ORIENTALIA LOVANIENSIA ANALECTA

Material Culture of Mesopotamia and Beyond 1

People and their Material Environment in First Millennium BCE Babylonia

edited by
LAURA COUSIN, LOUISE QUILLIEN
and MANON RAMEZ

PEETERS

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INTRODUCTION

Grégory Chambon, Francis Joannès
& Michael Jursa

The present volume unites papers read in Paris at the workshop "Artefacts, Artisans et Techniques. Nouvelles approches contextuelles sur la culture matérielle au Proche-Orient ancien" at the 65e Rencontre Assyriologique Internationale in July 2019 (organizers: G. Chambon, M. Guichard, F. Joannès, L. Quillien and M. Ramez), as well as at the first international meeting of the *Material Culture of Babylonia during the 1st millenium B.C.* (MCB) project (directed by F. Joannès and M. Jursa) in December 2019. The support of MCB's two funding agencies, ANR (Paris, project number ANR-18-CE91-0001) and FWF (Vienna, project number I 3927) is gratefully acknowledged.

Both events subscribed to an inclusive view of 'material culture' that implies the investigation, not only of the physical nature of man-made objects, but also of the identity and socio-economic status of their makers, their working conditions and technologies, and in general of the economics of production and consumption. We argue that through a material culture perspective, socio-economic history can concentrate on concrete and visible aspects of ancient societies. This approach complements the more abstract quantitative and qualitative approaches that was favoured in pertinent research in recent times. A particular focus is on the material culture of religion, and the spatial expression of religious concerns, the bulk of the papers deals with the first millennium BCE and in particular with Babylonia, the subject of MCB, but several papers go beyond this focus both diachronically and diatopically, thereby also opening up the possibility for comparative approaches.

M. Jursa

The present book is the first of a series dedicated to material culture in Babylonia and its neighbouring regions, as documented in cuneiform texts dating from the first millennium BC. It is the product of a scientific project (*La culture matérielle en Babylonie au Ier millénaire av. J.-C. / Material Culture of Babylonia during the 1st millenium B.C.*) jointly elaborated by a team of the Institut für Orientalistik of the University of Vienna and the team Histoire et Archéologie de l'Orient Cunéiforme working within the Unité Mixte de Recherche Archéologies et Sciences de l'Antiquité of the Centre National de la Recherche Scientifique (CNRS) and the University of Paris 1 Panthéon-Sorbonne. This

four-year (2019-2022) research project, funded by the Agence Nationale de la Recherche (France) and the Fonds zur Förderung der wissenschaftlichen Forschung (Austria), aims to document and study materials, objects and practices that have disappeared or are not attested by the current state of archaeological data; its aim is to complete the study of the daily environment of the inhabitants of Mesopotamia in the 1st millennium. The investigation can be extended to neighbouring regions or to other periods, as happens in this volume, and thus to put some material realities in their social, economic and cultural context.

By analysing the associations of objects and products, the abundance of available textual documentation sometimes makes it possible, to overcome some philological difficulties linked to the presence of many hapax and to reconstruct the processing chains. As shown by the dictionaries (AHw, CAD, CDA), the corpus of terms from the material culture of the Neo-Babylonian period is abundant and reflects the numerous linguistic influences that were at work in Babylonia from the 7th and 6th centuries BC. The significant groupings should make it possible to put forward hypotheses for contextual translations when philological or etymological analysis proves insufficient.

Beyond fixing the meaning of words, we believe that comparisons are possible between archaeological and textual data, between the methodologies of these disciplines and the way in which these data are 'made to speak'.

Finally, the study of material culture and the flow of products linked to it should allow us to draw the geography of exchanges that is not the political geography through which we analyse, sometimes too exclusively, the history of the Near East in the first millennium.

One of the working groups composing our project is devoted to the relations between material culture and religious practices and aims at exploring and reconstructing the most concrete aspects of the latter in the 1st millennium Babylonia. The textual documentation is particularly abundant in this field and it becomes possible to combine the official literature of royal inscriptions, the traditional literature of historical chronicles, some rituals and texts of scientific value with the raw data of administrative texts in order to reconstruct the concrete aspects of the cult. Several themes are indeed conceivable, which are emerging in current research on Mesopotamia: how is the spatial geography of a great Babylonian temple organised? How does the very special human community that inhabits it live? What is concrete behind the modern terms 'offerings', 'sacrifices', 'libations'? Similarly, can the study of the liturgy at work in Babylonian temples in the first millennium benefit from the data of material culture? Could it have had an influence on the cult practices of other cultural areas of this period? These and other questions are being explored by the participants in this project.

The principle of the widest possible collaboration has led us to adopt Montaigne's phrase 'It is good to rub and polish our brain against that of others'

and to combine in this book research carried out on the history of techniques and artisanal practices for earlier periods and geographical territories close to Babylonia *stricto sensu*. The study of material culture is indeed one of the most promising fields of current research and this book is a first step in this direction.

F. JOANNÈS

Since Leo Oppenheim's pioneering project on the realia recorded in the texts, there has been in the last decades a significant increase in studies devoted to material culture, often focused on the concrete aspect of ancient societies in the Ancient Near East (food, vessels, tools, textiles, buildings, daily environment etc.) according to a quantitative approach. In the different contributions of the present book, the study on material culture is not reduced to material objects or visual remains of the past; it includes the qualitative relationship between subjects and objects in their social and cultural context.

This means taking into account not only the products of agricultural, craft and construction activities but also the entire 'chaîne opératoire', which includes processes of production, management and consumption, and involves various people at different steps (decision making, manufacturing, transport, management, bookkeeping…). This implies to go beyond archaeological and textual data in order to reconstruct technical procedures, social networks, and even ways of thinking, like, for example, the way in which the religious or public spaces where these activities took place were conceptualized.

In this respect, the studies presented in this book have chosen to be cautious in interpreting the content of textual documents, whose quantitative as well as qualitative information should not be used in a crude way, without first studying the context in which each document was produced and its 'raison d'être' at different scales (local, regional, 'international') in political and economic systems. In particular, the terms used in the texts to describe objects or technical operations are interpreted not only through etymological study but also through the study of their context of use.

We hope that this book can show to what extent this 'embodied history' from the perspective of material culture can serve a socio-economic history of the ancient Near East.

G. CHAMBON

PART 1

MANUFACTURING PROCESSES: CRAFTSMEN, TECHNIQUES AND OBJECTS

FROM ACCOUNTANTS TO CRAFTSMEN: REFLECTIONS ON THE USE OF ADMINISTRATIVE TEXTS FOR THE HISTORY OF CRAFTSMANSHIP

GRÉGORY CHAMBON* & MANON RAMEZ**

Research on Bronze Age material culture and crafts in the light of cuneiform texts is made possible, above all, by the study of two types of documents: administrative texts and letters, even if some so-called "literary texts" such as *The Farmer's Instructions*,[1] Sumerian debates like *The Hoe and the Plough*,[2] and myths like *Lugal-e*[3] provide useful information for the history of techniques and craftsmanship.[4] This paper focuses particularly on administrative documents. These texts, which were mainly found in the archives of organizations (palaces, administrative centres, temples), include receipts or disbursements of raw materials (sometimes precious materials), animals, foodstuffs, and manufactured objects as well as inventories and tables. But the aim of these texts was not limited to recording quantitative and qualitative information for the management of goods. They were written within the framework of accounting and bookkeeping practices in order to participate in the memorization of

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[1] Cf. Civil 1994, and ETCSL (§5.6.3), which follows Miguel Civil's edition.

[2] This text, considered as a "*rhetorisches Meisterstück*", to quote Catherine Mittermayer (2019: 109) following Herman Vanstiphout (1984), was edited for the first time by Miguel Civil (1965). The composite edition and translation are available on ETCSL (§5.3.1). Pascal Attinger also studied this debate in a paper published online (2010). Now, see the recent investigation by Mittermayer 2019: 109–137.

[3] Well known by specialists before a full *editio princeps* by Jan van Dijk (1983), *Lugal-e* was also edited by Stefano Seminara (2001) with a particular focus on the Akkadian text of the bilingual version of the myth. See also the edition of the Sumerian version on ETCSL (§1.6.2), by Joachim Krecher and Bram Jagersma. See the new translation by Konrad Volk and Emmanuelle Salgues (2015). A new edition of the stone passage is under preparation by Krisztián Simkó.

[4] Indeed, if Sumerian debates are rhetoric masterpieces with a complex composition, it is nevertheless possible to have a technical understanding of some elements of these texts, as very concrete aspects are also developed; for a general view of Sumerian debates, see especially recently Mittermayer 2019: 1–35 with bibliography. Also a number of myths like *Lugal-e*, which in this respect, particularly puts in evidence the functions and uses of lithic materials, allows us to have a functional reading of mythological texts as well: Simkó 2014 and Ramez forthcoming (a).

networks, useful for setting up and controlling the fiscal regime and for clearing up the responsibilities of each person in this system.[5]

The royal archives of Mari[6] (19th-18th centuries BCE),[7] particularly known for the wealth of information they contain useful to the study of craftmanship and Amorite material culture in the Syrian Middle Euphrates' region, provide abundant information on accounting practices. Above all, more than 13,000 texts[8] found in the Palace[9], which should be considered as the "king's household" archives rather than 'institutional' archives[10] and archives of other individuals attached to the palace.[11] These documents give extensive information on production and consumption for about fifty years, during the reigns of Yaḫdūn-Lîm (*ca.* 1810–1793), Sūmû-Yamam (*ca.* 1793–1792), the Assyrian interregnum with Samsī-Addu's domination (*ca.* 1792–1775) who entrusted several years later the throne of Mari to his son Yasmaḫ-Addu (*ca.* 1782–1775), and finally Zimrī-Lîm (1775–1762),[12] on a microhistorical scale, sometimes down to the day, which is exceptional for the history of antiquity.

Mari archives are particularly useful for studying craftsmanship in the Amorite period, as the 'technical' vocabulary is abundant, and as many texts refer to craft production. Since the 1980s, there has been a significant increase in studies devoted to material culture and craftsmanship in Mari under the impetus of

[5] See the remarks made by Chambon 2020: 251–252. For the issue of a "fiscal regime", considered as the system of state revenues, which includes not only direct and indirect taxes, but also rents on royal estates as well as fines, confiscations and compulsory services, see Goddeeris 2020: 128.

[6] Amorite cuneiform tablets found during the excavations at Tell Ḥarīrī are edited and studied especially in the volumes *Archives Royales de Mari* (*ARM*), *Florilegium marianum* (*FM*) and *Littératures Anciennes du Proche-Orient* (*LAPO*), and in stand-alone editions. A bibliography devoted to Mari as well as editions of published texts can be found on the ARCHIBAB project website, directed by Dominique Charpin: http://www.archibab.fr. See also the website devoted to Mari, produced under the aegis of the French Ministry of Culture by the archaeological team of Mari of the UMR 7041 ArScAn (VEPMO): https://archeologie.culture.fr/mari/fr.

[7] For an analysis of the political history in Mari during the Amorite period, see Charpin and Ziegler (2003). The beginning of the reign of Zimrī-Lîm has recently been analysed by Jean-Marie Durand (2019), whose further investigation on the subject is forthcoming.

[8] Regarding joints that may have been made among many fragments of texts found in the Palace, the number usually indicated in the publications, namely 20,000 tablets, should be reviewed. See the explanation provided by Dominique Charpin (2014: 39).

[9] For a study of the architecture of the Palace of Mari in the Amorite period, see Parrot 1958a, Margueron 1982, and Margueron 2004: 459–500.

[10] If we often refer to organizations themselves, it is clear that, in the case of Mari during the Amorite period, palace archives represent mainly the private dealings of the king: see recently Arkhipov and Chambon 2015, and Chambon 2020.

[11] Indeed, it has to be noted that not all the 13,000 texts are "royal archives", because some documents were not part of the king's archives: see Arkhipov 2019b, and especially 40–41 for a synthesis table.

[12] Because the best-preserved archival texts are from the reigns of Yasmaḫ-Addu and Zimrī-Lîm, most of the information concerning the artisanal production comes logically from these reigns.

Jean-Marie Durand, who abandoned the principle of publication of tablets according to their place of discovery in the Palace and focused more on thematic studies.[13] As a continuation of this initiative, several studies have paid attention to material culture (food, luxury objects, stones, metals, perfumes, textiles, jewellery, statues, *etc.*) and craftsmanship (metallurgy, goldsmithing, wood crafts, textile industry, *etc.*) in the light of the archives, especially those of Ilya Arkhipov (2009, 2010, 2012a, 2012b, 2018, 2019b), Dominique Charpin (1990, 2016), Jean-Marie Durand (1990, 1997,[14] 2005, 2009), Brigitte Groneberg (1990), Michaël Guichard (2000, 2005, 2017, 2019), Francis Joannès (1989a, 1991, 1993), Henri Limet (1986), Cécile Michel (1992, 1996, 1999, 2020), and Nele Ziegler (2007).[15] More recently, the subcollection *Matériaux pour le Dictionnaire de Babylonien de Paris* (MDBP) aims to make known the rich vocabulary related to materials and *realia* in Mari texts, sometimes not attested in reference dictionaries.[16]

More generally, studies devoted to craftsmanship in Mari have not fully taken into consideration craftsmen involved in production, although they are the main protagonists of the production process and have instead favoured philological research. If the philological investigation is obviously necessary for any study devoted to the craft industry in the light of cuneiform texts, closely considering people involved and contexts is also particularly fundamental, insofar as many proper names are mentioned in the administrative documentation alongside the objects and raw materials. With both a prosopographical study of

[13] The breaking point appeared with the volume *ARM XXI* by Jean-Marie Durand (1983a); despite an edition of the texts by discovery rooms in the Palace, Jean-Marie Durand provided many comments on material culture in his book, based on his editions. Shortly afterwards, the work of Guillaume Bardet, Francis Joannès, Bertrand Lafont, Denis Soubeyran, and Pierre Villard in *ARM XXIII* (1984), offered interesting discussions on material culture in addition to the editions. A similar approach is perceptible in Philippe Talon's study (1985) in the *ARM XXIV* volume. The *ARM XXV* volume by Henri Limet (1986) is an edition of texts relating to metals; however, the study was confined only to the editions of texts without a real critical apparatus or historical commentary. In fact, the edited texts which were first edited in *ARM XXV* are to be included in the volumes of the *MDBP* subcollection or even in papers published independently in series.

[14] This re-edition volume of Mari's epistolary documentation also includes historical commentaries on material culture in the light of epistolography.

[15] Only major studies are quoted here, otherwise the list would be too long for the purpose of the present paper; likewise, only studies focusing on material culture in Mari *stricto sensu* are quoted, although it is clear that other works take into account Mari texts. Note that many philological notes related to material culture in the *NABU* periodical, mostly by Dominique Charpin, Jean-Marie Durand, Michaël Guichard, Francis Joannès, and Lionel Marti, have treated specific terms relating to material culture in Mari. Likewise, numerous occasional comments on the terminology of material culture have been presented in text editions since the 1980s, in accordance with the method of the French Mari team, which edits and comments philologically and historically at the same time. Also note in this list a forthcoming paper on the divine adornments of the gods in Mari (cf. Ramez forthcoming (b)).

[16] Three volumes have so far been published in this subcollection: Guichard 2005, Durand 2009, and Arkhipov 2012a.

craftsmen[17] and other characters[18] and a philological study related to materials, artefacts, and know-how, it is possible to reconstruct dossiers about specific objects, the "*chaîne opératoire*"[19] of their artisanal manufacture and their use in an economic and social context, from the point of view of production as well as consumption. It allows us to reconstruct different networks of artisans and to consider relationships between craftsmen and patrons, according to their social, economic, and legal status.[20]

In the administrative documentation concerning craftsmanship, the information is basically of four types. First, metrological and quantitative data, which allow us to quantify the flow of raw materials and estimate the value of manufactured products. Then, *termini technici* whose philological and etymological study should shed light on the practices of craftspeople. 'Functions' or 'job categories' are sometimes mentioned next to personal names. Finally, contextual elements specific to each document can be given: places, entrances and expenditures of goods, information on the use of raw materials and objects, and other elements that are sometimes more contextual, like, for example, when someone did something or an event happened. All these data help to understand the context in which a text has been written. However, the study of techniques and craftsmanship, based on administrative documentation, sometimes forgets to ask an essential question: what is the exact function of an administrative text related to craftsmanship activities?

In particular, it is important to be aware that, basically, the main intention of the accountants who wrote administrative texts was not to give information about craftsmanship but to record data for management and accounting purposes. If administrative texts may, sometimes, seem abrupt and limited on the description of craft activities, it should be remembered that the only apparent limitation depends on a modern point of view, because the purpose of ancient scribes was not to inform on this aspect in the first place. In fact, contexts are significantly different from one document to another. An administrative text

[17] A volume has been devoted to the prosopography of Mari (Birot, Kupper and Rouault 1979), but it is now obsolete because many texts have been published since then. Moreover, it is notable that no study devoted to the prosopography of craftsmen in Mari has been published up to now (like Heather Baker's on Neo-Assyrian archives (2017)).

[18] See for example the study of "prud'-hommes" (*ebbum*) by Cécile Michel (1990).

[19] The concept of "*chaîne opératoire*" was first introduced by André Leroi-Gourhan (1964) for prehistoric times, and then used by many specialists in the humanities field of research. As Pierre Lemonnier pointed out (2004), there remains a lack of criticism of the concept of "*chaîne opératoire*" by specialists of material culture studies. Recently, François Djindjan proposed a critical look of this concept from an archaeological point of view (2013). If the concept of "*chaîne opératoire*" tends to retrace, overall, all technical production processes for manufacturing an artefact, we have opted here for a broader vision of this concept, from the actual patronage of the object to its recycling, with all the underlying socio-economic realities involved in the process.

[20] A study on the subject is still missing; note in this respect the studies by Nele Ziegler on musicians and music in Mari (2007, 2010, 2013).

was read and understood by protagonists from different backgrounds, including the scribe who wrote it, its addressee(s), possible intermediaries, and persons occupying different positions and functions (accountants, administrators, and craftsmen).

In addition, it seems that administrative texts are most often written and thought out by accountants in a form that reveals their own know-how and knowledge of craft technical terms. In this respect, does the document actually reveal any information on *accounting* rather than *craftsmanship*? In order to answer this question, the study of material culture must take into account the "*chaîne opératoire*" as a whole, which includes processes of production, management and consumption as well as the writing of administrative records at different steps of these processes. Furthermore, as already said, it is also essential to focus closely on the people directly involved in the production and management process, in the perspective of an "embodied history" ("*histoire incarnée*") of craftsmanship.[21]

This paper aims to take a reflective look at our way of questioning administrative sources, within the framework of the study of craftsmanship, and to share some thoughts on the issue of artisans' skills and their recognition in the light of case studies. After having investigated the functions of an administrative text and the underlying issue of 'technical terms' for the study of craftsmanship in a first part, we will provide, in a second part, some reflections on accounting and metrological data concerning the control of craftsmanship and the value of manufactured artefacts. In a third part, we aim to consider the mention of proper names and job names as accounting units as well as means of recognizing craftsmen's know-how. Finally, we will focus our attention on the relationships between craftsmen, patrons, and officials, with some case studies.

1. Administrative Texts: Information Dealing with Craftsmanship as 'Accounting Units' and the Issue of *Termini Technici*

Behind the expression 'administrative texts', there is a multiplicity of writing as well as an accounting reality. As already pointed out, these texts, mainly used by historians of material culture, were not written by craftsmen. Their content mainly concerns accounting procedures. Since they were not written by

[21] This concept is central, and defined in Manon Ramez's PhD dissertation, under the supervision of Michaël Guichard (EPHE): *Les « faiseurs d'œuvres ». Savoirs et savoir-faire des artisans de la pierre précieuse et ses imitations au Proche-Orient des époques néo-sumériennes et amorrites à la lumière des sources cunéiformes*.

specialists involved in the production and manufacturing processes, but by persons belonging to the management and control staff, what are usually called 'technical terms' need to be precisely defined.

