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What's in a Vessel's Name?

A Relational Text-Object Approach to the Uses of Mesopotamian Pottery

DANIEL CALDERBANK

While pottery is the most abundant form of material culture found at Mesopotamian archaeological sites, references to pottery vessels in cuneiform texts are comparatively infrequent. Beyond one-to-one identification of common vessel names with archaeological pot types, rarely have these two sources of evidence been integrated to expand our understanding of Mesopotamian peoples' perceptions of, and engagements with, their material world. This article develops an innovative methodology that is based on analysis of second-millennium BCE texts in combination with excavated ceramics from the Sealand-period site of Tell Khaiber in southern Iraq (ca. 1600–1475 BCE). It begins by investigating the broader repertoire of pottery nomenclature to sketch out the primary use-contexts of Mesopotamian vessels, before conducting a contextual analysis of vessel names in the Tell Khaiber archive and in the Sealand-period tablets in the Schøyen Collection. Vessel use-contexts are mapped across the excavated areas of Tell Khaiber's Fortified Building to understand whether the vessel uses suggested by the texts are borne out in context. This process provides fresh insights into the material basis of the little-understood Sealand period, while also recognizing the complex ways in which names and vessels operated contingently in the social reproduction of an ancient craft tradition.¹

INTRODUCTION

Ancient pots operated as tools that carried out a range of different functions.² The various uses of Mesopotamian pottery were inextricably tied to habitual social practices and performances that defined and constructed peoples' lived worlds. Yet archaeologists and historians continually struggle to understand how the inhabitants of ancient Mesopotamia incorporated ceramic vessels within the complex patterns of daily life. Many of our functional and typological interpretations continue to derive almost entirely from vessel shape; a *bowl* is generally used for eating, while a *jar* is used for storage. These interpretations are conventionally considered as intuitive, natural,³ and cross-cultural.⁴ Although interpretive nuance has been implemented across the

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¹ I would like to thank the directors of the Ur Region Archaeology Project (URAP), Stuart Campbell, Jane Moon, and Robert Killick. I am also grateful to Eleanor Robson, whose philological work with the Tell Khaiber archive supports this research, and to Walther Sallaberger, Claudia Glatz, and Yağmur Heffron for their helpful suggestions on various drafts of this article. Thanks also extend to the *AJA* Editor-in-Chief Jane B. Carter for her comments and to the three anonymous reviewers for the *AJA* for their advice and constructive criticisms. Any mistakes are, of course, my own. Illustrations, unless otherwise stated, are my own, while photographs are courtesy of URAP.

² Braun 1983. For an early assessment of the uses of pots in ancient Mesopotamia, see Ellison 1984.

³ E.g., Ochsenschlager 1981.

⁴ For discussions, see Miller 1985, 51–74; Rice 1987, 210–12.

discipline through the incorporation of ethnographic analyses,⁵ scientific techniques such as organic residue analysis,⁶ and even through examination of vessel iconography,⁷ the interpretive potential of textual evidence remains underutilized in many contexts. This is no doubt the long-term result of academics splitting along disciplinary lines: historians and philologists deal with texts, and archaeologists deal with objects.⁸

Second-millennium BCE Mesopotamia offers potentially firm footing from which to conduct relational text-object studies. Although urbanization and the development of writing are generally considered to have taken place approximately two millennia earlier, at fourth-millennium Uruk, it is during the second millennium that state societies boasting a mass and diversity of textual evidence emerged.⁹ To complement this traditional body of textual data, the last decade has seen the revitalization of archaeological activity across Iraq, first in Iraqi-Kurdistan, and more recently in the south of Iraq. Tell Khaiber, a mid second-millennium site (ca. 1600–1475 BCE) of the First Sealand Dynasty located in southern Mesopotamia about 19 km northwest of Ur (fig. 1), forms the archaeological case study for this paper.¹⁰ The pottery from the site's Fortified Building is the first Sealand-period assemblage ever recorded and also one of the most comprehensively recorded Mesopotamian pottery assemblages to date.¹¹

In this article, I contend that Mesopotamian textual evidence, when assessed in combination with material and spatial analysis of archaeological pottery, provides important new insights into the various functions of pottery vessels. This, in turn, yields significant potential for furnishing our social and economic understanding of material engagements in the Sealand period and for the production of the second-millennium pottery tradition more broadly. I begin with a brief

historiographical account of the Sealand period and a discussion of the Fortified Building at Tell Khaiber and the contemporary textual archives. I then analyze vessel names encountered in the textual records, with particular emphasis on the intersections between Sealand-period vessel terms and the wider second-millennium corpus. While the written evidence highlights the recurrent use-contexts in which Sealand pots were potentially incorporated, material analysis of Tell Khaiber's pottery vessels, in combination with distributive analysis using precise find location data and bulk sherd data, enables mapping of these use-contexts onto the excavated areas of the site's Fortified Building, thus eliciting the harmonies and dissonances between textual and archaeological evidence in relational dialectic.

TELL KHAIBER AND THE FIRST SEALAND DYNASTY

The second millennium BCE in Mesopotamia is characterized historically by the rise and fall of centralized state powers. The alluvial flatlands between the Euphrates and Tigris Rivers was a dynamic region composed of agricultural hinterlands punctuated by urban nodes, as well as extensive areas of marshland in the very south. These formed contested spaces and frontiers that alternated regularly between periods of relative stability and episodes of disruption and conflict. The political events that traditionally bookmark accounts of this period are, firstly, the establishment of the First Babylonian Dynasty (ca. 1792–1595), the state formed when King Hammurabi unified the northern and southern plains under the control of the city of Babylon, and, secondly, the rise and expansion of the Kassite Dynasty (ca. 1500–1100), a group of uncertain origins that once again brought the northern and southern plains under centralized control.¹² It is the period in between, straddling the disintegration of the Old Babylonian state and the emergence of the Kassites, that has continually confounded Mesopotamian scholars and has evoked images of a “Dark Age”¹³ or a “political *Zwischenzeit*.”¹⁴

Episodes of collapse, while having far-reaching social and material consequences, rarely result in

⁵E.g., Skibo 2012.

⁶E.g., Evershed 2008; Perruchini et al. 2018.

⁷E.g., Moorey 1994, 141–66; Potts 1997, 138–63.

⁸These issues are expertly addressed by Moreland (2006) for the wider discipline and Gates (2005) in the Near Eastern context.

⁹Postgate 1992, 66–70; van de Mierop 2004, 79–118.

¹⁰See Campbell et al. 2017 for a Tell Khaiber preliminary report. The final site report is currently in preparation (Moon et al. forthcoming).

¹¹For a summary report of the main pottery types, see Campbell et al. 2017, 39–43; for a regional and interregional discussion of the pottery, see Calderbank 2020. The final Tell Khaiber pottery volume is in preparation (Calderbank forthcoming).

¹²Dates in this article follow the Middle Chronology, which dates the fall of Babylon to ca. 1595 BCE. For discussions of the second-millennium chronology, see Gasche et al. 1998; Roaf 2012; Manning et al. 2016.

¹³van de Mierop 2004, 122.

¹⁴Boivin 2018, 1.

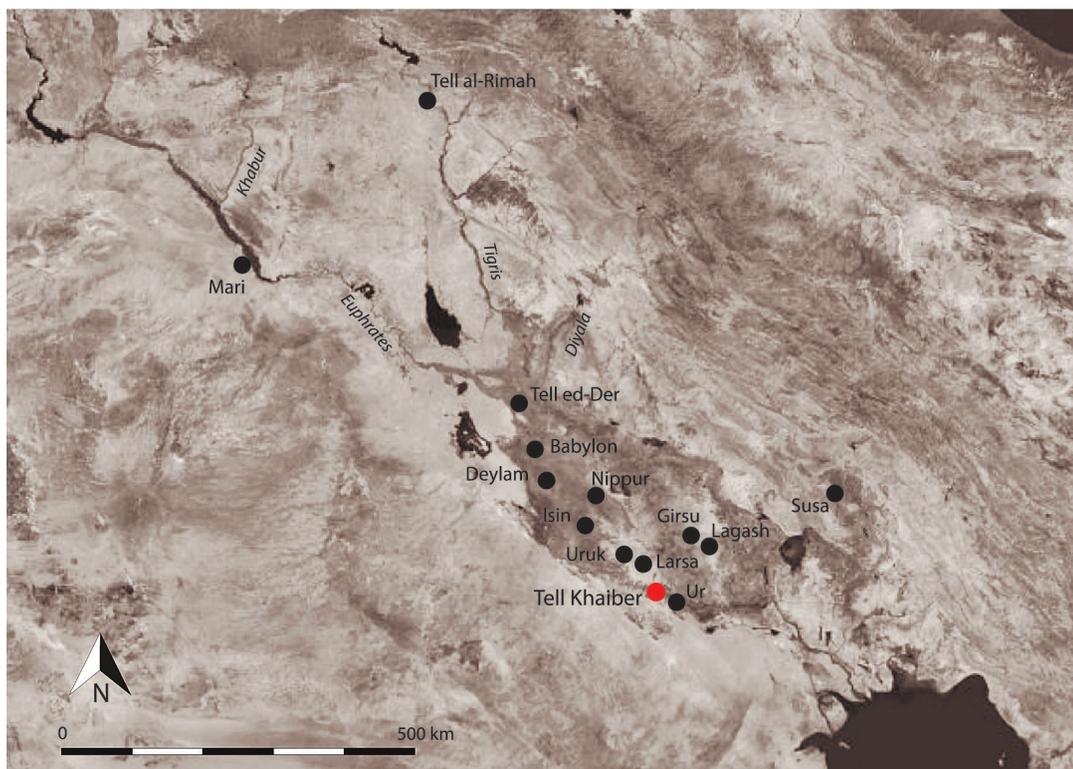


FIG. 1. Map showing the location of Tell Khaiber, major second-millennium Mesopotamian cities, and some other key sites in the region (base map © Bing Maps).

complete disintegration. Instead, they provide opportunity for political and cultural reconfiguration.¹⁵ Into the churning political milieu of the mid second millennium stepped a series of shadowy kings of the so-called Sealand (ca. 1732–1450), who appear to have exercised some level of control over the marshland terrain of southern Mesopotamia, forming what Al-Hamdani has recently conceptualized as a “shadow state” on the margins of Babylonian sovereignty.¹⁶ While the First Sealand Dynasty has been recognized by Mesopotamian scholars for more than a century,¹⁷ an almost complete absence of new textual or material evidence has, until recent years, left scholars at a loss to describe its inner workings and to recognize its material culture.¹⁸

Tell Khaiber provides the first stratified material associated directly with the First Sealand Dynasty.¹⁹

¹⁵ See, e.g., Yoffee 2014.

¹⁶ Al-Hamdani 2015.

¹⁷ E.g., Dougherty 1932.

¹⁸ For the most up-to-date and comprehensive analysis of the political historiography and economy of the First Sealand Dynasty, see Boivin 2018.

¹⁹ Excavations at Tell Khaiber (2013–2017) were carried out

The site is dominated by a large, rectangular structure, 84 x 53 m, which covers approximately 4,400 m² (henceforth referred to as the Fortified Building; fig. 2). The exterior is flanked by highly defensible mudbrick perimeter walls that are 3.3 m thick and are punctuated regularly on all four sides by hollow projecting towers (e.g., Tower 302). The building has two main parts: the Southern Unit, which consists of a clearly organized plan with a central courtyard (Area 315) and several surrounding rooms (e.g., Rooms 314, 316, 600, and 601) including the Administrative Suite, a self-contained series of small rooms in the southeast corner of the building that housed the tablet archive (Rooms 299, 300, 301, 305, 309, and 313); and the Northern Unit, a larger and only slightly later expansion that was added to the northeast, with a series of identical rectangular rooms (Rooms 99–109) along the southeast side and a rather more complex and fluid architectural layout in the central area (e.g., Rooms

by the Ur Regional Archaeology Project (URAP) in conjunction with the University of Manchester. Work was supported by Baron Lorne Thyssen-Bornemisza at the Augustus Foundation and the British Institute for the Study of Iraq.



FIG. 2. Plan of the Fortified Building, Phase 2.1, at Tell Khaiber; areas of vertical excavation are in darker gray; dashed lines indicate architectural lines that are uncertain due to damage to the mound. Rooms and areas discussed in the text are labeled; Rooms 299, 300, 301, 305, 309, and 313 comprise the Administrative Suite (courtesy Ur Region Archaeology Project).

140–143). The Fortified Building seems to have had only one narrow entrance, a single central passage linking its two main parts (Passage 125), and a few restricted-access corridors (e.g., Passages 110 and 150) that would, presumably, have been tightly controlled.

Two techniques of excavation were employed at Tell Khaiber. Horizontal excavation—that is, surface

scrapping of the upper 10–20 cm of the Fortified Building to reveal the entire architectural plan—and vertical excavation—that is, stratigraphic exposure of specific rooms and areas to help understand the building's phasing and use. Vertical excavation was limited to certain areas (shaded darker gray in fig. 2) and covered about 10% of the architectural complex.

Sealand-period occupation at Tell Khaiber is separated into two levels.²⁰ These are determined by the addition of the Northern Unit at the start of Level 2, resulting in the architectural layout shown in figure 2. Further phase separations are based on smaller-scale stratigraphic relationships (Level 1: Phase 1.1; Level 2: Phases 2.1–3). The regular accumulation of deposits and the consistency of material found strongly suggest that these phases were each short-lived and that the functional identity of each room and area remained stable throughout the Level 2 occupation. A chronological anchor for Tell Khaiber's relative sequence comes from the site's tablet archive, produced and deposited in Phase 2.1. The archive dates to the reign of King Ayadaralama,²¹ the eighth king of the Sealand, who ruled sometime in the mid 16th century BCE. The only other textual evidence known for this period is the group of First Sealand Dynasty tablets in the Schøyen Collection [unprov.],²² published by Dalley as Cornell University Studies in Assyriology and Sumerology 9 (henceforth CUSAS 9). Five CUSAS 9 tablets contain the same date formula for Ayadaralama's rule as seen in Tell Khaiber's tablets²³ and are thus precisely contemporaneous with the Fortified Building and its tablet archive.

Tell Khaiber's archive comprises 152 tablets and tablet fragments.²⁴ Most of the texts are concerned with

the small-scale circulation of cereal products. They consist of ephemeral notes or memoranda, tabular accounts dealing with quantities of barley owed and received, numerical accounts tallying the receipt of other commodities, and a small collection of personal letters and scribal exercises.²⁵ Together, these paint the picture of a light-touch administrative apparatus at Tell Khaiber, one that loosely tied approximately 150 named professional individuals into a palatial economic system.²⁶ The CUSAS 9 group, on the other hand, consists of 474 tablets written in a time frame of about 12–15 years,²⁷ from the end of the reign of Pešgaldarameš into the early years of Ayadaralama.²⁸ These texts track the day-to-day procurement, production, transformation, and circulation of commodities within the economic flow of a palace complex, and they also reference a number of religious events and temple offerings.²⁹ Several professional personnel names, including a shepherd,³⁰ at least one leather worker, and perhaps several carpenters,³¹ occur in both the CUSAS 9 and Tell Khaiber archives, which further indicates their geographic proximity as well as economic and cultural integration.³²

These Sealand archives provide references to 18 different pottery vessel names that are analyzed here in

²⁰ The Fortified Building was positioned on a substantial pre-existing mound dating to the late fourth and early third millennia. See Calderbank and Moon 2017 for discussion of the earlier pottery.

²¹ Tablets TK (Tell Khaiber) 3006.17, 3064.67, 3064.129, and 3064.135 read (in Sumerian) “mu a-a-dara₃-galam-ma lugal-e” (Year: Aya-dara-galama was king).

²² Oslo and London, Schøyen Collection, acq. late 1980s and early 1990s [unprov.]. The tablets were acquired after 30 December 1973; there is no evidence of their documentation before that date or their legal export from the country of origin. The initial publication is Dalley 2009 (CUSAS 9). My use of the Schøyen tablets in this article should not be considered an endorsement of their illicit procurement and subsequent publication. I believe that the decision to publish serves to legitimize illicit looting activities and the operation of black-market antiquity networks. The lack of archaeological context compromises the academic value of these tablets and limits their interpretive potential. Nevertheless, the archive published as CUSAS 9 now forms part of the wider body of academic discourse and is treated here accordingly.

²³ *Supra* n. 21; see Dalley 2009, 11, year name D.

²⁴ These tablets are studied by Prof. Eleanor Robson, University College London. A broad overview was presented in an interim report (Campbell et al. 2017, 28–34). Preliminary

open-access text editions, photos, and glossaries of all inscribed objects are available online at <http://build-oracc.museum.upenn.edu/urap/corpus>, where comments and contributions are welcome.

²⁵ Campbell et al. 2017, 29–30.

²⁶ Several tablets (TK 1096.26, 3064.63, 3064.76, 3064.89, 3064.107, 3080.2) discuss the “palace” (Sumerian: É.GAL), but this palace is never specifically named.

²⁷ An additional 32 tablets of the same period and type (and presumably from the same findspot) are housed in the Musée du Cinquantenaire, Brussels. Dalley (2009) drew on some of these tablets in her analysis, and I will utilize the relevant information she presents, referring to them, as she does, as the Belgian Collection.

²⁸ Boivin 2018, 15.

²⁹ It is currently unclear whether the palace of the CUSAS 9 tablets, which Boivin 2015 links with Kār Šamaš, is the same palace as referred to in the Tell Khaiber archive. See also Boivin 2018, 70.

³⁰ Boivin 2018, 143.

³¹ Boivin 2018, 71.

