

Temporal Clustering at Urkesh

A Structural Analysis of Strata, Phases, Horizons¹

Giorgio Buccellati and Marilyn Kelly-Buccellati

The chronological system of an ongoing excavation has to be responsive to the ever changing suggestions emerging from the stratigraphy. The relationship between strata and phases as excavated at Mozan on the one hand, and the historical development of the ancient city on the other, as defined by the concept of strata, phases and horizons, has been the object of a finely tuned methodological concern of the Urkesh Archaeological Project and in particular of the Urkesh Global Record. The paper will illustrate the theory behind the system and show how it functions concretely within the framework of the excavation project.

Strata and phases, and to a lesser extent horizons, are essential archaeological concepts and do not seem, at first blush, to require explanation. They deal with the chronological organization of the data, a stratum being a minimal unit in the system, restricted to shorter temporal spans and limited to data from the excavations, while phases and horizons expand the chronological range and introduce data from outside the excavations. Ultimately, a phase is a subdivision of a horizon, and a stratum is a subdivision of a phase, which is true. But this may tend to obscure the deeper structural difference among the three, to which we wish to call attention in this paper.

Inherent to this difference, there is an additional problem that emerges with the implementation of any such system, particularly within the context of an ongoing and multi-season excavation at a very large site, because each excavation unit presents its own sequence to which the sequence established in another unit at the same site may not immediately apply. The problem is then one of correlating sequences within a system that ought to be based on a method sufficiently dynamic and flexible to reflect all the nuances in any given unit, and yet able to maintain, at the same time, the sense of the overall development at the site as a whole.

We broached this and similar subjects with Peter several times at Tell Mozan, ancient Urkesh, within the framework of our overall shared interests in matters of theory and methodology. It was one of the factors that had brought us together and led us to join forces in the excavation of this major ancient site. The idea of cooperating as well in the development of the Urkesh Global Record was one of

¹ A paper produced within the framework of the research project *Cybernetica Mesopotamica* sponsored by the Balzan Foundation.

the reasons behind our plans, and even though eventually our efforts developed along different paths, the initial interest in the theoretical dimension remained active and alive. It is in this spirit that we dedicate to him these reflections about the theory and practice of chronological periodization, harking back to the many conversations we were privileged to have in the Expedition House and briefly in Tübingen as well.

1. The Theory

Types of Analysis

There are two major ways of looking at, and defining, archaeology.² The first is to consider archaeology as the inner-referential trace analysis of material cultural remains, i. e., to determine how material remains are found as to emplacement in the ground, and consequently how the originating depositional process may be inferred from this emplacement. This is an approach that is exclusive to archaeology.

The second is to consider archaeology as the extra-referential analysis of material cultural remains seen apart from their emplacement, i. e., in their distinct typological identity. This approach relies on a variety of different disciplines other than archaeology, e. g. philology for the reading of textual material remains; architectural theory for an assessment of the built environment; or laboratory analysis for obtaining C14 determinations, to name only a few.

Accordingly, three types of analysis may further be distinguished.³ At the inner-referential level we have *stratigraphic* analysis, which deals exclusively with contact associations of elements in the ground: starting from emplacement, one can infer depositional processes that are predicated on the initial nature of the contact association in the ground.

The other two types obtain at the extra-referential level. *Typological* analysis looks at the formal identity of the elements and shows how the ensuing categorization can contribute to their chronological sorting. This analysis draws on methods derived from disciplines other than archaeology, for instance epigraphy for the reading of texts (cuneiform tablets in the case of Urkesh), or architectural history, or the laboratory analysis of samples for C14 determinations, both of which link temporal sequencing to chronological frames that are independent of stratigraphy (absolute chronology).

While typological analysis remains anchored to the data from a given excavation, and to that extent it is still inner-referential in nature, *integrative* analysis is abundantly extra-referential: it brings to bear on the data a wealth of information from other sites, and it aims to construct a far-reaching hermeneutic framework within which each element acquires a broader sense.

² For a full discussion cf. Buccellati, 2017.

³ Cf. Buccellati, 2017: chapters 5–7.

Temporal Clustering of Elements

Conceptually, strata, phases and horizons may be understood as referential clusters: they relate elements from the excavation with reference to a temporal frame – just as, for instance, the concept of typological assemblage relates the same elements with reference to a morphological frame. A temporal cluster brings together elements that share a degree of contemporaneity (e. g., a building and floor accumulations that are in physical contact), just as a typological assemblage brings together elements that share a degree of morphological similarity (e. g., jars of a given shape).

Strata, phases and horizons can thus be defined as temporally conditioned clusters of elements. There is a structural difference among strata on the one hand, and phases and horizons on the other: strata are based exclusively on inner-referential analysis, while phases and horizons add the extra-referential dimension.