1.1 Typology of accounting texts concerning material culture and craftsmanship

In the royal archives of Mari, there are different types of administrative texts related to craftsmanship: receipts, bookkeeping notes, summaries, inventories, memorandums, and lists of personnel.

Firstly, administrative notes constitute the majority of discovered texts. Most often, these documents record only a single operation, or a set of operations that took place at the same time and in the same place (like, for example, A.3520 which we will study *infra* (§1.2)). In a way, it is the most 'objective' administrative document, because it concisely relates what actually happened. These texts are often dated with precision and sometimes sealed, implying an authentication[22] of the procedure and the underlying legal responsibility of people involved in the process of manufacturing, who will thus be held accountable in case of administrative control.

Secondly, summaries of accounting data are the result of a bookkeeping process in which several operations are recorded within the framework of the fiscal regime. The degree of objectivity of these documents, which record data for a period of several days or several months, is less important than that of the administrative notes, since they are the result of a deliberate choice in the collection and selection of administrative notes which they summarize.[23] It should be pointed out that these documents are not sealed in the Mari archives.[24] However, it seems that it was the content of sealed administrative notes, the information which had therefore been validated, that was reported in the large

[22] See Charpin 1985: 19–21.

[23] It is clear that administrative notes were used by scribes to write summaries, in a second step. This is particularly clear in Mari from a successful comparison of texts, but also, for example, in the Ur III period if we take into account the Ur archives: the famous "accountant's nightmare" in the words of Marc Van De Mieroop (2000), UET 3, 1498, first edited and studied in detail by Darlene Loding (1974), is a tablet of several columns relating to raw materials and objects which were present in several craftsmen's "houses". In the order: é tibira ("house of sculptors"), é kù.dím ("house of goldsmiths"), é zadim ("house of lapidaries"), é naĝar ("house of wood craftsmen"), é simug ("house of metallurgists"), é ašgab ("house of leather craftsmen"), é ad.KID ("house of reed craftsmen"). This order is certainly significant in terms of craftsmen's social status and the esteem that the ancients had for these artisanal activities in Ur at the end of the third millennium BCE. The information preserved in this text, already recorded in various administrative notes also discovered, was probably composed from these latter documents. See also Sallaberger 1999: 276–277, Molina 2016, and the BDTNS (n°011803).

[24] Summaries of administrative operations should not be confused with registers, in the same format, such as land registers of arable fields. Registers, as legal documents providing information (for example, on land use rights) according to royal rules, could be sealed: see for example FM 16 41.

summaries of operations over several months. The latter documents therefore do not have the same legal relevance than the former. Contrary to what has often been suggested about the administrative documents of southern Mesopotamia,[25] the summaries of the royal archives of Mari seem in many cases to not be the last step in the accounting process, making all previous documents (administrative notes written for daily operations) obsolete as in modern accounting.[26] During the clearance of accounts of an official who was responsible for the management of a sector, it was indeed the sealed administrative notes that had to be shown before the royal administration for accounting regulation, while the summaries were probably used as "catalogues" in order to know the documents available to the official involved.[27] For example, the chief administrator Mukannišum had to produce his own accounts (cf. *infra*, §1.2).

Thirdly, inventories are interesting documents because they summarize which kind of raw materials and objects were stored in a particular room or belonged to a person and his/her house, or even what was given for a dowry. If these documents seem 'objective' at first glance, it is particularly interesting to observe sometimes some variation in the quantitative or qualitative data of duplicates: this is the case of the dowry of princess Šimatum, king Zimrī-Lîm's daughter,[28] who married Ḫaya-sūmû,[29] the king of Ilān-ṣūrā in the Ida-Maraṣ region. Several copies of the dowry were found, and from one document to another the objects given in the dowry change slightly, as well as the date on which these documents were drawn up (see *infra* §2.3).

Fourthly, memorandums[30] (*taḫsistum*) are texts that stand slightly apart, as they are a kind of lists with a certain logic which is most of the time difficult to reconstruct.[31] These texts seem to be the result of a personal endeavour by whoever wrote them, like a to-do list or even a kind of note taking, and thus do not meet a 'standard' in the form of an administrative document. See, for example, the texts A.4279 and A.2405, which record respectively that a craftsman provided a fabric made in the Yamḫadean style and a list of dyestuffs and pigments.

[25] See for example Brosius 2003: 5: "Documenting and processing the transfer of good was a complex undertaking which involved the repeated issuing of receipts, copies of receipts, and finally the transfer of information from individual tablets to the summary accounts that were compiled per week, month and/or year, and even years."

[26] For the summaries concerning grain management, see Chambon 2018a: 31, 43.

[27] See Chambon 2023.

[28] See Ziegler 1999: 65–66, and note 435.

[29] See Charpin and Ziegler 2003: 223.

[30] On memorandums in Mari archives, see Joannès 1984: 87–104; 1985; 1987.

[31] In memorandums, information is given *via* the Akkadian term *aššum* ("concerning"), followed by some words and expressions; these can be more or less precise, allowing a glimpse into elements of context; see for example Guichard 2016 about the mention of Naḫur in the memorandum A.3209.

Fifthly, some texts list staff with, sometimes, information about food rations or other deliveries to craftsmen, like ARM VII, 181 which we will study *infra* (§3.2).

Apart from the formal aspects of tablets, the administrative form in the Mari documentation, in spite of its repetitive and rigid appearance, incorporated details that scribes saw fit to include. Scribes were flexible in their use of accounting terminology, far from being as stereotypical as one might think.[32] The rationality and subjectivity of administrative texts therefore deserve to be questioned. They must be considered both as economic and social products as advocated by the approach of the "New Accounting History".[33]

1.2 Craftsmanship information in administrative texts as 'accounting units'

Unlike letters, which are presented as narrative texts that favour phonetic notation with very few ideograms, administrative documents very often use ideograms, sometimes very complex, and a simplified syntax. Writing is minimalist and these documents often adopt a table layout, for example juxtaposing materials and personal names, for an economic use of signs. While letters sometimes contain superfluous or repetitive descriptions, these documents always get to the point: therefore, all kind of information is relevant. But a major difference between letters and administrative documents lies in those who write them. A letter is likely to be written by anyone who wants to inform his addressee about a situation (most often problematic) and therefore only requires the mastery of a suitable repertoire of signs and an Akkadian which can be more or less good.[34] On the other hand, administrative documents are generally the work of scribes experienced not only in writing ideograms and administrative forms but also in bookkeeping practices, and in translating the operation carried out in a written document.

[32] For example, instead of writing the usual Akkadian term *namḫarti* (stative of *namḫartum*) for "reception" on the small administrative notes, the scribes of the palace kitchens, most likely women, used the Sumerian equivalent expression šu.ti.a, which was both notated and pronounced (Chambon 2018a: 37).

[33] The "New Accounting History" emerged as an alternative point of view to "old" (or "traditional") accounting history, in the late 1980s. As Anthony Hopwood, a pioneer of this approach, pointed out: "the roles that accounting serves cannot be considered in isolation of the practices of the craft, the need for appreciations of the specific practices that constitute the craft and the organizational processes which endow them with a significance and meaning" (Hopwood 1987: 232). See Miller, Hopper and Laughlin 1991.

[34] Dominique Charpin has shown that the use of writing in the Old Babylonian period was not limited to 'professional' scribes: see in particular Charpin 2004 and Charpin 2008a: 31–60. Recently, Marine Béranger, in her PhD dissertation, demonstrated that the increase in the use of epistolography in the Amorite period, for which a knowledge of a lesser number of signs was enough as shown in certain letters, allowed non-specialists access to writing: see Béranger 2018.

As Jean-Marie Durand pointed out, an administrative document does not only reflect an economic balance sheet but also the legitimisation of an activity in front of the owner of the property (a king, a deity, a high ranking person…) or the person who represents these interests (royal or temple administration), and therefore engages the responsibility of the people involved.[35] The main function of administrative documents is then twofold: they serve to keep accounts for the management of the palace/king's household on the one hand, and to give account of this management in front of the authority (the king, royal administrators, managers, *etc*.) who wants to control the management of the goods it has entrusted on the other. Consequently, the aim was not necessarily the accuracy or objectivity of the information. Above all, it was a question of providing, through minimal writing, essential information on the terms of the administrative operation in case of control. In other words, as far as we are concerned, the used vocabulary filters technical realities and craftsmen's activities.

Therefore, each unit of information in an administrative text has an 'accounting meaning'. See, for example, the administrative note A.3520, which dates from the reign of Zimrī-Lîm:[36]

> "(O.1)2 1/2 shekels (and) 10 grains of red gold, (2)weight of 2 *guḫaššû(m)*-chains (3) of the big cylinder-seal of lapis-lazuli (4)which Yašūb-Ašar (5)made. (L.E..6)1/6 of a shekel* (and) 10 grains of red gold, (7)remains of Yašūb-Ašar, (8–10)when they did Mukannišum's accounts. (11–12)In the *papāḫum*-vestibule of the Palm Tree Court; (13)month Abum, day 7, (14)year in which Zimrī-Lîm (16)built (15)Dūr-Yaḫdūn-Lîm. (= 04.07.ZL7)"

This text provides several pieces of information: what is obviously important for the accountants was the quantity of red gold (kù.si$_{22}$ su$_{13}$.a) that was weighed (ki.lá) with precision. From the perspective of the potential control of the management of precious metal belonging to the royal treasury, it is logical that this information was recorded in a text. Then, the scribe indicated where this gold came from: 2 *guḫaššûm*-chains[37] of the big cylinder seal of lapis-lazuli (^{na}$_4$za.gìn kišib)[38], which the goldsmith Yašūb-Ašar[39] shaped. This precision, as well

[35] Durand 2016: 81.

[36] (O.1)2 1/2 su 10 še kù.si$_{22}$ su$_{13}$.a (2)ki.la$_2$.bi 2 *gu-ḫa-aš-ši* (3)*ša* kišib ^{na}$_4$za.gìn gal (4)*ša ia-šu-ub-a-šar* (5)ʳ*i-pu*ˡ-*šu* (L.E..6)[igi].ʳ6ˡ.gál ʳsuˡ* 10 še kù.si$_{22}$ (7)lá.u *ia-šu-ub-a-šar* (8)*i-nu-ma ni-ka-as-sí* (R.9) *ša mu-ka-an-ni-ši-im* (10)*i-pu-šu* (11)*i-na pa-pa-ḫi-im ša ki-sa-al-lim* (12)<*ša*> ĝiš ĝišimmar (13)iti *a-bi-im* u$_4$ 7.kam (14)mu *zi-im-ri-li-im* (15)bàd^{ki}-*ia-aḫ-du-li-/im* (16)*i-pu-šu*. See Arkhipov 2012a: 328.

[37] On this artefact, see Arkhipov 2012a: 75.

[38] It is interesting to note that a seal thus qualified is present in the inventory of the "House of Barbers" (é šu.i^{meš}), dating from ZL5. See ARM XXIV, 290+ (Talon 1985: 194–195, and now Arkhipov 2012a: 249–251), col. ii, l. 19: 1 ^{na}$_4$kišib ^{na}$_4$za.gìn gal *iḫ-zu-šu* kù.si$_{22}$, "1 big seal of lapis-lazuli, its plating (is) gold".

[39] Yašūb-Ašar is a master goldsmith well known in the Mari archives, and attested since the reign of Yasmaḫ-Addu during the Assyrian interregnum. Indeed, craftsmen were not dismissed

as the mention of the craftsman involved (cf. *infra*, §3.3), is important, because the manufactured object appears as an element of context that allows the accountant to situate the operation. Remains (lá.u) of gold from the manufacturing process for the *guḫaššûm*-chains come from the same craftsman. Hereafter, the important element of the context is that "they did the accounts of Mukannišum", well known in the Mari archives as a chief administrator in charge of craft production.[40] Then, the place where the accounting operation took place, in the *papāḫum* of the Palm Tree Court, which corresponds to Room 64 according to the archaeological standards of Mari,[41] is mentioned. Finally, a precise date (day/month/year) is written. All this information is relevant: in our (modern) typology, this document is an administrative note, which informs us about the underlying responsibility of the craftsman, Yašūb-Ašar, whose name acted as mnemonics, reminding the accountants of the operation concerning the manufacture of the *guḫaššûm*-chains (cf. *infra*, §3.1).

This text provides information about the management of products from the material culture within the framework of accounting practices rather than a description of practical craft realities. It also suggests that there was, as Ilya Arkhipov highlighted, a "working archive of Mukannišum".[42] These remarks can easily be extended to the whole of the documentation concerning craftsmanship. The study of craftsmanship in the Ancient Near East is, in reality, often carried out in the shadow of accounting issues.

1.3 Craftsmanship knowledge and personality of accountants in the light of administrative texts: the case of *termini technici*

As seen above, administrative texts were mostly written by accountants and not by craftsmen. Thus, their goal was not to describe craft activities with their technical background but to provide essential information for accounting practices related to the management of precious and raw metals. Such an observation therefore presupposes, on the part of historians of material culture, to be careful about the interpretation of the content of these documents, whose

from one reign to another, even if rulers were hostile to each other like Samsī-Addu and Zimrī-Lîm.

[40] On the administrator Mukannišum, see the edition of his letters by Jean Bottéro (1964) and Jean-Marie Durand's collations of them (1983b), also the edition of other letters and administrative texts by Olivier Rouault (1977a, 1977b), and the study of Bertrand Lafont with the editions of new texts.

[41] See Durand 1987a: 54–61 and Margueron 2004: 464–465 and 477. This room of the Palace is particularly renown because of the throne, according to the hypothesis of Jean-Claude Margueron, of the *Statue au vase jaillissant* (cf. Parrot 1959: 5–11); this room, located north of the Palm Tree Court, was made famous by the *Peinture de l'Investiture* (see Parrot 1958b: 53–66).

[42] See Arkhipov 2019b: 39. Moreover, it also should be noted that Mukannišum is defined as a "scribe" in M.13021 (dumu é *ṭup-pí*), as shown by Dominique Charpin (2004: 492), an unpublished text quoted in Durand 1984: 127, n. 14.

information must not be used raw, without first studying the context in which each document was produced and its *raison d'être*.

The first issue to be addressed is the technical knowledge and skills of accountants, reflected in the use of 'technical terms' in administrative documents. This specific vocabulary does not really describe what actually happens in a craftsman's workshop (procedures, concrete technical operations, *etc.*): even if there is a rich vocabulary which allows us to understand several stages of the "*chaîne opératoire*", it corresponds to the view of the accountants who record transfers of objects and raw materials, needed for or resulting from technical operations. Indeed, it seems that what actually took place in a workshop, between craftsmen, remained expressed orally; what is recorded in the texts therefore responds to the need to record this or that information, depending on the purpose of the document and the scribe who wrote the text. The use of *termini technici* therefore depended on the 'technical culture' of those who wrote the administrative documents.

Concerning the Mari archives, it is difficult to have a clear idea of who were the accountants who wrote administrative texts. If sometimes, as Nele Ziegler showed with the example of women responsible for the administration of the royal kitchen (2016), it is possible to see that accounting was not a matter for specialists in calculation, not enough clues remain to know who the accountants in question really were. This should be taken into account in any analysis of the administrative documentation in Mari. Occasionally, it is possible to recognise a scribe's handwriting,[43] but it remains relatively exceptional. Sometimes, when the first-person singular is used, it is possible to see the indication of an action that concerns the person who wrote the text. See, for example, ARM XXII, 236 (l. 6-7: (6)*mu-ka-an-ni-ša-am* (7)*am-ḫu-ur*, "(7)I received (6)from Mukannišum"),[44] and its duplicate ARM XXV, 220, sealed by king Zimrī-Lîm's seal.[45] In this context, it is clear, as Ilya Arkhipov showed, that king Zimrī-Lîm's secretary, Šu-nuḫra-ḫalû, wrote himself the text ARM XXV, 220 and that it was therefore the copy of the royal chancellery, while ARM XXII, 236, not sealed, was that of the recipient,[46] even if one would expect the contrary.[47] The mention "I have received", on the other hand, is that of the king who indicates having received, in the first person. A similar expression can be found in ARM XXXI, 174 (l. 13-15: (13)[šunigin 2] 2/3 ma.na ⌜8⌝ su kù.si$_{22}$ (14)[ka].ša puzur$_4$-^{d}utu *am-ḫu-ur* 15*i-na sa-ga-ra-tim*^{ki}, "(13)Total of 2 2/3 mines and 8 shekels of gold, (14)that I received from Puzur-Šamaš, (15)in Saggāratum"),[48]

[43] Birot 1964: 16–17 and Ziegler 2016.
[44] Kupper 1983: 376–377.
[45] Limet 1986: 70.
[46] Arkhipov 2019b: 39.
[47] Arkhipov 2019b: 39, n. 21. We also thank the author for this personal communication.
[48] Guichard 2005: 475–476.

where it is possible again that Zimrī-Lîm's secretary himself wrote the text in the name of the king, since it is about a document listing the royal luxury vessel. Another text, M.11545, which records leftover silver and its future craft destination, indicates, still in the first person, that the person received it from the hand of the king (l. 13–14: "$^{(13)}$*ša i-na* šu lugal $^{(14)}$*am-ḫu-ru*, "$^{(13–14)}$that I received from the hand of the King").[49] In this last case, it is clear that M.11545 could not have been written by the king; one can postulate that this latter text was written by Mukannišum as well.

Therefore, according to what Dominique Charpin showed about the extensive mastery of writing in the Old Babylonian Period (2004), the same question may be asked about the mastery of calculation and *termini technici*. Mukannišum drew up his own accounts and summaries, and he was familiar with the realities of craftsmanship, and it is clear that the king himself had to have some knowledge of technical vocabulary and also of craftsmanship realities.[50]

Lexical lists provide a lot of technical terms. After learning cuneiform signs syllabically,[51] it seems that the second step for scribes was to learn words in, for example, the lexical list Ur_5.ra = *ḫubullu*[52] which was part of the curriculum for scribes at an intermediate study level.[53] In addition, a well-trained scribe should know these lists, which he learned by heart, because, according to Niek Veldhuis, lexical lists were more in a scribe's mind rather than in writing (1997: 132). Technical terms in administrative documents are often thought to be those relating to specialized craft production; these *termini technici* have parallels in lexical lists, but with few exceptions. It is important to compare these lists with the documentation of daily life in order to study material culture.

If we consider that the characteristic of an accountant is to master calculation and the notation of weights and measure units, it is remarkable that the list of dozens of stones and stone objects in Old Babylonian forerunners to the lexical list Ur_5.ra = *ḫubullu* ends with a series of weights of different masses,[54] implying that the scribe had to both know the technical terms related to raw materials and artefacts, but also the series of weight units. This can easily be explained by the fact that the determinative of the stone, na_4,[55] is also the term for

[49] Arkhipov 2012a: 472.

[50] For instance, we also know that king Zimrī-Lîm was familiar with the technical terminology related to the preparation of wine (purification, decantation, wine-blending…): see Chambon 2018b: 247.

[51] Veldhuis 2014: 205–206.

[52] According to Niek Veldhuis, the list Ur_5.ra = *ḫubullu* is an Old Babylonian innovation: cf. Veldhuis 2014: 149–157.

[53] Veldhuis 2014: 206.

[54] See Landsberger and Reiner (*MSL* X) 1970: 60–61.

[55] On determinatives, see recently Rochberg 2016: 93–101.