³² It is clear archaeologically and philologically that the CUSAS 9 archive did not come from Tell Khaiber. Although Dalley (2009, 9) initially suggested a findspot in the region of Nippur, it is more likely that the archive was retrieved from somewhere between Ur and Larsa, as proposed by Boivin (2015; 2018, 71).

relation with Tell Khaiber's pottery assemblage. The Tell Khaiber assemblage examined consists of 6,193 diagnostic sherds and a few hundred complete or mostly complete vessels, for most of which georeferenced data of their precise find spots were recorded. Most Sealand pots, particularly jars and pithoi, show significant consistencies in general shape from the forms of the preceding Old Babylonian period, a tradition well known through material excavated from several prominent Mesopotamian cities, particularly the stratified assemblages of Tell ed-Der and Nippur excavated during the 1970s and 1980s.³³ Among Sealand pots, smaller tablewares, such as bowls and cups, show more complex patterns of variation from their Old Babylonian counterparts, while the typical Babylonian goblet appears to fall out of circulation entirely during the Sealand period.³⁴ The Tell Khaiber assemblage represents a local manifestation of the broader Mesopotamian pottery tradition,³⁵ a stylistic and functional tradition that evidently did not collapse with the disintegration of the Old Babylonian state.

BRIDGING THE MESOPOTAMIAN TEXT-OBJECT DIVIDE

Information on pottery vessels can be extracted from texts of different genres. A broad overview identifies these genres as: lexical (lists of objects), administrative (inventories and receipts), legal (contracts, dowries, and inheritances), literary (letters and poetry), and religious (liturgical texts and lists of offerings).

Lexical lists provide the most direct form of evidence for Mesopotamian vessel names. Word lists, a subset of the lexical texts, effectively provide an inventory of the immaterial and material worlds that include legal and administrative language, prestige and luxury goods, and even terminology for birds and fish.³⁶ The

word list that was common from the Old Babylonian period onward and became the standardized canonical version in the first millennium BCE was the UR₅-RA = *hubullu* (henceforth Hh).³⁷ Hh is a group of 24 tablets containing a total of 9,700 bilingual Sumerian and Akkadian entries. Significant for this analysis is Tablet X (Hh X),³⁸ as it provides a list of more than 350 pottery vessels.

One method that has traditionally been used to extract interpretive information from Hh X is the impressionistic method. This involves using the entire word list data to gather a general understanding of Mesopotamian vessel names that can then be compared with archaeological data. The most influential proponent of this approach was Salonen's monumental work on Mesopotamian household materials, in which he assessed the terminology in the lexical lists in conjunction with a typology of prehistoric European vessels,³⁹ presumably on the misleading assumption that pottery shapes and their uses are essentially cross-cultural. A similar approach was reprised three decades later by Potts, albeit with his attention focused firmly on Mesopotamian archaeological material.⁴⁰ Emphasizing the "prime importance" of the word lists in understanding "native Mesopotamian ceramic categories,"⁴¹ Potts was concerned less with specific vessel names themselves and more with charting the common clusters of liquids associated with specific vessels in the lists. He cast a wide chronological net, identifying the main vessel types from the Uruk period to the Ur III period (ca. 3500–2000 BCE) and judging their suitability for the storage, processing, and serving of those textually attested liquids.

The value of the word lists as authoritative stand-alone sources of evidence for identifying and understanding Mesopotamian vessels has regularly been called into question. Sallaberger, in his influential book *Der Babylonische Töpfer und Seine Gefässe*, contends that word lists cannot be understood to have

³³ For a detailed outline of the key Mesopotamian stratigraphic sequences of the second millennium BCE, with accompanying references, see Armstrong and Gasche (2014, 7–12).

³⁴ Fuller discussions of the intersection between Tell Khaiber's assemblage and the broader second-millennium tradition are given in Calderbank 2020 and forthcoming.

³⁵ For a comprehensive overview of second-millennium BCE Mesopotamian pottery, see Armstrong and Gasche 2014. For discussions of plain pottery traditions across the Near East and Eastern Mediterranean, see Glatz 2015.

³⁶ Veldhuis 2014 provides a comprehensive assessment of the Mesopotamian word list tradition. Chronological and geographic nuance in the word lists is presented at <http://oracc.museum.upenn.edu/dcclt/index.html>.

³⁷ UR₅-RA = *hubullu* is a revised reading of the previously named HhAR-ra = *hubullu*. Other transliterations of this list include ur₅-ra, Urra, and Ura. UR₅-RA and other similar word lists are the result of an extensive process of compilation and edition in antiquity, as discussed by Cavigneaux (1980–1983).

³⁸ Hh X, ed. and trans., has been published by Civil (1996).

³⁹ Salonen 1966.

⁴⁰ Potts 1997.

⁴¹ Potts 1997, 140.

represented a past reality.⁴² He argues that each list is an accumulation of all the words that appear in other textual genres, or an amalgamation and expansion of previous word lists, and, as such, bears little correlation with a Mesopotamian scribe's immediate surroundings.

Duistermaat has summarized several central problems encountered when using *Hh X*,⁴³ the most pertinent of which are:

(1) Vessel nomenclature varies according to period, location, contexts of use, and among people of different social networks, but *Hh X* does not distinguish among these variations.

(2) Not every vessel found archaeologically will be listed in the preserved textual evidence, just as not all named vessels will be encountered archaeologically.

(3) Some vessel names from the lists might already be archaic and no longer part of the regular spoken lexicon.

(4) The perceptions of the modern archaeologist and the Babylonian potter are divergent. While the archaeologist might form categories in an assemblage based on size and shape, the average Babylonian might have formed categories based on function, contents, or the social context in which a vessel operated.

To offset the first three of these limitations, Sallaberger advocates for the *Verteilungsmethode*,⁴⁴ here referred to as the contextual method. This approach dispenses with the analyses of the complete list of vessel names in *Hh X* in favor of a careful selection of chronologically and geographically relevant terms that are also found in other textual sources. To identify the core vessel terms used during the Old Babylonian period, for instance, Sallaberger supplements his analysis with philological data gathered from contemporary legal, literary, and magical texts. If, for instance, the same vessel name appeared across several different genres, Sallaberger concluded that it represented a vessel type that was in frequent contemporary use and that its name was part of regular spoken vocabulary. An illustrative example of this is the *kakkullu* vessel, used for fermenting beer, which is well represented in Old Babylonian literary and magical texts;⁴⁵ apparently the image of the beer mash fermenting and bubbling out

of sight inside the *kakkullu*'s closed shape conjured images of secrecy, unpredictability, and transformation.⁴⁶

Sallaberger identified 10 significant vessel categories that reoccur in the Old Babylonian textual corpus and linked these to archaeological vessel types from contemporary occupation levels at Tell Ed-Der.⁴⁷ His archaeological matches are based on material properties of specific pottery shapes, particularly the shape, size, and vessel capacity. Duistermaat applies a similar approach in her analysis of Middle Assyrian pottery from Tell Sabi Abyad, Syria (ca. 1250–1150 BCE), linking 36 different vessel terms encountered in the site's textual record to contemporary archaeological vessel shapes.⁴⁸ She assessed various performance characteristics⁴⁹ of these archaeological vessels in order to test their suitability in the functional spheres of cooking, serving and eating, serving and drinking, processing and measuring, storage and transport, and beer brewing.⁵⁰

While these contextual approaches have initiated significant strides in Mesopotamian text-object studies, both Sallaberger and Duistermaat forge a path that keeps textual and archaeological sources fenced on both sides. Fixed associations, in which vessel names and archaeological objects become fossilizations of one another, are used as interpretive gateways: *vessel term X is equal to archaeological type Y*. These studies do not account for the fact that cuneiform tablets, words, and pottery vessels occupied the same, cross-referential Mesopotamian world, and, as such, became meaningful together.

SECOND-MILLENNIUM VESSEL NAMES

Old Babylonian Names

Before moving toward a contextual analysis of the Sealand-period textual corpus, I must address Duistermaat's fourth problem (see above) with the word list data. Duistermaat emphasizes the problems faced when working with folk typologies—that is,

⁴² Sallaberger 1996, 47.

⁴³ Duistermaat 2008, 447.

⁴⁴ Sallaberger 1996. The *Verteilungsmethode* was originally used by Landsberger (1969) in his analysis of *Hh*.

⁴⁵ See Sallaberger 1996, 85–86, for a summary.

⁴⁶ Foster (2010) discusses the metaphorical potency of clay and ceramics in Mesopotamian literature.

⁴⁷ The 10 categories are: eating bowls, bowls, drinking vessels, large drinking vessels, bottles, large bottles, cooking pots and deep bowls, oil vessels, beer vessels, and storage vessels; see Sallaberger 1996, 80–84, pls. 1–6.

⁴⁸ Duistermaat 2008, 447–52, fig. 6.18.

⁴⁹ I.e., vessel shape, capacity, fabric composition, and traces of wear.

⁵⁰ Duistermaat 2008, 458–61.

the referential meanings created by a specific group of people and transmitted from generation to generation.⁵¹ Several key structuring principles typically govern folk vessel typologies: color, composition, size, shape, function, and vessel contents. Of these, the most common structuring principle is projected use.⁵² Put simply, pots tend to be named in accordance with the general functions that they carry out.

As we cannot interrogate Mesopotamian informants on their definitions of different vessel types, we must settle for etymological translations of the vessel terms from 𒊕𒊕 X. In order to unpack the structuring principles of these terms, I am fully reliant on Sallaberger's work. Sallaberger did not only take the traditional linguistic information for these vessel names as provided by traditional Akkadian dictionaries.⁵³ Instead, he attempted to derive the etymological background of vessel names to inform his translations. By this method, Sallaberger identified 99 vessel terms from 𒊕𒊕 X that also appear in other Old Babylonian texts; 34 of these he translated through etymological analysis (table 1) and a further 36 he was able to translate based on the textual contexts in which those terms occurred.⁵⁴ To separate between the two throughout this article, etymologically derived translations are presented within quotation marks and in parentheses, thus: ("translation"), and contextually derived translations are presented in parentheses only, thus: (translation).

None of Sallaberger's 34 etymologically determined vessel terms relate to the color or composition of the vessel. One vessel, the *kupputtu* ("spherical"), is named for its distinctive shape, while the *sūtu* ("*sūtu*-vessel"), *kaptukkū* ("2-*sūtu* vessel"), and *šimdu* or *šindū* ("3-*sūtu* vessel") were named in accordance with size or capacity.⁵⁵ An additional vessel term seems to have been constructed based on vessel contents (*alluḥaru*, "potash").⁵⁶ The only vessel for which the structuring principle is difficult to identify is the *tū'amtū* ("twin").

Of the 34 etymologically translated terms, 28 derived from the ways in which those vessels were used. Most of these uses are familiar to us—for example, the common Old Babylonian period *kāsu* ("drinking vessel"), the *mākaltu* ("eating vessel"), and the *mashartu* ("transport vessel"). Others are more obscure and require further interpretive deduction; examples of this are the *našpū* ("soaking vessel"), perhaps used for soaking grain during brewing to catalyze germination, and the *naktamtū* ("covering vessel"), which was likely used to cover the mouth of a larger vessel. Several other etymologies, while functionally structured, require an interpretive reach, such as the *kubārinnu* ("for the thicker") and *maššū* ("lifter").

These vessel etymologies do, in Whorfian terms at least,⁵⁷ afford a broad understanding of how Mesopotamians perceived and constructed their material world; the social value of pots emerged through their use. This etymological evidence, when assessed in combination with a further 36 vessel names whose meanings Sallaberger established on the basis of textual context rather than linguistic etymology, takes us yet farther along the road to establishing the use-contexts in which second-millennium vessels were most commonly enrolled. These recurring use-contexts are processing of food and drink, cooking, brewing, storage and transport, measuring, serving and eating, serving and drinking, and ritual or cult activity (table 2).

Sealand-Period Vessel Names

The Sealand-period archives reference 18 vessel names in total, which occur in a mixture of Sumerian and Akkadian variations (tables 3, 4).⁵⁸ To simplify things in this article, only the Akkadian terms and normalized equivalents are used throughout. Significant crossovers exist between the Sealand-period vessel names and those identified in 𒊕𒊕 X (see tables 1, 2);

⁵¹ Definition after Kempton (1981, 3). For ethnographic approaches to folk pottery typologies, see, e.g., Kaplan and Levine 1981; Rice 1987, 277–78; Hutson and Markens 2002.

⁵² Rice 1987, 278.

⁵³ W. von Soden's *Akkadisches Handwörterbuch* (Wiesbaden 1959–1981); or *CAD* (The Assyrian Dictionary of the Oriental Institute of the University of Chicago).

⁵⁴ Sallaberger 1996, 109–18. The English translations in this paper are my own based on Sallaberger's original translations in German.

⁵⁵ A *sūtu* is a unit of measurement equal to ca. 10 liters.

⁵⁶ Aspects of vessel shape, size, or contents, although not a conspicuous feature of vessel etymologies, are presented as a

standardized list of modifying terms in 𒊕𒊕 X; see Sallaberger 1996, 47–49.

⁵⁷ Whorf's hypothesis of linguistic relativity (e.g., Whorf 1956) holds that the structure of a language also structures the ways in which communities conceptualize their world.

⁵⁸ The list of 18 Sealand vessel names in tables 3 and 4 excludes the determinative DUG, a word used before vessel terms to indicate that the object is made of ceramic, e.g., "10 DUG laḥannu" (CUSAS 9-76, line 5). Throughout this article, the determinative is not used, except when DUG appears as a stand-alone noun in CUSAS 9-76, lines 5, 14, 26 (see table 4). Note that CUSAS 9 numbers refer to the tablet edition numbers in the CUSAS publication, Dalley 2009; see xiii–xv).

TABLE 1. Second-millennium vessel names with etymological translations, separated according to linguistic structuring principle. No terms relating to color or composition were found. Vessel names shared by the Sealand-period archives are in bold.

Structuring Principle	Vessel Names (Etymological Translation)
Shape and/or Size	kaptukkû (“2- <i>sūtu</i> vessel”), kupputtu (“spherical”), šimdu or šindû (“3- <i>sūtu</i> vessel”), <i>sūtu</i> (“ <i>sūtu</i> vessel”)
Contents	<i>alluḥaru</i> (“potash”)
Function	<i>ḥāb/pû</i> (“creator of <i>ḥābû</i> ?”), <i>kandurû</i> (“vessel stand”), <i>kāsu</i> (“drinking vessel”), <i>kubārinnu</i> (“for the thicker”), <i>mākaltu</i> (“eating vessel”), <i>maqqu</i> (“libation vessel”), <i>mashartu</i> (“wandering vessel”), <i>mašḥalu</i> (“sieve”), <i>maslaḥ(t)u</i> (“sprinkler, sprayer”), <i>maššû</i> (“lifter”), <i>mašqû</i> (“drinking vessel”), <i>maštû</i> (“drinking vessel”), <i>mazzālu</i> (“emptier”), <i>muraṭṭibtu</i> (“moisturizer, humidifier”), <i>mušarrirtu</i> (“dripper”), <i>nablaltu</i> (“mixing vessel”), <i>naktamtu</i> (“covering vessel”), <i>nalpattu</i> (“toucher”), <i>namaddu</i> or <i>namandu</i> (“measuring vessel”), <i>namḥārû</i> (“receiving vessel”), <i>napraḥtu</i> (“vat”), <i>narmaku</i> (“bathing vessel”), <i>narṭab(t)u</i> (“beer-flavoring vessel”), <i>našpaku</i> (“storage vessel”), <i>našpû</i> (“soaking vessel”), <i>našraptu</i> (“dye vessel”), <i>nēsep(t)u</i> (“filling vessel”), <i>širmu</i> (“separator”)
Other	<i>tû’amtû</i> (“twin”)

TABLE 2. Second-millennium vessel names, translated by etymology and by context, and separated according to commonly occurring use-contexts. Vessel names shared by the Sealand-period archives are in bold.

Use-Context	Associated Vessel Names
Processing	<i>esītu</i> or <i>esittu</i> (mortar), <i>mašḥalu</i> (“sieve”), <i>maššû</i> (“lifter”), <i>nablaltu</i> (“mixing vessel”), <i>širmu</i> (“separator”)
Cooking	<i>diqāru</i> (deep bowl, cooking pot), <i>diqarūtu</i> (a small deep bowl or dish), <i>ḥarû</i> (big pot, kettle), <i>ḥul(up)paqqu</i> (brazier), <i>sabiltu</i> (cooking pot)
Brewing	<i>hubūru</i> (big beer vessel), <i>kakkullu</i> or <i>kakkultu</i> (beer fermenting vessel), <i>laḥtānu</i> (big mixing and receiving vessel for beer), <i>muraṭṭibtu</i> (“moisturizer, humidifier”), <i>mušarrirtu</i> (“dripper”), <i>namḥārû</i> (“receiving vessel”), <i>namzītu</i> (beer vat), <i>napraḥtu</i> (“vat”), <i>narṭab(t)u</i> (“beer-flavoring vessel”), <i>našpû</i> (“soaking vessel”), <i>pīḥu</i> (vessel for beer dry extract)
Storage and Transport	<i>alluḥaru</i> (“potash”), <i>dannu</i> (“strong”), <i>gugguru</i> (transport vessel), <i>huburnu</i> (small oil vessel), <i>ḥuttu</i> (storage vessel), <i>kandurû</i> (“vessel stand”), <i>kirru</i> (big, open vessel), <i>mashartu</i> (“wandering vessel”), <i>mazzālu</i> (“emptier”), <i>naktamtu</i> (“covering vessel”), <i>našpaku</i> (“storage vessel”), <i>nēsep(t)u</i> (“filling vessel”), <i>rību</i> (big vessel), <i>šappatu</i> (big storage bottle), <i>šappu</i> (bulbous smaller vessel for oil), <i>šikinnu</i> (oil bottle), <i>šikk/qqatu</i> (oil bottle, for ointments), <i>tallu</i> (a vessel, esp. for oil)
Measuring	<i>namaddu</i> or <i>namandu</i> (“measuring vessel”)
Serving and Eating	<i>ašnu</i> (bowl), <i>gullu</i> (bowl), <i>kallu</i> (bowl), <i>mākaltu</i> (“eating vessel”)
Serving and Drinking	<i>assammu</i> (used for drinking?), <i>kāsu</i> (“drinking vessel”), <i>kukkubu</i> (bottle), <i>laḥannu</i> (slim bottle), <i>lurmu</i> (small drinking vessel), <i>mašqû</i> (“drinking vessel”), <i>maštû</i> (“drinking vessel”)
Ritual or Cult	<i>adagur(r)u</i> or <i>adakurru</i> (vessel to collect libations, bulbous vessel on a stand), <i>maqqu</i> (“libation vessel”), <i>maslaḥ(t)u</i> (“sprinkler, sprayer”), <i>niḡnakku</i> (incense bowl), <i>pursītu</i> (cult bowl), <i>salihḥaru</i> (cult bowl)
Other	<i>ḥāb/pû</i> (“creator of <i>ḥābû</i> ?”), <i>hubunnu</i> or <i>hubūnu</i> (small oil vessel, lamp?), <i>kubārinnu</i> (“for the thicker”), <i>kūtu</i> or <i>kuttu</i> or <i>kutû</i> (bucket or kettle or big pot?), <i>mašallu</i> (pipeline), <i>nalpattu</i> (“toucher”), <i>narmaku</i> (“bathing vessel”), <i>našraptu</i> (“dye vessel”), <i>tû’amtû</i> (“twin”)

kaptukkû (“2-*sūtu* vessel”),
kupputtu (“spherical”),
šimdu or ***šindû*** (“3-*sūtu*
vessel”),
sūtu (“*sūtu* vessel”)^a

^a These four terms fit into the use-contexts both of storage and transport and of measuring.