A *stratum* is exclusively inner-referential, so that it can be defined as a cluster of elements arranged according to the type of contact, and sorted according to nesting criteria that result in discrete wholes. These wholes are defined by the congruence of the elements in contact (e. g., a series of pits cut into a single accumulation), and by broad elements that extend to an entire volumetric unit (e. g., floor accumulations in adjacent rooms). Phases and horizons, on the other hand, are based on extra-referential considerations.

(1) *Phases* extend the notion of clustering beyond the sphere of immediate contact. They are, in effect, non-contact clustering of contact-based clusters (the latter being represented by the strata). Very importantly, phases add typological criteria, on the basis of which one may define the functional dimension of the spaces, such as the ceramic inventory that refers to the uses of structures. Phases are also defined in terms of substantial re-organization of space, for example restructuring of the space used within a building (blocking of doors, raising of walls) or abandonment and rebuilding using a different footprint.

(2) *Horizons* are defined on the basis of broader integrative considerations, especially with regard to regional comparative evidence, absolute date determinations, textual references, and the like. For example, they may link a given structure and its use, through a given developmental period, to the reign of a known king based at a different locality but in control of the site at the time of that particular period. We may chart these relationships as follows:

analysis		cluster
inner-referential	stratigraphic	stratum
extra-referential	typological	phase
	integrative	horizon

Sequences and Frames

There is a potential conflict between (1) the dynamics of an excavation in progress, which constantly adds new tesserae to the mosaic of contact associations, and thus to the strata, and (2) the need for an overarching stable chronological

scaffolding as defined by phases and horizons. In the measure in which excavations expand, the web of contact associations increases and becomes more and more complex, while the temporal frame of phases and horizons tends toward permanence.

A resolution of this conflict is found in allowing for distinct sequences to be produced progressively, in the measure in which the stratigraphic web expands, and to keep an indexing system that maintains the distinction while making it possible to establish overarching connections. We use the term *sequence* for the ordering of strata, and *frame* for the ordering of horizons and phases.

A *sequence* reflects our understanding of the tight web of stratigraphy at any given moment in the process of excavations, and in any given operation throughout the archaeological site. The logic of the system requires that strata be sequenced independently in each operation, since properly stratigraphic considerations can only apply to contiguous excavations. The content of a sequence will change within the same unit as the excavation area is expanded and new contact associations are discovered.

A *frame* provides the larger chronological context within which sequences fit, and is thus focused on phases and horizons, within which the sequences will in turn fit. A frame will expand in two directions: on the basis first of the increase of excavated material (reflected in the sequences), and second of new information from typological analysis or from integrative analysis beyond the site itself.

Indexing

Given the existence of distinct and progressively more complex sequences and frames, it becomes indispensable to register the differences, and to keep the correlation among them perfectly clear. To this end, a suffix may be added to each stratum, phase or horizon: it links each element to the sequence or frame to which it belongs.⁴

The system may seem cumbersome, but the fluidity it allows is a major gain. We will see some examples in the second part of this paper.

Nesting

The multiple levels represented by the sequences are autonomous, but they can be nested within each other. The concept of nesting refers to the potential for each temporal cluster to be nested within a higher level cluster, of either the same or a different type. Thus a stratum may be subdivided into component parts, or substrata, which are nested with the stratum itself. In this case there is structural homogeneity among the clusters.

Another type of nesting is dis-homogeneous: strata are nested within phases, and thus within horizons, even though they are not defined on the basis of the same parameters.

⁴ Cf. also Buccellati, 2017: 2.7.2–2.7.3.

Archival Versions

The different phase/strata generations that were in use for different units and different areas prior to any given date should be archived for permanent future reference, even though only the latest one is in use in any given process. In this way, one may instantly place any given stratum or phase in its full context as it was at the time the generation was active.

2. The Urkesh Project

A Website Based System

All excavations have their own system of organizing stratigraphic sequences into strata and phases, and sometimes horizons as well, and each system provides charts of different types. Here, we will give examples from the Urkesh system.

The system is structurally geared towards a browser style presentation; hence one can have a full appreciation of its effectiveness only through an online approach. The figures given here should be seen as an invitation to go to the website, to which links are given in the text.

This is in line with the digital approach which we have developed with regard to the website as a special epistemic system.⁵

Sequences

A stratum is identified by the prefix “s” followed by a number, and it must always be followed by a suffix that identifies the sequence and the generation. Thus J5s130^{J5B} (also written J5s130-J5B) refers to stratum 130 of unit J5, belonging to the sequence J5B.

The full information about this particular stratum is shown in Fig. 1, but one should look at the relevant page on the J5 website (urkesh.org/J5s130). Here one can find a definition of the stratum and one can click on any of the features that are included in the stratum, where one will find all the details pertaining to the contact associations recorded.

The suffix in J5s130^{J5B} (J5s130-J5B) links to generation B of the J5 sequence, which can be seen in Fig. 2 (online at urkesh.org/J5-strata).

