value, as purity, light and lustre, associated to sacred or palatial contexts.

KEYWORDS

Neo-Assyrian transparent glass; glass skeuomorphism; glass sensory perceptions; glass social function; glass symbolic value.

The Assyrian metal bowls, gold, silver and bronze vessels, are a well-known type of luxury tableware shown on the Neo-Assyrian reliefs from the ninth century BCE in representations of royal libations and banquets¹ and discovered in palatial and funerary contexts.²

During the first centuries of the first millennium BCE and at the same time of the production of a

large part of the metal bowls, a smaller group of glass bowls that shared forms and decorations with them, appear in the same archaeological contexts.

I. The First Millennium BCE glass: Manufacturing Techniques and Working Properties

When, after a period of decline at the end of the Late Bronze Age, glassmaking resumed in northern Mesopotamia and Anatolia at the beginning of the first millennium BCE, many changes have taken place both in colours, forms and chemical composition.

The new trend is represented by a preference for transparent monochrome glass (colourless but also blue, turquoise, purple obtained adding as colourant copper, manganese, and iron oxides) although small, opaque, coloured *alabastra*, *amphoriskoi* and *kohl* tubes, made by the core or rod-forming techniques, were produced to contain perfumed oils, unguents and *khol*.³

This new interest in transparency certainly indicates changes in taste and innovations in the technology of colouration and production. The process of decolouring glass required a high degree of specialization: colourless glass might been achieved using pure batch ingredients, quartz pebbles as source of silica instead of sand, or by the accurate control of the kiln atmosphere, but from the beginning of the first millennium BCE, the use of antimony trioxide for opacifying glass and removing small bubbles, led to the opposite discovery that antimony could be used as decolourant neutralizing the natural greenish colour of the glass due to the iron oxide present in the sand.⁴ Adapting well known metallurgical techniques, the vessels were casted using multipart moulds⁵ charged with crushed cold glass⁶ or by the lost-wax process⁷

¹ For an overall picture see STRONACH 1995.

² For the Assyrian metal bowls see recently CURTIS 2013, 69-72. For metal bowls found in the Nimrud Royal Tombs see e.g. CURTIS 2008, 243-253 and HUSSEIN 2016.

³ SCHIMDT 2019, 82-96.

⁴ BRILL 1970, 116-118.

⁵ GROSE 1989, 31.

⁶ MOOREY 1994, 204-206; STERN, SCHLICK-NOLTE 1994, 48.

⁷ VON SALDERN 1966, 625-626; 1970, 204, 210-211; BARAG 1985, 53; GROSE 1989, 32; STERN, SCHLICK-NOLTE 1994, 50-51; *contra* MOOREY 1994, 204.

GERSANDE ESCHENBRENNER-DIEMER* - BENJAMIN DROMARD*
WOODEN FURNITURE IN BABYLONIA AND EGYPT: SOURCES,
WOOD VARIETIES AND WOODWORKERS

ABSTRACT

Archaeological and epigraphical data from Ancient Egypt and Babylonia are of very different quality. Almost nothing remains from the archaeological side for Babylonia, while objects in well-preserved form have been discovered from Ancient Egypt. In the 1st millennium BCE, Babylonian archives document different pieces of wooden furniture, which are almost absent in the Ancient Egyptian epigraphy. The situation is as contrasted concerning wood-working: very few elements exist on woodworkers and their techniques in Babylonia, while there are sources of different nature available from Ancient Egypt. This article aims to summarize the situation of both contexts in a first attempt in comparing them and initiate a dialogue between both disciplines.

KEYWORDS

Ancient Egypt; Babylonia; *Dalbergia sissoo*; Ebenaceae; Egibi; wood; wooden furniture; woodworking.

Wood and wooden furniture are among the least documented elements of 1st Millennium Babylonian material culture. The Iraqi climate has made it difficult to preserve wooden objects in archaeological sites, and the possibility that they were reclaimed or destroyed afterwards make their coming availability for study improbable. Aside from that, there are very few elements in written sources on wood-working techniques, woodworkers, or the transmission of woodworking techniques, in contrast with textile or metal crafts during the same period. Nevertheless, wooden furniture is mentioned in 1st Millennium BCE Babylonian archives. In the Ancient Egyptian context, the situation is almost entirely reversed: the climate has allowed for the preservation of wooden objects and some elements are available for the study of woodworkers, workshops, and wood-working techniques, while the written documentation give few mentions of wooden furniture. In this article, a first step in a larger research work that will associate Assyriology and Egyptology in the study of wooden furniture, we will present the situation for 1st Millennium BCE Babylonia and Ancient Egypt and discuss the available sources, the wood varieties mentioned, and what we can say on woodworking and its workers in both contexts.