TABLE 3. Occurrence of Sealand-period vessel names in two Tell Khaiber (TK) numerical accounts.

Vessel Name in Text	Count in TK 1096.55	Count in TK 3064.65	Total Vessel Count	Suggested Vessel Type in the TK Assemblage
<i>dannitu</i>	10	–	10	pithos
<i>kabkaru</i>	9	–	9	large bowl?
<i>kallu</i>	–	40	40	small bowl
<i>kalparu</i>	60	120	180	jar?
<i>kaptukkû</i>	30	80	110	“2- <i>sûtu</i> vessel” jar
<i>katagallu</i>	–	10	10	small bottle?
<i>kukkubu</i>	10	20	30	jug
<i>laḥannu</i>	–	100	100	cup
<i>lurmu</i>	60	–	60	cup

putting aside the Sumerian DUG HA,⁵⁹ for which an Akkadian equivalent can only be suggested, 14 of the remaining 17 vessel terms are shared with the wider Old Babylonian textual corpus.⁶⁰ Two of the outliers, the *kalparu* and the *katagallu*, are otherwise unknown in the second-millennium textual corpus, and the third outlier, the *kabkaru*, has, until now, been encountered only in later textual sources of the first millennium.⁶¹

The main points of consistency between the Sealand vessels and those of the chronologically preceding Old Babylonian tradition are the continued use of the *ḥabbūru*, *kallu*, *kaptukkû*, and *pīḫu*. Nevertheless, some of the most common Sealand vessel names (e.g., *kukkubu*, *laḥannu*, *lurmu*, and *namandu*) are used comparatively rarely in Old Babylonian texts.⁶² Similarly, many of the most common vessel names used in the Old Babylonian period are absent from the Sealand archives.⁶³ There are also significant differences between the Tell Khaiber archive and the CUSAS 9 texts, both in terms of the vessel names referenced and in the overall number of references. For example, while

nine vessel names are attested in just two numerical accounts from Tell Khaiber (see table 3), there are 11 vessel names that appear in 105 separate texts in the CUSAS 9 archive (see table 4). Just two vessel names (*kaptukkû* and *laḥannu*) are shared between the two Sealand archives, and the vessel names with the highest inventory counts in each archive, the *kalparu* at Tell Khaiber and the *pīḫu* in CUSAS 9, do not occur in the other archive (fig. 3).

Given the contemporaneity of the two archives, these differences must be explained by their varying subject matter. Tell Khaiber's vessel names are present in two numerical accounts⁶⁴ consisting exclusively of ceramic goods that were received periodically by Tell Khaiber's administrative apparatus, for example, “30 *kaptukkû*-vessels.” Since no associated contents are listed, it is fairly safe to assume that they arrived at Tell Khaiber as empty containers. The CUSAS 9 texts, on the other hand, cover a range of different contexts in which vessels circulated; Dalley separates these into texts concerned with foodstuffs, delivery of beer jars, gods and goddesses, and letters and orders.⁶⁵ While the Tell Khaiber texts list vessels as objects in themselves, the social value of the vessels in the CUSAS 9 texts almost always emerges in relation to their contents—for example, “1 *kaptukkû*-vessel of ghee.”⁶⁶ Vessel numbers

⁵⁹ DUG HA is most likely an abbreviation for a vessel beginning with the syllable *ḥa-*; Dalley (2009, 61) suggests *ḥabannatu*.

⁶⁰ Assuming that *dannitu*, *ḥabbūru*, *našappu*, and *šandu* are localized reproductions of the *dannu*, *ḥubūru*, *našpū*, and *šimdu* or *šindū* (see tables 1–4).

⁶¹ While the term *kabkaru* is not present in Hh X (Civil 1996), Steinkeller (1991) interprets the *kabkaru* as a ceramic “container.”

⁶² Sallaberger 1996, 84.

⁶³ See Sallaberger (1996, 81–84) for a discussion of the most commonly encountered Old Babylonian vessel names.

⁶⁴ TK 1096.55 and 3064.65.

⁶⁵ Dalley 2009.

⁶⁶ E.g., CUSAS 9-104, line 1. This supports Sallaberger's (1996, 40) view that vessels rarely appear in the texts as stand-alone objects but are named as packaging, incidental to their contents. See Potts (1997, 140) for similar observations.

TABLE 4. Information on Sealand-period vessel names and numbers of vessels extracted from the CUSAS 9 texts.

Vessel Name in Sumerian	Vessel Name in Akkadian	Translation and Interpretation	Source Texts	Text Genres	Total Vessel Count	Associated Vessel Contents	Associated Vessels
DUG		pot (base determinative)	CUSAS 9-76	gods and goddesses	13	sour beer	<i>laḥannu, pīḫu</i>
DUG HA	<i>ḥabannatu?</i>	?	CUSAS 9-59	gods and goddesses	223+	–	–
	<i>ḥabbūru</i>	big beer vessel	CUSAS 9-133	foodstuffs	–	–	<i>šandi</i> or <i>šandu</i>
DUG KAB. DUG ₄ .GA	<i>kaptukkū</i>	“2- <i>sūtu</i> vessel”	CUSAS 9-93, 99, 102–105, 141	foodstuffs	8	ghee	<i>kupputtu, pīḫu, šandi</i> or <i>šandu</i>
	<i>kupputtu</i>	“1- <i>sūtu</i> vessel”	CUSAS 9-98, 105, 122, 149	foodstuffs	6	ghee	<i>kaptukkū, pīḫu</i>
	<i>laḥannu</i>	cup	CUSAS 9-76	gods and goddesses,	13	–	DUG, <i>pīḫu</i>
DUG. NINDÁ	<i>namandu, nendu</i>	“measuring vessel”	CUSAS 9-86, 107, 109	foodstuffs	5	beer, perfumed oil	<i>pīḫu</i>
NÍG.U.BÛR TUR.RA ^a	<i>napraḫtu</i>	“vat”	CUSAS 9-69	gods and goddesses	7	–	<i>pīḫu</i>
	<i>našappu</i>	“soaking vessel”	CUSAS 9-147	foodstuffs	1	–	<i>pīḫu</i>
	<i>pīḫu</i>	beer vessel	CUSAS 9-4, 8, 61, 63, 65, 66, 69, 70, 72, 73, 75, 76, 86, 96, 100, 103, 105, 106, 109, 112–114, 122, 132, 138, 147, 247–251, 253–308; Belgian Collection 231, 239, 240	delivery of beer jars, foodstuffs, gods and goddesses, letters and orders	1,911+	beer, <i>marsānu</i> -beer, <i>mehḫu</i> -beer, <i>našpu</i> -beer, good beer, perfumed oil	DUG, <i>kupputtu, kaptukkū, laḥannu, napraḫtu, našappu, namandu</i>
DUG BUR. ZI.GAL	<i>pursūtu</i>	offering bowl	CUSAS 9-68	gods and goddesses	1	<i>mersu</i> -cake and perfumed oil	(a ghee container)
	<i>šandi</i> or <i>šandu</i>	“3- <i>sūtu</i> vessel”	CUSAS 9-93, 118, 125, 133; Belgian Collection 166	foodstuffs	5	ghee	<i>ḥabbūru, kaptukkū</i>

^a Probably a local variant of the NÍG.DÛR.BÛR TUR.RA, the Sumerian form of the Akkadian *napraḫtu* (“vat”). See Gates 1988, 66; Sallaberger 1996, 104.

TK Archive	CUSAS 9 Group	Main Vessel Types in the TK Assemblage
<i>kalparu</i> (180 vessels; ca. 33%)	<i>pīḫu</i> (>1,911 vessels; ca. 88%)	bowls (n = 1,197; 28.5%)
<i>kaptukkū</i> (110 vessels; ca. 20%)	<i>ḥabbanatu?</i> (>223 vessels; ca. 10%)	jars (n = 1,171; 28%)
<i>laḥannu</i> (100 vessels; ca. 18%)	<i>laḥannu</i> (13 vessels; ca. 0.6%)	cups (n = 890; 21%)
<i>lurmu</i> (60 vessels; ca. 11%)	<i>kaptukkū</i> (8 vessels; ca. 0.4%)	pithoi (n = 318; 7.5%)
<i>kallu</i> (40 vessels; ca. 7%)	<i>napraḫtu</i> (7 vessels; ca. 0.3%)	jugs (n = 231; 5.5%)
<i>kukkubu</i> (30 vessels; ca. 5%)	<i>kupputtu</i> (6 vessels; ca. 0.3%)	cookpots (n = 199; 4.5%)
<i>dannitu</i> (10 vessels; ca. 2%)	<i>šandi</i> or <i>šandu</i> (5 vessels; ca. 0.2%)	beakers (n = 152; 3.5%)
<i>katagallu</i> (10 vessels; ca. 2%)	<i>namandu</i> (5 vessels; ca. 0.2%)	vats (n = 20; 0.5%)
<i>kabkaru</i> (9 vessels; ca. 2%)	<i>našappu</i> (1 vessel; ca. 0.1%)	bottles (n = 18; 0.5%)
	<i>pursītu</i> (1 vessel; ca. 0.1%)	
	<i>ḥabbūru</i> (? vessels)	

FIG. 3. Listings, in order from most to least numerous, of Sealand-period vessels mentioned in the two archives of texts, with their counts and the percentage of total count, compared in the third list with the most frequently occurring archaeological vessel types in the Tell Khaiber assemblage.

in both archives are tallied, which is suggestive of their standardized capacities; this is explicit in the etymologies of the *kaptukkū* (“2-*sūtu* vessel”) and the *šimdu* or *šindū* (“3-*sūtu* vessel”) but may have been implicit with other vessels, too, such as the *pīḫu*.⁶⁷

A comparative quantitative analysis of the numbers of vessels referenced in the texts and the frequency of vessels found archaeologically ought to provide an entry point for text-object reconciliation (see fig. 3). In purely numerical terms, the 18 vessel names encountered in the two Sealand archives, and the nine vessel names from Tell Khaiber, correspond fairly well with the nine most common shape categories in the Tell Khaiber assemblage.

Yet there are numerous problems with such a quantitative approach. For one, it is clear that the Tell Khaiber and CUSAS 9 archives operate in different temporalities. CUSAS 9 texts demonstrate frequent, small-scale vessel transactions, likely representative of the day-to-day economic flows of a palatial economy,⁶⁸ but Tell

Khaiber’s numerical accounts mark periodic, probably seasonally dictated, importations of vessels. For example, seven separate references in CUSAS 9 texts to *kaptukkū* vessels tally eight of these vessels, while just two references in Tell Khaiber’s accounts total 110 *kaptukkū* vessels. The only comparable individual text in the CUSAS 9 archive is a religious offering, in which a total of more than 223 DUG HA (*ḥabannatu?*) vessels were “given for the gods.”⁶⁹ Therefore, although DUG HA vessels are the second most numerous in CUSAS 9 texts, their context of use appears to be restricted to a single event that might or might not be picked up archaeologically. By contrast, *pīḫu* vessels dominate in CUSAS 9 both numerically (>1,911 vessels) and contextually (90 references); therefore, one would assume that the *pīḫu* would appear regularly in a range of archaeological contexts. A further note of caution is that, since administrative texts generally discuss vessels and their contents in circulation, portable vessels such as bowls, cups, and jars will inevitably be better

⁶⁷ The *pīḫu* as a standardized measure for beer is discussed by van de Mieroop (1994, 338); Boivin 2018, 163.

⁶⁸ For a detailed breakdown of the economic implications of

CUSAS 9 texts, see Boivin 2018, 126–82.

⁶⁹ CUSAS 9-59.

represented in such archives. Conversely, larger, and occasionally even static vessels such as pithoi or cook-pots, although common archaeologically, are less likely to be represented textually, other than in object inventories, dowry texts, or poetry and literature.⁷⁰

It is clear that not all of the varied uses of pottery vessels demonstrated by 𒂗 X are covered within these two Sealand-period administrative archives. Furthermore, any attempt to fix one-to-one identifications between Sealand vessel names and archaeological types is difficult, since the contextual peculiarities of these archives render relative frequencies a problematic metric. These vessel names and their relative frequencies do, however, provide critical contemporary evidence to be assessed in combination with material and spatial data from Tell Khaiber's Fortified Building.

VESSEL USE-CONTEXTS AT TELL KHAIBER

Detailed spatial analyses of archaeological materials are a notable rarity in Mesopotamian contexts,⁷¹ and no attempt to reconcile textual and archaeological evidence has yet incorporated the distributive analysis of pottery vessels.⁷² While not all archaeological contexts are suited to distributive analysis,⁷³ Tell Khaiber's Fortified Building, as a closed architectural system, provides an excellent case study. Given its architectural scale, with walls originally standing 5–10 m high, and its structured plan, with restricted and controllable points of access, the pottery excavated inside the Fortified Building relates entirely to the use and disposal patterns that took place within, or at least near to, each specific room or area. Furthermore, by restricting the following analysis to material from Level 2 (Phases 2.1–3), we can focus attention on a relatively short-lived and functionally consistent episode of occupation in the Fortified Building, dating somewhere between ca. 1550 and 1475 BCE.

This article has, so far, drawn on the second-millennium vessel name corpus to determine eight

central use-contexts in which pottery vessels recurred: processing, cooking, brewing, measuring, storage and transport, serving and eating, serving and drinking, and ritual or cult activity. These use-contexts will now be assessed systematically, by identifying the Sealand-period vessels that would have performed these functions most suitably and the vessel names that may be associated with these vessels. In turn, distributive analysis will yield vessel types and functional subassemblages that coincide contextually across the different rooms and spaces of the Fortified Building as a whole and thus important new information on the material basis of social and economic life in the Sealand period.⁷⁴

Processing

Of the use-contexts examined here, processing activities are most varied in their nature and demonstrate little coherent supporting textual evidence to help characterize them fully. In general, the second-millennium texts speak to the presence of:

(1) Mixing vessels (*nablaltu*): These would presumably have been large, open vessels with thick walls. Infrequently encountered basins and trays found at Tell Khaiber might fit this description (fig. 4a).

(2) Sieves (*mašḫalu*): These would have required numerous small holes through which substances could be filtered.⁷⁵ Just three examples were found at Tell Khaiber (see fig. 4b).

(3) Mortars (*esītu*): These grinding vessels would have required a flat, or slightly curved, rough surface. According to Ellison, these would have been used for grinding not only grain but also spices such as coriander and cumin.⁷⁶ While quern stones and stone bowls were presumably used far more frequently for grinding activities, two ceramic basins from Tell Khaiber fit this functional profile. The first is a fragment of a large, well-manufactured basin from Room 316 (see fig. 2).⁷⁷ Although missing its legs, this vessel has a very large circumference (>60.0 cm) and a

⁷⁰ Sallaberger 1996, 79–80.

⁷¹ Exceptions include Franke's (1987) and Stone's (1987) analyses of Old Babylonian urban dwellings at Nippur, and, farther afield, Marchetti and Nigro's (1995–1996) analysis of Early Bronze Age ceramics from a public building at Ebla and Jamieson's (2000) discussion of room use and vessel function in an elite house at Iron Age Tell Ahmar, Syria.

⁷² Allison has demonstrated the interpretive potential of similar methods (2001), particularly in rigidly planned and spatially bounded Roman forts (2006).

⁷³ See Sinopoli 2013, 85, for a discussion.

⁷⁴ All statistics and pottery (p) numbers are taken from the Tell Khaiber pottery volume in preparation (Calderbank forthcoming). Statistics are based on diagnostic rim and base sherd counts, and are given as relative frequency percentages; these percentages enable ease of comparison between different areas of the site where sherd counts vary.

⁷⁵ Ellison 1984, 64–65.

⁷⁶ Ellison 1984, 66.

⁷⁷ Vessel p8021-11.