Such sequences may belong to either a single excavation unit (such as J5) or to a broader area (e. g., JP for the area of Temple Plaza): new sequences become possible as individual units come either in physical contact with each other, or are sufficiently close to allow a logical extrapolation.

A complete list of current sequences, including an archive of earlier generations, is found in the site wide website MZ (Fig. 3, online at urkesh.org/MZ-strata).

Strata sequences are connected to the system of phases and horizons, of which they appear as subdivisions. As argued above, the two sets (strata on the one hand and phases/horizons on the other) are structurally dis-homogeneous, but the former can be nested in the latter, in function of the fact that they all serve the pur-

⁵ Cfr. Buccellati / Kelly-Buccellati, 2020; Buccellati, 2022. Both articles are available online at <http://urkesh.org/eL-articles>. See also d-Discourse.net.

J5s130-J5B				
File: /MZJAIJ05/DII//MZJAIJ05/DIS/ 130-JSB.HTM				
Processed on 8-24-2022				
The home for this page is J5				
Labeling/Desigation				
definition (typological label)	2012-10-16	jW	Use of western temple entrance	[Input File: WX16JW.j]
Time Sequencing				
Features included within stratum	2012-10-16	jW	f63	[Input File: WX16JW.j]
	2012-10-16	jW	f81	[Input File: WX16JW.j]
	2012-10-16	jW	f82	[Input File: WX16JW.j]
	2012-10-16	jW	f83	[Input File: WX16JW.j]
	2012-10-16	jW	f84	[Input File: WX16JW.j]
	2012-10-16	jW	f85	[Input File: WX16JW.j]
	2012-10-16	jW	f89	[Input File: WX16JW.j]
	2012-10-16	jW	f122	[Input File: WX16JW.j]
	2012-10-16	jW	f180	[Input File: WX16JW.j]
	2012-10-16	jW	f181	[Input File: WX16JW.j]
	2012-10-16	jW	f212	[Input File: WX16JW.j]
Phase (to which element belongs)	2012-10-16	jW	h7sJ5B	[Input File: WX16JW.j]

Fig. 1: Website page for a given stratum within a given sequence (urkesh.org/J5s130).

poses of temporal definition. This nesting is shown in the strata sequences (see for example the link to the phase in the left column in Fig. 2), and is fully developed within the site wide frame.

Frames

For frames, too, we have indexing, which may be labeled with suffixes identifying the site, in our case, MZ, thus MZA refers to the A version of the mainframe for the whole site.

In the 2008 season at Mozan we introduced for the first time a site wide frame (MZA, see Fig. 4, online at urkesh.org/mza-frame), which is the one uniformly in use in the current version of our record. More than a proper sequence, this serves as a broad frame of reference within which actual phases, and especially actual strata are correlated, identified and defined. In other words, while the same numbers are used to allow for a correlation across chronological lines, this should not be taken to imply that the depositional processes embodied in the different sequences are the same. While the numbers for phases and especially strata may be the same, the definitions for phases and strata will generally differ from area to area, and even from unit to unit. In practice, this means that we retain distinct unit and area sequences (e. g., J5B or AAC), but assign numbers within the range

Unit Book J5
J5 Synthetic View / Stratigraphy

Strata for Unit J5

James L. Walker – May 2020

Introduction
The strata definition chart (J5B)

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Introduction

The strata sequence currently used is J5B, it is a sequence based on the J5 data and is unique to J5. It is a component of the [final version of the JPD](#) developed during the 2011 and 2012 study seasons. (The JPD sequence was formed by the amalgamation of unit sequences from J1, J2, J3, and J5.) The previous unit sequence, J5A, can be found [here](#).

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The strata definition chart (J5B)

phase	stratum	sub-stratum	definition of stratum and sub-stratum
9s	00		Intentionally unassigned (f103)
9p	10		Interseasonal Accumulations (f201)
9m	20		Topsoil on tell surface (f1)
9m	30		First accumulations under topsoil (f7)
9c	50		Late accumulations including soil lenses (f22)
8r	60		Temporary occupations (f26)
8m	70		Minor Middle Assyrian accumulations (f12, f13)
7v	120		Last Mittani accumulations (f75)
7v	122		Construction of alternate entrance to temple mound (f37)
7v	128		Remodeling of entrance (f45, f192)
7s	130		Use of Western Temple Entrance (f63)
7m	148		Westward expansion of temple mound (f21, f70)
7j	161		Continued erosion of built-up surfaces and attempts to control it (f155, f218, f222)
7f	174		Soil escarpment against early revetment wall (f74).
7f	176		Accumulations atop soil and sherd floors (f244)
7f	178		Stone staircase and associated floor (f205, f246).
7f	180		Mittani structures to control water erosion against revetment wall
7f		180a	Brick dam and settling basin to control erosion (^wsc2).
7f		180b	Mittani accumulations atop EDIII glacis (f190, f191).
7c	190		Earliest Mittani deposits (f258).
3s	620		EDIII accumulations covering and abutting escarpments (f249).
3p	630		Construction of the second (mud) escarpment (f241, f242).
3n	640		First floors and deposits atop first (stone) escarpment.
3n		640a	Deposits atop floors and escarpment stones (f274).
3n		640b	First floor after SE wall constructed (278).
3m	650		EDIII modifications and additions to the revetment wall.
3m		650a	Slanted stones between EDIII wall and NinV escarpment (f293, z2).
3m		650b	Construction of the SE portion of the revetment wall (f189).
3l	660		Floors abutting the stone escarpment.
3l		660a	Accumulations on pebble floor (f282).
3l		660b	Pebble floor that abuts stone escarpment (f288).
3d	720		Ninevite V construction of west part of revetment wall system (f41, ^esc1)
2m	850		Earliest wall LC3? (f284).