"material weight".[56] The problem with the Old Babylonian Mari archives is that we have no clear evidence showing that metrological and numerological knowledge was directly learned by scribes through the so-called "metrological lists"[57] and calculation tables,[58] and not orally in a master/apprentice relationship.

These observations raise the issue of the extent of the technical and accounting knowledge of administrators, but also of the kings themselves and, by extension, of all the individuals who obviously mastered the technical vocabulary used to write the administrative documents we use today to study material culture and craftsmanship. Our understanding of this knowledge must then be based on the people who wrote the documents, and not only on technical expressions in an administrative document: this undoubtedly shows the necessity for an 'embodied' perception of the accounting procedure itself and its context of production, by historians of material culture. This also allows us to consider that the study of metrology and accounting should be viewed from a socio-cultural history perspective.[59]

1.4 When craftsmen write and speak: a difference in technical terminology and expression of craftsmanship realities?

We now focus on the issue of the mastery of writing by craftsmen. It is clear that some craftsmen have knowledge of writing practices: some letters were indeed written by craftsmen themselves in Mari.

For example, A.4344, a letter published and studied by Dominique Charpin (2016: 87–89) is badly preserved,[60] but the editor succeeded in offering restitutions for broken passages. In this letter, a master craftsman, Ēressum-mātum, writes to king Yasmaḫ-Addu's secretary Sîn-muballiṭ in Mari,[61] about a commissioned seal and describes the different steps that still need to be followed:[62]

[56] On weights and weighing in Mari, see Chambon 2006 and 2009b: 146–157, and Chambon and Marti 2019.

[57] See especially, for the Old Babylonian period, Robson 2002 and 2008, and Proust 2008. A list of weight units was found in Mari but it remains difficult to link its use with scribal learning in the administration (see Chambon 2002).

[58] Cf. Robson 2004. Metrological lists and calculation tables must be distinguished: see remarks in Chambon 2011: 57 and Chambon 2016: 14–15 for methodological perspectives. See also Proust 2010 for historiography.

[59] See Chambon 2013.

[60] See the photograph in Charpin 2016: 88.

[61] The name is restored by Dominique Charpin, but the author gives, in his paper, strong evidence showing that it is more likely the royal secretary; see *ibidem*: 89. His passive correspondence has been found, and unpublished tablets are to be published by Dominique Charpin: see *ibidem*: 89, note 9.

[62] (O.1)ʳ*a-na*ˀ ᵈen.zu-*m*[*u-ba-li-iṭ*] (2)*q*[*í-b*]*í*-[*m*]*a* (3)*um-ma e-re-su*-[*ma-tum*] (4)*a-ḫu-*ʳ*ka-a*ˀ*-m*[*a*] (5)*aš-šum ku-nu-uk-*ʳ*ki-im*ˀ [*ṭup-pa*]*-am* (6)*tu-ša-bi-*ʳ*lam*ˀ (7)ʳ*um-ma at-ta*ˀ*-a-*ʳ*ma*ˀ [*šu*]*m-m*[*a*] *ku-nu-uk-*ʳ*ku*ˀ (8)*it-ti-*[*k*]*a* ʳ*šu-bi-lam*ˀ (9)ʳ*šum-ma la*ˀ *ki-a-am-ma an-ni-tam* (10)*la an-*ʳ*ni-tam*ˀ

> "(O.1)To Sîn-muballiṭ, (2)say: (3)thus (speaks) Ēressum-mātum, (4) your brother." (5–6)You sent me a tablet relating to a seal, (7)in those terms: 'If seals (8)are at your disposal, send me (one of them). (9–10)If not, write me in one way or another.' (11) There are seals in Mari: (L.E..12)an apprentice engraves them. (R.13–14)Write so that, if one is finished in Mari, (14–15)one shall inscribe your name (on it); or, if one is not finished, (17)write to Ana'iš (16)in a message of yours, (17)so that (18–19)one (can) finish it with the engraving and the inscription. (20)An apprentice of Ana'iš (21)stays there; (22)write to him directly, so that (23)one can finish (it) for you."

This letter is particularly interesting from different points of view. First, it should be noted that there is no hierarchical distinction between the master craftsman Ēressum-mātum and the royal secretary, as he wrote to him as his "brother" (*aḫum*).[63] Second, a royal secretary could order an object from a craftsman by writing to him directly, and particularly a seal which is an official artefact that engaged the authenticity of procedures and the legal responsibility of a person. Thus, Sîn-muballiṭ went directly through the artisan producer, initiating a personal correspondence with him, to obtain a seal, without any intermediary. Third, several teams of craftsmen in Mari produced cylinder-seals. Fourth, seals were already finished (*gamārum*) – and possibly entirely produced in Mari –, and awaited personalisation. Fifth, the process of engraving iconography and that of writing the cuneiform inscription seem to have been distinguished by Ēressum-mātum.

Ēressum-mātum is a master craftsman well known in the Mari archives. As Dominique Charpin pointed out, he is referred to either as a sculptor (tibira, *qurqurrum*),[64] or as a goldsmith (kù.dím, *kutimmum*), and thus described in multiple ways according to other documents, a phenomenon that will be analysed below (§2.2). He was not considered as a *purkullum*-craftsman (bur.gul), known to be an expert in engraving seals, nor as a specialist in shaping precious stone (zadim/za.dím, *zadimmum*).[65] As far as we know, only one Mari text

šu-up-ra-ʿamʾ (11)*ku-nu-uk-ʿku i-naʾ ma-ri*[ki*-ma*] (L.E.12)lú.tur *i-na-aq-a*[*r-šu-nu-ti*] (R.13)*šu-pu-ur-ma* [*šum*]*-ma i-na m*[*a-ri*ki] (14)*ga-me-er š*[*um*]*-ka* (15)li-*iš-ṭú-ru* [*ù šum*]*-ma la ga-me-er* (16)*i-na na-aš-ʿpaʾ-a*[*r-ti*]*-ka* (17)*a-na a-na-ʿiʾ*-[*i*]*š šu-pu-ur-ma* (18)[*ak-ki-ma i-na*] *na-qa-ri-im* (19)ʿù*ʾ š*[*a-ṭà-ri-im*] *i-ga-am-ma-ru-šu* (20)lú.tur ʿ*a*-[*n*]*a-i-i*[*š*] (21)*a-ša-ri wa-ši-ib* (22)ʿ*aš*ʾ*-ša-ši-im-ma* ʿ*šu*ʾ*-pu-ur-ma* (23)*li-ig-mu-ru-ni-kum*. Our translation is based on Dominique Charpin's edition.

[63] See Charpin 2016: 90.

[64] The craftsman tibira is understood sometimes as a metallurgist, sometimes as a woodworker because of its possible etymology *URUDU.NAĜAR. This idea is commonly found in the scientific literature, while the PSD gives the translation of "sculptor" (see ePSD T (s.v. tibira) and ePSD2 (s.v. tibira)). Nevertheless, a careful palaeographic analysis of the documents of the third millennium BCE allows us to understand this term rather as DUB.NAĜAR or even KIŠIB$_3$.NAĜAR, implying a significantly different etymology. Without forgetting the contexts of the appearance of the specialist, which clearly allow us to consider him as a sculptor: on this point, see recently Guichard 2019.

[65] It should be noted that, in the Old Babylonian period, the ideogram zadim no longer designates, compared to the time of Ur III, the lapidary (zadim (MUG) or za.dím), but a bow-maker (*sasinnum*); in fact, a palaeographic analysis shows that the sign for the *sasinnum* is rather GÍR or

deals with a *purkullum*-craftsman,[66] Iddin-Ištar, during the reign of Zimrī-Lîm, as pointed out by Dominique Charpin.[67] There are no mentions of *zadimmum*-craftsmen in Mari texts. It seems mostly that goldsmiths were involved in the production of artefacts made with precious stones, like seals or elements of jewellery.[68] In any case, Ēressum-mātum is the sender of the letter and a reference is made to a previously received letter, implying that the master craftsman *read* it, then *replied* to it.[69] As Ēressum-mātum indicates that Sîn-muballiṭ must directly write to the goldsmith Ana'iš (l. 22) he seems to have the same capacities. This example shows the extent to which writing was not just for specialists.

Apprentices (lú.tur)[70] are quoted in the letter, and directly involved in the production process of a cylinder-seal. The apprentice, whom Ēressum-mātum mentions (l. 12), certainly comes from his own workshop. Ana'iš also has his apprentice – or group of apprentices (l. 20).[71] The fact that there was some hierarchy in workshops, between master craftsmen and apprentices is quite interesting, as there are only few references to apprenticeship in administrative texts from the Old Babylonian period.[72] Dominique Charpin considers that those apprentices were *purkullum*-craftsmen, and that Ēressum-mātum did not bother to specify in his letter the function of the apprentices.[73] Does it mean

MUGX*gunû*. Indeed, it would be difficult to understand the confusion between a lapidary and a bowmaker. See also note 68 below.

[66] ARM XXII, 237, l. 20: ^{I}*i-din*^{I} *iš*$_8$-*tár* lú.bur.gul (see Kupper 1983: 376–380, and now Arkhipov 2012a: 222–223).

[67] Charpin 2016: 92, note 26.

[68] See Ramez, forthcoming (b). This also raises the issue of the perception of craft activities by scribes (which will be discussed below, §2.2), but also of the definition of expertise in Mari. By extension, it should be noted that the goldsmiths appear at the end of the operating chain of production, which may explain the relative absence of experts *purkullum* or *zadimmum*, rarely cited together because it seems that the *purkullum* craftsman ended up replacing the *zadimmum*, well attested in Ur III times, during the Old Babylonian period.

[69] However, to our knowledge, examples are rather rare. Without indicating that all specialized craftsmen mastered writing, which should surely be a countersense, it is quite clear that some could write, at least some masters. See also the case of Lāqip, maybe a craftsman, who was the addressee of a letter, (BBVOT 3, 45), implying that he would have been able to read it: see Béranger 2018: 107.

[70] Dominique Charpin translated this term, in a neutral way, as "*serviteur*", but, in a craftsmanship context, one may wonder if they were rather apprentices.

[71] If the use of the plural determinative meš is not present after lú.tur in the letter, one may wonder if it is not a group designating all the apprentices of masters Ēressum-mātum and Ana'iš, insofar as the verbs are in the plural form.

[72] Indeed, above all we have information on the apprenticeship of musicians, which was studied in detail in Mari by Nele Ziegler in her studies already quoted. From a jurist's point of view of apprenticeship, see Démare-Lafont 2016/17. For a Neo-Babylonian perspective on apprenticeship, see the contributions of Rosaura Cauchi, Bruno Gombert, and Louise Quillien in this volume, with bibliography.

[73] Charpin 2016: 91–92.

that seal makers were the subordinates of goldsmiths in Mari? This would be a good explanation to the relative absence of stone specialists in Mari's administrative documentation.

The reason why the text gives clear information on technical procedures and work organisation for manufacturing a cylinder seal is maybe that Ēressum-mātum is himself a craftsman. Indeed, Ēressum-mātum specifies that seals "are finished" at Mari, which means they have been engraved. But to what extent? Is there evidence of already prepared seals with a 'standardized' iconography, as specialists of glyptic have long observed based on material sources, intended to receive only a partial personalization (like the inscription of the name in archaic cuneiform writing and maybe some additional iconographic motifs)? This is highly probable, given that Ēressum-mātum then explains that, if they are not "finished", they are to be "finished as regards engraving and the inscription" ([*ak-ki-ma i-na*] *na-qa-ri-im ù š*[*a-ṭà-ri-im*] *i-ga-am-ma-ru-šu*). Thus, in the first case, we would be dealing with a seal whose iconography has been made beforehand, leaving some space for the cuneiform inscription, a phenomenon which is well known by glyptic specialists, while in the second an apprentice must carry out the iconography and inscription of the name.[74] There is unfortunately no mention of raw materials in this document, which would make it possible to know which material was approved by a royal secretary. Despite this, this document is remarkable for the details it provides on the creation of cylinder seals, but also on the question of the relationship between consumers and craftsmen, raising the issue of those latter roles and the esteem contemporaries had for them.

Fifth, the most interesting point is the use of specific technical terms in this letter. As Dominique Charpin pointed out, it seems that the meaning "to engrave (a seal)" of the verb *naqārum* was not attested before in the Old Babylonian documentation, except for a late bilingual text which has a Sumerian forerunner dated from the Old Babylonian period.[75] In the light of the letter A.4344, it seems that *naqārum* refers to the process of engraving the iconography of a seal, while *šaṭārum* corresponds to that of engraving the text of a seal.[76] As *naqārum* was not used elsewhere in the Mari corpus, we may consider that this shows a difference between the terms that appear in administrative texts and letters written by accountants, and some texts written by craftsmen; thus, the way of qualifying a technical operation may be different depending on the writer of the text. Above all, it seems that the terms which

[74] Charpin 2016: 91.
[75] Charpin 2016: 89.
[76] Charpin 2016: 91.

appear in the administrative texts were very standardised, unlike those in letters, which set out situations and thus express more technical terms. Behind this statement is the question of possibilities for recipients of craftsman letters to understand a technical situation without necessarily being specialists, like Sîn-muballiṭ.

The example of the letter A.4344 particularly highlights the need to focus primarily on people involved and contexts, before any consideration on material culture, and above all to compare different sources of practices depending on the context in which the document was written. Thus, if the reconstruction of archives is a priority for any assyriologist interested in administrative texts and epistolography, each text has its own context and deserves to be studied in itself.

2. Metrological Data: The Issue of the 'Norm' and the 'Value' of Manufactured Objects

2.1 Metrological data in texts which deal with craftsmanship: effective or predictive numbers?

Numerical data in an administrative text are often considered to be actual and non-forecast numbers.[77] However, it is sometimes possible to highlight the anticipated rather than descriptive nature of these data, depending on accounting operations in Mari texts.

If we consider, for example, metrological and numerical data in texts which deal with quantities of metal for metalworkers, they are often used as such by economic history to assess the volumes and flows of metals. This approach is understandable but should not make us forget that numbers written in texts are not necessarily actual. Indeed, they do not always correspond to the faithful and reliable report of real quantities by the scribe of the tablet.[78] Rather, they are often more "useful" figures, as Piotr Steinkeller called them in connection with the administrative texts of the Ur III period.[79] They often refer to evaluations, estimates or even rounded values which are used above all for accounting. This is for example clear in the administrative documentation concerning the management of grain in the Palace of Mari; many of the grain quantities recorded in the texts actually are flat-rate tax estimates, which will be paid after harvest.[80]

[77] For this issue, see Chambon 2013.
[78] *Ibidem*.
[79] See Steinkeller 2004: 68.
[80] See Chambon 2018a: 31, 41–56.

Regarding the world of craftsmen, the function of the numerical data may be ambiguous. For example, the text ARM XXIV, 121 raises some doubts: either it is an actual measure, or an accounting estimate of metal shrinkage based on 1 mina:[81]

> "(O.1) 4 minas of silver, (2)according to the lead weight of 3 minas (3)and the *zibtum*-rock weight of 1 mina (4)of the market, (5)that, for the plating of plates, (6)the King gave to Šūb-nâlu, (7)have been purified. (8)13 shekels of silver are missing. (9)When (for) one mina of silver, (10)there was a loss of 3 1/4 shekels of silver; (R.11)3 2/3 minas and 7 shekels of purified silver, (12)according to the lead weight of 3 minas (13)and the *zibtum*-rock weight of 1 mina (14)of the market (15)for the plating of plates. (16)Delivered to Yāsim-sūmû, (17)through Šūb-nâlu (18)and Kāpi-Addu. (Date: 13.08.ZL2)"

In this text, all weights (mass) are given with great precision (even the material weights); but, on lines 9–10, it seems that the scribe indicated a kind of 'norm' based on one mina for the calculation of the shrinkage. One can wonder why all these indications are mentioned in the document; indeed, the first part of the text (1–8) is sufficient to understand the context. It seems that a kind of a 'craft-related norm' is presented here, that is to say for 1 mina of silver, a loss of (average) 3.25 shekels was expected when craftsmen did the purification (*mīsum*) of silver, which corresponds to 5.83% of impurified silver given in the first place. However, as we observe in our case study of the so-called "Metallurgists' Protocol" of Mari (cf. *infra* §4.2), this 'standard' should not be considered as immutable but resulting from an agreement that depends on circumstances. Indeed, shrinkage calculations in Mari shows that a variability of metal losses exists, as in M.6438 below (§2.2), implying that there was no strict standard imposed by authorities applicable to all metal-purifying operations.[82] This is easily understandable when considering the quality of the metal used as raw material, and the context of needs. The standards in the ratios concerning the purification of metals are to be negotiated between authorities, intermediaries and craftsmen depending on the context (cf. *infra*, §4.1). Anyway, this document allows us to have a reflective look at our way of approaching metrological data relating to metal shrinkage: it shows that some calculations in the texts could in reality be expected numbers which were intended to meet a norm.

[81] (O.1)4 ma.na kù.[babbar] (2)*i-na* na$_4$ 3 ma.na *ša a-ba-r*[*i-im*] (3)ʳ*ù*ˀ na$_4$ 1 ma.na *zi-i*[*b*]-*t*[*im*] (4) *ma-ḫi-ra-t*[*im*] (5)*ša a-na iḫ-zi ša* giš.du[b] (6)lugal *a-na šu-ub-na-lu-ú id-d*[*i-nu-ma*] (7)*im-su-šu-ma* (8)13 su kù.babbar *mu-ṭú-ú* (9)ʳ*i*ˀ-*nu-ma* 1 ma.na kù.babbar (10)ʳ3ˀ su igi.4.gál kù.babbar *im-ṭú-ú* (R.11)3 2/3 ma.na ʿ7ˀ su ku$_3$.babbar *mi-su-ú* (12)*i-na* na$_4$ 3 ma.na *ša a-ba*-ri-im (13)[*ù*] na$_4$ 1 ma.na *zi-ib-tim* (14)[*ma-h*]*i*-[*i*]*r-tim* (15)[*a-n*]*a* [*ih-zi š*]*a* giš.dub (16)si.lá ʿ*ia-si-im-su-mu*ˀ-*ú* (17)gìr *šu-u*[*b-na-lu-ú*] *ù ka-pí*-ʳ*d*ˀ[iškur]. See Talon 1985: 71–72, and Arkhipov 2012a: 221.

[82] *Contra* Bry 2002, and 2005.

2.2 When the craftsman becomes an accountant: a case study

The administrative text M.6438 gives evidence that goldsmiths "weighed their works on their own initiative" (*ina ṭēm ramānišunu iškaršunu išqulū*):[83]

> "(O.1)On 4 5/6 minas (and) 9 1/2 shekels of gold, (2)1 5/6 shekels of gold: remainders (available) of Yašūb-Ašar. (3)On 4 5/6 minas (and) 9 1/2 shekels of gold, (4)5 shekels of gold lost; (5)on 6 5/6 minas (and) 7 shekels of silver, (6)8 shekels of silver: remainders (available) of Iddin-Ištar. (7)On 5 1/2 minas (and) 1 1/2 shekels of gold, (8)2 2/3 shekels lost; (9)on 5 5/6 minas (and) 7 shekels of silver, (10)3 2/3 shekels lost: Ēressum-mātum. (11)On […] minas (and) 8 1/2 shekels of gold, (12) […] of gold lost: remainders (available) of KI[…]. (13)[…] Yantin-Addu. (14)[On …] minas (and) 2 [shekels of …] (L.E.1')[…] were lost […] (R.2')[…] Ṭāb-sūmû; (3') [losses]? of goldsmiths, (5')(when) they weighed their works (4')on their own initiative; (6')in the 'House of Meat'. (Date: […].05 bis.ZL12)"[84]

This text clearly shows that the rate of shrinkage is variable depending on the craftsmen involved and very probably on the operations they carried out with these precious metals (cf. Table 2 *infra*). It also shows that craftsmen could decide to weigh their works themselves, information which is unique in the Mari archives.