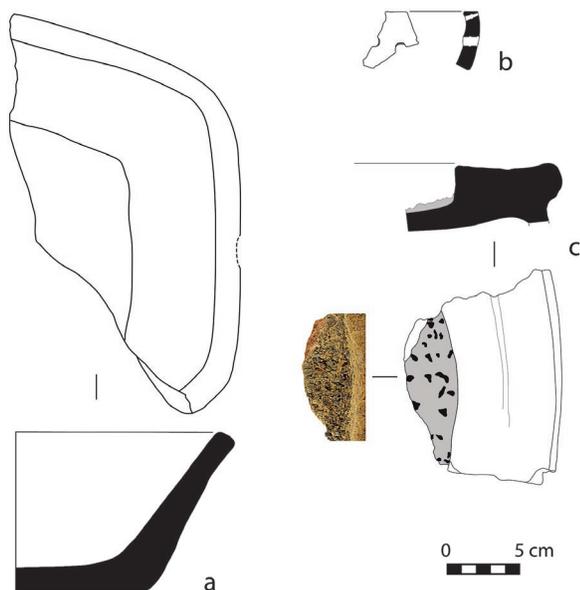


FIG. 4. Tell Khaiber's vessel shapes most suitably associated with processing activities: *a*, mixing vessel p3085-280; *b*, sieve p8021-11; *c*, mortar p8022-4.

shallow interior depth (see fig. 4c). Its surface is embedded with a high concentration of coarse angular grit inclusions. Another mortar, of a coarse, high-fired fabric of far less specialized manufacture and with extensive signs of use to the point of breakage, was found on the lowest floor surface of Room 101.⁷⁸ On both occasions, these mortars were encountered in the same contexts as numerous cooking implements.

Cooking

The most common method of food preparation that would have necessitated the use of a container is the cooking of ingredients in a liquid. Evidence from three tablets, known as the Yale Culinary Tablets,⁷⁹ illustrates the rich variety of dishes that were produced in this way during the Old Babylonian period. These inscriptions relay a total of 35 separate recipes, each of which bears a title that usually refers to its essential ingredient or an aspect of its presentation, preceded by the generic Akkadian term *mû*, which can be roughly interpreted as broth in this context. Thirty of these

broths are meat-based and five are vegetable-based.⁸⁰ The composition of each individual recipe is sharp and concise. The simplest one reads: "Meat broth. (1) Meat is used. Prepare water; add fat [], (2) mashed leek and garlic, and a corresponding amount of *shuhutinnu*."⁸¹ Other recipes, such as those for the "Red Broth" and the "*Tuh 'u* Beet Broth," imply the use of different receptacles and a combination of boiling, frying, and seasoning techniques, none of which are explained in detail. Thus, the recipes assume a level of experiential knowledge and culinary skill that might only have belonged to practiced cooks (*nuḫatimmu*). Since perhaps as many as three different *nuḫatimmu* are listed in the Tell Khaiber archive,⁸² we might envisage at least some of the inhabitants consuming dishes similar to those attested in the Yale tablets.

Although no cooking vessels are referenced in the Sealand-period texts, the *diqāru* is commonly associated with such activities in the Yale tablets. Placed over a hearth, or perhaps over a *tannur*,⁸³ the *diqāru* would have heated up gradually and would, subsequently, have maintained the steady temperature that is required to simmer broths or other liquid- or fat-based foods. We may assume that the *diqāru* had a substantial capacity,⁸⁴ had a rounded shape, and was made of a clay matrix suited to the stresses of repeated heating and cooling. Only large hole-mouth vessels from Tell Khaiber fit this description (fig. 5a),⁸⁵ and the association is reinforced by the sooting pattern that is frequently located on the exterior surface, on and just above the curve of the body.

The *diqarūtu* was probably a smaller version of the *diqāru*,⁸⁶ and this role was likely fulfilled by the small hole-mouth vessels found at Tell Khaiber (see fig. 5b). Another second-millennium vessel associated with cooking activities is the *ḫulpaqqu* (a brazier). This vessel type, although probably more commonly

⁸⁰ See Bottéro 2004, 25–35, for recipe translations.

⁸¹ See van Dijk et al. 1985, 25; discussed in Bottéro 2004, 26.

⁸² TK 3064.49, 52, 53, and 57.

⁸³ A common type of Near Eastern bread oven constructed of baked clay and commonly having a domed shape and an open top.

⁸⁴ Exceeding 6 liters, according to Bottéro (2004, 50). Three cookpots at Tell Khaiber had volumes in the range of ca. 10–16 liters.

⁸⁵ This vessel shape remained broadly consistent in shape over a long period in Mesopotamia. Ellison (1984, 67) described these vessels as "bean-pots."

⁸⁶ Sallaberger 1996, 111; see also CADD 159.

⁷⁸ Vessel p1080-14.

⁷⁹ New Haven, Conn., Yale Peabody Museum of Natural History YBC 4644, YBC 4648, and YBC 8958, acq. 1911; published in van Dijk et al. 1985.

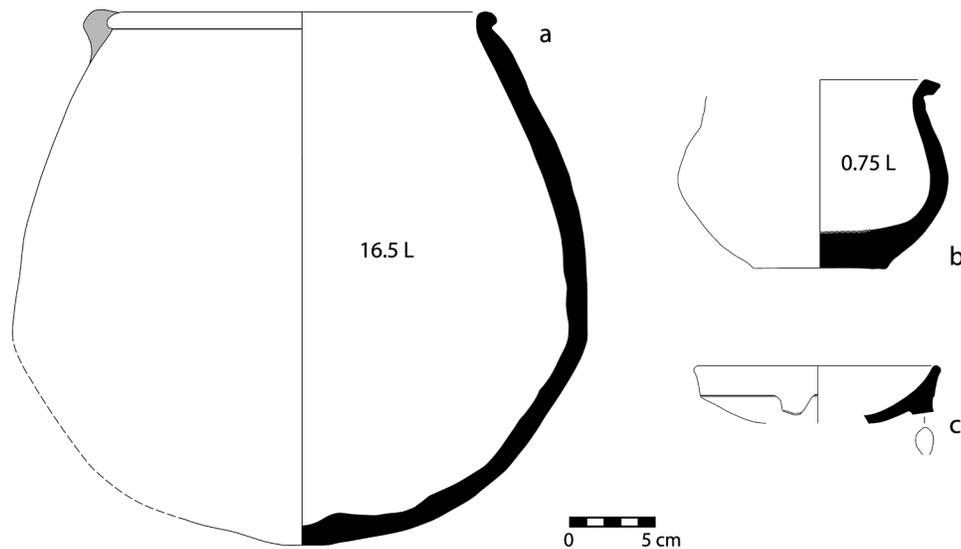


FIG. 5. Tell Khaiber's vessels most suitably associated with cooking activities: *a*, large cookpot p5063-1; *b*, small cookpot p8013-10; *c*, brazier p3185-115. L = liters.

manufactured in metal, may be attested ceramically at Tell Khaiber by a small, shallow bowl sherd with broken tripod legs and a heavily burnished surface finish (see fig. 5c). This rare vessel may have been used for heating coals, or for cooking food directly on its non-stick, burnished surface.

Cooking wares are generally uncommon at Tell Khaiber (about 4% of total assemblage). These vessels were fairly well represented in Room 101 (about 5% of room total), one of the sequence of standardized rooms (Rooms 99–109) on the southeast side of the Northern Unit. Here, an extensive profile of a large cookpot,⁸⁷ with a capacity of approximately 15 liters and heavy sooting on the exterior surface, was found in association with a *tannur* oven in the northwest corner of the room. The *tannur* in the corner of Room 101 held a narrow-footed cup at its bottom; this contextual association proved common at Tell Khaiber, and the cups were perhaps used to remove excess ashy deposits from these installations. A mortar and a group of tablewares were found strewn on the floor in the opposite corner (fig. 6), an indication that food was apparently being both cooked and consumed in this restricted space.

In the Southern Unit, cooking vessels were most frequently found in Room 316 (about 6% of room total). Two complete vessels were encountered in situ:

a small hole-mouth vessel (see fig. 5b) and the heavily used and burnt lower portion of a large hole-mouth vessel⁸⁸ that contained a collection of bones. Along with these cooking vessels was the unique mortar (see fig. 4c), discussed earlier, as well as jars, ceramic lids, cylindrical beakers, and small storage bottles (fig. 7), and several *tannur* ovens were located in the northwest corner of the room and spilled into the adjacent courtyard (Area 315). While cooking activities in Room 101 appear to have taken place on a relatively small scale, the activities taking place in Room 316 were comparatively more intensive. This is further supported by a coarse ceramic object with a pattern of regular concavities pressed into its surface (fig. 8). It is probable that this represents a fragment of a bread mold,⁸⁹ in which the dough was pressed into the indented design and a second ceramic piece was sealed on top. The perforations visible in the top of this object may have been used to tie together the upper and lower parts of the mold during baking.

The best-preserved cooking vessel in the entire Tell Khaiber assemblage was found in Room 142 (see fig. 5a), part of the central suite of associated rooms in the center of the Northern Unit. The vessel was, however, set into the ground against the northwest

⁸⁷Vessel p1079-51.

⁸⁸Vessel p8013-12.

⁸⁹Similar to those found at Old Babylonian Mari; see Margueron 2004, 515–16.

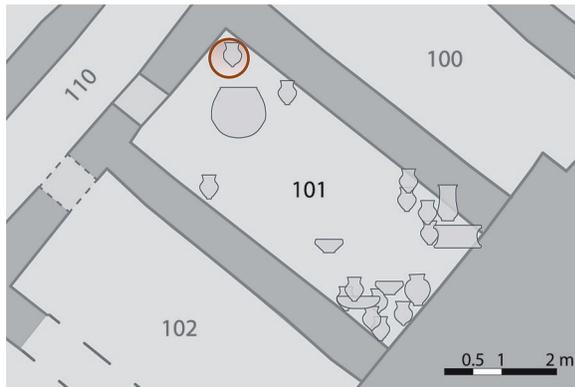


FIG. 6. Plan of Room 101, with stylized vessel shapes indicating precise find spots. The location of the *tannur* is also indicated.

corner of the room and shows no evidence of sooting. This indicates an occasional secondary use for storage rather than for cooking.

Brewing

Beer was a central component of Mesopotamian life. Its social and economic centrality is clearly visible in the CUSAS 9 collection, where approximately a third of the archive is given over to the movement of malt, beer, and beer jars.⁹⁰ Brewing was a complex, multistage process that required careful planning and skilled execution. Honed over thousands of years, it was a task that was managed by professionals (*sirāšû*), using specialized techniques and equipment. It appears to have been an orally transmitted science, since no comprehensive descriptions of the brewing process survive. Consequently, when reconstructing the process of Mesopotamian beer production, academic investigations have often focused on the *Hymn to Ninkasi*, an Old Babylonian poem designed to be sung in honor of the tutelary goddess of beer.⁹¹ Damerow has extracted passages that can be used to reconstruct some relevant steps of the brewing process:⁹² the preparation of *bappiru*,⁹³ soaking and germination of

⁹⁰ The so-called “bureau of malt and beer,” as referred to by Boivin (2018, 16).

⁹¹ Damerow 2012; Sallaberger 2012.

⁹² Damerow 2012, 15, using Civil’s 1964 edition.

⁹³ The exact nature of *bappiru* has been the subject of some debate. According to Damerow (2012, 5) and Reynolds (2007, 182) it was ground, roasted, or powdered barley. Sallaberger (2015, 186–87) says that it was concentrated beer in the form of dried draff of the mash; the latter interpretation is reinforced by Powell (1994, 94).

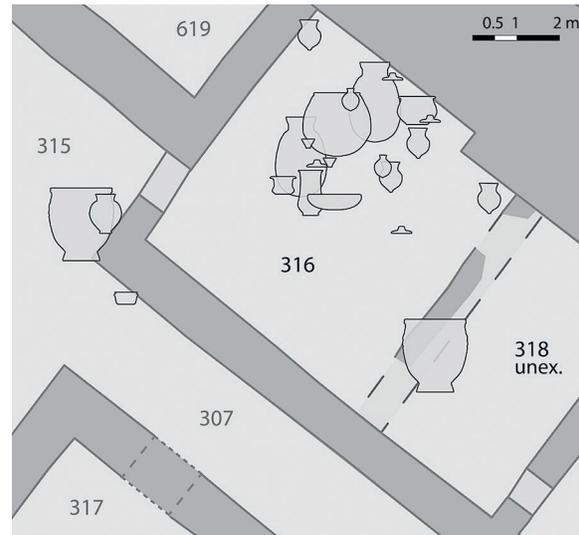


FIG. 7. Plan of Room 316, with stylized vessel shapes indicating precise find spots.

the malt, cooking and cooling of the mash, preparation and fermentation of the mash, and, finally, the filtering of beer from a fermentation vat into a collector vat.⁹⁴

A recent study of ancient Mesopotamian brewing, inspired by archaeological evidence from Late Bronze Age Tall Bazi, Syria, has combined textual, archaeological, and experimental approaches to suggest a cold mashing process.⁹⁵ First the experimenters soaked grain and brought it to germination inside a pot with a hole in the base, which was supported by a pot stand with a collection vessel placed beneath. During this process, the base hole of the germination vessel was covered on the interior with a piece of cloth and was sealed on the exterior with a plug. The mixture was left to soak with a cover fastened over the mouth; this was removed intermittently to skim off excess surface debris using a small cup. Once germination was complete, the plug was removed from the base and the excess water was drained through the cloth into the collection bowl. The resulting green malt was then removed and spread on a rooftop in direct sunlight, where it was dried in temperatures reaching 60°C, thus halting the germination process. A saddle quern was used to grind the dried malt, and the resulting powder (*bappiru?*) was mixed with water and yeast in a large

⁹⁴ Damerow 2012, 15.

⁹⁵ Zarnkow et al. 2011.



FIG. 8. Fragment possibly of a ceramic bread mold (p8008-11).

vat,⁹⁶ which the experimenters set into the ground to aid cooling. Once left to ferment for 36 hours, the resulting beer remained stable and drinkable for longer than two months.⁹⁷

The described method suggests that three pottery vessels were at the core of Mesopotamian beer production:

(1) A soaking and germination vessel with an open shape and a base hole. At Tell Khaiber, these vats appear to come in two main sizes: small (approximately 10–15 liters) and large (>30 liters) (fig. 9a, b). These vessels tend to have ridges on the lower body, directly above the perforated base, which would have suited their secure fitting onto a vessel stand (*namḥārū*), while the thickened rim band would have enabled the fastening of a cover over the vessel. Several examples exhibit complex incised and impressed lines and wavy bands, as well as relief ridges, which are usually placed around the circumference of the body, and occasionally just above the base. It is possible that this decoration was prescriptive, in that the separate decorative frames—some containing wavy bands (perhaps representative of a liquid?) and some crescent motifs (perhaps barley or malt?)—conform to specific volumetric ratios: Tell Khaiber vessel p5060-10 (see fig. 9a) has a ratio of 4:1; vessel p5029-1 (see fig. 9b)

⁹⁶ An experimental ratio of 1 part malt to 8 parts water was used to produce an alcoholic percentage of <1%, thought to be typical of ancient beer.

⁹⁷ Damerow 2012, 16–17.

a ratio of 2:2:1, and vessel p8082-42 a ratio of 1:1:1. Determining whether these ratios conform to the different beer recipes attested in the CUSAS 9 texts, discussed below, requires analysis of a larger sample.⁹⁸ The two most commonly used second-millennium names for this vessel type are the *kakkullu*⁹⁹ and the *namzītu*. The *našappu*¹⁰⁰ given along with seven beer jars (*pīhu*) and flour to the priest of Nazi, may represent a Sealand equivalent of this vessel type.

(2) A collection vessel, placed below the germination vessel to collect waste liquid. This could have been either a bowl placed beneath the opening of a soaking vessel, or perhaps a pot stand with a closed base (e.g., fig. 9d). Just one second-millennium vessel term might be associated with this function: the *namḥārū* (“receiving vessel”).

(3) A large open, barrel-shaped vessel. These must have been big enough to produce and store large volumes of beer (perhaps >100 liters), open enough to allow the regular stirring of contents and the removal of floating debris, perhaps using a small cup, as well as being sealable to aid the fermentation process. Tell Khaiber pithoi (see fig. 9c) boast enormous capacities and an open shape. Although they were rarely, if ever, set into the ground as Zarnkow et al. describe,¹⁰¹ this may not always have been necessary. Wrapping these vessels in damp cloths may also have helped cool the contents.¹⁰² The *laḥtānu* is the most commonly attested term for this vessel type in the second millennium; the term *nappahtu*,¹⁰³ which appears less frequently, seems to be attested in CUSAS 9 accounts, albeit as seven small *nappahtu* into which the contents of three beer jars are poured.¹⁰⁴ The only other Sealand-period name

⁹⁸ For the different beers appearing in the CUSAS 9 texts, see Boivin 2018, 163–65. For a discussion of other Mesopotamian beer types, see Powell 1994, 104–18; Milano 2014, 293–94.

⁹⁹ A vat rim with a wide diameter from Failaka was inscribed in cuneiform script with the phrase “1 *kakkullum* vat (belonging to?) Jatar[], son of Gurd[a?]”; see Eidem 1987, 179.

¹⁰⁰ CUSAS 9-147. Translated by Dalley (2009, 111) as “offerings-bowl.” More likely it is the Sealand equivalent of the *našpū* (“soaking vessel”). The etymological relationship with a specific variety of filtered beer (*našpu*) further supports the latter association. For information on *našpu* beer, see Boivin 2018, 165.

¹⁰¹ Zarnkow et al. 2011, 48.

¹⁰² Traces of fabric have been found adhering to the exterior surfaces of some of Tell Khaiber’s pithoi.

¹⁰³ Sallaberger 1996, 115.

¹⁰⁴ CUSAS 9-69.