Fig. 2: Website page for the J5 strata sequence (urkesh.org/J5-strata).

of the MZ frame (currently MZA). For example, phases 5c^{MZA} through 6c^{MZA} are richly represented in area AA; they are, however, missing in area JP. Using the MZA sequence simply means that there will be a gap in the numerical sequence of the JP phases: this will call attention to a depositional phenomenon that requires a particular explanation.

Strata sequences

Giorgio Buccellati – March 2016

Strata sequences are directly related to the actual data, clustered as to the relation between contact associations and temporal order. They are tied, therefore, to the individual excavation units, and more broadly to the typological areas within which the excavation units fit.

I give here the current versions, ordered by areas and, where necessary, by unit. Separately, I also give the earlier versions for the sake of reference.

For a longer version see [here](#).

NOTE. Area “MC” stands for the Monumental urban Complex, for which a digital book is not currently available. It comprizes AA, JP and BT, that is, the Palace, Plaza and Temple Terrace areas.

Current versions

Area <u>AA</u>	<u>AAE early</u>	July 2005
	<u>AAE late</u>	July 2005
Area <u>JP</u>	<u>JPD</u>	October 2012
Area <u>MC</u>	<u>MCC</u>	March 2009
Units in Area <u>AA</u>	<u>A14A</u>	June 2007
Units in Area <u>JP</u>	<u>J2A</u>	December 2010
	<u>J5B</u>	December 2010

Earlier sequences

Area <u>AA</u>	<u>AAA</u>	(missing)
	<u>AAAB</u>	March 2001
	<u>AAAC</u>	September 2001
	<u>AAAC phases overview</u>	July 2001
	<u>AAD</u>	<i>MDOG</i> 2001
	<u>AAD compared to C2</u>	July 2002
	<u>AAF</u>	(missing)
Area <u>JP</u>	<u>JPA</u>	August 2007
	<u>JPB</u>	July 2008
	<u>JPC</u>	(missing)
Area <u>MC</u>	<u>MCA</u>	June 2004
Units in Area <u>JP</u>	<u>J5A</u>	(missing)

Fig. 3: Website page for a list of strata sequences (urkesh.org/MZ-strata).

The interdigitation of all three temporal clusters is clearly brought out in the Mozan Frame, from both the data excavated at Urkesh and from the wider connected historical record of Syria and Mesopotamia. An example of this is the subject of Urkesh in letters found in the Mari archives from two “governors” of Urkesh (Terru and Haziran) to the Mari king, Zimri-Lim, speaking about the difficulties of governing Urkesh in his name.

Urkesh Ceramic Horizons

A significant use of the horizon frame can be seen in the pertinent section of the Ceramic Analysis Digital Book (Fig. 5, top portion of page only; online at urkesh.org/ceram-horiz). On the upper part of the right side bar, one sees a list of the

MZ sitewide

FRAME MZA FOR HORIZONS, PHASES AND STRATA (LONG)

Giorgio Buccellati – May 2011

See [here](#) for the principles underlying the system.
MZA: Full Landscape
MZA: Full Portrait