Table 1. Metal losses in the text M.6438 in preserved passages

Craftsman	Metal in shekels	Loss in shekels	Loss in percentage
Yašūb-Ašar	261.5 (gold)	6.83	2.61%
Iddin-Ištar	261.5 (gold)	5	1.91%
	379 (silver)	8	2.11%
Ēressum-mātum	331.5 (gold)	2.66	0.80%
	319 (silver)	3.66	1.15%

This certainly means that craftsmen mastered weighing instruments and some accounting practices. Such an observation also allows us, implicitly, to relativize somewhat our vision of the strict control of craftsmen activities by the royal administration of Mari. While the handling of precious and rare materials obviously implied a certain responsibility on the part of craftsmen, the fact that they

[83] (O.1)*i-na* 4 5/6 ma.na 9 1/2 s[u kù.si$_{22}$] (2)1 5/6 kù.si$_{22}$ lá.u *ia-šu-ub*-[*a-šar*] (3)*i-na* 4 5/6 ma.na 9 ½ su kù.[si$_{22}$] (4)5 su kù.si$_{22}$ *im*-[*ṭi*] (5)*i-na* 6 5/6 ma.na kù.[babbar] (6)8 su kù.babbar *im-ṭì i-din-iš$_8$-tár* (7)*i-na* 5 1/2 ma.na 1 1/2 su kù.si$_{22}$ (8)2 2/3 su kù.si$_{22}$ *im*-[*ṭi*] (9)*i-na* 5 5/6 ma.na 7 su kù.[babbar] (10)3 2/3 su *im-ṭì* ˹*e-re*˺*-su-m*[*a-tum*] (11)˹*i*˺-[*na* … m]a.na 8 1/2 s[u kù.si$_{22}$] (12)[… su kù.s]i$_{22}$ *im-ṭí* lá.u KI-[…] (13)[… *ia-an*]-*ti-in*-^{d}iškur (14)[*i-na* …] ma.na 2 [su kù.x] […] (E.1')[…] *im-ṭì* […] (2')[…] *ṭà-ab-su-mu-ú* (3')[…] *ša* ^{lú}kù.dím^{meš} (4')*i-na ṭe$_4$-em ra-ma-ni-šu-nu* (5')*iš-ka-ar-šu-nu* [*i*] *š-qú-lu* (6')*i-na* é [uz]u (…). See Arkhipov 2012a: 390.

[84] According to Ilya Arkhipov, lá.u (*ribbatum*) means the remainder that is available and not the "losses"; for more details, see *ibidem*: 4, note 22.

were allowed to weigh their work themselves means that a form of trust is given to them in keeping the accounts.

2.3 Value of weighed raw materials and value in silver of manufactured artefacts

We usually take it for granted that the amounts of metals given in texts are the results of weighing practices that the scribes carefully recorded for economic purposes. When a precious metal object is weighed for recycling, it seems obvious that only the raw materials count, because in this case the object is no longer intended to be used, but precisely becomes raw material for making another object. Therefore, from the point of view of the accounting practices in Mari, it is clear that, above all, the record of amounts of raw materials and weights of objects made from these materials is important, insofar as the 'fiscal regime'[85] in the Palace is the main concern of the accountants.

But would an artefact only have value through the raw materials needed to make it? Would there then be no added value to these objects? This seems extremely hard to believe, especially for artefacts that may be qualified as technically "perfect", as we will see *infra* (§3.3), which implies a value judgement regarding the work of particularly qualified craftsmen rather than an estimate of the value of the raw material. Furthermore, some evidence in the administrative documentation suggests that the physical amount (the mass) of one precious object should be distinguished from its "nominal value" which is subjective.[86] More precisely, the recorded mass of objects can be understood either as the values of *raw materials* or as the values of *manufactured objects* made from these materials. For example, the letter A.486+M.5319[87] written by king Ibāl-pî-El II of Ešnunna to king Zimrī-Lîm, mentions that military contingents were sent to Babylon, as part of the alliance between kings Ḫammu-rabi and Zimrī-Lîm in the war against Elam. The letter lists the diplomatic gifts received by 3 sheikhs who commanded Bedouin troops[88] and Mariot soldiers in Babylon: rings, garments, and precious objects. But, as the letter mentions further, soldiers seemed to be unhappy because the real value (*šuqultum*) for all the gifts was in each case less than their nominal value (*nībum*), that is to say the value which was estimated by Ḫammu-rabi's administration.[89] The

[85] For the 'fiscal regime' in the Palace of Mari, see Chambon 2020.

[86] Peyronel 2014: 370 and Chambon and Marti 2019: 53.

[87] Edited by Villard 1992.

[88] Baḫdī-Addu from the clan of Yabasûm, Sûlum of the clan of Yakalliṭ, and Biḫirum are known to be Bedouins sheikhs: see respectively Marti 2008: 161 and 166.

[89] Joannès 1989b, and Chambon and Marti 2019: 53–54. There were also multicoloured/embroidered? clothes (gú.è *bu-ru-um-tum*) which were given to Mariot soldiers, but their value is not given. According to Jean-Marie Durand (1998: 202 and 2009: 67), it was a kind of shirt (*naḫlaptum*). If we consider the literal Sumerian meaning, gú.è means "(which lets) stick out the

value of materials by weighing could be not the same as the value given to an object by following other parameters, probably for aesthetics considerations and the quality of the object. To go further, this suggests that the quality of manufacturing had an additional value compared to that of the raw material, due to the craftsmen's skills. But, conversely, the objects must have been of a lower quality than the value of the material (cf. Table 2). It could explain why many objects are recycled: the financial interest then appears higher when considering this object as raw material.

Table 2. Weight value and nominal value of metal objects offered to Mariot soldiers during their expedition to Babylon[90]

Objects	Weight value	Nominal value	Difference
1 gold *ḫullum*-ring[91] and 1 gold ring (ḫar) for Baḫdī-Addu	18 shekels (both)	20 shekels for both	+2 shekels
2 gold rings and 2 gold solar medallions (aš$_5$.me)[92] for Sûlum and Biḫirum	8 shekels (each)	5 shekels each	-3 shekels
10 silver *ḫullum*-rings and 10 silver rings to 10 chiefs of section	18 shekels (each pair)	20 shekels for each pair of *ḫullum*-ring + ring	+2 shekels
20 silver rings to 20 lieutenants	8 shekels (each)	10 shekels for each ring	-2 shekels
20 silver medals for 20 lieutenants	2/3 shekels (each)	1 shekel for each	-1/3 shekels
1 silver medal (*kaniktum*)[93] for a group of 10 men	2 1/2 shekels	3 shekels	-1/2 shekels
50 silver rings for 50 sign-holders	5 shekels	4 2/3 shekels for both silver rings and silver medals	-1 1/3 shekels
50 silver medals for sign holders	1 shekel		

There are also cases in the Mari documentation where the value of groups of objects is given, and not especially for each object. For example, princess Šimatum's dowry (*nidintum*), already mentioned, specifies prices in silver for

neck". Moreover, we understand from this text that the interest of giving all these values is more to do with the financial value of metals rather than textiles.

[90] For more information on this text, see Francis Joannès' (1989a: 145–151) comparison and commentary on data between the letter A.486+M.5319 and the administrative documents ARM XXIII, 435 and M.6206, which record the gifts given in A.486+M.5319.

[91] On this artefact, understood as a torque, see Arkhipov 2012a: 77–78.

[92] On the solar medallion, see Durand 1990, Charpin 1990, and Arkhipov 2012a: 93–96.

[93] On this item, see Joannès 1989b.

each object, or group of objects of the same nature. This dowry is known from two published documents (ARM XXII, 322[94] and ARM XXXI, 27[95])[96]. In fact, there are some variations in the description of the objects and their value (see Table 3),[97] and in the names of the women from the princely suite (see Table 4), including a female scribe in ARM XXII, 322.[98] Also, the date is not the same in the two texts: there is a four-day lag between ARM XXII, 322 (19.09.ZL1) and ARM XXXI, 27 (24.09.ZL1). So, we are not dealing with two duplicates, but with two documents written at two different times (certainly not written by two different hands according to palaeographical and philological evidence). The scribe could be blamed for having made mistakes from one text to another, particularly with regard to numbers and calculations. But a careful analysis of the two documents seems rather to show an intentional variation in the value of the dowry and, more broadly, in its content.

The dowry of Šimatum consists of jewellery[99] and adornments, vessels, clothes, furniture, and female personnel. According to ARM XXXI, 27, jewellery and adornments of precious metals and stones represent about 42% of the total, while vessels represent about 20%, clothes 16%, furniture 8%, and staff 14%. Logically, only objects in precious metals (gold, silver) are weighed, while only the monetary value of the rest is mentioned. For silver objects, the value is the same according to the total: the weighed value indeed matches with the 'nominal' value of the objects. There were no changes from ARM XXII, 322 to ARM XXXI, 27 concerning jewellery and adornments, but some changes in vessels (30 bronze gal-vases in ARM XXII, 322 to 20 bronze gal-vases in ARM XXXI, 27), and in clothes (1 mina of silver as the value of 2 túg ní.bara$_3$ to 1/2 mina; 3 clothes of low quality to 6 with a value probably based on the shekel).

The most significant change is undoubtedly the staff: while the first seven servants are the same women, Šīma-ilat, the female scribe, is no longer present in ARM XXXI, 27. As this last text is dated 5 days later, one may wonder whether the female scribe is no longer scheduled, which can perhaps explain blank entries in ARM XXXI, 27, which reflect the absence of the female scribe. Moreover, these blank entries make it possible to understand that the dowry was not fixed at that time, and that other adjustments were going to be

[94] Kupper 1983: 494–499, Guichard 2005: 363–364, and Arkhipov 2012a: 205–206.

[95] See Guichard 2005: 361–363.

[96] The nature of the documents was identified by Durand 1984: 162 and studied by Lafont 1987: 188–189. See also Charpin 2008b.

[97] In order not to overload the table with information, the references for the different objects of the dowry are given here. For the terminology of beads, see Arkhipov 2018, and Arkhipov 2012a for other jewellery. For vessels, see Guichard 2005. For clothes, see Durand 2009. On furniture: on the tapestry-*ḫayyû*, see Durand 2009: 43–44. On other wood furniture, no specific study has been conducted for Mari, we refer to Salonen 1963. For the *kanniškarakkûm* vase stand table, see Chambon 2009a: 29 and Guichard 2005: 203–207.

[98] See Ziegler 1999: 91, note 596.

[99] Note also that princess Šimatum, in letters ARM II, 115 and ARM X, 95, asked for a personal seal: see Charpin 1999.

necessary. ARM XXXI, 27 gives the "value" of 10 female servants in silver (of which three remain to be defined), corresponding to 100 shekels, namely 10 shekels for each woman on average. ARM XXII, 322 does not mention the total in silver,[100] and cannot help us define the "value" of a female scribe. Maybe we can consider, in the light of ARM XXXI, 27, that a female scribe had 3 times the value of a common servant, but this is only a theoretical calculation. More generally, discussions on the value of the dowry could probably have taken place between the drafting of ARM XXII, 322 and ARM XXXI, 27, and it is worth questioning to what extent the nature of these documents is not in fact prospective.

Table 3. Value of objects given for the dowry of princess Šimatum

	(Group of) Objects	**Weight and value in silver in XXII, 322 (Text 1)**		**Weight and value in silver in XXXI, 27 (Text 2)**	
		Weight	**Price**	**Weight**	**Price**
Jewellery and adornments	1 gold solar medallion	10 shekels	1 mina	*Idem*	*Idem*
	1 necklace (gú) of 9 banded agates *takpittum* round beads ($^{na}{}_{4}$par.par.dili) and gold *pittum*-secondary beads	3 shekels (gold beads)	15 shekels (banded agates); 18 shekels (gold beads)	*Idem*	*Idem*
	1 necklace of 8 banded agates *dakkassum*-beads and gold *pittum* secondary beads	1 2/3 shekels (gold beads)	6 shekels (banded agates); 10 shekels (gold beads)	*Idem*	*Idem*
	6 gold bracelets (ḫar šu)	12 shekels	1 mina	*Idem*	*Idem*
	2 gold toggle-pins(*tudittum*)	10 shekels	5/6 mina	*Idem*	*Idem*
	16 gold earrings (*inṣabātum*)	5 1/2 shekels	1/2 mina 3 shekels	*Idem*	*Idem*
	3 gold finger rings (*unqum*)	1 1/3 shekels	6 1/3 shekels	*Idem*	**6 1/2* shekels**
	1 seal (kišib) of banded agate, gold plated	1/3 shekels for the gold plating	2 shekels 15 grains	*Idem*	*Idem*
	4 silver anklets (ḫar gìr)	1/3 mina and 1 shekel	Same	*Idem*	*Idem*
	1 great silver bracelet (ḫar šu gal)	10 shekels	Same	*Idem*	*Idem*
	4 silver bracelets	4 shekels	Same	*Idem*	*Idem*
	1 silver finger ring	1 shekel	Same	*Idem*	*Idem*

[100] Moreover, one may wonder whether the absence of a total in ARM XXII, 322 does not correspond to the fact that this text was precisely not the final version of the inventory of the Šimatum dowry.

Vessels	5 silver gal-vases	1 1/3 minas 2 shekels	Same	*Idem*	*Idem*
	30 bronze gal-vases (1) **20 bronze gal-vases (2)**	-	1/3 minas	-	*Idem*
	1 bronze *šušmarrû*-basin and 1 bronze *maṣarrum*-ewer	-	15 shekels	-	*Idem*
	1 *mašqaltum*-basin	-	5 shekels	-	*Idem*
	1 *itqurtum*-plate (1) **1 Haššean** ***itqurtum*-plate** (2)	-	5 shekels	-	*Idem*
	3 bronze gír.gi.zu-knifes (1) **3 bronze mākalum-eating instruments (2)**	-	3 shekels	-	*Idem*
	1 copper *ruqqum*-cauldron	-	15 shekels	-	*Idem*
Clothes	2 túg.nì.bara$_3$ (1) **2 túg.[nì.bara$_3$]*? (2)**	-	1/2 mina	-	*Idem*
	2 túg *ša pan* nì.bara$_3$	-	6 shekels	-	*Idem*
	7 túg saĝ	-	1 mina 10 shekels	-	*Idem*
	3 túg ús (1) **6 túg ús (2)**	-	3 shekels	-	**6 shekels**
Furniture	2 tapestries-*ḫayyû*	/	2 shekels	/	*Idem*
	1 great boxwood (^{giš}taškarin) bed (*mayyalum*)	/	10 shekels	/	*Idem*
	1 bed baštum	/	10 shekels	/	*Idem*
	15 chairs (^{giš}gu.za) (ARM XXII, 322) 15* chairs (ARM XXXI, 27)	/	15 shekels	/	15 shekels
	3 footboards (^{giš}gìr.dub)	/	1 1/2 shekels	/	*Idem*
	1 ka.kara$_4$ (ARM XXII, 322) 1 ka.giš.kara$_4$ (ARM XXXI, 27)	/	5 shekels	/	*Idem*
	4 *uruzannum* tables (^{giš}banšur)	/	14 shekels	/	*Idem*
Total in silver		*Not specified.*		11 5/6 ma.na 1 su igi.4.gál	

Table 4. Female personnel in the dowry of princess Šimatum

	ARM XXII, 322	ARM XXXI, 27
1	^{I}Kilduzi	^{If}Ki'elduzi
2	^{I}Ali-aḫi	^{I}Ali-aḫi
3	^{I}Nuṭṭuptum	^{I}Nuṭṭuptum

4	^{I}Niyala	^{I}Niyala 1 tur
5	^{I}Ḫakanuḫmu	^{I}Ḫakanuḫmu
6	^{I}Abī-dumqi	^{I}Abī-dumqi
7	^{I}Abī-duri	^{I}Abī-duri
8	^{I}Šīma-ilat munus dub.sar	^{I} (Space provided)
9	-	^{I} (Space provided)
10	-	^{I} (Space provided)
Total	[8 munu]s^{meš}	10 munus 1 2/3 ma.na kù.babbar-*ši-na*

Otherwise, regarding theoretical calculations that can be made from these texts, a division is often sufficient in order to obtain the value of each object per group. For example, for the 3 garments of low quality that were worth 3 shekels in ARM XXII, 322 and have changed to 6 garments worth 6 shekels in ARM XXXI, 27, it is clear that the value of each garment is 1 shekel. But the case of the group of 16 earrings, associated with the value of 33 shekels, implies that each pair of earrings is not considered to be 2 shekels. In this case, the value was certainly attributed to the entire group.

3. Personal Names Matter: Prosopographical Survey, Work Categories, and Perception of Artisans' Skills through Non-Craftsmen Eyes

The study of technical terms and craft realities needs a prosopographical approach, particularly in order to reconstruct the social networks between craftsmen and other people involved in palace management, and to define the knowledge of craftsmen, and the functions they occupied.

3.1 Craftsmen's personal names as mnemonic means for the reconstruction of administrative operations

The study of personal names followed by terms that designate functions (goldsmiths, sculptors, wood craftsmen, *etc*.) gives the opportunity to reconstruct networks of people, who were in charge of different types of manufactured artefacts and were obviously working together. But in this case, too, we must be careful in interpreting the administrative documentation. It should be noted that prosopographical studies are often carried separately from the study of administrative terms. However, as we already mentioned, personal names belong to the administrative format because the mention of a personal name, as well as the indication of a religious feast, or even of a locality, were mnemonic means to allow scribes to reconstruct the context of an administrative

operation, carried out or to come.[101] Accounting terms, including personal names, functioned largely as a reminder, in support of information transmitted orally, and made it possible to memorize networks of actors, recipients or debtors. In the small world of people working for the Palace of Mari, (almost) everyone knew each other. The mention of the name of, for example, Yašūb-Ašar, a master goldsmith well attested in the Mari archives (cf. *supra*, §1.2), was enough to implicitly refer to the context of the operation, his skills, his workshop and type of objects in question (red gold *guḫaššûm*-chains which served as a part of the mount for a large lapis lazuli seal in the case of A.3520). More broadly, the mention of the name of a craftsman probably also shows a recognition of specialists' know-how (cf. *infra* §3.3).

3.2 Specialties, job names, and possible 'confusions': accountants' perception and craftsmen's reputations

When looking at the craft situation in context, our perception of administrative contents tends to fix realities which may, in fact, be changing or temporary.

In this respect, a case study is particularly interesting: that of the craftsmen Qištī-Mamma and Qištī-Nunu. Since the personal name Qištī-Mamma is sometimes followed by the Sumerian term kù.dím in several texts from Mari,[102] one could conclude that his profession is "goldsmith". But this term actually refers to a particular task that depends on the request that has been made to the craftsman (for example, the realization of a solar disc in M.12616), from the point of view of the accountant scribe who wrote the document. It is social and economic needs, such as making jewellery, plating a statue, or adorning a palanquin, which creates the mission assigned to each craftsman, and the circulation of raw materials at a given time. The perception that one could have of the work of a craftsman, and by extension his speciality, depend in fact on each context and could change according to the techniques involved and the know-how.[103] This invites us to be cautious when studying 'function names', which describe, in reality, different kinds of tasks, based on *ad hoc* assignments commissioned by organisations rather than immutable functions or real 'professions'.

For example, the "goldsmith" Qištī-Mamma is also mentioned in the administrative texts ARM XXIV, 174+M.11594[104] as being a "metallurgist" (simug, *napāḫum*). Even if craftsmen remained in a certain field of specialization, they could be multi-skills, especially because they often worked together and share

[101] Chambon 2023: personal names act as "hyperlinks" in administrative documentation.