Babylonia

I. Methodological problems and available sources

The main problem for the study of wood and wooden furniture in 1st Millennium BCE Babylonia is the availability of sources documenting such material and objects. This is not limited to the 1st Millennium BCE in Mesopotamia: the climate in Iraq, from Antiquity to the present day, has pretty much not allowed for the preservation of wood, whatever its form (raw material or processed). Presently, seeking for archaeological data of wood and wooden objects for 1st Millennium BCE Babylonia will lead to disappointment.¹ Therefore, the only remaining pieces of evidence available come from the written archives. Several problems appear when dealing with such a documentation.

The overall majority of written sources document the final products made of wood. The whole process of production, from getting raw material to final delivery and all intermediary steps (delivery of raw material to woodworkers, woodcutting and wood treatment against parasites or water, the craftsmanship itself, the sale of pieces of furniture, etc.) cannot be studied in detail. Only a small number of documents give hints on such activities, in strong contrast with other crafts documented in Babylonia at the time (such as metal and textile working).² Almost no woodworkers specialized in furniture are documented, whereas tens, even hundreds of textile and metal workers are attested, mostly in the ration lists from the Uruk and Sippar temple archives. Most documents mentioning pieces of wooden furniture are dowry agreements, as they show a diversity of furniture delivered to the newlywed couple along with slaves, fields, silver and other items. These tablets dealing with dowries come from a very specific part of Babylonian society, which is mostly the most well-off, the so-called

* CNRS, ArScAn. The paragraph on Babylon is by B. Dromard; the paragraph on Egypt is by G. Eschenbrenner-Diemer.

¹ There is only a handful of wood samples identified from different eras from various Mesopotamian archaeological sites, see MOOREY 1999, 360-61.

² BONGENAAR 1997, 296-422 for the data coming from the Ebabbar archive, PAYNE 2007 for the Eanna archive. See also ZAWADZKI 2006 and QUILLIEN 2016 for studies focused on textile crafts.



Fig. 1 - Workshop model Copenhagen AEIN 1633 (© Ole Haupt, Ny Carlsberg Glyptotek).

the question of the organisation of these craftsmen, the place(s) of work and the possible attachment of these structures to a particular institution. Recently, Cathy Costin has taken an interest in the question of the workshop in an archaeological context in an attempt to give a clear definition:²⁷ a workshop produces “art”, whereas craftsmanship would be better situated in a private environment. In this respect, the workshop would then necessarily be linked to an institution or even the indicator of another social institution or political structure. C. Costin, in bringing together the various analyses that have been made of the workshop by archaeologists and art historians, raises the question of its exact definition: is it an identifiable place where objects are produced? Is a workshop defined only if it is a socially hierarchical organisation, set up in a permanent structure that involves a group of craftsmen dedicated to the manufacture of standardised objects? Or should we limit the use of the term ‘workshop’ only when we have the actual place of production?

Let us see what evidence is provided by Egyptian documentation.

Unlike other handicrafts that leave traces of their activity, wood rarely, if ever, does. At present, in Egypt, only the workshop of Elephantine, probably specialised in the manufacture of bows and arrows and dated circa 1200 BC has been identified thanks to the different material clues found in situ that have been analysed.²⁸ It is therefore particularly difficult to specify the modes of organisation of the wood workshops and even more difficult to identify their

installations. The scenes of production of wooden objects are well known from the decorations of tombs and funeral chapels.²⁹ However, as Adela Oppenheim mentions,³⁰ «*depictions of object production found on the walls of some elite tombs tend to have imagery that focuses on the beauty of the works nearing completion rather than on the steps in their manufacture*». These scenes therefore do not illustrate a craft process but have a performative purpose: to supply the deceased with precious objects. Moreover, these scenes, which tell us too little about the organisation of the workshop, serve the prestige of the deceased. In the Middle Kingdom, wood workshops are illustrated in the corpus of funerary models and show craftsmen at work on a simple base or in a building (Fig. 1).³¹ These two types of installations, mobile or permanent, are sometimes associated with other

²⁷ COSTIN 2020, 177-197.

²⁸ SÄHLHOF *et alii*, 2021

²⁹ KLEBS 1922, 105-134. For New Kingdom scenes: WILKINSON, HILL 1983, 90-96.

³⁰ OPPENHEIM 2015, p. 24.

³¹ *Funerary models representing a “mobile” craft*: Saqqâra tomb of Karenen (Cairo Egyptian Museum JE 39129 and JE 39132), Deir el-Bersha tomb of Djehoutinakht (Boston MFA 21.412); *Funerary models representing perennial wood craftsmanship*: Saqqara Tomb of Gemniemhat (Copenhagen AEIN 1633); Saqqara Tomb of Usermut and Inpuemhat (Cairo Egyptian Museum JE 45319); Thebes Tomb of Meketra (Cairo Egyptian Museum JE 46722).