horizons				horizon		phases			strata
middle chr	Mesopotamia	Urkesh		MZA	AAC	Mesopotamia	Urkesh	Jezirah	MZA
		name	politics	hor	ph	history	structures	Items	
1900 AD				9	m				1-19
	medieval				h				20-39
	late antiq.				c				40-59
				8z					
1307-1275	Middle Assyrian	foreign	scattered occupation	8		Adad-nirari I			60-99
(1365)-1330						Asshur-uballit	west of Plaza (?)	Late Bronze	
				7z					
1365-1335					v	Shattiwaza	breakdown of the tradition		100-139
1380					s	Tushratta			
1400	Mittani	royal sanctuary	retrenchment to west and open air use of the abi	7	m	Shutarna II	use of re-organized western Terrace		140-
1450					j	Artatama I	the great shift		170-
1500					c	Saushtatar	de-emphasis of eastern portion	Nuzi/LB	180-
					f	Parattama I	beginning of filling in of Plaza		
					e		attempts at protecting NW terrace		
				6z					
1600				6	m			burials	
	Khana	provincial status	reluctant vassal		h	Zimri-Lim	Terru. Haziran		Khabur/MB.OJ
1800					c			dumps	2
					s	Shamshi-Adad		kilns	
				5z					
1900					h	Isin-Larsa			OJ 1
2000	retrenchment	urban contraction	localized power	5	c	Ur III	Atal-sen, Pussham	eastern Plaza	Early Jez.V
					a		Sadar-mat	outdoor above Palace	
				4z					
2100					t	Post-Imperial			
2200					r	Sar-kali-Sarri	Isar-kinum		EJ IVb
2230					3	late Naram-Sin	Tar'am-Agade	palace	
2270					j	early Naram-Sin	Tupkish	palace	
2290	imperial	great alliances	Tupkish and Tar'am-Agade: dynastic marriages with Akkad	4	f	Sargon, M., R.	Tish-atal (?)	temple BA remodel?	EJ IVa
2330					e	proto-imperial		accumulations	
2400					c			destruction of BA, K1	
					b	ED III late		2nd escarpment, flanking wall	EJ IIIb
					a				
				3z					
2500					p	ED III mid		use, water damage	
					n	ED III mid		use, water damage	
					m	ED III early		construction BA and early escarpment	
2600	proto-urban	urban growth	expansion and beginning of political power?	3	l			OH2	600-749
					j	ED II		floors	Nin V undec., template
2800					h			KW?, floors	Nin V inc. & exc. fine
					f	ED I		floors	Nin V fine incised
					b			floors	Nin V painted
				2z					
2900					r	J Nasr/post-Uruk			EJ0, pre Nin.V
3000					p	Late Uruk			LC5
3400	proto-literate	Temple terrace	expansion of sacral institutions	2	m	Late Middle Uruk			LC4
3600					i	Early Middle Uruk		early Terrace-B8	LC3
3800					c	Early Uruk			LC2
				1z					
4000					r	Late Ubaid			LC1
4200					p	Early Ubaid			
4500	prehistory		sacral origins?	1	m	Late Halaf			900-999
4800					h	Early Halaf			
5000					c	Proto-Halaf			

Fig. 4: Screenshot of website page for Mozan strata frame version A (urkesh.org/mza-frame).

Urkesh Ceramic Analysis

Shapes by horizon

Introduction

Marilyn Kelly-Buccellati – January 2014
Laerke Recht – September 2016

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Overview

This Ceramics book contains all the *methodological and analytical information and codes* that have been used to analyze the ceramics from the excavations. Additionally the history of the development of this methodology for the Mozan/Urkesh excavations has been included. Importantly, all the ceramics that were excavated in all the individual units are published in the individual unit books using this methodology. Therefore if one is looking for the process, this book should be consulted. But if the questions are about the ceramics from individual contexts then this information is found in the unit book website.

The *catalogs* found in this section span, for the most part, the time periods in which the site was occupied. This is true for the periods from LC 3 through the Middle Assyrian period. During the Early Dynastic, Akkadian and Mittani periods (using Mesopotamian chronological categories) the ceramic corpus is larger than other time periods for a variety of stratigraphic and functional reasons. These include the fact that fewer excavation units were opened for that period or that the functional contexts resulted in a greater amount of discard, this latter is especially true for the Mittani period. Also true for the Mittani period is that the catalog is larger because of the finer articulation of shapes produced by the local potters. Included at the end of the Mittani catalog are drawings of some of the painted designs. For the Middle Assyrian period there are relatively few shapes in the catalog due to the fact that there are few excavated contexts from this date.

For the concept of “*horizon*” see in the general Urkesh website, under Background > [Horizons](#).

For an introduction to the *Urkesh horizons* see in the Mozan sitewide digital book, under [Mozan frame](#).

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Methodology

The shapes in the various horizons in this section of the Ceramics Book reflect a selection of the

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1. Temple Terrace (LC3)
2. Urban growth
 1. (EDII)
 2. (EDIII)
3. Great alliances (Akk)
4. Urban contraction (UrIII-L)
5. Provincial status (Khabur)
6. Royal sanctuary (Mittani)
7. Foreign presence (MA)

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Shapes by context

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Shapes by typology:

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Fig. 5: Screenshot of top of website page for the introduction to the Horizons section of the Urkesh Ceramic Analysis Digital Book (see urkesh.org/ceram-horiz to scroll down and see the full page).

Urkesh horizons. Clicking on any of them, a window opens which has two major components.

The first is a detailed description of a given horizon in terms of the ceramics materials. Fig. 6 (online at urkesh.org/ceram-horiz-EDIII) gives a view of the top part of the page. The rest is too long to include in the figure; online, one can scroll down and read a full essay on the subject. Clicking on any of the samples, given as drawings, brings to the full page of that particular vessel or sherd, where the full information is given for that particular item.