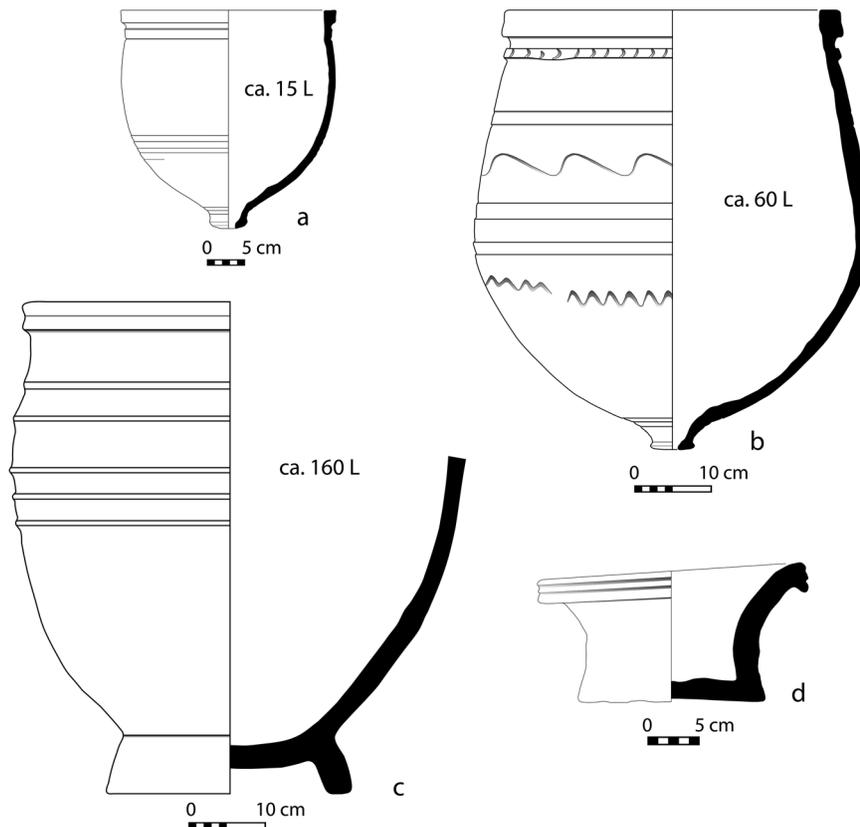


FIG. 9. Tell Khaiber's vessels most suitably associated with brewing activities: *a*, p5060-10, and *b*, p5029-1, soaking and germination vats; *c*, pithos p4038-1; *d*, collector vessel p6165-44. L = liters.

that could refer to this type of vessel is the *ḥabbūru*,¹⁰⁵ as the *ḥabbūru* is the only vessel type in CUSAS 9 texts that requires a dedicated “transporter,”¹⁰⁶ it would have been relatively impractical for vessels of this size to be moved frequently.

Although a brewer is listed in the Tell Khaiber archives,¹⁰⁷ brewing equipment is generally rare in the Tell Khaiber assemblage. Nevertheless, the northeast corner of the Fortified Building (Room 156) yielded a beer-brewing installation in situ (fig. 10).¹⁰⁸ This installation consisted of a cup placed next to a closed pot stand with another cup placed inside it, and a largely

complete soaking and germination vat lying upside down. A smaller decorated vat was found in Room 152,¹⁰⁹ along with a burnished bottle, three cups, and a jug,¹¹⁰ a collection that demonstrates the strong association between brewing vessels and drinking vessels. Although no complete pithoi have been associated with either of these rooms, pithoi are very well represented in the diagnostic assemblages of Rooms 152 and 156 and add further support to the textually attested vessel associations.¹¹¹

¹⁰⁹ Vessel p8082-42.

¹¹⁰ In Context 8083 within Room 152. Note that a single-context recording system was followed at the site, whereby each discrete three-dimensional space—e.g., a cut, a fill, a surface, a wall, or a *tannur*—was given a separate context number with which the relevant finds can be associated.

¹¹¹ Total pithoi in the Tell Khaiber Level 2 assemblage represent ca. 5%; in Room 152 ca. 16%; in Room 156 ca. 22%.

¹⁰⁵ Equivalent to the Old Babylonian *ḥubūru*, which Sallaberger 1996, 112, and CAD H 220 translate as a large beer vat.

¹⁰⁶ CUSAS 9-133, lines 8–9: “transporter Sin-rabi the barber.”

¹⁰⁷ “Mannu-balu-ilišu the brewer”: TK 3064.49 and 3064.53.

¹⁰⁸ Beer-brewing vessel types totaled ca. 31% of the bulk diagnostic sherds in Room 156.

Measuring

The capacity measures used in the Sealand archives follow those common in the Old Babylonian period:¹¹²

- 1 *kurru* = 5 *pān* = ca. 300 liters
- 1 *pān* = ca. 60 liters
- 1 *sūtu* = 10 *qa* = ca. 10 liters
- 1 *qa* = ca. 1 liter

Pottery vessels could have been utilized as measuring tools for distributing rations, for accurately filling other containers, and for measuring ingredients when cooking, baking, or brewing. One second-millennium vessel name in particular is explicitly associated with measuring activities: the *namandu* (“measuring vessel”).¹¹³ The *namandu* is encountered in three CUSAS 9 texts,¹¹⁴ one of which records this vessel as containing perfumed oil delivered to the palace,¹¹⁵ while the other two contain beer delivered to the palace along with food and ritual clothing “for the night meal.”¹¹⁶ These latter two deliveries, which include the delivery of several beer jars (*pīhu*), thus support a contextual link between measuring vessels, beer jars, and beer consumption activities in CUSAS 9. A single tabular account from Tell Khaiber lists several individuals delivering grain to the Fortified Building “by the small *sūtu*-measure.”¹¹⁷ While this account does not explicitly mention a pottery vessel, *sūtu* is also the name of a second-millennium pot.¹¹⁸ The deep metonymic association between this measure and a specific pottery vessel supports the supposition that measuring vessels were also used for accurately recording imports and exports to the Fortified Building.¹¹⁹

¹¹² See Powell 1987–1990 for a comprehensive discussion of Mesopotamian weights and measures and Dalley 2009, 59–60, for a discussion of which of these weights and measures were used in the CUSAS 9 texts.

¹¹³ Sallaberger 1996, 115.

¹¹⁴ Written alternatively as *namandu* (CUSAS 9-107, line 1), *nendu* (CUSAS 9-86, line 3), or DUG.NINDÁ (CUSAS 9-109, line 7). See Dalley 2009, 97, for discussion of these terms as local and temporal equivalents; the normalized *namandu* is used throughout this article.

¹¹⁵ CUSAS 9-107.

¹¹⁶ CUSAS 9-86 and 109.

¹¹⁷ TK 3064.51.

¹¹⁸ Sallaberger 1996, 116; Duistermaat 2008, 435–36. See also CAD N1 206.

¹¹⁹ The naming of the *sūtu* vessel after the capacity measure of the same name represents a metonymic shift along the lines of vessel use. See Beaudry 1991, 47, for similar arguments in the



FIG. 10. Vessels in a beer-brewing installation in Room 156, seen from above; left to right: cup p6165-38, cup p6165-43 sitting inside collection vessel p6165-44, and soaking and germination vessel p6165-45.

The vessel shape that has consistently been labeled as a “grain measure,” starting with Mallowan’s surveys in the Balikh valley,¹²⁰ are cylindrical beakers. These vessels often have horizontal painted or incised lines or bands positioned in spatially arranged groups on the body. This functional attribution, although largely intuitive, has persisted in the literature,¹²¹ with few attempts to test beakers volumetrically.¹²²

Tell Khaiber’s assemblage contains cylindrical beakers decorated with horizontal incised lines and wavy bands. Three complete beakers are preserved: p1096-456, with no markings, has a total volume of 0.55 liters (about $\frac{1}{2}$ *qa*) (fig. 11a); p5022-65 has a total volume of 1.13 liters (about 1 *qa*), with markings at 0.45, 0.7, and 0.95 liters (see fig. 11b); finally, p3088-182 has a total volume of 1.42 liters (about $1\frac{1}{2}$ *qa*), with the first marking at 0.45 liters, and two evenly spaced markings at 0.8 and 1.15 liters (see fig. 11c). These complete vessels and their individual subdivisions correspond well with different fractions of a *qa*. Indeed, the general fractions of 0.1, 0.25, 0.33, 0.5, 1.0, and 1.5 liters can be identified as recurring measures (fig. 12). The largest individual sections demonstrated in the assemblage are two subdivisions of vessel p5022-66 (fig. 13), each

context of New World probate inventories.

¹²⁰ Mallowan 1946, 148–50.

¹²¹ E.g., Pfälzner 2007, 243.

¹²² Duistermaat (2008, 435–37, 446, fig. 6.17.12) provides a volumetric test at Tell Sabi Abyad. Although vessels do not conform to Mallowan’s (1946, 148–50) two broad size categories, measurements of vessel segments do appear to correspond with set fractions of a *qa*.

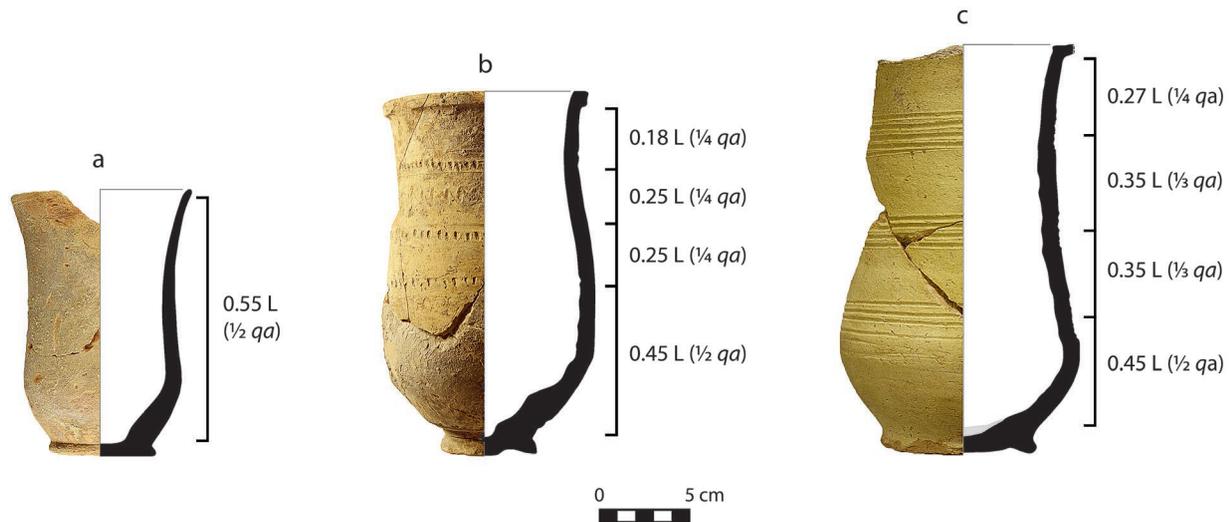


FIG. 11. Tell Khaiber's vessels most suitably associated with measuring activities: beakers that hold amounts that correspond to specific volumetric measures or that have section markings indicating specific measures; these measures are noted in the figure as liters and approximate *qa* quantities: a, p1096-456; b, p5022-65; c, p3088-182. L = liters.

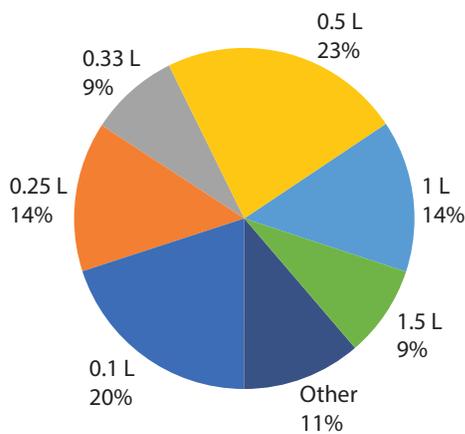


FIG. 12. Frequency of specific volumetric measures among Tell Khaiber's cylindrical beakers, either full vessels or marked sections ($n = 29$; L = liters). Examples of such measures are illustrated in fig. 11.

measuring approximately 1.5 liters ($1\frac{1}{2}$ *qa*), thus indicating that these vessels could have been used for some of the larger measures mentioned in CUSAS 9 texts.¹²³

The highest concentrations of cylindrical beakers in the bulk sherd data were found in Room 152 (about 6% of room total), along with vessels associated with storage and brewing, and in the central suite of rooms (Rooms 140–142; about 5% of area total), with an

¹²³ E.g., the 3-*sūtu* (ca. 30-liter) *namandu* mentioned in CUSAS 9-109.



FIG. 13. Fragment of a large cylindrical beaker (p5022-66) with impressed decoration indicating two subdivisions of the vessel's content volume and multiple perforations beneath the rim; rim diam. 22 cm.

assemblage almost entirely dominated by cups and jugs. Two of the site's most elaborately decorated beakers,¹²⁴ one with a complex sequence of impressed wavy bands and bands cut with vertical incisions, and a larger, fragmentary vessel with wavy bands, were found in the southeast corner of Area 142. The latter vessel has a unique notched rim shape with a series of

¹²⁴ Vessels p5022-65 (see fig. 11b) and p5022-66 (see fig. 13).

holes cut beneath (see fig. 13); these holes would have helped secure a lid to prevent liquid spillage, but they could also have been used to suspend the vessel from the ceiling. Together, therefore, this assemblage indicates the performance of elaborate communal drinking activities occurring in Room 142 and, potentially, a manifestation of the textual associations between measuring vessels (*namandu*) and beer vessels (*pīhu*) in the CUSAS 9 texts.¹²⁵ Three different-sized measuring vessels were also found,¹²⁶ along with various cooking and processing implements, in Room 316 (see fig. 7), where they were probably used for measuring oils or spices.

It should also be noted here that the most common Tell Khaiber vessels—bowls and cups—could also have been used for smaller measures. The average volume of common carinated bowls, for instance, is 0.46 liters (about $\frac{1}{2}$ *qa*),¹²⁷ with almost all examples falling somewhere between $\frac{1}{4}$ *qa* and $\frac{1}{2}$ *qa*. Cups, on the other hand, average 0.33 liters (about $\frac{1}{3}$ *qa*),¹²⁸ and also almost invariably fall between $\frac{1}{4}$ *qa* and $\frac{1}{2}$ *qa*. These vessels, although unlikely to have acted as precise articles of measuring equipment, could no doubt have been used as rough-and-ready approximations.

Storage and Transport

Adequate and efficient storage and movement of both dry and liquid goods were primary concerns to the inhabitants of Mesopotamia, both for everyday consumption and for surplus in anticipation of social or environmental instability. Communities have always grappled with the best way to store grain to protect it from spoilage, fungi, and disease, as well as the ravages of pests, vermin, and robbers.¹²⁹ Architectural features such as granaries, silos,¹³⁰ storerooms, and centrally managed storehouses¹³¹ were used for the deposition of vast quantities of bulk dry goods. Pottery vessels would often have been used, particularly as

they could be securely sealed to prevent infestation by vermin, unlike vessels manufactured in other materials. Numerous large vessels have been recovered archaeologically, some of which display their dry capacity in cuneiform text.¹³²

The only vessel type at Tell Khaiber that could contain a substantial volume is the pithos, which has an average capacity of approximately 150 liters.¹³³ The larger of these vessels would no doubt have been permanent fixtures at Tell Khaiber; their size would have made them extremely difficult to move,¹³⁴ not least because some rim diameters of close to 80 cm were wider than most of the site's door frames. Their apparent permanence is also suggested by their applied ring bases, which provided a solid platform, and their thickened rim bands, used to secure a fastened closure. The 10 *dannitu* vessels noted in Tell Khaiber's archive, which translate etymologically as "strong" or "mighty," should no doubt be associated with these robust storage pithoi. At Old Babylonian Ur, pithoi were found in situ either in entrances of houses or in rooms just off the central courtyard.¹³⁵ In such contexts, it seems likely that they were used to hold water or beer for guests and members of the household.

For many dry goods—such as grain, dried fruit, or salted goods, including fish—containers made of textile, leather, or woven basketry would also have formed suitable temporary receptacles. However, these perishable containers would have been largely incompatible for storing liquids. In the CUSAS 9 texts, although dried goods appear regularly,¹³⁶ their associated containers are never mentioned. When it comes to liquids, however, the accompanying container is almost always referenced. Most of these attestations concern vessels involved in the storage and movement of two liquid

¹²⁵ CUSAS 9-86 and 109.

¹²⁶ Vessels p8008-114, p8016-8, and p8021-1.

¹²⁷ The average is based on volumetric measures of 36 complete bowl profiles.

¹²⁸ The average is based on volumetric measures of 157 complete cup profiles.

¹²⁹ Adamson 1985; Breckwoldt 1995–1996, 65.

¹³⁰ E.g., the 32 enormous cylindrical, subterranean silos dating to the mid third millennium excavated at Fara, ancient Shuruppak; see Martin 1988, 47.

¹³¹ E.g., the É.NUN.MAH temple at Ur, as discussed by Paulette 2016, 95.

¹³² An Old Babylonian vessel from Tell al-Rimah, northern Iraq, for example, boasts a capacity of $150\frac{1}{3}$ *qa* in cuneiform script (Postgate 1978, 73).

¹³³ Six pithoi have been measured; they range in volume from 78 to 228 liters. Volumetric measures for pithoi should be treated as approximations. Slight warping is caused by deposition of such large, heavy vessels, and these inaccuracies can be further amplified when measuring volumes from illustrations.

¹³⁴ This is well illustrated in an Old Babylonian letter in which the writer laments his hopeless efforts to lift a pithos (*lahtānu*); see Stol 1981, 152, lines 39–46; discussed in Sallaberger 1996, 79.

¹³⁵ See, e.g., Woolley and Mallowan 1976, pl. 35b.

¹³⁶ E.g., "5 *qa* of flour" and "2 *qa* of dates" (CUSAS 9-97, lines 1–2).

goods in particular: beer and ghee.¹³⁷ In the broader second-millennium corpus, the most common commodities associated with pottery vessels are oils,¹³⁸ which are linked with both large vessels and small spherical ones. In CUSAS 9 accounts, the *namandu*¹³⁹ and *pīhu*¹⁴⁰ are associated with perfumed oil on individual occasions.