OLGA V. POPOVA* - LOUISE QUILLIEN#

FABRICATION AND RITUAL USE OF THE *PIŠANNU*-JEWELLERY BOX IN BABYLONIAN TEMPLES DURING THE FIRST MILLENIUM BC¹

ABSTRACT

This study focuses on the object of worship *pišannu*, evidenced in the Neo-Babylonian temple archive. Several translations have been proposed for the term: garment, bag, basket, box, or chest. The occurrences and spellings of this term in the Neo-Babylonian temple archive will be studied and compared with the ^{GIS/GI}PISAN from the Old Babylonian period. We will observe which craftsmen were responsible for its fabrication and what material they used in order to determine the shape and appearance of the object. We will also examine the function and use of the box in temples and during rituals, in particular its connection with the goddesses and the female temple personnel.

KEYWORDS

Neo-Babylonian; religion; worship; craft; material culture; Akkadian terminology; women.

Introduction

The Late Babylonian ritual from Babylon BM 40790, recently published by Rocio Da Riva and Gianluca Galetti, mentions a *pišannu* used during the dressing ceremony of Nabû and Nanaya. It offers new information concerning the role of this object during rituals.² The Neo-Babylonian administrative records of the temples show that the term *pišannu* referred at that time to an object of worship containing the precious jewels of the goddesses.

The CAD and AHW distinguish between two similar terms. The first, *piš/šannu* I (CAD P, 420-424; AHW, 867-868), is translated as “chest, container, basket, box” and is largely used in the Old Babylonian period. This term was a generic term for a “container” of a particular shape, mainly made of reeds but also of other materials. The other *pišannu* II (CAD P, 427) is found only in the Neo-Babylonian period and is interpreted as “a woollen or linen article used in the temple,” “probably a mantle or similar garment, part of the wardrobe of the goddesses, to which metal appliqués could be attached,” according to the hypothesis of A. Leo Oppenheim in his article “The golden garments of the gods.”³ Wolfram Von Soden (AHW, 868) assumes that it was probably a bag used

in the cult of the goddesses, and he leaves open the possibility that it was the same word as *pišannu* I.

This study focuses on the Neo-Babylonian term *pišannu*. Several translations have been proposed: garment, bag, box, basket, or chest. We will examine the occurrences of the word in different contexts to understand how the object was made and whether the Neo-Babylonian term took on a new meaning from previous periods. This case study is an example of the difficulties interpreting terms from material culture when different categories of craftsmen, using different types of materials, were involved in its manufacture. The study of the handling and use of the *pišannu*, an object related to female deities, also sheds a rare light on the female workers in Babylonian sanctuaries.

We will first compare the occurrences and spellings of this term in Neo-Babylonian texts with examples from the Old Babylonian period, paying special attention to the presence of a determinative. Then, we will study the uses of the *pišannu* in Babylonian temples, as well as its links with the goddesses, and we will examine which craftsmen were responsible for its fabrication and which materials they used. Finally, the function and handling of the object during rituals will be studied.

* Institute of Oriental Studies of the Russian Academy of Sciences; # CNRS, ArScAn-*Archéologies et Sciences de l'Antiquité* laboratory, Nanterre. We are deeply grateful to Jon Taylor for sending us photographs of several British Museum tablets during the period of restrictions due to the Covid-19 pandemic. We would also like to warmly thank Francis Joannès for his advice and help, Michael Jursa for informing us of unpublished texts mentioning the *pišannu*, Yuval Levavi and Elizabeth E. Payne for sharing with us the copy and transcription of YOS 24 37 prior to its publication, and Klaus Wagensohn for sending us a photograph of tablet NCBT 682 from the Yale Babylonian Collection.

¹ This study is presented as part of the Franco-Austrian ANR/ FWF project *Material Culture of Babylonia during the 1st millennium BC*.

² DA RIVA, GALETTI 2018.

³ OPPENHEIM 1949, 174, 177.

1. *The pišannu, a new term in Neo-Babylonian?*

1.1 *The PISAN pis/šannum during the 3rd and 2nd millennia BCE*

The Sumerian term PISAN and its Akkadian equivalent *pis/šannum* are evidenced in cuneiform texts well before the Neo-Babylonian period.⁴ The Sumerian PISAN, “basket,”⁵ is found in the Ur III texts,⁶ particularly with the GI determinative. At that time, the term described a reed basket. The Akkadian term *pis/šannum*, with the wider meaning of a “container, basket, or box” (CAD P, 420-424 A) is widely used during the 3rd and 2nd millennia BCE.