[102] See, for example, the text M.12616; cf. Arkhipov 2012a: 225.

[103] A similar example from ancient Egypt was given to us by Damien Agut-Labordère. During the Persian period, a priest sent for pasture had the title of "head of the treasure of Amôn". We thank Damien Agut-Labordère for this personal communication.

[104] See Talon 1985: 97–98 and Arkihpov 2012a: 198–199.

know-how, for example in the case of the manufacture of composite objects. In addition, it should be emphasized that the types of raw materials handled by craftsmen are not sufficient to determine their actual specialities. The case of (precious) stones is undoubtedly the most emblematic, insofar as the incrustation of lithic materials and sometimes their shaping could be guaranteed by experts of wood, precious metal, and even textiles at a final stage of production. This suggests that raw materials which were assigned to craftsmen cannot be the only key to understanding and approach artisanal expertise.

According to Ilya Arkhipov, the craftsman Qištī-Mamma was confused by the scribe who wrote the administrative note ARM XXIII, 189 (12.04.ZL2),[105] with Qištī-Nunu, a renowned wood craftsman who is involved in the production of precious palanquins while Qištī-Mamma is not attested in this context.[106] But, it should be noted that Qištī-Mamma is, unambiguously, attested in the text M.11821[107] (20.03.ZL6) as a craftsman who took part in the silver covering of *tallum*-cross bars/barrows[108] in the context of the production of a palanquin. Admittedly, the text ARM XXIII, 189 relates to a delivery of glue/varnish ((kuš.)še.gin$_7$, *šimtum*) for the manufacture of a palanquin,[109] but there is nothing in the text to indicate what this glue is intended for. If the glue/varnish was mainly delivered to wood specialists,[110] it cannot be excluded that, contextually, the workshop of this goldsmith may have needed this material for one reason or another. Thus, it is not certain that the scribe would have confused the two craftsmen, especially when writing an administrative note, which is not a summary written *a posteriori*.

The case of the craftsman Ēressum-mātum is very similar. He is associated with different functions according to the texts. Dominique Charpin highlighted in his study of the letter A.4344[111] that Ēressum-mātum is sometimes referred to as a sculptor (tibira, *qurqurrum*), sometimes as a goldsmith (kù.dím, *kutimmum*), and most of the time is given no specification (see Table 5 *infra*).

In the letter ARM XIII, 5[112] Ēressum-mātum is quoted as "responsible" *(bēl paḫātim*) for the manufacturing process of the god Dagan's throne,[113] with Yašūb-Ašar, Ṭāb-Sūmû, and Iddin-Ištar, all known in Mari archives as master goldsmiths. In all this documentation, Ēressum-mātum is involved with metals' management and transformation, which explains why he is mostly understood as a goldsmith. However, the two mentions of Ēressum-mātum qualified as

[105] Joannès 1984: 178.
[106] Arkhipov 2012a: 148, note 497.
[107] Cf. *ibidem*: 312–313.
[108] On this artefact, see *ibidem*: 161.
[109] See Joannès 1984: 168.
[110] Durand 1983a: 379.
[111] Cf. Charpin 2016: 90, n. 14.
[112] For an edition of this letter, see Dossin *et al*. 1964: 25 and now Durand 1997: 239–240.
[113] On this dossier, see Guichard 2017 and Arkhipov 2019a.

a sculptor (tibira) deserve our attention: ARM III, 43,[114] which is a letter sent by the governor of Terqa Kibrī-Dagan to king Zimrī-Lîm, concerns the making of the goddess Šala's statue. The fact that Ēressum-mātum is here qualified as a "sculptor" is not surprising, because he is in charge of the creation of an effigy, involving embellishment work on the statue, maybe with metal.[115] The list of craftsmen in Mari ARM VII, 181, the date of which is unfortunately not preserved,[116] shows that he was 'classified' among sculptors and not goldsmiths, as they are probably quoted at the end of the text which is partly broken. His classification in a special group of craftsmen by the accountants is not intended to give his professional status but rather to reflect the appreciation of his work in a given moment, in a particular context.[117] Considering the temporary nature of a transaction or a work situation is crucial to understanding how accounting practices work.

Table 5. Occurrences of the craftsman Ēressum-mātum in Mari archives

Text	Date	Context	Sculptor	Goldsmith	No specification
FM XI, 5?[118]	1/[…]/Awiliya	Wine transport			x
MARI 3, 67	14/viii/Addu-bāni	Delivery of fine oil			x
A.4344	YA	Seal production			x
ARM XXVI/1, 134	YA	Crimping of facial features of Bēlet-biri's statue			x
ARM XXVI/1, 135	YA	Ēressum-mātum does not have enough of field surface to live on		x	
ARM XXVI/2, 296	YA	Ēressum-mātum is suffering from his foot and must be treated			x
ARM XXIII, 558	25/x/ZL 2	Losses of silver			x
ARM XXI, 300	28/vii/ZL 3	Delivery of mutton skins (kuš.udu)		x	

[114] See Kupper 1950: 66–69, and now Durand 1997: 231.
[115] Guichard 2019: 23–25.
[116] Bottéro 1957: 80–81. This text deserves a new edition, or a review if a photograph of the text were available.
[117] See Guichard 2005: 63 and Guichard 2019: 21.
[118] As Dominique Charpin pointed out, it is not certain that, in this text, there is Ēressum-mātum the craftsman or another individual.

M.6438	[…]/v(bis)/ZL 12	Losses of gold and silver		x	
ARM III, 43	ZL	Goddess Šala's gold for making Šala's statue	x		
ARM XIII, 5	ZL	Gold for the god Dagan's throne			x
ARM XIII, 22	ZL	Making of *marḫašum* ceremonial weapon			x
ARM VII, 181	Not dated	List of craftsmen	x		

Finally, a similar observation can be made about the craftsman Ana'iš studied above. Out of all the occurrences of this craftsman in the administrative documentation, only one text, ARM XXI, 300, specifies his function. The fact that his function is only quoted in the group mention of several craftsmen (l. 10: si.lá kù.dím^{meš}, "received by goldsmiths") can be explained easily: it saves writing for the scribe, who no longer needs to repeat the personal names already mentioned at the beginning of the document. But the assertion that Ana'iš is a goldsmith appears reductive in view of the many works in which this master craftsman is involved. The fact that no title is associated with his name can be explained by social networks in the palace of Mari: the simple mention of his name was enough, since his activities were sufficiently well-known to the scribes that they did not feel the need to systematically specify his function. In this respect, it should be noted that he is never referred to as a sculptor, whereas he is attested in ARM XXI, 246[119] as a craftsman linked to the shaping of the statue, which corresponds to a particularly stage.[120]

3.3 Anonymous craftsmen? The question of the recognition of artisans' skills in Mari texts

While an overwhelming majority of administrative texts are written by accountants, some letters give evidence for the direct speech of a craftsman, as seen above with the example of A.4344. But except for these rare cases, craftsmen's words are most often transcribed by others, and thus transmitted indirectly. This therefore implies that the activities and role of craftspeople are mainly known through the words (and therefore the points of view) of others (accountants, king, officials…): as a result, no document directly gives a craftsman's view of his own work. More generally, how was craftsmanship considered in Mari according to the texts?

[119] Durand 1983a: 272–273.
[120] Guichard 2019: 28–30.

There is clearly a recognition of their know-how in mainly votive inscriptions of the Assyrian interregnum, edited by Dominique Charpin (1984). Unlike most votive inscriptions[121] from the Amorite period, the former clearly mention the technical perfection of *ex-voto*, and also with aesthetic considerations. For example, M.8332 is a dedication of two silver saddlebags (*nādum*) to the goddess Ištar by King Yasmaḫ-Addu:[122]

> "(1)To Ištar, the Lady of the Earth, (2)who resides in the Ešabanna (and) (3)who listens to prayers, his Lady, (4)Yasmaḫ-Addu, (5)son of Samsī-Addu, (6)has granted her a wish: (10)he dedicated (7)two satchels of silver, (8–9)which have been artfully perfected by craftsmen."

The same expression can also be found in dedication A.2273, concerning a statue (alan, *ṣalmum*) to Ištar by Izamu, "servant" (*kezertum*) of Yasmaḫ-Addu:[123]

> "(18')I dedicated (15'–17')a statue [for Ištar], which has been perfected by craftsmen."

Some aesthetic considerations are mentioned in the Samsī-Addu inscription A.2231, concerning the offering of two thrones made of precious woods and covered in gold for the tutelary god of Mari Itūr-Mêr:[124]

> "(O.14)[I offered]? (11)a great throne of white plum tree […], (12–13)on which [his name (= Itūr-Mêr)]? [engraved]? with gold and artfully. (…) (R.14')I offered, (13')for the splendor of his divinity, (10')one great throne of ebony, (11'–12')on which his name [Itūr-Mêr] engraved with gold and artfully."

For our purposes, our interest in these votive inscriptions lies in the expression *ša ina (mārē) ummênūtim*.[125] In A.2231, the term dumu^{meš} (*mārē*) does not appear, so that the expression can be translated as "artfully"[126] with the use of the abstract suffix *-ūtum* (word for word: "according to the expert's art"). But, in M.8332 and M.2273, the term dumu^{meš} appears, that means that the work perfectly executed (*šuklulum*) is actually 'embodied' by craftsmen of Mari, and

[121] Not all votive inscriptions in Mari can in fact be considered as 'royal', as some were dedicated to deities, in a wish of devotion by members of the local elite, even if the king is mentioned therein.

[122] Composite text: (1)*A-na iš$_8$.tár be-le-et er-ṣ*[*e-tim*] (2)*wa-ši-ba-at* é.šà.[b]a.an.na] (3)*še-me-et ik-ri-bi be-*[*el-ti-šu*] (4)1*ia-ás-ma-aḫ-*^{d}iškur (5)dumu ^{d}utu-*ši-*^{d}iškur (6)*ik-ru-ub-ši-im* (7)2 *na-da-tim* kù.b[abbar] (8)*ša i-na* dumu^{meš} *um-me-nu-tim* (9)*šu-uk-lu-lu* 10*ik-r*[*u*]-*u*[*b*]. See Charpin 1984: 53–55.

[123] (15')alan *ša i-n*[*a*] (16')[dumu]^{meš} *um-me-nu-*⌜*tim*⌝ (17')[*šu*]-*uk-lu-lu* (18')[*ak*]-*ru-ub-ši-i*[*m*]. See *ibidem*: 56–57.

[124] (O.11)1 ^{giš}gu.za ^{giš}šennur.[babb]ar.ra x x x […] x (12)*ša i-na* k[ù].si$_{22}$ *ù um-me-nu-tim* (13)*šu-uk-lu-lu* [*šum*?-*š*]*u*? (14)[…] x x […] (…) (R.10')1 ^{giš}gu.za ^{giš}esi gal (11')*ša i-na* kù.si$_{22}$ *ù* dumu^{meš} *um-me-nu-t*[*im*]/ *šum-šu* (12')*šu-ta-aṣ-ba-a-at* (13')*a-na zi-im i-lu-ti-šu* (14')*ú-še-li*. See Charpin 1984: 42–44.

[125] See Sasson 1990.

[126] CAD Š/III: 220–226; AHw: 1264–1625.

that this is to be understood as the plural.[127] However, the idea is the same: these objects have been perfectly made by craftsmen at the top of their art. The term *šuklulum* means in the first place "to (do) complete(ly)": indeed, it seems clear that "to do perfectly" or "perfect" derive from the idea of "to do completely", implying that technical perfection is understood in the Mesopotamian texts correlated with the idea of what is "complete, finished, full".[128] The same idea can be found also in Sumerian, with the expression šu--du$_7$, "to be perfect, to do perfectly". This is particularly interesting for understanding the perception that the Mesopotamians had of the *beau*, the beauty of an object, and by extension craftsmen's skills according to those who commissioned these artefacts.

The fact that no craftsman is mentioned by name in these inscriptions, cannot be understood as a lack of recognition of individuals in favour of their fields of specialization. Precious objects, especially votive offerings, were composite objects made by several teams of craftsmen with different specialities, and therefore aesthetic criteria applied to the finished work carried out collectively. The quite common expression *mārē ummênim* ("specialists") shows that craftsmen were actually considered as a social group, in the same way, for example, as messengers (*mārē šiprim*). However, in some cases, the name of a craftsman not mentioned in the administrative documentation could be found in a letter; for example, Ḫuṣānum, who made the ebony throne offered by Samsī-Addu to the god Itūr-Mêr according to A.2231, is mentioned in the letter A.670.[129]

4. Production Specifications and "Protocols"

4.1 Production specifications: meetings, instructions, and challenges to craftsmanship standards between craftsmen, patrons, and officials

According to the Mari archives, there were some meetings between the king, officials, and craftsmen. Instructions were given to artisans, who received lists of supplies and materials needed for the work to be done. Dominique Charpin (1982: 102) highlighted that the term *imšuguppûm* (based on the Sumerian im.šu.gub.ba, literally "clay which stands in the hand"), attested in the Mari documentation, provides information on the crucial stage between royal orders

[127] As there are some grammatical mistakes in A.2231, as Dominique Charpin showed in the commentary of his edition, one can wonder if <dumu^{meš}> was omitted by the scribe who wrote the votive inscription plan. However, against this idea, it should be noted that the term *šuklulu* does not appear in this text.

[128] One should note that *šuklulu* can also be found in several first millennium BCE royal inscriptions: for example, see Da Riva 2013: 201 for references of Nabopolassar's and Neriglissar's inscriptions.

[129] Cf. Charpin 1987.

and craft production. The term *imšuguppûm* is attested in some letters, but never in the administrative documentation.

The letter ARM XXXIII, 40, written by Bannum to Zimrī-Lîm, lists materials and quotes, established before manufacturing:[130]

> "(O.1)To my Lord, (2)say: (3)thus (speaks) Bannum, (4)your servant.
> (4–6)My Lord sent me a message about the bronze, sacred property which (is) in the temple of Dagan of Saggāratum, saying: (7)Lists of materials for the statue (dedicated by) me (8)and the one (dedicated) by you, are not complete, because (9)I have not seen the shrinkage (which will undergo) the bronze.' (10)This is my Lord's message.
> (11)I gathered these objects in bronze and (12)put them under seal to my hand. (13–14) If there is any shrinkage for the bronze, (15)my lord must let me know so that (16) we can wear these bronze objects. (…)"

The king is keen to know the content of those lists and to have the details of the metal shrinkages, certainly from a financial perspective. This comes back to the idea already discussed about the technical knowledge of kings and patrons (§1.3), before any craft production. As we noticed *supra*, it is clear that the king himself could assist and write texts recording different stages of manufacturing.

An acephalous letter (A.358) mentions such lists, for the making of a palanquin, and recounts the exchanges between a master craftsman of wood and the king of Mari before the production. Moreover, it seems that it is a letter written by a master craftsman specialized in woodwork (*nagārum*), to the king, as Ilya Arkhipov has shown:[131]

130 (O.1)*a-na be-lí-i*[*a*] (2)*qí-bí-ma* (3)*um-ma* [*b*]*a-an-nu-um* ìr-*ka-a-m*[*a*] (4)*aš-šum* zabar *ša a-sa-ki-im* (5)*ša i-na* é ^{d}*da-gan ša sa-ga-ra-tim*^{ki} (6)*be-lí ke-em iš-pu-ra-am um-ma-mi* (7)*im-šu-gu-up-pu-ú ša ṣa-al-mi-ia* (8)*ù ṣa-al-mi-ka a-di-ni ú-ul ga-am*$^{!}$*-ru-ma* (9)*mi-ṭì-it* zabar *ú-ul a-mu-ur* (10) *an-ni-tam be-lí iš-pu-ra-am* (11)zabar-*šu-nu-ti ú-pa-ḫi-*[*i*]*r-ma* (12)*i-na ku-nu-ki-ia ak-*[*nu-u*]*k* (13) *šum-ma mi-ṭì-tum ša* z[abar] (14)*mi-im-ma it-ta-a*[*b-ší*] (15)*be-lí li-iš-pu-*[*ra-am-ma*] (16)[z]abar *šu-nu-ti li-*⌜*še-bi*⌝-[*lu-nim*] (…). See Durand 2019: 128–129. We follow here Jean-Marie Durand's translation.

131 In the first broken line, one can see two signs, which are unfortunately illegible, but this does not change the meaning of the very little preserved beginning, edited by Ilya Arkhipov despite its fragmentary character. (O.1')[o] ⌜x* x*⌝ […] (2')[o] ⌜lú$^{?}$.nagar$^{?}$⌝ […] (3')[… *be*]-*li-ia* ⌜x⌝ […] (4')[*a*]-⌜*di* x⌝-[o]^{r}^{ki}⌝ *be-lí-*[*e-r*]*i-iš w*[*u-ur-ma*]$^{?}$ (5')[*i*]*l-li-ik-ma* ^{giš}⌜*nu-ba*⌝*-lam i-ta-ma-r*[*a-am*] (6')⌜*ú*⌝*-ul ik-šu-*⌜*da*⌝*-aš-šu ḫa-am-mu-ra-b*[*i*] (7')*im-šu-gu-pa-am* [*š*]*a* ^{giš}*nu-ba-lim ša-tu* (8')*a-na be-li-ia ú-ša-bi-lam* (9')^{I}*qí-iš-ti* ^{d}*nu-nu a-na be-lí-ia* (10')*ke-em iq-*<*bi*> *um-ma-mi* giš$^{ḫi.a}$-⌜*ia*⌝ *be-lí li-di-nam* (11')^{giš}*nu-ba-lam ša-tu a-ka-ṣa-ar* (12')*ù be-lí ke-em iq-bi um-ma-mi* (13')*a-di* 2 *im-šu-gu-pu-ú la-a iṣ-ṣa-ab-tu* (14')*ma-ti-ma* ^{giš}*nu-ba-lum an-nu-um ú-ul i-ka-ṣa-ar* (15')^{I}*qí-iš-ti-*^{d}*nu-nu be-*⌜*lí*⌝ *ke-em i-pu-ul* (T.16')⌜*a*⌝*-na-*<*ku*> *al-li-ik-ma* ^{giš}⌜*nu-ba-lam a-mu*⌝*-ra-am* (17')[*m*]*i-im-ma be-lí im-šu-*⌜*gu-pa-am*⌝ (18')[*l*]*a-a i-na-ad-di-na-am ba-*{x-}*l*[*um*] (19')*im-šu-gu-pí-im-ma* ^{giš}*nu-ba-lam* (R.20')*ki-ma a-mu-ru e-pé-eš* (21')i-na-an-na i-na giš$^{ḫi.a}$ *ra-ma-ni-ni*$_5$*-ma* (22')⌜*a*⌝*-na-ku ù ḫa-ab-du-*^{d}*ḫa-na-at* (23') [^{giš}*nu-b*]*a-lam a-na zi-im ḫe-ri-im ša be-lí* (24')[*id-di*]*-na-am ne-pé-eš ù pí-ḫa-tàm ša-ti* (25')[*ar-ḫi-i*] *š ni*$_5$*-ta-na-pa-al ù be-el-ni*$_5$*/-ma* (26')[*a-na* ……]-*ni*$_5$ *be-lí-ni*$_5$ *a-na e-*[*p*]*é-eš* (27')[*ši-ip-ri-im da*] *n-na-tim li-iš-ku-u*[*n*]*-ma* (28')[*ar-hi-iš* ^{giš}*nu*]*-ba-lum šu-ú li-ne-pé-eš* (29')[o o o *š*]*a*$^{?}$-⌜KUR⌝$^{?}$-*ni*$_5$

> "(O.1')[…] (2')[…] The wood-craftsman […] (3')my Lord […], (4')Bēlī-ereš, in charge of the mission to the city of […], (5')gone (there) and examined the palanquin, (6') but did not obtain it. Ḫammu-rabi (7'–8')sent to my Lord a list of materials for this palanquin. (9'–10')Qištī-Nunu said this to my Lord: 'My Lord must give me my? woods, (11')(so that) I will assemble this palanquin.' (12')But, my Lord said: (13')'As long as the two lists are not taken into consideration, (14')this palanquin will never be assembled.' (15')Qištī-Nunu replied to my Lord: (L.E.16')'I went myself to see the palanquin: (17'–R.20')(there is) no need for my Lord to give me a list. I will make the palanquin without (it), according to what I saw.' (21')Now, using our own woods, (22')I and Ḫabdu-Ḫanat, (23'–25')according to what my Lord gave, we are going to make this palanquin and quickly accomplish this task. (26'–27')Our Lord must give strict orders to our? […] so that (28')this palanquin will be done quickly. (29')One must send back […] to my Lord, (30')so that […] will be in good health. (…)"

A particular palanquin was seen, in a locality whose name has unfortunately been lost. A noticed by Ilya Arkhipov (2009) the mention of Ḫammu-rabi could suggest that it concerns this king of Aleppo, a place where palanquins were manufactured. This palanquin had to be imitated in Mari. The most interesting fact is undoubtedly the dialogue between the master wood craftsman Qištī-Nunu and the king, which explains that he went to see the palanquin in person, and therefore does not need a particular list of materials to shape it. Since the sender of the letter and Ḫabdu-Ḫanat, another master wood craftsman, well known in the archives, will now make this palanquin, we can understand that Qištī-Nunu has been dismissed from the manufacture process in favour of another workshops. The sender's sycophancy contrasts with Qištī-Nunu's pretentious behaviour to the king. So, it was essential for craftsmen to follow the instructions towards the king, but some craftsmen could challenge this authority. It also means that craftsmen had their own materials in their workshops. This letter particularly echoes other problems, relayed by Mukannišum or other administrators, concerning the estimates of the lists of materials which were insufficient and which led them to write letters relaying craftsmen's complaints to the king. But the king of Mari was often reluctant to give them satisfaction for economic reasons. This reveals power games between craftsmen and palace officials, and even between craftsmen and the king.