Potts, taking the case of Old Babylonian Mari, observed that goods such as grain, oil, wine, and honey were sold not according to dry or liquid measure but by the jar.¹⁴¹ Such an economic flow would have necessitated the use of standard measures and, by extension, standardized pottery forms. The etymological translations (see table 1) of a group of common Sealand vessel terms (see tables 3, 4)—the *kaptukkū* (nine references), *kupputtu* (four references), and *šandi* or *šandu* (five references)—are indicative of their standardized capacities. Although in CUSAS 9 texts, the commodity associated with all three vessels is invariably ghee, this is most likely a contextual quirk, and these pots were presumably also used for carrying various other liquid contents.

The key differences between these three vessels lie in their respective capacities. While the *kupputtu* contained one *sūtu* (about 10 liters), the *kaptukkū* held two *sūtu* (about 20 liters), and the *šandi* or *šandu* held three *sūtu* (about 30 liters).¹⁴² From an admittedly restricted sample of six complete Tell Khaiber jar profiles, two general size categories are evident: a smaller jar with a capacity of approximately one *sūtu*¹⁴³ and a larger version of approximately two *sūtu* (fig. 14a, b).¹⁴⁴ There can be little doubt, therefore, that the *kupputtu* and *kaptukkū* vessels at least can be directly associated with these archaeological jar types; that *šandi* or *šandu* jars with a 3-*sūtu* capacity are not attested archaeologically is most likely a factor of preservation. Eighty *kaptukkū*

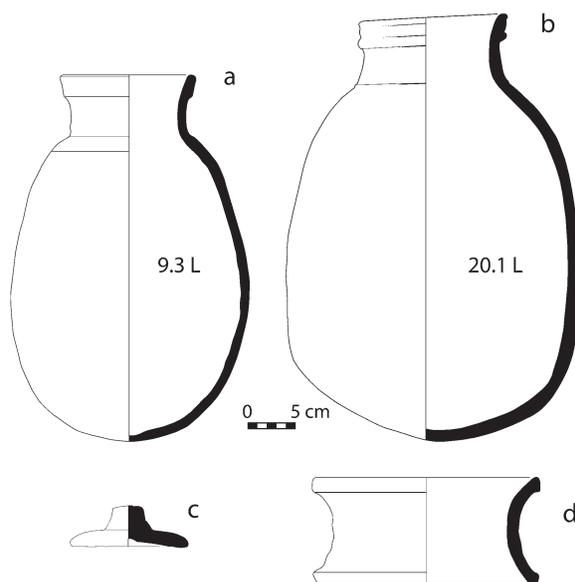


FIG. 14. Tell Khaiber's vessels most suitably associated with bulk storage activities: a, 1-*sūtu* jar p3085-283; b, 2-*sūtu* jar p6141-1; c, lid p8008-9; d, large potstand p6042-32. For a pithos, see fig. 9c. L = liters.

jars were imported to Tell Khaiber during the month of *Araḥsamnu* (October–November),¹⁴⁵ and 110 more in *Ṭebetu* (December–January).¹⁴⁶ Since these deliveries occur during a period of intense sowing activity across Mesopotamia,¹⁴⁷ it suggests a connection between these vessels and significant seed storage. It is in this context that we might also consider an association between the 180 *kalparu* imported to Tell Khaiber during the same period and similar storage activities; it is possible that this vessel type is the equivalent of, or at least fulfilled a similar functional role to, the *kupputtu* jars recorded in the CUSAS 9 texts.

Other second-millennium BCE vessel terms, particularly *gugguru* and *mashartu*, refer to pots used specifically for transport. The same Tell Khaiber vessels used for storage would no doubt also have been used for transport, both over short and long distances. Their round bases, unlike the ring bases of pithoi, were designed for mobility, even when full, as they could be rocked and spun over the ground. It is also significant that these jars have restricted openings (avg. diam. 15.5 cm), which could help prevent spillage while still

¹³⁷ Sealand vessels associated with the storage or transport of beer: *lahannu*, *namandu*, and *pīhu*. Sealand vessels associated with the storage or transport of ghee: *kaptukkū*, *kupputtu*, and *šandi* or *šandu*.

¹³⁸ Second-millennium vessels associated with oils: *huburnu*, *šappu*, *šikinnu*, and *tallu*.

¹³⁹ CUSAS 9-107, line 1.

¹⁴⁰ Belgian Collection 231; discussed by Dalley 2009, 68.

¹⁴¹ Potts 1997, 148.

¹⁴² The *kaptukkū* and *šandi* or *šandu* are also next to each other in Hh X (Civil 1996, lines 24–25).

¹⁴³ Two vessels have been measured; their volumes are 9.3 and 9.9 liters.

¹⁴⁴ Four vessels have been measured; the volumes range from 17 to 20.2 liters.

¹⁴⁵ TK 3064.65.

¹⁴⁶ TK 1096.55.

¹⁴⁷ For a reconstruction of the Sumerian agricultural cycle, see LaPlaca and Powell 1990.

allowing enough space to access the contents by hand or with a small vessel such as a cup. The thickened rim bands would also have allowed for the fastening of a closure during transport. The differences in the vessel names applied to storage and transport vessels may therefore have pertained to their use-context at a specific moment in time rather than to fundamental differences in shape or size.

Because of their size, it is rare to find large jars or pithoi preserved in situ. Diagnostic storage vessel sherds were most common in Rooms 152 (about 44% of the room total) and 156 (about 40%) in the Northern Unit, although many of these are made up of pithos sherds associated with brewing. Rooms 600–601 (about 38%), Room 316 (about 37%), and the courtyard Area 315 (about 39%) in the Southern Unit all have high concentrations of bulk storage vessels that show no associations with other types of brewing equipment. In the courtyard, the high frequency of storage vessels, particularly jars, may pertain to the temporary storage of goods that were waiting to be organized or moved elsewhere. However, this large open area may also have represented a convenient area of discard for broken jars.

Two broken jars were found near the center of Room 316,¹⁴⁸ surrounded by a dense concentration of fish bones. Presumably, these vessels were originally used to contain dried or salted fish, or perhaps the popular fermented fish sauce *siqqum*, used in food preparation.¹⁴⁹ In the Administrative Suite, a substantial jar profile holding a dark ashy substance, most likely degraded bitumen, was recovered from Room 300.¹⁵⁰ Another fragmentary jar found nearby was smeared on both the interior and exterior surfaces with bitumen and surrounded by large clumps of bitumen, which it had presumably once stored.¹⁵¹ As the tablet archive was found distributed across these rooms, it is possible that the stored bitumen played a functional role in administrative upkeep—for example, in the manufacture of sealings for jars after sorting and inspection.

Several vessel names from the wider second-millennium corpus may also be linked to storage and transport activities:

(1) *naktamtu* (“covering vessel”): At Tell Khaiber, several circular lids or stoppers were found (see

fig. 14c). These usually have a small, projecting stump to aid lifting. The small diameter (avg. 7.1 cm) of these lids and stoppers would suit smaller storage vessels, such as bottles or small hole-mouth vessels. Lids and stoppers have mainly been found in Room 316 (see fig. 7). For larger jars, a small bowl placed over the mouth might have proved more suitable for this role.

(2) *kandurû* (vessel stand): The average diameter (23.5 cm) of Tell Khaiber’s larger cylindrical vessel stands would have provided secure support for associated jars during their period of storage (see fig. 14d).

(3) *nēsep(t)u* (a filling vessel)¹⁵² and *mazzālu* (“emptier”):¹⁵³ It is likely that these vessels would have been used to fill and empty the dry and liquid contents of the storage containers discussed above. The most likely candidates are the cups found in the bases of two pithoi at Tell Khaiber, from Room 127 and Tower 304.¹⁵⁴

Unlike the jars discussed above, which were easily movable and may have entered the site from elsewhere, pithoi acted more like static architectural features. Two complete pithoi have been found in situ. The first was located in Room 318, an unexcavated room directly southeast of the main food processing area, Room 316 (see fig. 7); this vessel retained remnants of fabric directly beneath the rim band where a thong or twine secured a cloth covering the mouth of the pithos (fig. 15a). A second, larger pithos, with a volume of approximately 120 liters, was found standing upright in Room 127, a room in the Northern Unit that was not fully excavated; the vessel had a thick bitumen coating on the exterior surfaces in which fabric was embedded (see fig. 15b). The impermeability conferred by the bitumen would have made the vessel suitable for the storage of liquids, and wet cloths around the outside of the pithos would, on evaporation, have cooled the liquid contents by a process known as “sweating.”¹⁵⁵ Inside the base of this pithos, a small cup,¹⁵⁶ presumably used as a dipper, was found, thus echoing the association between cups and *tannur* installations noted earlier.

For the movement and storage of more valuable goods, such as scented oils or spices, smaller sealable containers with restricted openings would have proven more suitable. Although no vessels are reliably

¹⁴⁸ Vessels p8013-13 and p8013-14.

¹⁴⁹ Reynolds 2007, 180.

¹⁵⁰ Vessel p3064-565.

¹⁵¹ Vessel p3064-678.

¹⁵² Sallaberger 1996, 116.

¹⁵³ Sallaberger 1996, 114; see also CAD M 440.

¹⁵⁴ Vessels p6127-1 and p3054-48.

¹⁵⁵ Skibo et al. 1989, 129–31.

¹⁵⁶ Vessel p6127-1.

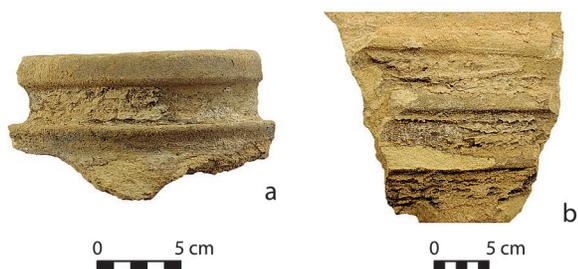


FIG. 15. Two pithos sherds showing degraded remnants of fabric: *a*, beneath the rim band (p8058-6) and *b*, adhering to bitumen coating between the ribs on the vessel's body (p6125-1).

associated with such activities in the Sealand texts, the *huburnu*¹⁵⁷ and *šappu*¹⁵⁸ are commonly linked to the storage of oil in other second-millennium texts. The most suitable of Tell Khaiber's ceramic vessels for these special storage purposes are small hole-mouthed vessels with flat bases (fig. 16a) and rounded bottles (see fig. 16b, c). These vessels are comparatively rare across the site (<1% of total assemblage)¹⁵⁹ and tend to be more common in areas also used for bulk storage (Rooms 152, 316, and 600–601), for consumption of liquids (Rooms 142 and 314), and for cooking (Room 316). Judging by relative vessel frequencies (see fig. 3) and their position in Tell Khaiber's numerical list TK 3064.65 between two drinking vessels (*kuk-kubu* and *lahannu*), it is plausible that the 10 *katagallu* imported to Tell Khaiber might be linked with special liquid storage bottles.

Serving and Eating

Feasts and banqueting scenes, especially those in association with kings, gods, and other elite figures, dominate the textual and iconographic sources. Quotidian meals are comparatively poorly documented,¹⁶⁰ particularly in pictorial representations, which as a rule do not depict daily commensal practices.¹⁶¹ This is not to say that smaller-scale activities were not structured by similar guiding traditions, physical actions,

¹⁵⁷ Interpreted by Sallaberger (1996, 112); see also CADH 219 as a small oil vessel.

¹⁵⁸ Interpreted by Sallaberger (1996, 112); see also CAD Š 479 as a small, bulbous vessel for oil.

¹⁵⁹ This percentage is likely an underestimation, since bottles and small hole-mouth vessels are often found complete and thus are not broken into larger numbers of diagnostic sherds as are larger vessels that fragment more readily.

¹⁶⁰ Pollock 2015, 12.

¹⁶¹ Otto 2015, 209.

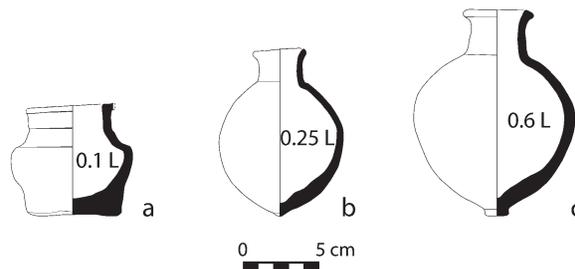


FIG. 16. Tell Khaiber's vessels most suitably associated with special storage activities: *a*, small holemouth vessel p1167-6; *b*, p3124-18, and *c*, p1142-8, bottles. L = liters.

and material culture. In fact, Duistermaat suggests that through the elite representations we can catch glimpses of the more common meal.¹⁶² She argues that food was customarily served as small portions in small bowls; an accompanying cup was held in the hand, while jugs, from which cups were presumably filled, were set to one side; tables were sometimes present but were used only to hold prepared dishes; diners, although often depicted as sitting on chairs, may well have sat on long reed mats in the manner common in the Middle East today.

Food was prepared in ways that made it easy to scoop with the fingers or with a piece of flatbread. The numerous bread ovens attested archaeologically at all second-millennium sites, including Tell Khaiber, speaks to bread as a staple. Bread was probably used to scoop the contents of small individual bowls containing spices, cheeses, and other individual portions or side dishes.¹⁶³ Larger communal bowls or platters, placed centrally within the reach of several individuals, would have contained stews, milk, porridges, bulgur, lentils, or fish.

The Tell Khaiber vessels most suitable for such eating practices were no doubt the common bowls (fig. 17). These vessels are shallow, open vessels, with bodies sharply angled close to the rim to prevent spillage, particularly of semi-liquid foods. Rim diameters among bowls vary in the Tell Khaiber assemblage; the most common carinated and sharply curved bowls are small to medium in size (rim diam. <22.0 cm), with limited volumes of usually less than 0.5 liters. Many bowls, especially those with shaped rims and

¹⁶² Duistermaat 2008, 458.

¹⁶³ Ethnographies of Iraqi Marsh Arab (Ma'dān) communities have observed a common association between *tannur* ovens and bowls; see, e.g., Maxwell 1957, 224.

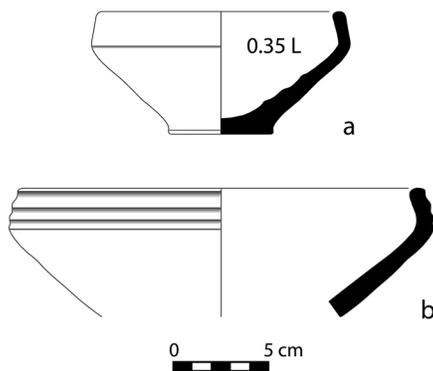


FIG. 17. Tell Khaiber's vessels most suitably associated with eating activities: *a*, carinated bowl p3088-138; *b*, grooved bowl p1096-307. L = liters.

grooves beneath the rims, fall into larger size ranges (medium: diam. 15.1–22.0 cm; large: diam. >22.0 cm) (see fig. 17b). These different sizes would have suited the serving and eating of the variety of foods discussed above, while the absence of large shallow platters and large open vessels in the Tell Khaiber assemblage might indicate that large-scale commensal events were uncommon in the Fortified Building.¹⁶⁴ The 40 *kallu* vessels imported to Tell Khaiber should be associated with Tell Khaiber's small carinated bowls; however, it is also plausible that the 9 *kabkaru* vessels listed directly above the *kallu* in TK 1096.55 might reference the larger, grooved bowl types.

There are a few rooms in the Fortified Building in which eating vessels are particularly common. In the Northern Unit, only Area 101 had a particularly high frequency of bowl sherds among the bulk diagnostics (about 42% of room total), as well as two complete bowl profiles that were set on the lowest floor surface along with the processing, cooking, and drinking vessels previously discussed.¹⁶⁵ The second area that yielded substantial numbers of bowls in both the bulk diagnostics and complete vessel record is Room 314,¹⁶⁶ a long narrow room set to the southwest of the courtyard in the Southern Unit. Here, as in Room 101, bowls were found along with numerous drinking cups and also special storage vessels (fig. 18). In both

¹⁶⁴ Shallow platters and large open vessels were common in the preceding Old Babylonian period; see Armstrong and Gasche 2014, pls. 1–9, 25–30.

¹⁶⁵ Vessels p1080-6 and p1080-10.

¹⁶⁶ Vessels p1139-28, p1139-89, p1139-126, p1142-50, and p1166-205.

Rooms 101 and 314, larger communal grooved bowl sherds were encountered, indicating that some form of communal eating took place.

The highest concentration of bowls, however, was found in the rooms of the Administrative Suite (about 46% of area total). Eleven small complete bowls were found.¹⁶⁷ These bowls were found not in groups but in isolation (fig. 19). In some instances, they were found on their sides or upside down, perhaps because they were originally set on a shelf or table that had subsequently collapsed. Again, their presence in this context along with the cuneiform tablet archive and the bitumen jars, discussed earlier, makes it likely that these bowls were used or reused as receptacles for temporarily holding clay or bitumen sealings, or even tablet scraps, and, as such, helped in the management of administrative materials and tasks.

Serving and Drinking

Beer was the main beverage at almost all commensal occasions. In fact, the term for banquet in many Ur III and Old Babylonian sources was *KAŠ-DE-A*, literally “the pouring of beer.”¹⁶⁸ Second-millennium beer was generally consumed from small cups for individual participants. A prevalent image that circulated at this time was the so-called presentation scene, which depicts a supplicant and an interceding goddess standing before a seated divinity or king who holds a drinking cup or small bowl outstretched in one hand. Michalowski argues that the gestures, or the *techniques du corps*,¹⁶⁹ in which cups were incorporated were a significant part of the physical language of political ideology, royal patronage, and social control.¹⁷⁰ Thus communal meals, complete with elaborate toasts and specific forms of eating, and particularly drinking,¹⁷¹ formed contexts in which hierarchy and authority could be performed, reciprocated, and even resisted or negotiated.¹⁷²

¹⁶⁷ Room 300: p1157-1, p1163-12, p3064-276, p3064-445, p3064-653, p3080-4, p3080-79, and p3080-97; Room 301: p3066-28; Room 313: p1157-1 and p1163-12.