During the 2nd millennium BCE, the word was employed in Mesopotamia and the peripheral regions (Nuzi, the Hittite Kingdom and Alalakh). According to the CAD and data from ARCHIBAB,⁷ the term was most often written with the Sumerogram PISAN, even though phonetic writing also existed. The following spellings were found:

- *pi-ša-(an)-nu-(um)* (e.g. CT 48 41:10)
- *pi-sa-(an)-nu-(um)* (e.g. TMB 38 no. 76:1)
- *pi-sà-an(-nu)* (e.g. HSS 15 138b:3) (Nuzi)
- *pi-ša-an(-nu-um)* (e.g. KBo 36 29 ii 29) (Hatti)
- *pi-sa-an(-nu)* (e.g. Sumer 9 34f. no. 10:4, 12) (MB)
- PISAN (e.g. AbB 1 105:8)
- PISÁN (e.g. ARMT 12 622:3)⁸

In central Mesopotamia, the most common phonetic spelling was *pi-s/ša-(an)-nu-(um)*, with the sign *pi* and random alternations of signs *ša* and *sa*. In the peripheral regions, the use of the *pi* sign was observed, with random sibilants: *ša*, *za* (= *sà*), or *sa*.

The determinatives before the term *pis/šannum* were *GI* (most common in all ancient periods), and *GIŠ*, which appeared in the Ur III period (e.g. BE 6/1 84:28). Rarer were *KUŠ* (Isin and Medio-Babylonian periods, e.g. ARMT 23 104:5), and *GI.GIŠ* (one example in CT 4 40b:6, possibly a redundant spelling). The word *pis/šannum* may also appear without a determinative.⁹

The *pis/šannum* container had several uses. Armas Salonen lists 16 types and uses for the Ur III period. There are 30 different types in the lexical series *UR₅.RA* = *hubullu* (SALONEN 1965, 231-235). For the Old Babylonian period, Armas Salonen and ARCHIBAB list hundreds of examples of *pis/šannu(m)* at Isin, Babylon, Mari, Ugarit and Alalakh, with different functions.¹⁰ For instance, the *pišannu* can be qualified as *pisan šarri* (royal coffer, ARM 7 273 r.12), *pisan erši* (bed box, KBo 36 29 ii 29), *pisan gallābi* (barber’s box, TCL 1 199 l.11), or *pisan tuppātīm* (tablet container, ARM 10 82 l.5), etc.

Therefore, there were various epithets and uses for the *pis/šannum* container in ancient periods. The Old Babylonian *pis/šannum* could be used to car-

ry many types of objects: bread (AbB 9 177 l.11), clothes (ARM 24 192 l.4-5), fabrics (wool, linen, leather) (ARM 24 277), tablets (CHARPIN RA 89 no.1-7), weapons (FM 6 51 l.10-14), metal objects (ARM 24 277), silver (OBT Tell Rimah 85 l.4), barley (AbB 14 52 l.8), ice (FM 2 79), and also treasure (VILLARD 1992).

As for the appearance and size of the Old Babylonian *pis/šannum*, it served as a container, could be closed, sealed and marked with labels (CHARPIN 1995, 32-33) and could have handles for carrying (PISAN ŠU in CT 45 119:13). The *pis/šannū* came in different sizes: small ^{GI}PISAN.ŠU TUR (CT 45 119:13) and larger sizes made from reed that could contain, according to Dominique Charpin, up to 45kg of metal, or up to 500 cuneiform tablets.¹¹ Therefore, at that time, the *pis/šannum* was a hyperonym meaning “a container of a specific form,” usually made from reed, but also other materials.

It should be noted that the term *pisannu* can also have the more specific meaning of “drainage passage,” as in Medio-Assyrian documentation.¹²

1.2 *Occurrences and spellings of the Neo-Babylonian PISAN/pišannu*

The term PISAN, *pis/šannum* was still associated with the meaning of “chest” or “container” for different uses during the Neo-Babylonian period. The Sumerian term PISAN preceded by the determinative *GI* (reed) appears in a tablet from Babylon belonging to the private archive of the Nappāhu family. The text starts as follows: “The royal rations before Išhar[a] for the whole year: from the 5 ^{GI}PISAN^{’MES’}, 1 ...(?) [...]: beef: 5 thighs, 5 chine, 5 humps, 10 short rib cuts, 20 ankle cuts, the fat from between the intestines; mutton: 5 chine, 5 rump cuts, 5 fatty tissues, 5 chine of lamb.”¹³ From the context and use of the determinative for reed, it can be deduced that the

⁴ SALONEN 1965, 230-241.