The second is a list of shape types that are characteristic for that horizon (Fig. 7; online at urkesh.org/ceram-EDIII-cups), accessed from the second side bar on the right. Here, too, by clicking on any drawing, one gets to the full description of the pertinent vessel or sherd (e. g., Fig. 8, online at urkesh.org/OH2q3-p5). The total corpus utilized for the horizon section consists of 1435 whole vessels and sherds. A number of indices analyze the data from different points of view, as exemplified for quantity by period in Fig. 9, (online at urkesh.org/ceram-freq).

Urkesh Ceramic Analysis

Shapes by horizon: ED III / Urban Growth 2

Overview

Marilyn Kelly-Buccellati, Laerke Recht – March 2021
Marilyn Kelly-Buccellati – June 2023

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Introduction

The complete analysis of shape and body sherds excavated in many excavation units of Urkesh/Mozan is due to the hard work and efficient cooperation of the dedicated *Ceramics Team*. Working together in Mozan I wish to thank this ceramics team for the preparation and analysis of all the ceramics that have made this Overview possible: Hammad Hamza, Ibrahim Khellu, Ismail Mesto, Kamiran Faisal, Diadin Mustafa, Sami Hamza and Imad Hamza. In Mozan Marie-Claude Trémouille generously helped me to organize the Temple BA sherds in the Urkesh Ceramic Library, a large dedicated display room in the expedition house ([Mozan/Urkesh Ceramic Library](#)).

A significant amount of third millennium ceramics has been excavated in Urkesh dating to the first half of the millennium. The corpus of ED III ceramics excavated on the High Mound is much larger than the ED II corpus due to the many excavation units with this chronological horizon. The most extensive are the *Temple BA excavations* on the top of the High Mound in units B1-5, and the Temple Terrace excavations in units J1-3, J5. Other less extensive excavations with material dating to this time period occurred in [area K1](#) (see especially pp. 61-5, 69-81) on the eastern edge of the High Mound. In the Outer City the most important excavations are in OH2 ([OH2](#)), a small excavation which yielded a portion of an administrative building located on the northeast. Additionally the surface collection in OD50 ([OD50](#)), located in the southeast portion of the Outer City, is probably to be dated early in ED III, that is, somewhat later than the ED II ceramics in Oa4 and Ob1 tombs, as it contains a wider variety of early Metallic ware shapes, more vessels made in Fine Chaff and Chaff Tempered wares including some interior grooved rim jars of the early type ([Outer City](#)).

Shapes found in ED III are shown in this *ED III catalog*; the shape catalog contains 114 jars ([jars](#)), 101 bowls ([bowls](#)), 25 cups ([cups](#)), and 15 pots ([pots](#)), 1 miscellaneous for a total of 256 shapes illustrated. In the right hand column the central portion (C2) is dedicated to an overall presentation of ceramic shapes from important strata ([shape catalog](#)).

Ceramic wares found for this period are described in [wares](#). The most *prevalent wares* used by potters in the ED III period are Simple ware, Wet Smooth ware, Chaff Tempered ware and Fine Chaff ware. Fewer vessels were made in Rough ware, Pebble Tempered ware, Metallic ware, Imitation Metallic ware and Red Calcite ware. Painted decoration is almost never found in this period in Urkesh.

The *categorization system* is explained in detail on the left side of the Urkesh website ([categorization](#)). Each type in the shape catalog is linked to a detailed description of that type ([description](#)). In our system every shape sherd and some body sherds are given a unique number within the overall system which includes the excavation unit it came from, the q number which links it to its stratigraphic context and a unique p number ([numbering](#)).

Fig. 6: (Part 1) Screenshot of website page for ED III Horizon page in the Urkesh Ceramic Analysis digital book (urkesh.org/ceram-horiz-EDIII) (continuing next page).

3. Conclusion

The Urkesh system is properly intended for use within a website framework. In this regard, it is an example of the scholarly use of websites as developed in the project *Cybernetica Mesopotamica* (cyb-mes.org), which we are carrying out under the auspices of the Balzan Foundation. The power of this digital approach, as it applies to a particular aspect of the archaeological record, i. e., the linkage between stratigraphy and chronology, is apparent, for it is ideally suited to combine two seemingly opposite needs. There is on the one hand the need to maintain the utmost flexibility in the record of an ever fluid stratigraphic record, one that is limited to the narrow confines of a given excavation unit were there is physical contiguity among features. And there is on the other the need to link this to a permanent chronological framework and to link it at the same time to a growing,