¹⁶⁸ Michalowski 1994, 29.

¹⁶⁹ An anthropological framework developed by Mauss (1950, 365–86).

¹⁷⁰ Michalowski 1994, 37.

¹⁷¹ The intoxicating properties of alcohol can help solidify existing social relationships or draw people into new relationships at an accelerated pace. It is for this reason that alcohol is often central to commensal activities. See, e.g., Dietler 2006.

¹⁷² Dusinberre (2013, 125–40) discusses these body gestures in relation to pottery vessels.

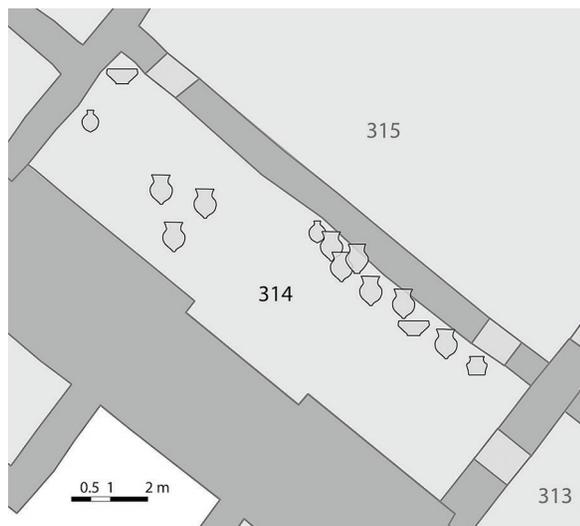


FIG. 18. Plan of Room 314, with stylized vessel shapes indicating precise find spots.

Several different varieties of beer appear in CUSAS 9 texts.¹⁷³ These include KAŠ (beer),¹⁷⁴ KAŠ.BIL.A (sour), KAŠ.SÍG (fine), *marsānu* (unstrained),¹⁷⁵ *mehḥu* ([unknown]), and *našpu* (sweet or strained). Differences between beer types were probably associated with variations in the main ingredient used during brewing, the relative strength of the finished product, the liquid consistency (filtered or unfiltered), and differences in how it was aromatized.¹⁷⁶ Significantly, while some of the common beers listed in CUSAS 9, for example KAŠ.SÍG and *našpu*, reflect common Mesopotamian beer names, others such as the *marsānu* and *mehḥu* are far less common in the wider second-millennium corpus. This highlights a complex intersection between tradition and localized practice in Sealand beer consumption.

In the CUSAS 9 tablets, beer is associated exclusively with *pīḥu* vessels.¹⁷⁷ However, the association of specific beers with the *pīḥu* is only made explicit in deliveries to the palace. When the palace is not the



FIG. 19. Bowl p3064-445 found in isolation on the floor of Room 300.

recipient,¹⁷⁸ the nature of the *pīḥu* vessel's contents is rarely disclosed; they were probably filled with a socially acknowledged type of beer that the scribe saw no need to record. Two unusual texts record the delivery of a *pīḥu* to the palace for the so-called night meal.¹⁷⁹ These both contain the same list and quantities of items: two rams, four *qa* of beer, one *pīḥu* of *mehḥu*-beer,¹⁸⁰ two *namandu* of beer, two *sūtu* of bread, two *sūtu* of *mersu*-cake, two *sūtu* and five *qa* of flour, and ritual clothing. From these two texts we can determine, firstly, that the *pīḥu* was important not only for the circulation and consumption of beer,¹⁸¹ and, secondly, that *pīḥu* and *namandu* (measuring vessels) co-occurred in commensal contexts.

To further support the nature of the *pīḥu* as a vessel used in beer consumption, it may be useful to look to the Middle Assyrian Tell Sabi Abyad archive. Here, while the Babylonian term *pīḥu* is not used, the *tarīḥu* carries very similar contextual associations with brewers and with beer circulation. One letter in particular, written by the regional governor and addressed to the chief steward of the Tell Sabi Abyad institution

¹⁷³ These types of beer are listed and discussed by Boivin (2018, 164–66).

¹⁷⁴ KAŠ is the most frequently used term and might therefore have designated a particularly common beer type; see, e.g., Boivin 2018, 164.

¹⁷⁵ Boivin (2018, 164) suggests that this was a type of beer into which malt mash was stirred.

¹⁷⁶ Milano 2014, 293.

¹⁷⁷ I.e., 121 references to a total of >1,911 vessels.

¹⁷⁸ The texts refer to the movement of these vessels to a variety of other recipients, perhaps as payment: “Ea-ēpir the cook(?)” (CUSAS 9-112, line 5), “the 5 sons of Sin?-Immar(?) the jeweler” (CUSAS 9-138, lines 4–5), and “Ibbi-Šakkan the musician” (CUSAS 9-114, line 8).

¹⁷⁹ CUSAS 9-86 and 109.

¹⁸⁰ The only references to this beer type in the entire archive.

¹⁸¹ The role of *pīḥu* as consumption vessels is supported by an Old Babylonian account (London, British Museum tablet BM 79875) in which twenty *pīḥu* are enumerated as part of a “divine banquet” in which a set of ritual officials shared a meal with a pantheon of gods; discussed in Richardson 2010, 36.

provides some insight, saying, “Let a written order go out from you to your brewer in Saḫlalu, that he must give beer and *tarīhu*-vessels (for) when the Suteans come to have dinner with me.”¹⁸²

Accordingly, Duistermaat interprets the *tarīhu* as probably not used for beer production or storage but as a socially accepted vessel used for serving beer.¹⁸³ It therefore seems reasonable to interpret the Sealand-period *pīhu* as operating similarly to the Middle Assyrian *tarīhu*.

Although the *pīhu* is not referenced in Tell Khaiber’s numerical accounts, 30 *kukkubu*, 100 *laḫannu*, and 60 *lurmu* vessels are accounted for. Each of these is recognizable in the wider second-millennium textual tradition as a vessel used for serving and drinking,¹⁸⁴ and *kukkubu* and *laḫannu* are also listed together in Hh X.¹⁸⁵ The *kukkubu* and *lurmu*, however, do not occur in CUSAS 9 texts, and there is just one reference to 13 *laḫannu* vessels dedicated to the temples of Marduk, Nin/Bēlet, and Ninurta along with 10 *pīhu* vessels.¹⁸⁶ Comparison of the frequency with which the *pīhu* vessel appears in the CUSAS 9 tablets with the appearance of a range of other drinking vessels in the Tell Khaiber archive suggests some equivalence; the same physical vessel types might have been referred to as *pīhu* when they contained beer but as *laḫannu* or *lurmu* when empty.

There is little doubt that Tell Khaiber’s cups were used for drinking. These cups all have relatively squat, rounded bodies with sharply defined necks, yet have feet manufactured in two main types: unstable and stable (fig. 20a, b). These differences in foot shape, although stylistically minor, must have had a significant impact on the ways these vessels were handled and used. Two potential reasons for the difference come to mind, one of which was underpinned by practical concerns and one that was determined by social gestures. On the practical side, unstable cups would have been associated with small cylindrical pot stands (*kandurū*) (see fig. 20c), and at events where cups were filled regularly, probably from Tell Khaiber’s jugs (see fig. 20d), the use of these pot stands would have added increased stability (more so than a normal

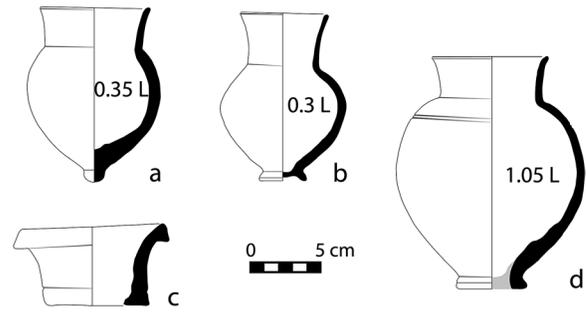


FIG. 20. Tell Khaiber’s vessels most suitably associated with drinking activities: a, unstable cup p1085-17; b, stable cup p4021-12; c, small pot stand p8016-7; d, jug p3084-35. L = liters.

stable foot), thus preventing vessels from tipping and spilling. Alternatively, the narrow feet of the unstable cups could also have helped when setting these cups into soft ground. A social consideration would be that a cup with an unstable foot requires all contents to be consumed before the vessel is set down. This may have suited customary serving, toasting, and drinking traditions, which were perhaps associated with the specific beer types in the CUSAS 9 texts.

The frequent archaeological presence of both stable and unstable cups might suggest two different drinking traditions performed simultaneously in the same commensal contexts at Tell Khaiber; this division might be reflected in the respective vessel names for cups, the *laḫannu* and *lurmu*. A corresponding association should also be made between *kukkubu* vessels and Tell Khaiber’s jugs (see fig. 20d); the quantitative ratio of about 5:1 (*laḫannu* and *lurmu* = 160 vessels; *kukkubu* = 30 vessels; see fig. 3) in Tell Khaiber’s numerical accounts aligns well with the relative archaeological frequencies of about 4:1 (cups = 21%; jugs = 5.5%; see fig. 3).

Cups and jugs were regularly found beside one another. In the central courtyard (Area 315), for instance, a few spatially dispersed cups were recovered close to a broken jug.¹⁸⁷ In Room 152, three cups were found beside a jug.¹⁸⁸ In Tower 304, 25 cups and six jugs were found together with four small pot stands.¹⁸⁹ And in Tower 616, 15 complete cups and two jugs were found with one small pot stand.¹⁹⁰

¹⁸² Tell Sabi Abyad tablet T93-3; Duistermaat 2008, 561–63.

¹⁸³ Duistermaat 2008, 452.

¹⁸⁴ Sallaberger 1996, 84; Duistermaat 2008, 458–59.

¹⁸⁵ Civil 1996, lines 16–21.

¹⁸⁶ CUSAS 9-76.

¹⁸⁷ Cups p3185-30, p3185-78, p3185-108, and jug p3168-59.

¹⁸⁸ Cups p8083-17, p8083-23, p8083-44, and jug p8083-46.

¹⁸⁹ Contexts 3054, 3084, 3085, 3087, and 3088.

¹⁹⁰ Contexts 9018, 9020, 9022, and 9023.

The best evidence for drinking activities comes from the central suite of rooms, 140–142 (about 35% of room total). Room 142, a long and rectangular room, yielded a floor covered with carefully laid reed matting, a unique feature in the Fortified Building. Set on this surface, in the southeast corner of the room, was a collection of 10 cups and a pot stand (fig. 21), along with elaborately decorated measuring vessels (e.g., figs. 11b, 13) and two special storage bottles that may have contained flavorings for the beverages consumed. On first impression, the architectural evidence coupled with the number of drinking vessels found would suggest group feasting. However, the comparative lack of bowls found in Room 142 suggests that food was rarely, if ever, consumed here, or at least that any bowls used here were stored outside of this complex of rooms. The strong association of Room 142 with drinking activities is further supported by a cache of vessels deposited in the center of the room, apparently as one of the final acts of occupation in Phase 2.3; this cache includes two cups, a jug, a bottle, a pot stand, and a measuring vessel.¹⁹¹

Ritual and Cult

Ritual and cult activity form common contexts in which textual attestations to pots appear, both in the wider second-millennium BCE archives and in the CUSAS 9 tablets. Ritual libation was a particularly common practice.¹⁹² In a CUSAS 9 text, as part of a sacrificial offering “to Ištar on the roof of the palace,” were instructions to pour the contents from three *pīhu* into seven small *naprahtu*.¹⁹³ In another text, a large *pursītu* bowl¹⁹⁴ was used to pour a “scatter offering” of cake and perfumed oil, and a ghee container was simultaneously deposited for “the (goddess) who dwells in Uruk.”¹⁹⁵ And another text records an “alabastra? of perfumed oil” to be dedicated to the temple of Ninurta on month seven day seven, along with various other goods, such as two *pīhu* vessels, six rams, two *sūtu* of

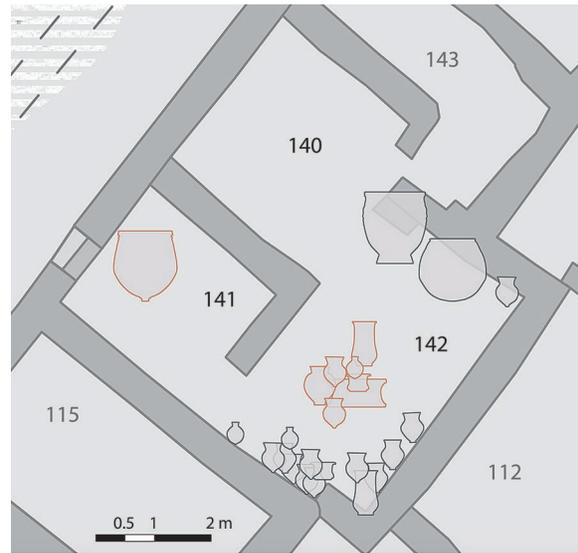


FIG. 21. Plan of Rooms 140–142, with stylized vessel shapes indicating precise find spots. The cache of vessels deposited at the very end of the room's occupation (Phase 2.3) are outlined in orange.

flour, and two *qa* of ghee, for the creation of “magic circles.”¹⁹⁶

Old Babylonian texts regularly give accounts of deities being offered various foodstuffs, including bread, flour, and groats.¹⁹⁷ One Sealand-period text lists the distribution of more than 223 DUG HA vessels to numerous gods in the Mesopotamian pantheon.¹⁹⁸ Looking to the archaeological record, these activities could be linked to the stacks of bowls that have been found on raised altars in Old Babylonian temples, for example at Ur.¹⁹⁹ These vessels were probably also used for graveside libations, whereby the living entered into reciprocal relationships with deceased spirits in order to secure ancestral protection.²⁰⁰ These food offerings occurred on a large scale among the royal dynasties of Babylon, Mari, and most magnificently by the kings of Qatna,²⁰¹ but also took place on an ordinary

¹⁹¹ Context 5016.

¹⁹² The name of the second-millennium *maqqu* vessel, e.g., derives from the term *naqu*, meaning to “pour out”; see CAD N/1 338b.

¹⁹³ CUSAS 9-69. Gates (1988, 66) interpreted the *naprahtu* as a small beer vat; see also Sallaberger 1996, 104.

¹⁹⁴ Duistermaat (2008, 451) interprets the *pursītu* as a “ritual bowl.”

¹⁹⁵ CUSAS 9-68.

¹⁹⁶ CUSAS 9-65.

¹⁹⁷ A good example of this is the activities of the seven-day ritual at Larsa, discussed in Kingsbury 1963.

¹⁹⁸ CUSAS 9-59.

¹⁹⁹ For a visual example of these bowl stacks at Ur, No. 1 Boundary Street, Area AH, see Woolley and Mallowan 1976, pl. 43b.

²⁰⁰ The act of caring for the dead through a regular supply of food and drink was known as the *kispu*. For an Old Babylonian description of the unappeased, restless dead, see *The Epic Gilgamesh* 12, line 6.

²⁰¹ Pfälzner 2012.

scale. Attached to many of the private houses at Old Babylonian Ur, for instance, were private “chapels” with vaulted family tombs.²⁰² On the pavement outside these burial vaults were placed small collections of vessels, including bowls, cups, goblets, and jugs,²⁰³ that would not have looked out of place in everyday commensal contexts.

One function that is not explained in the texts is the regular use of second-millennium pots, particularly common pithoi and jars, as funerary containers.²⁰⁴ These burials are associated with the secondary Kassite period occupation at Tell Khaiber and are thus not connected with the primary use of the Fortified Building discussed here. However, the presence of this sort of repurposing of vessels is worth noting.

Vessels such as the DUG HA, *naprahtu*, and *pursitu* appear exclusively in ritual contexts in CUSAS 9. One might expect such specialist ritual vessels to be elaborately decorated, exaggerated in shape, or perhaps even inscribed with votive text.²⁰⁵ Yet such vessels are entirely absent from the plain and functional Tell Khaiber assemblage.²⁰⁶ Overall, it seems that the ceramic equipment used in ritual and cult performances, and the foods and drinks used and consumed in these performances, mirrored those of more mundane activities.²⁰⁷ Bringing different material elements together in novel configurations would have instigated potentially transformative consequences in which the lines between the ordinary and extraordinary were blurred.²⁰⁸ In these moments, mundane vessels and their contents were framed and animated by different meanings and, on occasion, probably took on different names contingent on their use.

IMPLICATIONS FOR THE FORTIFIED BUILDING

Tell Khaiber’s pottery assemblage is composed of a restricted set of functional types, with little to no reliable evidence for ritual or cult activity found in the

Level 2 areas investigated. Statistical analysis of use-contexts only partially supports the impression given by the Tell Khaiber archive that the Fortified Building operated largely as an administrative hub governing local agricultural production. Although no distinctive storage rooms have been found, the statistical representation of storage jars and pithoi (about 34% of the total assemblage) aligns fairly well with the significant proportions of *kaptukkû* and *dannitu* vessels that were imported to the site for these purposes (see table 3). Nevertheless, cereal processing equipment, both ceramic mortars (e.g., fig. 4c) and quern stones, are rare in the overall assemblage. Furthermore, cylindrical beakers, or so-called grain measures, are also fairly rare (about 3%) and, where present, indicate more reliable contextual associations with beer production and consumption than with the measuring of agricultural products such as grain or milled flour.

Overarching interpretations of the Fortified Building must, however, be treated with care; the restricted areas of vertical exposure make it problematic to assert unequivocal functional interpretations based on an absence of data. Interpretations based on positive data are far more convincing. Indeed, using nuanced statistical analysis of spatially separated subassemblages and their associated use-contexts (fig. 22; table 5) allows us to piece together a picture, although inevitably fragmented, of the Fortified Building as a carefully managed space occupied by a tightly integrated community of laborers and possibly residents, too, at least some of whom fell under institutional control. These, while touched on in the use-context analyses, are worth synthesizing here.