⁵ See SALONEN 1965, 230-231, who translate the term as “Korb”.

⁶ Examples of ^{GI}PISAN in Ur III Sumerian texts: AAICAB 1/3, pl. 206-207; Bod S 138; AAICAB 1/4; Bod S 472 (Umma, Ur III period).

⁷ Website <http://www.archibab.fr/>, last accessed the 30.06.2021.

⁸ A. Salonen includes this spelling in the possible spelling of *pišannu* (p.230). In the CAD, the spelling of PISÁN is always preceded by the *GIŠ* determinative (four examples in the CAD).

⁹ Analysis based on SALONEN 1965, data from website ARCHIBAB and CAD P, 420-424.

¹⁰ SALONEN 1965, 238-241

¹¹ CHARPIN 1995.

¹² CAD P, 423, *pisannu* 3; Postgate 1976, 151.

¹³ VS 6 268: 1-5 = BAKER 2004, n°76.

VITO MESSINA*
SALT TRADERS OF SELEUCID BABYLONIA

ABSTRACT

Salt was one of the most valued commodities in antiquity. It was used for food preparation and preservation, as an aliment itself, and for other manufacturing activities. It was widely traded both at local and global levels, especially in the Hellenistic period, for it benefited from an extensive route network that worked more and more effectively at least from the Achaemenid period onwards. Salt traders thus became one of the most important components of city societies. The present overview deals with the possibility of addressing problems related to such a complex environment as clues for reconstructing, at least in part, the administration procedures and policymaking of Babylonian élites in the centuries that led to the turn of the Christian era.

KEYWORDS

Salt trade; Network system; Taxation; Seleucid apparatus; Archival contexts.

Introduction

The trade of salt was one of the most valuable economic activities in antiquity. The importance of salt for the preparation and preservation of food, as an aliment itself, and for other manufacturing activities (such as metallurgy and the curing of hides) has been stressed by many studies on different cultural contexts and periods of the human past, to the extent that, basing on the information available, there is wide consensus on considering salt as one of the most important commodities of the ancient world.¹

Literary, epigraphic, and archaeological records point to the fact that, in what we can call a market economy of preindustrial society, the salt trade was of crucial importance in both social and political systems, as many examples that can be made do clearly show: one may think to the exploitation of Iron Age salt mines in Europe, for instance, or to the importance of salt caravan trade in the Roman Near East via centres like Palmyra.

As a natural resource, salt (or sodium chloride) can be found in different forms, even if it occurs for the most in salterns or mines, and its procurement was a widely diffused activity in antiquity. Some areas of the world are particularly endowed with such a

resource because of their geomorphology and soil types. Mesopotamia is one of these areas, and the known documentation allows us to list the procurement and trade of salt among the most important tasks in the region's economy. Such activities lasted for millennia, as far as one can see, and did impact on social trends. The city societies seem to have been engaged with salt management for a while, especially in periods of increased connectivity, such as Hellenism.

In Seleucid Babylonia, the salt trade was so important that a tax system managed by the political apparatus was devised as a main incoming revenue. The present overview deals with the possibility of addressing problems related to such a complex environment as clues for reconstructing, at least in part, the administration procedures and policy making of Babylonian élites in the centuries that led to the turn of the Christian era.

Salt in Seleucid Babylonia

Salt has been widely exploited in Mesopotamia over millennia, given that the region was, and indeed still is, well-endowed with various salt sources. Both in upper and lower Mesopotamia, salt occurs in salterns, in briny marshes, and in the so-called salt domes. The reason for this abundance is clear when looking at the tectonic activity of the Mesopotamian alluvium, at the presence of both underground and ground water and, especially, at the ground water circulation, which allowed salterns to form due to the high degree of soil salinity, especially in areas where the water-table is at a dept ranging from 10 to 20 meters below the surface (Fig. 1).²

The Mesopotamian alluvium is covered for the most by Quaternary sediments, composed of clay, silty clay, sand, and gravel. Fine sediments repre-

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¹ See for all DE BRISAY, EVANS 1975; BERGIER 1982; HOCQUET 2001; WELLER 2002; MONAH *et alii* 2007; CARUSI 2008; 2015 (and bibliographies).

² On soils and soil conditions see BURINGH 1960; on tectonic features, DUNNINGTON 1968; on salt deposits, STÖCKLIN 1968; on hydrogeology of the alluvium, AL-JIBURI, AL-BASRAWI 2011; 2015; SISSAKIAN, FOUAD 2015; AL-ANSARI *et alii* 2020; on soil salinity in Iraq TEGGI *et alii* 2012; WU *et alii* 2014.