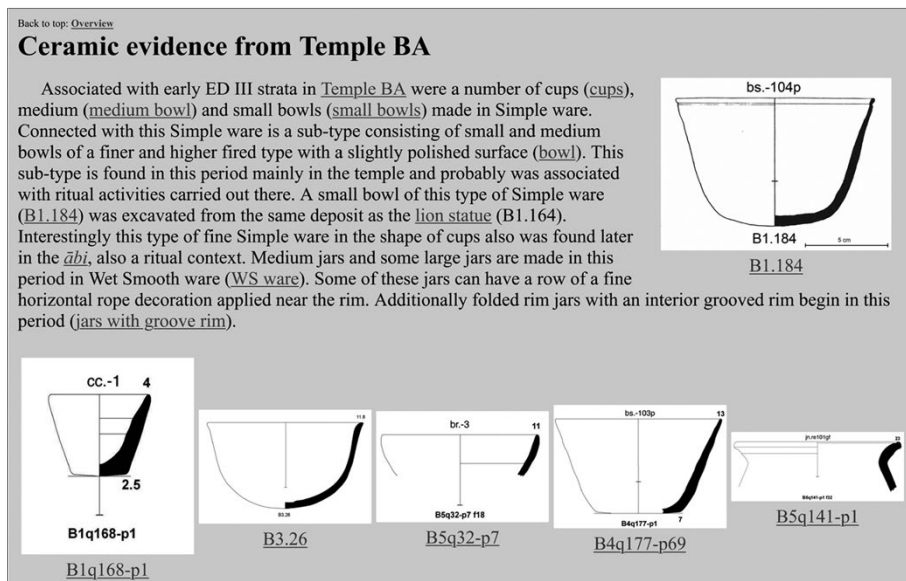


Fig. 6: (Part 2) Screenshot of website page for ED III Horizon page in the Urkesh Ceramic Analysis digital book (urkesh.org/ceram-horiz-EDIII).

and typologically diversified, universe of data from a number of very different stratigraphic settings in the overall excavation of the site.

It is only with a digital approach that we can do justice to these two conflicting needs – more specifically: this is ultimately possible only with a system that relies on the interlacing of multiple websites, unified by a coherent grammatical vision of how the data are treated and by an equally coherent digital discourse capable of articulating the interaction inherent in the extensive multiplanarity of levels and dimensions. Our paper gives a glimpse of how this is possible with regard to two major aspects, that of the single excavation unit on the one hand, and, on the other, that of the extremely large ceramic inventory resulting from our excavations. Limitations inherent in a printed representation, as it is done in this paper, are indicative of why the full fruition of the system is possible only in a digital environment like the one to which we have referred.

The nature of this digital discourse can only be intimated here. It goes beyond the current use of the digital medium, which is effectively restricted to databases. It proposes a dynamic interaction along the lines of a narrative which develops multiple arguments concurrently – such as, in our case, the stratigraphic restrictions of the stratum understood as the clustering of elements in physical contiguity; the wider range of a chronological frame that defines phases and horizons on the basis of typological and integrative analysis; the organization of a massive ceramic database that builds on a highly detailed record for every sherd excavated, even the smallest one. If the nature of such a digital discourse is only intimated

Urkesh Ceramic Analysis
Shapes by horizon: ED III / Urban Growth 2

Cups

Marilyn Kelly-Buccellati – February 2015, September 2016

[Back to top: Cups](#)

Brief Overview

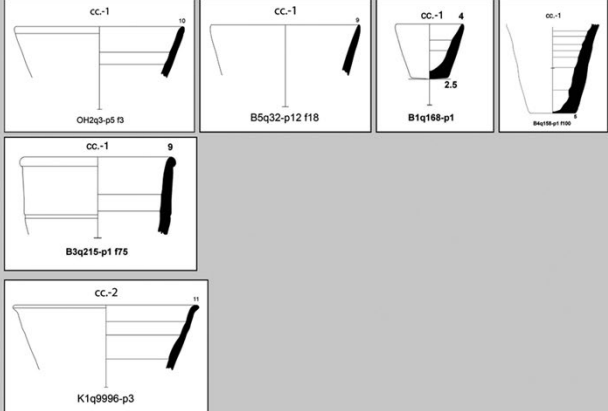
The definition of the what is a cup is the same for all units and all time periods in the UGR. See [here](#) for further details. The number of cup shapes, as usual, are fewer than in the categories of jars or bowls. Illustrated in the catalog are 25 cup shapes.

Conical cups are the prevalent cup type in early ED III; they are produced in coarser examples of Simple ware than in late ED III. For statistics regarding the number of cup sherds see [introduction](#).

[Back to top: Cups](#)

Conical Cups

cc.-1



OH2q3-p5 10

B5q32-p12 118 8

B1q168-p1 4

2.5

B3q215-p1 175 9

cc.-2

K1q9996-p3 11

Fig. 7: Screenshot of top of website page for a class of items of the ED III Horizon (urkesh.org/ceram-EDIII-cups).

here it is because it cannot, by its very nature, be embodied in the static medium of the printed page. But we hope that our paper will be provocative enough to encourage colleagues to become more familiar with the results of the work we are conducting as part of the *Cybernetica Mesopotamica* research project.