4.2 Mari's "Metallurgists' Protocol": artisanal standard or exception?

We have already seen (§2.1) that some 'craft standards' can be imposed on craftsmen who handle precious metals and perform all kinds of operations that may result in the loss of metal. From the perspective of financial control on the

be-lí-ni$_5$ *li-ša-bi-lam-ma* (30')[o o] ⌜*x*⌝ *li-ib-lu-uṭ* (…). See Arkhipov 2009: 31–33. Our translation is based on Ilya Arkhipov's.

part of the palace, it is easy to understand why a certain number of texts relate to these metallic shrinkages, because they directly engage the king's treasury.

Now, we would like to focus on a text known under the name of the "Metallurgist's protocol", interesting for our purpose. It raises the question of the immutable or ad hoc nature of these standards.

This text (A.3145), first published by Henri Limet (1986: 217) but whose editing and understanding was significantly improved by Jean-Marie Durand (1987: 608–609), and finally taken up by Ilya Arkhipov (2012a: 277), is a unique text in the Mari archives. Because of its exceptional nature and the information it contains about the issue of shrinkage, like metal losses linked to craft operation, it was understood as an immutable craftsmanship norm: this was notably interpreted as such by Paul Bry (2005). Karen Reiter, in her study on metallurgy in the Old Babylonian period, argued for the hypothesis of a school text, which would therefore not be related to a concrete craft reality because the losses imposed were, in her opinion, too small compared to those indicated in other accounting texts (1997: 310).[132] Taking these elements into account, we will now examine the document:[133]

> "(O.1)If the washed copper is pure (2)and the tin is good, (3)during the alloy, (for) 1 mina (4)there will be a loss of 1/2 shekel; (5)if we have not obtained the purification of copper (6)and the tin is not good, during the alloy, (7)there will be a loss of 1 shekel. (8)The bronze (duly) alloyed, (R.9)during casting, (10)(for) 1 mina, there will be a loss of 1/2 shekel; (11)the bronze not good at the time of the alloy, (12)during casting, (13)(for) 1 mina, there will be a loss of 1 shekel.
> (14)This (is) the *isiktum* of the metallurgists.
> (15)In front of Ilāk-šuqir (L.E.16)and Aḫī-lablaṭ.
> (17)The 12th month, (18)the 29th day, the year which Zimrī-Lîm reordered the banks of the Euphrates. (= ZL2)."

The text is formulated according to the protases/apodoses model. This document aims to fix the metal losses based on the mina, in a prospective view. The context specified is the one of the metalworkers of the palace (lú.simug.a). It is important to note that the month, the day, and the year are indicated and there is also the mention of two witnesses.

[132] "Die Angaben sind jedoch zu glatt und entsprechen nicht den durch die Texte bezeugten wirklichen Verhältnissen, in denen weit höhere Verluste sowohl in der theoretischen Berechnung als auch am Gewicht der hergestellten Gegenstände nachweisbar sind, doch dass eine Interpretation des Textes als Schulaufgabe gegeben scheint, auch wenn der Text datiert ist und die Personen aus anderer Urkunden bekannt sind."

[133] (O.1)*šum-ma* urudu *mi-su za-ku-ú* (2)*ù* an.na sig_5 (3)*i-na ba-la-lim* 1 *ma-nu-ú* (4)1/2 su *i-ma-aṭ-ṭì* (5)*šum-ma* urudu *mi-sà-am la ka-aš-du* (6)*ù* an.na nu sig_5 *i-na ba-la-lim* (7)1 *ma-nu-ú* 1 su *i-ma-aṭ-ṭì* (8)zabar *ba-al-lu-tum* (R.9)*i-na pa-ta-qí-im* (10)1 *ma-nu-ú* 1/2 su *i-ma-aṭ-ṭì* (11)zabar nu sig_5 *iš-tu ba-al-lu* (12)*i-na pa-ta-qí-im* (13)1 *ma-nu-ú* 1 su *i-ma-aṭ-ṭì* (14)*i-si-ik-ti* lu_2.simug.a (15)igi *i-la-ak-šu-qar*° (T.16)*ù a-ḫi-la-ab-la-aṭ* {IM} (17)iti *e-bu-ri-im* (18)u_4 29.kam (L.E.19)mu *zi-im-ri-li-im* (20) *a-aḫ pu-ra-tim* (21)*uš-te-še-ru*. See Durand 1987: 608–609 and Arkhipov 2012a: 227.

In order to understand and contextualize such a document, it is necessary to conduct a prosopographical survey. The two witnesses are themselves metalworkers, well known from the archives and attested in both the reigns of Yasmaḫ-Addu and Zimrī-Lîm. Moreover, the text is precisely dated to the beginning of the latter's reign.

Accordingly, the hypothesis of a literary text seems difficult, because the text is dated with precision and the craftsmen mentioned are well known in the archives. Karen Reiter indicated that the losses were too low, but as already seen, the shrinkage can be more or less low depending on the work required and potentially the quality of the basic raw material. In addition, there is a big difference between theory and practice. Craftsmen sometimes complained in letters about the directives imposed on them, even after having given some form of agreement on production standards. It is possible that these shrinkages were, in a way, unattainable in practice and may have subsequently been readjusted during production. Let us recall that the goal of the palace, in a scrupulous management of expenses, was to have the least possible metal losses.

But, what about the idea of a constant standard in metallurgical practices? The forward-looking – almost legal – nature of the document does not imply that it can serve as an immutable norm over a period of time. The fact that the text is unique testifies to an exceptional situation, which made it necessary to set a clearly punctual standard in a given context, that of the beginning of the reign of Zimrī-Lîm, who visibly set rules with artisans who had already officiated during the reign of his predecessor Yasmaḫ-Addu. It therefore seems that this text was more a kind of 'scheduled specification' set between the king, officials and craftsmen, who would undertake to respect these standards in a particular context.

Is this text an actual *imšuguppûm*? Indeed, according to the letter ARM XXXIII, 40 (cf. *supra* §4.2), metal shrinkages could be recorded on these tablets. Moreover, several lists had to be drawn up, including possibly one concerning shrinkage; according to the information in A.358, it seems that two lists had to be written: maybe on one hand a list of materials, established between the different parties, and on the other hand a more precise list on the expected losses, as shown by A.3145. The term *isiktum*,[134] often translated as "protocol", could then refer to the commitment made between the craftsmen and the patron (very probably king Zimrī-Lîm), which reveals a legal dimension to the document. This is reminiscent of the "Craftsmen's charters" from the Neo-Babylonian period, in which jewellers and goldsmiths had to commit themselves to do their job according to the content of these tablets.[135]

[134] A study of this term and its economic and juridical meanings will be presented in a paper by the authors, currently in preparation.

[135] See Payne 2008, with bibliography.

Conclusion

This paper aimed to show a paradox: that of studying the world of craftsmen through that of accountants. This obvious fact led us to pursue a series of thoughts, and to follow new approaches regarding administrative texts for the history of craftsmanship.

The study of context (transaction, craft operation, management of metal, *etc.*) is particularly fundamental. The study of philology is also important but has the disadvantage of decontextualizing texts in favour of the study of terms, which sets aside understanding the context and the people involved. Yet such information is important for an 'embodied history' of accounting and craftsmanship. This led us to reflect on what an administrative text really is, to highlight the essential issue of the context and especially important features of production and accounting, which allowed us to take a reflective look at our own way of approaching these documents. In addition, our study highlights the extent of the work that remains to be done for a study of craftsmen in Mari, and opens some methodological avenues from case studies.

As a research perspective, it would be interesting to reflect more on the issue of technical skills of accountants and their scribal learning, as well as those of craftsmen. It seems that the history of craftsmen, omnipresent in texts, can only, apart from certain exceptions which are particularly relevant to study, be written through the prism of the perception of kings, gods, and even accountants.

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BASIC PRESTIGE: THE *MUŠAḪḪINU* IN PRIVATE BABYLONIAN HOUSEHOLDS

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This contribution concerns the *mušaḫḫinu*-vessel in the context of first millennium BCE Babylonian private households. The starting point of this study was not a great mystery surrounding a peculiar or misunderstood lemma. It was rather the methodological questions regarding the potential and limitations of our sources vis-à-vis material culture in first millennium BCE Babylonian private households. As the most attested household item known from private sources, the *mušaḫḫinu* serves here as a test case.[1] The phrase "basic prestige" in the title above is an attempt to capture the duality that is built into many aspects reflected in the private sources. These are the mundane facets which were nonetheless often restricted to rather limited socioeconomic circles. In the following, I first lay out and discuss the nature of the sources at our disposal (1). Next, I examine the function of the *mušaḫḫinu* (2), its attested measurements – capacity (3) and weight (4), and its value (5). The final section (6) summarises the findings of the previous discussions, and evaluates the place and status of the *mušaḫḫinu* within first millennium BCE Babylonian households.

1. THE SOURCES

Most of the relevant (private) sources stem from what may be referred to as *dowry-related* texts.[2] Additional sources come from commercial contexts and various inventories. The corpus used in this paper is presented in the appendix (Table 5). The core dossier within the dowry-related texts are marriage agreements, most of which contain dowry clauses with various degrees of detail. Other closely related texts are receipts and fulfilment obligations of dowries.

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[1] Along with the *kāsu* (cup), it is the most attested item in first millennium BCE Babylonian dowries (Roth 1989/90: 26 n. 114).

[2] The following survey pertains to the textual sources. The scarce archaeological data is discussed below.

Additionally, many (mostly partial) dowries are mentioned in the context of various (post-marriage) business transactions, which identify certain items as part of a woman's dowry.[3]

The definition of commercial activity as private must be confined to its historical context. Nowadays, we would separate private household, business/commercial, and institutional/public assets. For example, a work-issued vehicle would not be treated as one's private car.[4] In first millennium BCE Babylonia, however, these distinctions are less clear; there were no separate private and business bank accounts. It is thus not always possible to distinguish (what nowadays would be referred to as) private and commercial assets. This also relates to inventory texts; it is often difficult to discern inventories of private households from those of businesses such as taverns and breweries. Furthermore, inventories are somewhat ill-defined, as the key feature of these texts is the *lack of* an operative clause. This brings us to the two major methodological problems our sources present us with: *quantity* and *genericism*.

When it comes to material culture, regardless of the specific aspect and/or item in question, private households naturally produced far less documentation than the contemporary institutional households. This mirrors, in a way, the archaeological picture and holds true in terms of both quantity and diversity. It is thus unavoidable, at times, to turn to non-private sources, namely temple archives, as well.

The lack of sufficient sources is only intensified by the generic nature in which items are presented in sources. These are, after all, legal and administrative documents whose interest lay in recording past and future transactions, rather than a vivid description of the Babylonian household. Note for example the following dowry clause, which was part of a marriage agreement from the Ilī-bāni archive in Borsippa:[5]

> "(A)n orchard (followed by exact measurements and borders), a (female) *mulûgu*-slave (by the name of) ^{f}Inbâ, a bed $^{(eršu)}$, two chairs $^{(kussû)}$, a table $^{(paššûru)}$, three bronze goblets $^{(kāsu)}$, a bronze bowl $^{(qabûtu)}$, one copper *mušaḫḫinu*, and one lamp $^{(bīt\ nūri)}$; total of ten house utensils $^{(udê\ bīti)}$ …"

The scribe first introduces the orchard with its exact borders and dimensions, followed by a female slave, including her name. The rest of the dowry consists of a list of items, summed up as ten house utensils (*udê bīti*), with no information given regarding the specifics of any of the items. In fact, some dowry

[3] Most of the dowry-related sources were treated by Martha Roth in a series of studies during the late 1980s and early 1990s; for example Roth 1987, 1989, 1989/90, 1991, 1991/93.

[4] Naturally, a state vehicle, for example a police car or an ambulance, would not be considered private either.

[5] TuM 2/3, 1 (= Roth 1989, no. 9): 4–13, Borsippa, 550 BCE.

clauses simply state that house utensils are promised, with no details of what these actually included, for example:[6]

> "30 minas of silver, a planted field (*zēru zaqpi*) (followed by exact measurements and borders), five slaves (*amēltu*), and house utensils (*udê bīti*)."

In this case, not even the number of the house utensils is given. One cannot help but wonder what would be the value of such a clause regarding the actual dowry. Perhaps the exact list of house utensils was not yet settled. Alternatively, the house utensils in this dowry may have been (or considered by the parties to be) of relatively low value and were thus simply clamped together. If this was indeed the case, it may be reasonable to assume that the dowry did not include a *mušaḫḫinu*, since, as we will see below, these were relatively valuable in terms of house utensils.

Finally, a few words are necessary with regards to inventories. Several private inventories are known to share many similar items as those found in dowry clauses (Roth 1989/90: 1 n. 1); for example VS 6, 246, Nbn 761 (with dupl. Strassmaier Liverpool 32), TuM 2/3, 249, Tarasewicz 2018, no. 39 (= BM 113926). The context of such inventories is often unclear, and it is not always possible to distinguish private from temple inventories. To illustrate the potential, as well as the difficulties, of such lists we may look at a case of a private inventory for which the archival context is rather clear. The following inventory, VS 6, 246, is part of the archive of the Nappāḫu family from Babylon:[7]

> "House utensils (*udê bīti*) of Gimillu: one *musukkannu*-wood bed and a footstool, one willow-wood bed, one willow-wood chest, one 3-*sūtu*-size bronze *mušaḫḫinu*, one *talammu*-size bronze *mušaḫḫinu*, two bronze goblets (*kāsu*), one bronze *mukarrišu*-vessel, one bronze pitcher (*baṭû*), twenty *ḫabību*-vessels …, two fermenting vats (*namzītu*), two wooden pot stands (*ganganu*), two storage vessels (*ḫuttu*), two vats (*namḫaru*), one lower grinding stone (*erû*) and (one) upper grinding stone (*narkabu*), two chairs (*kussû*), two stools (*littu*), one lantern (*šašītu*) of six minas of iron."

Standing alone, not much can be said regarding the function of this inventory. As in most cases, the text is undated, and there is nothing to help us contextualise this seemingly random list of household items. Fortunately, the archival context of the tablet is known; it is part of the Nappāḫu family archive (Baker 2004). In fact, Gimillu's house, which contains the utensils listed in the inventory, is known from another text in the Nappāḫu archive, VS 4, 79 (= Baker 2004, no. 32), written in Babylon in the fifth year of Cambyses (525 BCE). By that time, Gimillu himself had died, and, while his son inherited the house, [f]Tappaššar, Gimillu's wife, was allowed to live in its west wing.[8] As part of

[6] BM 34241 (= Wunsch 1995/96, no. 4), Babylon, *ca*. 522 BCE.
[7] VS 6, 246 (= Baker 2004, no. 34), Babylon, Neo-Babylonian period.
[8] On Tappaššar and her family, see Zawadzki 2014.

this arrangement, ^{f}Tappaššar had to specify what personal possessions she had in the house:[9]

> "^{f}Tappaššar swore an oath by Ištar-of-Babylon to Iddin-Nabû, (saying), 'there is nothing at my disposal apart from one copper *mušaḫḫinu*, one copper goblet $^{(kāsu)}$, one bed $^{(eršu)}$, one table $^{(paššūru)}$, and a chair $^{(kussû)}$; altogether, four items $^{(enūtu)}$ of Gimillu, my husband …'."

^{f}Tappaššar's statement in VS 4, 79 regarding her possessions in her late husband's house makes it clear that the above inventory, VS 6, 246 was in fact drafted as an appendix to the division of the house. Moreover, there are discrepancies between the two lists, namely ^{f}Tappaššar's table is not included in VS 6, 246.[10] This means that her own items were not included in the longer list, and the two complement each other to create a complete household inventory. The inventory of Gimillu's house utensils offers a glimpse into the hidden potential of these laconic texts. Alone, VS 6, 246 would be a floating, arbitrary list of mostly generic items. It is only due to the fortuitous survival of VS 4, 79 and the meticulous work of Heather Baker, that we are able to properly contextualise this case. In many cases, however, the context of such inventories is unknown.

The nature of our investigation invites (the text-oriented) assyriologists to turn to archaeology for context and comparisons. Yet, the archaeological record regarding first millennium BCE Babylonia is notoriously problematic, and this is all the more significant in the context of private households. My search yielded no meaningful findings to be examined in light of the textual sources. The "metal vases" from the Ur excavation report (Woolley 1962, pl. 32) are the only image I was able to find for possible reference; especially nos. 5 and 6. Unfortunately, no measurements are given and no scale is presented for the copies. Although anecdotal, it is in way symbolic of a larger methodological issue that should be mentioned here. Standard archaeological publications of vessels (regardless of source material or function) focus on aspects of height, diameter, and shape (of rim, base, handle, etc.). Assyriologists, on the other hand, present study included, tend to speak of capacity and weight. This is due, of course, to the nature of our sources. This discourse gap is not unbridgeable, but it would require awareness and effective interaction between the two fields, as future excavations and publications will increase the availability of comparable archaeological data.[11]

[9] VS 4, 79 (= Baker 2004, no. 32), Babylon, 525 BCE, Babylon.

[10] Note also that the (simple) bed mentioned in VS 4, 79 does not match the *musukkannu*-wood bed and willow-wood bed listed in VS 6, 246.

[11] A similar concern regarding this methodological gap is raised and discussed more in depth by Denis Lacambre (2008) in the context of Old-Babylonian Mari.