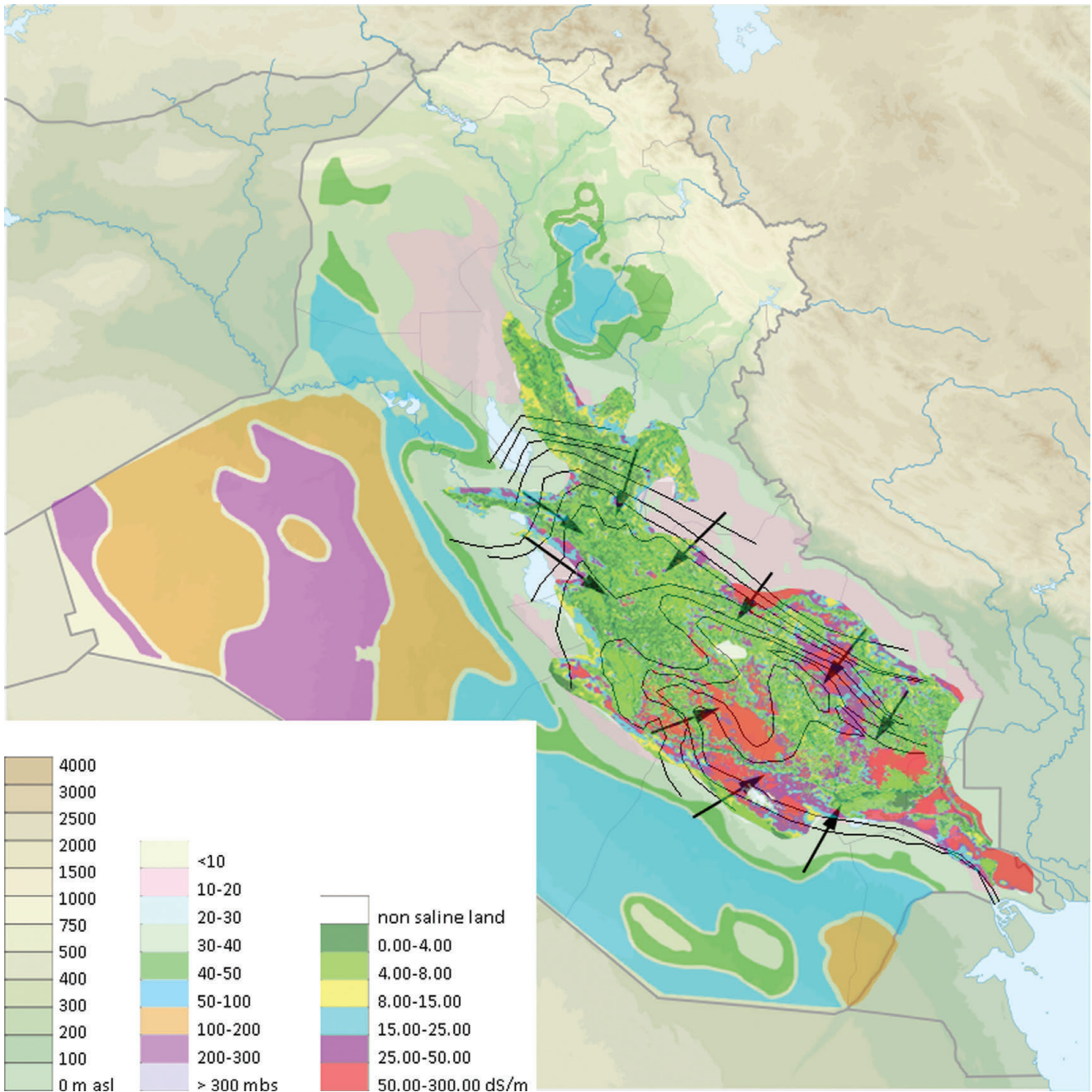


Fig. 1 - Map of nowadays Iraq showing soil salinity, underground water, and ground water circulation (elaborated by the author basing on DUNNINGTON 1968, 183-220; AL-JIBURI, AL-BASRAWI 2011, 83-103; 2015, 17-26; TEGGI *et alii* 2012; WU *et alii* 2014, 4442-4452; SISSAKIAN, FOUAD 2015, 9-16; AL-ANSARI *et alii* 2020, 111-124)

sent the aquitards, sand and gravel form the aquifers. There is a water continuity within the entire Quaternary aquifer system, but the degree of such a continuity differs from place to place depending on the lithological characteristics of water bearing sediments.³ A continuity likewise exists between the Quaternary aquifer system and the underlying pre-Quaternary formations. Thus, ground water circulation and fluctuations mostly depend on natural conditions and only to some extent on human intervention. High salinity of ground water prevails throughout the

alluvium, though water flows towards its centre: the alluvium is indeed a regional discharge zone for the whole Mesopotamian aquifer mega system.⁴ Ground

³ It appears that a continuity also exists between surface water and groundwater aquifers, thus originating effluent and influent river phenomena throughout the alluvium.