Off the central corridor, east from the main entranceway, are two small rooms (Rooms 152 and 156) that can be firmly associated with brewing activities. From the evidence available, brewing activities were apparently restricted to the northeastern corner of the building and were likely to have fallen under institutional control, as is also indicated in the CUSAS 9 documents. The beer brewed here was perhaps overseen by Tell Khaiber’s brewer, Mannu-balu-ilišu, and the products might have served to meet the demand of the people in the nearby rooms (Rooms 99–109), if not to supply all of those living and working throughout the Fortified Building.

The pottery assemblage in Room 101, farther along the corridor from Room 156, contains all the necessary equipment needed for rudimentary domestic occupation. Since the other rooms along the southeast side of

²⁰² Woolley and Mallowan 1976, 33–9.

²⁰³ E.g., Woolley and Mallowan 1976, pl. 48a, b.

²⁰⁴ Sternitzke (2017, 359–62) discusses this practice in the Kassite period. Several double-pithos and jar burials were found at Tell Khaiber.

²⁰⁵ E.g., at Failaka Island, Kuwait (Eidem 1987).

²⁰⁶ Vessels such as goblets with tall ostentatious necks do not enter the Tell Khaiber assemblage until the Kassite period. See Calderbank 2020, 73–74; and forthcoming.

²⁰⁷ The use of the mundane and the everyday in Mesopotamian ritual performance is discussed in Ristvet 2015, 1–39.

²⁰⁸ Harris 2017, 132.

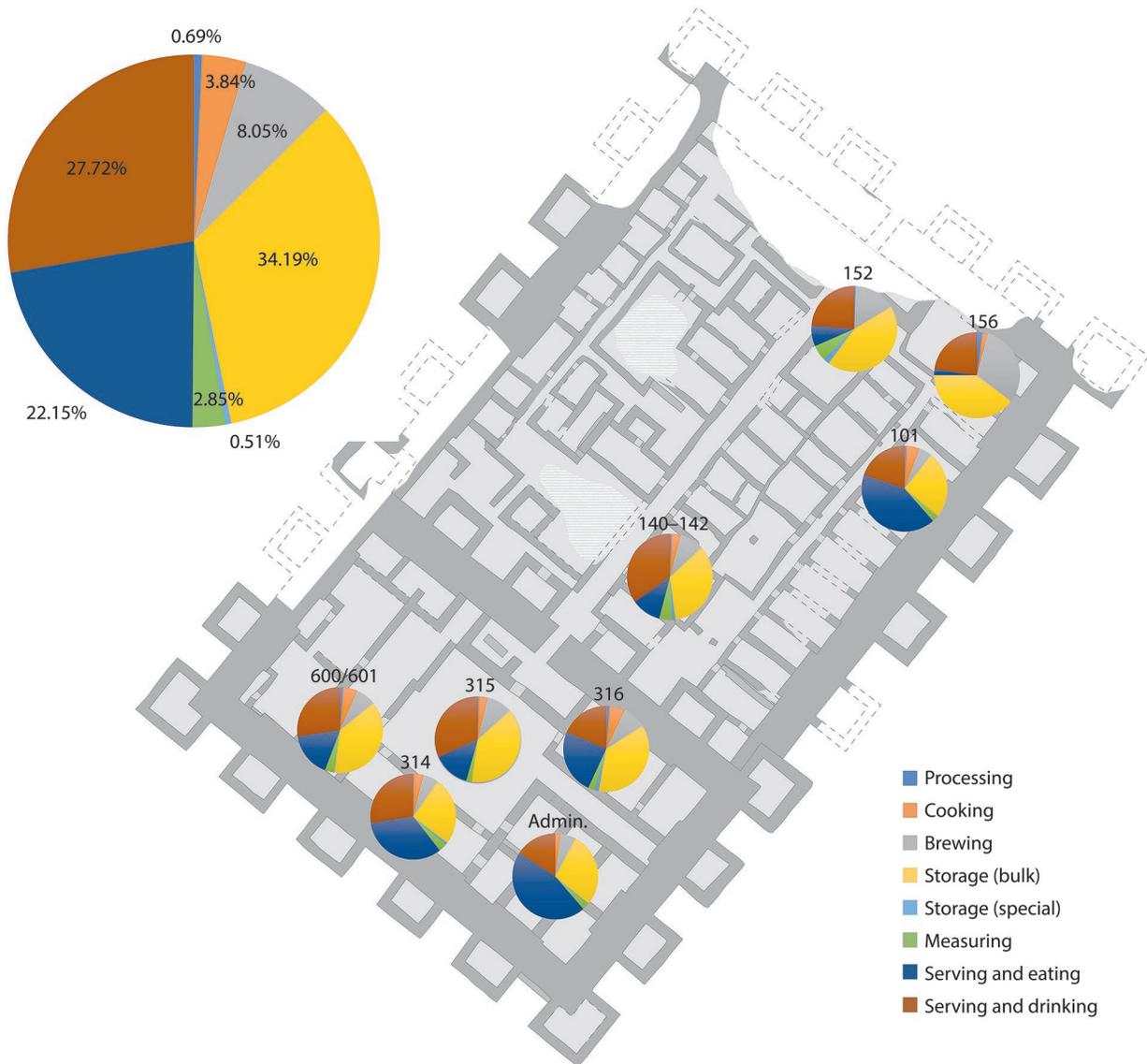


FIG. 22. Relative distributions of vessels for each use-context in all excavated areas of the Fortified Building. Cf. the total Level 2 assemblage percentages at top left.

the building (Rooms 99–109) are identical in architectural plan, and each has a *tannur* placed in exactly the same position, we may view these rooms as a series of lodgings for individuals or, judging by the presence of communal bowls, potentially small groups, who did not have to support a full range of household activities. Who may have stayed here and for how long is unclear. The rooms could, for instance, have been barracks for the “royal auxiliary troops” mentioned in the site’s texts,²⁰⁹ or accommodation for attached laborers

²⁰⁹TK 3064.49.

or specialists receiving bed and board, or lodging for travelers or merchants moving along the canal network running by the site, or perhaps they were even cells for slaves or prisoners.

The blend of drinking cups and jugs, along with various measuring vessels and small bottles present in Room 142 in the middle of the building represents our best evidence for (perhaps rather elaborate) communal drinking. It is evidently here that many guests to the building were entertained, perhaps while awaiting entry to the building’s Southern Unit.

The Southern Unit opens onto a large central courtyard (Area 315) in which was found an ad hoc mix of

TABLE 5. Relative percentages of vessel use-contexts in the excavated rooms and areas of Tell Khaiber's Fortified Building, Level 2. High relative percentages (>10% above the Level 2 total) are highlighted in gray. For a graphic representation of these statistics, see fig. 22.

Vessel Use-Context	Process- ing (%)	Cook- ing (%)	Brewing (%)	Storage (Bulk) (%)	Storage (Special) (%)	Measur- ing (%)	Serving and Eating (%)	Serving and Drink- ing (%)
Total Vessels (N = 6,193)	0.7	3.8	8.1	34.2	0.5	2.9	22.2	27.7
Northern Unit								
Rm. 152 (n = 171)	0.6	–	15.8	43.9	2.3	5.9	7.6	24.0
Rm. 156 (n = 48)	2.1	2.1	31.3	39.6	–	–	2.1	22.9
Rm. 101 (n = 556)	0.7	5.0	4.9	25.4	–	2.5	41.7	19.8
Rms. 140–142 (n = 311)	0.6	3.5	9.0	34.7	1.3	4.8	11.3	34.7
Southern Unit								
Area 315 (n = 736)	0.4	3.4	9.5	39.0	–	2.0	14.0	31.7
Admin. Suite (n = 398)	–	2.0	5.8	28.1	0.3	2.5	45.5	15.8
Rm. 314 (n = 361)	0.3	3.6	5.8	25.8	0.8	3.0	33.2	27.4
Rms. 600–601 (n = 524)	1.2	5.5	7.4	38.0	0.2	3.4	16.8	27.5
Rm. 316 (n = 320)	1.3	5.9	8.8	36.9	1.6	2.5	24.4	18.8
Towers								
Tower 124 (n = 115)	1.7	4.4	–	30.4	0.9	7.8	38.3	16.5
Tower 302 (n = 50)	–	4.0	–	40.0	–	6.0	16.0	34.0
Tower 304 (n = 574)	0.7	4.0	3.8	30.1	–	4.9	25.3	31.2
Tower 616 (n = 197)	0.5	3.1	6.1	21.3	1.5	2.5	22.8	42.1

cooking and processing implements, along with dispersed cups, suggestive of individualized and more informal drinking, and a high incidence of bulk storage vessels for goods that were perhaps waiting to be managed and moved on. Set off the courtyard on all sides are rooms that seemingly had a range of functions: Rooms 600 and 601 appear to have been used primarily for bulk storage; the rooms of the Administrative Suite yielded storage jars containing bitumen and a number of spatially dispersed bowls, a curious subassemblage that came together to fulfil the administrative tasks required. The number and concentration of cups, bowls, and special storage vessels in Room 314 suggests that this room was involved with eating and drinking activities, perhaps partaking of the dishes that were produced by the cooks in Room 316, directly across the courtyard.

The site's tower rooms are typically dense with ceramic debris, with all except one (Tower 124) demon-

strating very high concentrations of drinking vessels. The extreme density in which these ceramics were found precludes any sort of practical use for the tower rooms. Instead, these restricted spaces were probably used as convenient areas for the periodic discard of often functionally related materials, perhaps following specific commensal events.

DISCUSSION AND CONCLUSIONS

Traditional analyses of Mesopotamian pottery have contributed little to our understanding of how pots were perceived and incorporated into the complex patterns of everyday life. In this article, I have revisited the question of Mesopotamian pottery function from a relational text-object perspective, drawing on data relating to the poorly understood First Dynasty of the Sealand. I have analyzed vessel names from two separate, yet cross-referencing, Sealand-period archives in conjunction with the Tell Khaiber pottery assemblage

(ca. 1550–1475 BCE) and have located the Sealand-period data in relation to Sallaberger's important etymological and contextual study of second-millennium vessel names, as taken from Civil's edition of the UR₅-RA = *hubullu* word list, Tablet X,²¹⁰ and supported by other Old Babylonian textual sources.

I have argued here that 𒄩𒄩 X must be understood relationally, and that it becomes meaningful when examined alongside second-millennium pottery rather than as simply reflecting or fossilizing material realities.²¹¹ From Sallaberger's study, I draw two central conclusions: firstly, that from an emic Mesopotamian perspective, the social value of pottery vessels was defined by use, and, secondly, that these uses can be broadly separated into several use-contexts—namely processing of food and drink, cooking, brewing, storage and transport, measuring, serving and eating, serving and drinking, and ritual and cult (see table 2). Of course, the second-millennium vessel names assessed here are not a prescriptive list to be ticked off archaeologically. One would not have encountered each of these vessel names in the everyday spoken lexicon, nor would one find vessels associated with all of these uses in Mesopotamian ceramic assemblages from every second-millennium site. We might better conceptualize 𒄩𒄩 X and the wider vessel-name corpus as representing potentialities of use—that is, as a collection of uses that were deemed appropriate for second-millennium pots.

Whether or not these potentialities were realized must be examined in a situated contextual manner. Detailed analysis of the Sealand-period archives from Tell Khaiber and those published in CUSAS 9, for instance, has revealed 18 vessel names, most of which are also found in the broader second-millennium vessel-name corpus. I have suggested probable text-object associations for Tell Khaiber's pithoi used for storage (*dannitu*), pithoi used for brewing (*habbūru* and *naprahtu*), beer vats with base holes (*našappu*), cylindrical beakers (*namandu*), bowls (*kallu* and *pursītu*), cups when empty (*laḥannu* and *lurmu*) and cups containing beer (*pīḫu*), jugs (*kukkubu*), as well as 10-, 20-, and 30-liter jars (*kupputtu*, *kaptukkū*, and *šandi* or *šandu*). More tentative links are also proposed for larger bowls (*kabkaru*), small storage bottles (*katagallu*), and jars (*kal-*

paru); these latter associations, however, are informed mostly by correlating textual and archaeological vessel frequencies (see fig. 3) combined with a heuristic process of elimination. There are, of course, biases and gaps in these Sealand-period archives that inevitably mean that some contemporary archaeological types, for example cookpots, are not represented textually.

This article is not the first to suggest one-to-one text-object equivalences for Mesopotamian pottery.²¹² However, it is the first to incorporate extensive spatial and distributive data on the site-wide level into its methodology. This has proven informative for understanding the ways in which social and economic activities were materially performed during the First Sealand Dynasty. Many vessels that one might expect to find functionally associated, based on textual records and on material analysis of functional suitability, also demonstrate strong associations in the Tell Khaiber contextual record, such as the spatial relationships identified between processing and cooking implements, brewing vats and pithoi, brewing vats and cups, and between cups and jugs, to name a few. These vessels might therefore be understood as having fulfilled their “idealized” object life.²¹³

Nevertheless, it is also possible to identify numerous examples of vessels that were used or reused in contexts for which they would not intuitively be deemed suitable, thus potentially deviating from the uses for which they were originally designed and manufactured. It is these unexpected associations that warrant further attention here. Notable examples are cookpots used as embedded storage containers; cups presumably used as dippers found in association with *tannurs* and with pithoi; bowls used as administrative receptacles; and cylindrical beakers associated with beer production and beer consumption rather than in their presumed role as grain measures. These examples act as cautionary tales when attributing positivist, immutable vessel identities to archaeological types. In line with this reasoning, we might reflect on an ethnographic interview conducted by Kempton with a local shopkeeper of San Pablo, Mexico. When asked to identify a prototypical *olla* vessel from numerous

²¹⁰ Civil 1996.

²¹¹ Jervis (2014, 33–50) makes similar observations in the context of medieval English ceramics in relation to object inventories.

²¹² For such attempts with second-millennium assemblages, see Gates 1988; Sallaberger 1996, 80–84, pls. 1–6; Duistermaat 2008, 447–52, fig. 6.18. Zarnkow et al. (2011) use a similar approach with a subassemblage of brewing vessels.

²¹³ Kopytoff 1986, 66–68.

pictures of varying vessel shapes, the shopkeeper replied, “they are all *ollas*, it just depends on how they are going to be used.”²¹⁴

Such variable vessel potentialities align with broader conceptions of object biographies that have crystallized in archaeological discourse over the last two to three decades.²¹⁵ These approaches follow the complex life-histories of individual objects, particularly as they become entangled in large-scale events and performances²¹⁶ or as parts of cross-cultural exchanges and colonial encounters.²¹⁷ It is through their circulation and incorporation into different social contexts that objects “become alive;”²¹⁸ they are interpreted, gain social meaning, and are successively reinterpreted in nonlinear ways and with unpredictable results.

Tell Khaiber’s pottery assemblage consists of a plain and restricted set of functional vessels that circulated within an institutional social and economic framework. These vessels may have started out with idealized object lives, and yet scope for functional malleability was seemingly baked into the second-millennium Mesopotamian pottery tradition. In this way, Tell Khaiber’s pots conform to Marshall’s concept of “lived” objects that acquire meaning through social action, as set counter to “inscribed” objects that are deliberately marked out as powerful at the time of production.²¹⁹ Pots were designed to operate unobtrusively; as long as they carried out their fluid functional roles, they were unlikely to have imposed upon the Mesopotamian consciousness. Accordingly, the Fortified Building at Tell Khaiber was the setting for various domestic and labor activities that were managed and separated into designated rooms and spaces, many of which bear fairly clear functional identities. In these spaces, functional potentialities were realized dynamically through both expected and unexpected configurations of vessels that came together to form coherent assemblages.

Recognition of the “multivalency” of pottery vessels—that is, their capacity to alter in social role

and meaning during their use-life²²⁰—has critical significance both archaeologically and philologically. This fluidity in function must, presumably, have seen vessel names follow suit, shifting contingently with use-context. Take for example the common *lahannu* vessels that were imported to Tell Khaiber’s Fortified Building in bulk. When filled with beer they may have taken on the name *pīhu*, whereas if used as a dipping vessel in association with a pithos or *tannur*, they could conceivably have assumed the role of the Old Babylonian *mazzālu* (“emptier”) or *nēsep(t)u* (“filling vessel”). Similarly, when a *kallu* or *kabkaru* bowl was used in ritual activities, it may have assumed the role of the *pursītu*, while if a cup or bowl was employed as a quick to-hand measure for allotting quantities of grain, it may temporarily have become a *namandu* (“measuring vessel”). Further to the point, did the Sealand *dannitu* pithos retain its identity as a *dannitu* when it was used to contain the corpse of a friend or family member?

This article folds individual vessel biographies into the vast web of ceramic microengagements that formed the habitual backdrop to everyday Sealand-period life. People, names, cuneiform tablets, pottery vessels, and contexts of vessel use came together to produce a cumulative second-millennium pottery tradition that was continuously in process. As such, the findings of this study are not fixed but can be augmented in future, particularly through data produced from renewed excavations at the traditional Mesopotamian Bronze Age cities of Ur, Nippur, and Lagash. The relational processes that bound texts and objects compel us to pursue frameworks of material analysis that attend not only to how pottery vessels were located within Mesopotamian social life but also to the complex ways in which vernacular discourse emerged in response to the employment of pottery in everyday courses of action. Such frameworks will have significant conceptual implications for the ways in which we interpret ancient craft traditions in the earliest literate, and also protoliterate,²²¹ societies of the Near East and beyond.

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²¹⁴ Kempton 1981, 57.

²¹⁵ Articulated by Kopytoff (1986), with varying approaches to the topic formally brought together by Gosden and Marshall (1999).

²¹⁶ E.g., Whitely 2002.

²¹⁷ E.g., Hamilakis 1999.

²¹⁸ Joy 2009, 544.

²¹⁹ Marshall 2008, 63–65.

²²⁰ Miller 1985, 182.

²²¹ See, e.g., the contributions in Glatz 2015.

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