OH02q3-p5

File: /MZ/A/OH02/D/QP/000305.HTM
 Processed on 08-25-2016
 The home for this page is [OH02](#)

Reference To Qlot	q3
-------------------	----

Labeling/Designation

Category	1998-7-18	!!	unknown [Input file: ZA801S.J / ZA801S.-J]
Definition	1998-7-18	aF	~C [Input file: ZA801S.J / ZA801S.-J]

Description/Count

Quantity of components	1998-7-18	aF	1 [Input file: ZA801S.J / ZA801S.-J]
------------------------	-----------	----	--------------------------------------

Time sequencing

Stratum to which element belongs	2006-8-25	!!	s20 ^{OH2} [Input file: S-CUMUL.J / S-CUMUL.-J]
Phase to which stratum belongs	2006-8-25	!!	h9m ^{OH2} [Input file: S-CUMUL.J / S-CUMUL.-J]

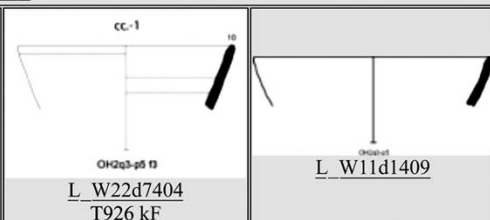
Measurements

Top width	1998-7-18	aF	9 [Input file: ZA801S.J / ZA801S.-J]
-----------	-----------	----	--------------------------------------

Descriptive

Ware/Material	1998-7-18	aF	Wet Smoothed [Input file: ZA801S.J / ZA801S.-J]
Shape or form	1998-7-18	aF	cup [Input file: ZA801S.J / ZA801S.-J]
Notes on typology	1998-7-18	aF	cc with straight walls [Input file: ZA801S.J / ZA801S.-J]

Analogical record

Drawing of constituent	
------------------------	---

Special roster: ceramic analysis (Zca)

details of shape

ZcaS1.family	1998-7-18	aF	~C [Input file: ZA801S.J / ZA801S.-J]
ZcaS3.type	1998-7-18	aF	1 [Input file: ZA801S.J / ZA801S.-J]

Fig. 8: Screenshot of website page for a given single sherd (urkesh.org/OH2q3-p5).

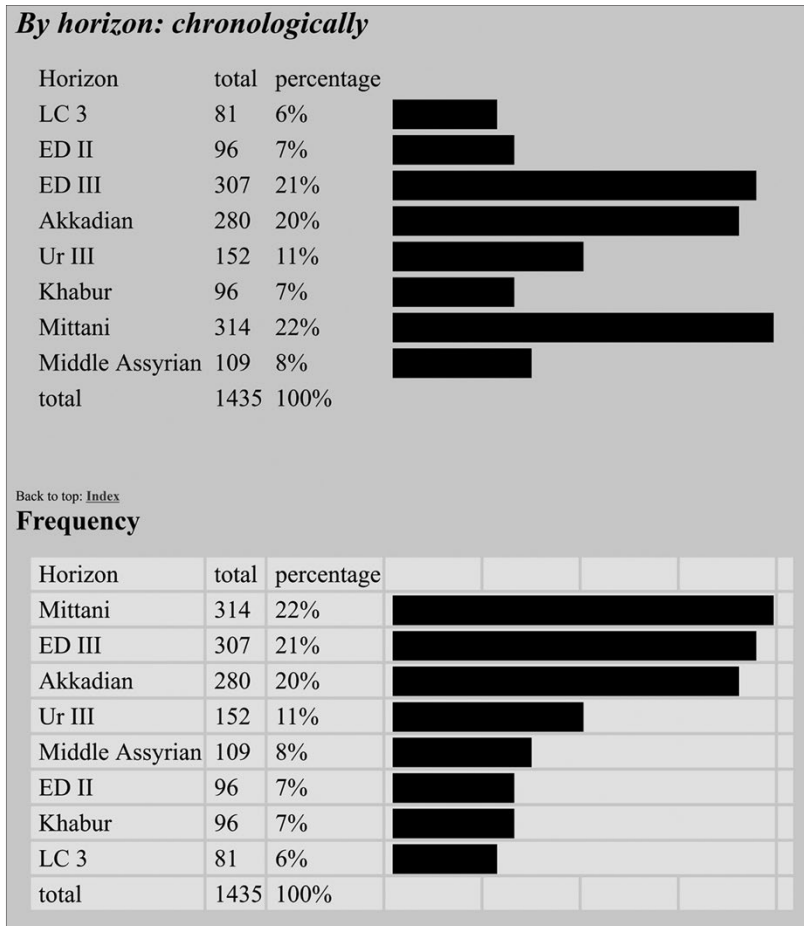


Fig. 9: Screenshot of index giving quantities of vessels and sherds per horizon (urkesh.org/ceram-freq).

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2024

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Peter Pfälzner in der Kampagne 2009 in Tall Mišrife/Qatna.

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