⁴ Groundwater piezometric level is generally inclined from Northwest (ca. < 200 m above the sea level, near the Makhoul Mountain) towards Southeast (2 m asl near Basra).

ROBERTA MENEGAZZI* - CARLO LIPPOLIS^o
 A WORLD IN MINIATURE. TERRACOTTA FOOD MODELS
 FROM SELEUCIA ON THE TIGRIS¹

ABSTRACT

Models of food are a small group among the terracottas from Seleucia on the Tigris: the recorded items are around 75 out of over 11.000 figurines, either representing fruit or offering plates filled with different foodstuffs. Virtually absent in the coroplastic repertoires of the other centres of Seleucid and Parthian Babylonia, they find timely parallels in the contemporary production from the Eastern Mediterranean area.

Aim of this paper is to take a closer look at these ostensibly marginal materials, exploring their possible function as tools of domestic cult practices based on old traditions but renewed in the light of the changing social and cultural milieu of the city.

KEYWORDS

Seleucid and Parthian Babylonia; terracotta figurines; models of food; family religion; domestic cult practices.

1. *Terracotta food models from Seleucia in the context of Seleucid and Parthian Babylonia*

The excavations conducted during the last century on the site of Seleucia on the Tigris brought to light over 11.000 terracotta figurines, which form the largest coroplastic corpus of the Seleucid and Parthian Near East.² Their importance cannot be overestimated and is not merely a consequence of their huge number. As mass-produced and widely disseminated objects, terracottas embody an extraordinary source of potential information on ideas, beliefs, and social norms as lived in the cross-cultural community of a Greco-Macedonian foundation in the heart of Mesopotamia.³ Recent studies have demonstrated that both their visual characteristics as small-scale plastic representations and their physical characteristics as objects are the result of a continuous and complex interplay between Greek and Babylonian features, enriched by some Iranian elements. Iconographies, motifs, styles, and techniques of manufacturing of diverse origins were consciously and carefully selected, and combined, to respond to the needs of people living in a mixed environment, thus creating a new visual and cultural language.⁴

One of the most striking aspects of the figurines from Seleucia is their variety in terms of the subjects

they represent. Anthropomorphic figures predominate – including both nude and draped women, men, and children in various attitudes – but they do not exhaust the visual repertoire illustrated by the terracottas, which encompasses animals of all sort (even an insect is documented), miniatures of theatrical masks, architectural elements, and models of everyday objects such as accessories, vessels, food, furniture, and boats (Fig. 1). They embody a world in miniature, fascinating for its richness, an ideal and frozen illustrated catalogue of everyday life at Seleucia.

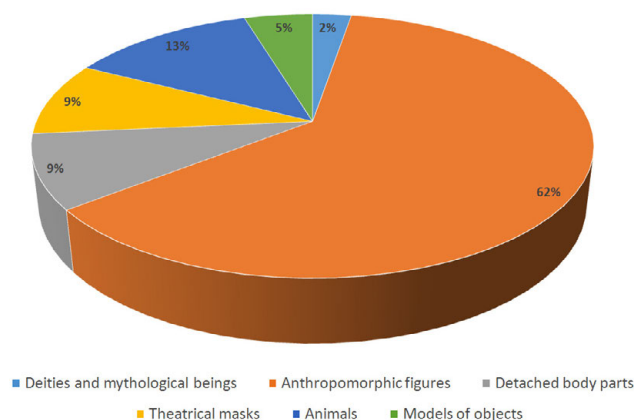


Fig. 1 - Subjects of the coroplastic repertoire from Seleucia on the Tigris. Data collected from MENEGAZZI 2014.

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¹ Paragraph 1 is by R. Menegazzi; paragraph 2 is by R. Menegazzi and C. Lippolis.

² For the complete catalogue of terracottas from Seleucia on the Tigris, see MENEGAZZI 2014. For the history of the excavations and the formation of the coroplastic corpus, see *ibidem*, 1-4, with references.

³ On the role of the figurines as social agents, see in particular LANGIN HOOPER 2020.

⁴ The topic, addressed in MENEGAZZI 2012, was further developed in LANGIN-HOOPER 2013, MENEGAZZI 2014 (throughout the chapters of the catalogue), 2016, 2019. In her most recent contribution, Stephanie Langin-Hooper analyses the choices reflected by the figurines of Seleucid and Parthian Babylonia in light of the global and local tendencies of the Hellenistic koine (LANGIN HOOPER 2020, 203-246).