Finally, a note should be added regarding the metal from which the *mušaḫḫinu* vessels were made, which is a question related to both the textual and the material aspects. In all but two cases, whenever the metal of the *mušaḫḫinu* is specified, it is always bronze. In two cases, however, we find copper *mušaḫḫinu*s.[12] While it is beyond the scope of the present discussion, it is reasonable to assume, especially based on the physical characteristic of pure copper, that archival texts often did not distinguish the two.[13] In the following I thus consider all *mušaḫḫinu*s to be bronze vessels.

2. The *Mušaḫḫinu*

The *mušaḫḫinu* is relatively well attested in various first millennium BCE sources, both in private and institutional archives. The CAD (M/2: 253, s.v. *mušaḫḫinu*) gives the general description of "a metal cooking vessel", while the AHw (p. 680, s.v. *mušaḫḫinu*) translates "Heizbecken, -öfchen", and see also the CDA's (p. 220) corresponding "brazier, stove". These represent two closely related but distinct understandings of the word, both of which can indeed be found in various text editions; see for instance, Martha Roth's (1989, 1989/90) "cooking pot" and Gauthier Tolini's (2013) "kettle", which follow the CAD,[14] while Heather Baker's (2004) "brazier" and SbB 1's "Heizbecken" accept the AHw. The first question we must ask then is: was this a vessel *in* which you heat (cook) something (namely a cooking pot/kettle), or was it an implement *on* which you heat something (namely a brazier/stove). First, while the basic etymology (cf. *šaḫānu*, to heat) fits both, the logogram for *mušaḫḫinu* (šen.dil.kúm.ma) points to the former (cooking pot), as šen by itself is a cauldron (Akk. *ruqqu*).[15] The generic nature in which scribes presented most of the items in private sources, however, forces us to turn to institutional contexts,

[12] VS 4, 79 (= Baker 2004, no. 32), TuM 2-3, 1 (= Roth 1989, no. 9).

[13] In first millennium BCE Babylonian sources, bronze and copper are imported from the west, Yamānum (Ionia), as well as from the Persian Gulf in the south (Kleber 2017: 13). For the use of bronze in Mesopotamian history, see Morrey 1994: 251–277, and see p. 242–245 for technical aspects of copper and its alloys.

[14] See also the French "marmites" in Joannès 1992 for Camb 331: 3.

[15] We may also note that the *mušaḫḫinu* in first millennium BCE Babylonian dowries parallels in a way the place of the *ruqqu* (šen) in Old-Babylonian dowries; for example 1 šen *ša* 3 bán (BAP 7: 6 (= Daley 1980, no. 3)), 1 ^{urudu}šen *ša* 3 bán (BE 6/1 84: 12 (= Dalley 1980, no. 4, Westbrook 1988: 113)), 1 ^{urudu}šen *ša* 1 (pi) še / 1 ^{urudu}šen *ša* 4 bán še (Dalley 1980, no. 10" 20–21 (= BM 16465)). The capacity of these vessels is practically identical to the *mušaḫḫinu* of the first millennium BCE; see below. Furthermore, during the first millennium BCE, the two seem to have served the same function in cultic contexts and it is in fact unclear what the actual difference was between the two vessels. See, for example two letters sent to Eanna from its satellite temples regarding the regular *ginû* offerings: the Ebabbar of Larsa states there is no *ruqqu* at the temple (šen zabar *a-na gi-né-e iá-a-nu*, YOS 3, 78: 7–8), while the temple of Udannu warns they have neither large nor small *mušaḫḫinu* (*mu-šaḫ-<ḫi>-nu qal-la ina é-kur ia-a-nu*, YOS 3, 191: 29–30).

namely temple archives, in order to get a fuller picture of the functional range of the *mušaḫḫinu*.

As mentioned above (note 15), the temple officials in Udannu ask their Urukean colleagues for a *mušaḫḫinu* to cook the regular *ginû* offering (YOS 3, 191). Another text, which testifies more clearly to the cooking of meat in a *mušaḫḫinu*, is YOS 6, 137. It concerns the interrogation of two men accused of the theft of three ewes and a lamb. Two of the ewes and the one lamb were later caught, alive, in their possession. More important to the present context, however, is what happened to the third ewe. Apart from the live animals, they were also found with a slaughtered ewe, (its) hide, and (its) meat (u_8 *ik-ki-su* kuš *ši-iḫ-ṭu* uzu$^{ḫi.a}$) and a *mušaḫḫinu* (YOS 6, 137: 9). This is an important source in this regard since, although the case was dealt with by the Eanna authorities, the thieves' actions were not cultic in nature. Again, they are not accused of stealing the *mušaḫḫinu* itself, and its inclusion alongside the stolen animals was meant to clarify their actions and intent; the *mušaḫḫinu* was needed in order to cook the meat.

The third text I would mention, GC 2, 249, comes from the Eanna archive as well. It records quantities of six aromatic herbs and one *mušaḫḫinu*, which were given to a certain Ētellu/Ša-Nabû-šū:[16]

> "(1) 2 minas of "sweet-reed", 6 minas of *ballukku*, ½ mina of myrrh, ½ [mina of s]oda ash, (5) 2 *qû* of juniper, 2 *qû* of *suādu*, 2 bronze *mušaḫḫinu*s, for the recuperation of the (temple) serfs, are at the disposal of Ētellu/Ša-Nabû-šū. (10) 24.II.19."

Like in the case of YOS 6, 137 above, it is clear that the *mušaḫḫinu* in GC 2, 249 was meant for cooking the herbs, possibly with oil.[17] In this case, it was for making an aromatic ointment (or liquid) for medicinal purposes; the healing of some sick temple serfs.[18] All of these cases clearly show that the *mušaḫḫinu* was used for cooking different substances. In fact, I am not aware of any text in which a *mušaḫḫinu* is used as a "secondary heating device".[19]

[16] (1) 2 ma.na gi dùg.ga / 6 ma.ma šim.mug / ½ ma.na šim.sis / ½ [ma.na *a*]-*ḫu-us-su* / (5) 2 sìla šim.li / 2 sìla šim.man.du / ˹2 *mu-šaḫ-ḫi-na*˺-*nu* zabar / *a-na bul-luṭ šá ši-ra*-[*ki*] / *ina* igi ˹*e-tel-lu* a ˹I˺*šá*-˹d˺a[g-*šu-u*] /(10) iti˹sig$_4$˺ ud.24.[kam] / mu.19.kam.

[17] On the preparation of aromatic oils (perfumes) in cooking pots ("huile de marmite"), in the Old-Babylonian period in Mari, see Joannès 1993: 260–261.

[18] For a discussion of GC 2, 249 in the context of the *bīt ḫilṣi*, see Joannès 2006: 76 (translation and transliteration in p. 75). A similar usage of *mušaḫḫinu* can also be found in an Assyrian medical text; ì.giš *ina mu-šá-ḫi-ni* šeg$_6$-*šal*, "you cook oil in a *mušaḫḫinu*" (AMT 55, 1: 12). Note also NCBT 265, from the Eanna archive, in which a *mušaḫḫinu* (of 3 *nēsepu*) is used "for cooking/roasting the oil [of] the *bīt ḫilṣi*", [*a*]-˹*na*˺ ˹*qu-li*˺-*i šá* ì.giš [*šá*] ˹é *ḫi-il-ṣu*˺; that is, probably, for cooking resinous substances in oils as part of the production of perfumes. The text is to be published by Elizabeth Payne and myself in the forthcoming YOS 24 as text no. 57.

[19] The one case which may be, mistakenly, considered as a counter example is: 410 bricks for the *dul-lu šá mu-še-ḫe-ne-e*^{meš} (VS 6, 166: 1–2). While it is clear these *mu-še-ḫe-ne-e*^{meš} were not cooking pots, indeed an oven seems to best fit the context, it is also clear that these were not bronze vessels. Both dictionaries include this attestation under *mušaḫḫinu*. However, while

3. Capacity

Most references to *mušaḫḫinu*s do not give any details regarding the size of the cooking pots; see for example Roth 1989, no. 28: 11, Baker 2004, no. 14: 12, Tarasewicz 2018, no. 39: 12. This, of course, does not point to a proper standardisation as regards size, but rather to the generic nature of the documents. That being said, we can probably assume that the general scale of such unspecified vessels was clear to all parties.

In the dowry inventory of ᶠQibī-dumqī-ilat/Itti-Marduk-balāṭu//Egibi, for example, we find two *mušaḫḫinu*s simply referred to as a *large* one and a *small* one: 2 *mu-šaḫ-ḫu-na-*ʳ*nu* zabarˀ [*ina lì*]*b-*ʳ*bi* 1-*en*ˀ gal-*ú* 1-*en qal-la* (Nbn 761: 6–7). The precise capacity of these cooking pots was of less significance and this kind of general reference was sufficient for all parties to have a clear enough idea regarding the capacities of the vessels. A similar reference is attested in the above-mentioned letter YOS 3, 191, in which a "small *mušaḫḫinu*" is required by the temple of Udannu. In CT 57, 67, from the Ebabbar temple in Sippar, we find four large *mušaḫḫinu*s (gal-*tu*) and three *mušaḫḫinu tar-din-ni-*ʳ*tú*ˀ (l. 17–18). It is unclear to me whether *tardennu*, "secondary", in this context refers to the size (as may be understood from the preceding four large ones) or to the quality of the pots.[20] These references thus attest to a *scribal norm*, which stemmed from the colloquial typology, rather than to the *metrological norm* of established, clear units.[21]

That is not to say, of course, that actual references to capacity units were not made. The following measurements of *mušaḫḫinu*s are attested in private sources (Table 1).

Table 1: Attested volume capacities of mušaḫḫinus

Measurement	Equivalence in litres	Text
3 *nēsepu*s	*unclear* (7?–8?)	Cyr 183: 14
1 *talammu*	*unclear* (14?–16?)	VS 6, 246: 6 CTMMA 3, 50: 10
1 *sūtu*	6	BM 82607: 10

mu-še-ḫe-ne-e^{meš} and *mušaḫḫinu* clearly share an etymology, this is, at the very least, an exceptional spelling (namely *-še-*), and in all probability a separate word, one which could indeed be understood as an oven/kiln.

[20] Similar references are found in Neo-Assyrian sources, in which vessels may be referred to as *dannu* ("strong", meaning large) or *qallu* ("light", meaning small); see Gaspa 2007. An interesting example in this respect is útul^{meš} urudu kalag^{meš} *ša* 2 anše-*a.a* (SAA 7, 87, i: 3'–4'), "large bronze *diqāru* cooking-pots of 2 *emāru*s (*ca*. 160–185 litres; see chart 4 in Gaspa 2007: 179). In this case, obviously in an institutional context, *dannu* is followed by the actual capacity.

[21] On the concepts of scribal and metrological norms, see Chambon 2011.

2 *sūtu*s	12	Dar 301: 14–15
3 *sūtu*s	18	VS 6, 246: 5 Nbn 241: 1–2(?)[22] Ólafsson/Pedersén 2001, no. 28: 1–2

Gauthier Tolini (2013) estimates one *talammu* to be between 6–10 litres. This would be the equivalent of about 1½ *sūtu*. Although this seems to be a reasonable estimate, no reference is given, and I am not aware of sources that would point to these numbers. Marten Stol (1994: 167–170) offers an elaborate calculation based on several fifth century BCE Murašû texts and sixth century texts from the Eanna and Ebabbar archives. He asserts a 1:2 *talammu*:*nēsepu* ratio based on CT 56, 600, ii: 11–12, 25–26. I do not agree that a necessary 1:2 ratio is reflected in these lines, and Stol himself admits that his calculations do not work for col. iv: 22 (Stoll 1994: 168, note 144). He further calculates that one *nēsepu* was 7–8 *qû*, which would then according to his understanding of a 1:2 ratio mean that the *talammu* vessel was 14–16 *qû*. Ultimately, while Stol's numbers are probably not too far off, to the best of my knowledge, fixed measurements of neither the *talammu* nor the *nēsepu* vessels can be established. Furthermore, it is reasonable to assume that different standards were used in different periods and locations. It does seem that the *nēsepu* container was smaller than the *talammu* (Stol 1994: 168, CAD T: 92), but the exact ratio between the two is still unclear, nor do we know whether three *nēsepu*s (as in Cyr 183) were larger, smaller, or roughly the equivalent of one *talammu*.

4. Weight

References to the weight of cooking pots are known as well, though it must be admitted that the reason why the weight of certain *mušaḫḫinu* is given rather than its capacity is unclear. It may have been easier in specific contexts to confirm a vessel's weight rather than its capacity. Alternatively, a rough weight-volume correlation might have been common knowledge. This would again speak of the existence of *norms* that required no further specification. One case, in fact, provides us with both capacity and weight: "[One] cooking

[22] The attestation of a 3-*sūtu mušaḫḫinu* in Nbn 241: 1–2 is uncertain. Based on the facsimile, the text starts with ^{zabar}*mu-ša-ḫi-nu* áš(-)*ma-ru-ú šá ina* igi PN. Both dictionaries read (*mušaḫḫinu*) *áš-ma-ru-ú*, a form of *ešmerû* – "a type of silver" (CAD E: 366), "eine Silbergierung" (AHw: 257) – in the sense of a silver coated *mušaḫḫinu*. I find this reading highly unlikely. In a later volume, the CAD indeed reads ^{zabar}*mu-ša-ḫi-nu* áš (CAD Ṣ: 197, s.v. *ṣimdu*), without referring to the *ma-ru-ú* following the áš. This reading, however, is not without problems as well. Apart from the unclear *ma-ru-ú*, the phrase is also missing a *šá*, for *mušaḫḫinu* <*ša*> *ṣimdi* would be expected.

pot, holding 3 *sūtu*s of water, (made out of) 5 minas of processed bronze" (Ólafsson/Pedersén 2001, no. 28: 1–3).[23] While this cannot simply be extrapolated as a standard capacity/weight conversion rate, it may be reasonable to assume that this was more or less the scale for most vessels.[24] Table 2 lists the recorded weights of *mušaḫḫinu*s.

Table 2: Attested weight of *mušaḫḫinus*

Measurement	Equivalence in kg.	Text
2 minas	1	SbB 1, No. 110: 6
2 (possibly 3) minas	1 (1.5ʔ)	*Nbk 426: 1
3 (possibly 4) minas	1.5 (2ʔ)	*VS 6, 112: 1–2[25]
3¾ minas	1.65	Camb 331: 3
5 minas	2.5	Ólafsson/Pedersén 2001, no. 28: 1–3
15 minas	7.5	Nbn 310: 10

* Nbk 426 and VS 6, 112 require collation.

Although this is certainly a small sample, it seems that 2–5 minas was the common range for the *mušaḫḫinu* cooking pots. In the case of Camb 331, an inventory for a commercial partnership, we find 2 *mu-šaḫ-ḫi-na-nu* zabar *šá* 7½ ma.na *šu-qul-ta-šú-nu*. The 7½ minas seem to refer to both cooking pots combined, rather than two pots, weighting 7½ minas each; thus 3¾ in the table above.[26] The 5 minas *mušaḫḫinu* in Ólafsson/Pedersén 2001, no. 28 was loaned (with rent, *idu*) for a period of almost a month (24.I–20.II.3 Dar), a fact that may point to a commercial context as well.[27]

The much larger *mušaḫḫinu* in Nbn 310 is clearly of another scale: 15 ma.na ki.lá *mu-šaḫ-ḫi-nu* zabar (Nbn 310: 10); this is 5–7 times larger than the other vessels. The context of this text seems to be a commercial venture, which was probably related to the running of a tavern:[28]

[23] [1-en] *mu-šaḫ-ḫi-in-nu šá ṣi-mì-du me-e i-ṣab-bat šá* 5 ma.na zabar *gam-ri*.

[24] Furthermore, as pointed out to me by Louise Quillien, features such as handles, feet, and decorations would impact the weight of a vessel but not its capacity.

[25] The facsimile of VS 6, 112 has 3, yet "four" is read in the CAD (M2: 254).

[26] Theoretically, the two vessels may have differed slightly in weight, though it was clearly not significant enough to be mentioned.

[27] Having said that, neither parties in the text are known to be involved in a *ḫarrānu*-like venture from other sources. The text, Ólafsson/Pedersén 2001, no. 28, is part of the Rēʔi-sisê archive, for which see Levavi 2022, including a new edition of the text; Levavi 2022, no. 5.

[28] "(1) *mu-šaḫ-ḫi-nu* zabar *ù* / *ki-šuk-ku* zabar *šá* ^{I}*šul-lu-mu* / a-*šú šá* ^{Id}30-kar-*ir šá a-ki-i* 7 gín kù.babbar / *šá ina pa-ni* ^{f}*gu-ub-ba-a qal-lat šá* ^{Id}+ag-*a-qa-ab*^{1}*-bi* / (5) ^{lú}gal *ṣib-tu*$_4$ ^{I}*šul-lu-mu* a-*šú šá* ^{Id}30-kar-*ir* / *iš-ku-nu ù* ^{f}*na-mir-tu*$_4$ dumu.sal-*su* / *šá* ^{I}*ap-la-a* 7 gín kù.babbar *a-na* ugu / *mu-šaḫ-ḫi-in-nu* zabar *ù ki-šuk-ku* zabar / *ta-ad-di-nu-ma u taš-šá-a* / (10) 15 ma.na ki.lá *mu-šaḫ-ḫi-in-nu* zabar / 2 ma.na ki.lá *ki-šuk-ku* zabar / pap 17 ma.na ki.lá *mu-šaḫ-ḫi-in-nu* zabar *ù* / *ki-šuk-ku* zabar

> "A bronze *mušaḫḫinu* and a bronze grate of Šullumu/Sîn-ēṭir, which Šullumu are deposited with ^{f}Gubbâ, servant of Nabû-aqābi, the tax-collector, for 7 shekels of silver. ^{f}Namīrtu/Aplāya paid the 7 shekels of silver for the *mušaḫḫinu* and the grate and took (them). 15 minas is the weight of the *mušaḫḫinu*, 2 minas are the weight of the grate: total of 17 minas for the *mušaḫḫinu* and the grate, at the disposal of ^{f}Namīrtu. Witnesses /…/ scribe /…/ Babylon, 30.X.08 Nabonidus, king of Babylon."

The exceptional size of this *mušaḫḫinu* can only be understood in its commercial context. This should be considered an "industrial size" *mušaḫḫinu*. Turning once again to the Eanna archive, we find a smith receiving 2 minas 38 shekels of bronze for the repair of the *mušaḫḫinu* of the weavers: NCBT 325 (42 Nbk).[29] The amount of bronze, given here *only for the repair* of the vessel, is of the scale of whole *mušaḫḫinu* pots attested in private contexts. The actual *mušaḫḫinu* of the weavers must have been substantially larger.[30] Though we have no direct evidence from the Neo-Babylonian temples, we can perhaps draw on the Neo-Assyrian data, where we find cooking pots of up to 1–2 *emāru*s, which, regardless of which model we use, corresponds to hundreds of litres; see charts 1 and 4 in Salvatore Gaspa (2007: 177, 179).