ENRICO FOIETTA*

COOKING, DRINKING AND BANQUETING AT HATRA. NEW DATA FROM BUILDING A

ABSTRACT

The data from the excavations of Building A shed new light on the way of cooking, drinking and banqueting at Hatra during the 2nd and 3rd cent. CE in North Mesopotamia, testifying local and shared customs. New interpretation will be given especially on bread and flour production for the identification of particular structures attested in the archaeological context and on different productive and specialized areas identified thanks to the discovery of other findings.

KEYWORDS

Hatra, Parthian period, domestic complex

Introduction

This paper examines some preliminary researches on the structures and findings related to cooking, drinking and banqueting at Hatra, with the use of new information from the excavation of Building A.

This important manor has been excavated since 1986 with four archaeological campaigns by the Italian Expedition at Hatra directed by Roberta Ricciardi Venco.¹ The purpose of this work is to better comprehend what food was cooked and how in Building A, employing mainly archaeological data and in a wider sense, how the food and beverage was processed, stored and transformed in a house of the city.

Hatra reached its apogee during the 2nd and 3rd cent. CE becoming a broad city of ab. 300 ha, the capital of an important buffer state placed in North Mesopotamia, located between the Parthian and the Roman Empires.²

The city was destroyed by the Sasanian army in 240/1 CE and never reoccupied, as testified by Ammianus Marcellinus and later sources.³ Since the end of the 19th cent., the site has been investigated by French, German, Iraqi, Polish and Italian archaeological expeditions,⁴ which unearthed the central Great Temenos leading to the discovery of the main temples, 14 small shrines, funerary buildings, palaces and houses.⁵

Building A and its Main Archaeological Phases

Building A was constructed on the eastern side of the North Street, which is one of the main axis of the

network of roads, connecting the central Temenos with the northern city gate.⁶ During its Late Phase, Building A was a polycentric house of ab. 1850 m² with three courtyards, the central one extending for 368 m².⁷ One or two rows of rooms were built around the courts relating to different domestic units, where multiple functions were conducted.⁸

Archaeologists have recognized different archaeological phases for Building A⁹. The best known for its extension and the information provided is the Late Phase, dated between 200 and 240/1 CE (Fig. 1). The Main phase (Fig. 2), which is chronologically placed just before the Late Phase, is dated around 200 CE, according to the dates reported on two inscriptions engraved on the basement of a statue of young god, possibly Bar Maren, placed originally on the altar along the eastern court's side¹⁰ and a graffito from S14.¹¹ The Earlier Phase of Building A (Fig. 3), dated to the second half of the 2nd cent. CE, is only partially known and its plan is more hypothetical as opposed to the other later phases.¹²

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¹ Hatra Archaeological Expeditions has been supported by CRAFT (Centro Ricerche Archeologiche e Scavi di Torino) and UniTO (Università di Torino) for the campaign of 1986 and UniTO for four archaeological campaigns (1987-1989, 1995). VENCO RICCIARDI 1988; 1990; 1992; DORNA METZGER, VENCO RICCIARDI 1998.

² HAUSER 2000; 2009; VENCO RICCIARDI 2008; FOIETTA 2018, 141-151; 2020a; 2020b; 2021.

³ AMMIANUS MARCELLINUS 25.8.5: *properantesque itineribus magnis, prope Hatram venimus, vetus oppidum in media solitudine positum, olimque desertum*. HAUSER 2013, 121.

⁴ For the history of the research: VENCO RICCIARDI 2000; FOIETTA 2018, 7-21; VENCO RICCIARDI 2019, 149-152; FOIETTA (forthcoming).

⁵ For the main elements of the urban layout and buildings: VENCO RICCIARDI 2000; GAWLIKOWSKI 2013; FOIETTA 2018, 159-496.

⁶ For Building A: VENCO RICCIARDI 1988; 1990; 1992; 1996a; 1996b; 2004; DORNA METZGER 2000a; 2016; DORNA METZGER, VENCO RICCIARDI 1998.

⁷ DORNA METZGER 2000a, 181; FOIETTA 2018, 427.

⁸ VENCO RICCIARDI 1990, 37-38.

⁹ For the phases suggested before this paper: VENCO RICCIARDI 1996a.

¹⁰ VENCO RICCIARDI 1988, 41, fig. 29. For the inscriptions: PENNACCHIETTI 1988.

¹¹ Inscription H1067: MORIGGI, BUCCI 2019, 78.

¹² VENCO RICCIARDI 1996a, 311-320.



Fig. 1 - The Late Phase of Building A. The findspot of fireplaces and hand-mills are marked respectively with layout and full grey circles.

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