5. Value

In addition to the physical attributes of the *mušaḫḫinu*, we could also examine aspects of value. These may relate to the actual cost of a *mušaḫḫinu*, but also to the status, for the lack of a better term, of a bronze cooking pot as a household item. I am aware of only two references to the price of a *mušaḫḫinu*, both coming from the Egibi archive and concerning a commercial partnership regarding a tavern (Table 3).[31] The first, CTMMA 3, 50 (6 Nbn), is an inventory of a *ḫarrānu* partnership of Nabû-aḫḫē-iddin/Šulāya//Egibi, in which we read about "a bronze *mušaḫḫinu* (with the capacity) of 1 *talammu* for 2 shekels of silver", ^{zabar}*mu-šaḫ-ḫi-nu šá ta-lam-mu a-na* 2 gín kù.babbar (CTMMA 3, 50: 10). Twenty-seven years later, Itti-Marduk-balāṭu (Nabû-aḫḫē-iddin's son) was involved in a similar business venture, recorded in Camb 331 (6 Camb), from which we learn that "22 shekels of silver is the price of two bronze

ina igi ^{f}*na-mir-tu*$_4$ *a-di-i* / kù.babbar-*šú šak-nu-u*$^{?}$ ^{lú}*mu-kin-ni* ^{I}*pir-u*$^{?}$ / $^{(15)}$ a-*šú šá* ^{Id}+ag-mu-si.sá a ^{I}*e-gi-bi* ^{Id}+en-šeš^{meš}-mu / a-*šú šá* ^{Ir} x-x$^{?}$ a ^{I}*e-gi-bi* ^{I}*na-din* a-*šú šá* ^{Id}+ag-kád / <a> ^{lú}a *šip-ri šá* ^{lú}di.kud^{meš} ^{lú}dub.sar / ^{Id}utu-*na-ṣir* a-*šú šá* ^{I}*za-kir* a ^{I}*e-sag-gìl-a-a* / tin.tir^{ki} iti.ab ud.30.kam mu.8.kam / $^{(20)}$ ^{Id}+ag-im.tuk lugal tin.tir^{ki}".

[29] The text is to be published by Elizabeth Payne and myself in the forthcoming YOS 24 as text no. 62.

[30] It is unfortunate that we have no parallel records from private households regarding maintenance and repairs for *mušaḫḫinu* vessels.

[31] It is probably not a coincidence that the known price records stem from a commercial context, as these vessels were considered part of the capital itself rather than just personal property.

*mušaḫḫinu*s, 7½ minas is their weight", ⅓ ma.na 2 gín kù.babbar šám 2 *mu-šaḫ-ḫi-na-nu* zabar *šá* 7 ½ ma.na *šu-qul-ta-šú-nu* (Camb 331: 3).[32]

Table 3: Attested prices of *mušaḫḫinus*

Price	*mušaḫḫinu* of	Text
2 shekels	1 *talammu*	CTMMA 3, 50 (6 Nbn)
11 shekels	3¾ minas	Camb 331 (6 Camb)

These two cases present us with two problems. First, there is a significant disparity between the values of the two vessels: 2 versus 11 shekels. More importantly, the two *mušaḫḫinu* are not comparable since one is presented using the (unclear) *talammu* capacity measurement, while for the second *mušaḫḫinu* we are given its weight. Thus, despite the closely related contexts of the texts, both as far as content as well as their archival context, it is hard to draw conclusions based on these figures.

Theoretically, given the known amount of bronze used for the *mušaḫḫinu* in Camb 331, its price of 11 shekels could be compared to the basic price of bronze, which would then give us an approximation of the value of labour. The data on bronze prices is rather scarce. Kristin Kleber (2017) collected all known cases and table 4 is based on her study (with minor adjustments; see note 34).

Table 4: Bronze prices

	Text	Year	Silver: Bronze ratio (in shekels)	Notes
(1)	BaAr 7, 3 (= PTS 2699)	13 Npl	1:106$^{17}/_{28}$	
(2)	BaAr 7, 52 (= PTS 2604)	32 Nbk	1:120	
(3)	BaAr 7, 13 (= PTS 2535)	2 Nbn	1:66	red bronze[33]
(4)	YOS 19, 259	3 Nbn	1:80[34]	red bronze

[32] As noted above (note 24), while the two vessels were necessarily identical, there was no need to specify any discrepancy in neither weight nor worth.

[33] One can assume that red bronze was a purer alloy and thus more expensive. I am unaware, however, of a proper identification for red bronze.

[34] Kristin Kleber (2017: 14) calculates a ratio of 1:150 for YOS 19, 259; based on the reading 2⅓ minas of bronze for 1 shekel of silver. First, this calculation is slightly off since 2⅓ minas equals 140 shekels and not 150. More importantly this is in fact red bronze (zabar ˹*ḫu*˺-*še-e*), which is not noted by Kristin Kleber. Additionally, the reading of the first sign as 2 is uncertain since only one wedge is seen in the copy. It is true that the space seems to allow for an additional wedge to the left, which would indeed make it 2 (minas). However, given that this is red bronze rather than plain, we would actually expect a smaller amount of bronze; cf., 1:66 in BaAr 7,13(= PTS 2535) in the table above. I would thus read l. 1–2 as follows: 1 ma.na ⅓ gín zabar ˹*ḫu*˺-*še-e a-na* 1 gín kù.babbar. This would result in a 1:80 ratio, a much closer price for the red bronze in BaAr 7, 13.

(5)	FLP 1567	5 Nbn	1:120	
(6)	BaAr 7, 18 (= PTS 2098) + YOS 6, 168[35]	6 Nbn	1:180	bronze from Yamānu

The most relevant figures from this table are the 1:120 ratio known from two cases (2, 5).[36] This price, however, precedes Camb 331 by a few decades, and we know that there is a general tendency of prices rising during these years.[37] Thus, acknowledging that we cannot accurately extrapolate the actual price of bronze at the time of Camb 331 (6 Camb), it is better to consider a possible range; I take 1:90–100 as a reasonable price range for the purpose of this discussion. Applying these figures for Camb 331 would mean that only 2¼–2½ (225 shekels: 100/90 shekels) of the 11 shekels were paid for the bronze; that is, about 25% bronze + 75% labour.[38] This bronze to labour ratio seems difficult to accept. When examining the prices of kur.ra capes, Michael Jursa found that the labour component fluctuated between 43%–111% of the raw materials (Jursa 2010: 622). This means that the cost of labour for the kur.ra capes accounted for ca. 33%–50% of the actual price, much lower than the 75% calculated above.[39] Although Jursa further finds the labour component of the capes' price increased with time (Nbk–Camb), I remain sceptical regarding the numbers calculated for Camb 331.[40]

The prominence of the *mušaḫḫinu* within the Babylonian household may be further illustrated with the legal contract Scheil, *RA* 14, xxxiv, in which we learn that two *mušaḫḫinu*s were given for safekeeping alongside jewellery (*taškuttu*), a cashbox (*quppu*), and a chest (*šaddu*); clearly these were considered among the household's valuables. Another text, VS 6, 112, is a promissory note for a *mušaḫḫinu* of 3 (possibly 4) minas of bronze. It was written in the same year as Camb 331 discussed above, 524 BCE. By extrapolating the figures from Camb 331 (3¾ minas of bronze: 11 shekels of silver), we get

[35] The two texts are near duplicates. For the few differences, irrelevant to the present discussion, see Kleber 2017: 60.

[36] Red bronze was clearly more expensive than regular bronze (3, 4), and the particularly low price of the bronze from Yamānu (6) cannot be explained at this point. The chronological gap between case (1), with a 1:106$^{17}/_{28}$ ratio, and the other cases, and even more so regarding the later Camb 331, is problematic for comparison.

[37] See for example Jursa 2010: 622, Fig. 22, regarding the prices of wool, sheep, and KUR. RA capes, and Fig. 9, p. 450 concerning barley prices.

[38] This is of course a rough and simplified scheme. As in Rosaura Cauchi's calculations (in this volume) for the price of bread, fuel, tools, and maintenance expenses (including, for example, rent), are not taken into consideration.

[39] In order to have 50/50 bronze/labour distribution for Camb 331, the price of bronze would have to be 1:40 (silver to bronze) shekels, which seems to be too high a price for plain bronze.

[40] It is of course reasonable to assume that labour for different crafts were not all valued the same, but further data are needed to confirm such a substantial gap. Additional factors, with great impact on the final price, would be, for example, quality of metal, state of the object, and skills of the craftsman.

a rough estimation for the price of the *mušaḫḫinu* in VS 6, 112: *ca*. 8–9 shekels of silver.[41] In another promissory note, Ólafsson/Pedersén 2001, no. 28, a *mušaḫḫinu* is rented out for a period of almost a month. This transaction included the payment of rent (*idu*), which is unfortunately not specified by the scribe. As noted above, however, it is likely that the context of this case was commercial activity, rather than a cooking pot used in one's private kitchen.

6. Summary and Final Remarks

The *mušaḫḫinu* was a bronze cooking pot used for cooking various items such as meat, herbs, and oils. In private first millennium BCE Babylonian households, several sizes of vessels are attested and there is no standardisation. Attested capacities range between one to three *sūtu*s (6–18 litres). For some vessels, we are given capacity in *talammu* and (three) *nēsepu*(s), but we cannot currently assign modern equivalences to these measurements. Some scribes recorded the weight of the cooking pot. This practice seems better situated in institutional contexts, in which source materials had to be constantly accounted for, but less so in private contexts. Most private *mušaḫḫinu*s ranged between 2 and 4 minas (1–2 kg) of bronze. One *mušaḫḫinu* of 15 minas (7.5 kg) is attested in a commercial context (Nbn 310), and it stands to reason that such vessels were not in regular use in private households.

More difficult to determine than the physical attributes of the *mušaḫḫinu* cooking pots is their value. Only two prices of *mušaḫḫinu*s are known, 2 and 11 shekels, and, apart from serving as a possible spectrum, it is difficult to extrapolate further conclusions regarding, for example, market prices. Still, it is clear that the *mušaḫḫinu* was among the more valuable household possessions. A clear illustration for its place within the domestic material culture of the Babylonian household is the text Scheil, *RA* 14, xxxiv, in which a *mušaḫḫinu* is entrusted for safekeeping along with jewellery, a cashbox, and a chest. Furthermore, the repeated inclusion of the *mušaḫḫinu* in dowries of privileged Babylonian women points to it as an essential item in certain circles; namely the higher strata of Babylonian urbanites. It is reasonable to assume that households in the urban periphery, and certainly rural households, were not able to buy nor maintain metal kitchenware, with pottery naturally being the default. Ultimately, cooking pots are a basic household item; a versatile, durable, and relatively expensive metal cooking pot, like the *mušaḫḫinu*, can therefore be described as *basic prestige*.

[41] This is based on the reading 3 minas of bronze for the *mušaḫḫinu*. the exact number is 8¾ shekels of silver, but, as noted above, we are uncertain as to the percentage of labour cost embedded in the final price. If the *mušaḫḫinu* in VS 6, 112 was of 4 minas (pending collation), then its price would be *ca*. 11½–12½ shekels of silver.

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Appendix

Table 5: *Mušaḫḫinu* in first millennium BCE private Babylonian sources

Text	*mušaḫḫinu*	Notes
CTMMA 3, 50: 10 (= Moldenke I, 14)	zabar *mu-šaḫ-ḫi-nu šá ta-lam-mu a-na* 2 gín kù.babbar	Commercial *ḫarrānu*
Camb 330: 5	1 *mu-šaḫ-ḫi-nu*	Commercial *ḫarrānu*
Camb 331: 3	⅓ ma.na 2 gín kù.babbar šám 2 *mu-šaḫ-ḫi-na-nu* zabar *šá* 7 ½ ma.na *šu-qul-ta-šú-nu*	Commercial *ḫarrānu*
Nbk 369: 2	12 *m*[*u-šaḫ-ḫi-nu*]	Arrangements for the return of a dowry See Roth 1989/90: 35, n. 146 (transliteration) *to be collated
Nbn 310: 10	15 ma.na ki.lá *mu-šaḫ-ḫi-nu* zabar	Contract for a deposition of goods for safekeeping
Scheil. *RA* 14, xxxiv: 11 (HE 152)	2 *mu-šaḫ-ḫi-na-nu* zabar	Contract for a deposition of goods for safekeeping
VS 6, 262 (= Baker 2004, no. 91: 15')	*mu-šaḫ*-[*ḫi-nu*]	Division of inheritance
Baker 2004, no. 14: 12, (BM 77600, Peiser Verträg 121)	*mu-šaḫ-*⌜*in*⌝*-ni*	Dowry contract
BM 82629 (= Roth 1989/90 appendix 13, p. 54: 3)	*mu-šaḫ-ḫi-nu* ⌜zabar⌝	Dowry contract
Nbn 258: 11 (Strassmaier Liverpool 79)	1-*en mu-šaḫ-ḫi-nu šá* din/ḫi a x gur	Dowry contract *to be collated
BM 82607: 10 (= Roth 1989/90 appendix 12, p. 53)	1-*et mu-šaḫ-ḫi-nu šá* 1 (bán)	Dowry contract
BM 74596: 13 (= Roth 1989/90 appendix 6, p. 51)	*mu-šaḫ-ḫi-nu* zabar ta? ⌜ x meš⌝	Dowry contract
BM 74645: 4 (= Roth 1989/90 appendix 7, p. 52)	*mu-šaḫ-ḫi-nu*	Dowry contract
Baker 2004, no. 12a: 5 (Dar 530+, BM 77399+77731, Peiser Verträg101, 122)	*mu-šaḫ-ḫi-nu* za[bar]	Dowry receipt

Text	*mušaḫḫinu*	Notes
VS 6, 246: 5 VS 6, 246: 6	1-*en* zabar šen.dil.kúm.ma *šá* áš 1-*en* zabar šen.dil.kúm.ma *šá* ˹*ta-lam-mu*˺	Inventory
Nbn 761: 6, dupl. Strassmaier Liverpool 32	2 *mu-šaḫ-ḫu-na-*˹*nu*˺ ud.ka˺ .[bar] / [*ina lì*] *b-*˹ *bi*˺ 1-*en*˺ gal-*ú* 1-*en qal-la*	Inventory
Ólafsson/Pedersén 2001, no. 28: 1–3 (GAM 21851)	[1-*en*] *mu-šaḫ-ḫi-in-nu šá ṣi-mì-du me-e i-ṣab-bat šá* 5 ma.na zabar *gam-ri*	Promissory note
TuM 2/3, 249: 2	2-*ta mu-šaḫ-ḫi-nu*^{meš} zabar	Inventory
Tarasewicz 2018, No. 39: 12 (BM 113926)	2 *mu-šaḫ-ḫi-nu*^{meš}	Inventory
SbB 1, No. 110: 6 (BM 26677)	1-*en* ^{urudu}šen.dil.kúm. ˹ ma˺ *šá* 2 ma.na	Letter
Dar 301: 14–15 (= Roth 1989, no. 23)	1-*et mu-šaḫ-ḫi-nu* zab[ar] *šá* 2 bán^{me}	Marriage agreement
TuM 2/3, 1 (= Roth 1989, no. 9: 12)	1-*et* urudu *mu-šaḫ-ḫi-nu*	Marriage agreement
Cyr 183 (= Roth 1989, no. 19: 14)	1 *mu-šaḫ-ḫi-in-nu šá* 3 *ne*-sip**^{meš}	Marriage agreement *collated from photo
Roth 1989, no. 28: 11 (BM 50106)	1 *mu-šaḫ-ḫi-nu*	Marriage agreement
Roth 1989, no. 32: 25 (BM 82597)	[x *m*]*u-šaḫ-ḫi-nu* urudu	Marriage agreement
L 1634: 11 (= Roth 1989, no. 25)	1-*en* zabar *mu-šaḫ-*<*ḫi*>*-nu-ú*	Marriage agreement
VS 6, 112: 1–2 (= Baker 2004, no. 253)	*ú-íl-tì šá mu-šaḫ-in-nu šá* 3? (possibly 4) ma.na zabar *šu-qul-la-šú*	Promissory note *to be collated
Nbk 426: 1	1-*en* zabar *mu-šaḫ-ḫi-nu šá* ˹ 2/3? ma.na?˺ [(x)]	Promissory note
VS 4, 79 (= Baker 2004, no. 32, Peiser Verträg 130: 16)	1-*en* ^{urudu}*mu-šaḫ-ḫi-nu*	Will arrangements

NEO-BABYLONIAN LEATHER FOOTWEAR

LOUISE QUILLIEN*

Leatherwork is a very old craft. Since prehistory, women and men have been using animal skins to protect their bodies from the elements, and working hides to make objects such as shoes, harnesses, bags *etc*.[1] Different methods of preserving hides by tanning were known in antiquity, using fat, vegetal and mineral substances.[2] Strictly speaking, leather is an animal skin that has been "rendered non-putrescible under warm moist conditions" (Harris 2014: 10 quoting Thompson 2006: 3), but the English term can also be used in a more extensive sense, to refer to processed skin. Specific treatments can be used to make the skin not only rot-proof but also flexible, solid and waterproof, which are valuable qualities for making shoes.

The oldest leather shoes in the Near East were found in 4th millennium BCE burials, in caves in Armenia and the Levant.[3] In Mesopotamia, leather craft is attested since the Sumerian period in textual sources. Major studies conducted on archives from Umma, Isin, and Mari, deal with leatherworkers, their techniques, and in particular shoemaking.[4] A study on Mesopotamian footwear was published in 1969 by Armas Salonen, and the data for the Neo-Babylonian period can now be updated.[5] Synthesis on leather craft in Mesopotamia can be found in Marten Stol's article "Leder(industrie)" in the *Reallexikon der Assyriologie und Vorderasiatischen Archäologie*, and in a paper by Joann Scurlock that reassesses a number of Akkadian terms for leatherwork.[6]

The Neo-Babylonian documentation also provides information on leather craft. Data on leather shoes are mainly found in two archives: Uruk's Eanna and Sippar's temple, in cuneiform tablets written to control and organise the work of the craftsmen employed by the temples. Hans Kümmel remarked on

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[1] Chahine 2002: 13–14.

[2] See the ancient but transversal synthesis of Forbes 1966: 5–9.

[3] A pair of sandals was found in the Cave of the Warrior in the Judean Desert, together with textiles dated to the 4th millennium BCE (Schick 1998: 34–38), and a well-preserved closed shoe, tied with laces, was discovered in the cave Areni-1 in Armenia and was dated to the 4th millennium BCE by radiocarbon analysis (Pinhasi *et al*. 2010).

[4] Sigrist 1981, Joannès 1984, Van De Mieroop 1987, Paoletti 2012.

[5] Salonen 1969; see also the review by Postgate 1970.

[6] Stol 1983; Scurlock 2008.

the presence of leather workers in the Eanna archive from Uruk (1979: 43–44). While Arminius Bongenaar listed these specialized workers in the temple of Sippar, and presented their different tasks in his prosopography of the Ebabbar personnel (2003: 397–399 and 411–415). Private archives also occasionally mention leatherworkers and leather shoes.[7]

Neo-Babylonian texts document the use of leather for bags, clothing, covers, harnesses, musical instruments, the ornaments of chariots, quivers, shoes, straps, tents, waterskins and other containers for liquids. Shoes are among the leather objects the most often recorded in the texts. The mention of a leatherworker specialised in shoemaking in an apprenticeship contract from Babylon, dated to Darius' reign (504 BCE), suggests that it was an available and common object in Babylonian cities.[8] Nevertheless, Babylonian footwear cannot be reduced to leather shoes. A comparison with ancient Egypt, Greece and Rome leads to speculate that they must have represented only a small part of the daily footwear.[9] In ancient Egypt, archaeological finds show that people wore leather shoes but also shoes made of vegetal materials like papyrus, palm tree, rope and wood.[10]

Leather craft has not left many archaeological remains in Babylonia. Two samples dated from the Neo-Babylonian period were found, both are fragments of leather bags that came from double jar burials at Uruk.[11] The first bag shows the marks of a rope. Despite the poor preservation of the carbonized materials, analysis on the second bag established that the skin was from a young animal, perhaps a goat. But the tanning technique used could not be identified.[12]

This paper will focus on the available textual data in order to see what the manufacture and use of leather shoes reveal about the manner in which leather craft was organised, and about the distribution of the objects produced in Babylonian society. For this purpose, I will first explore the terminology of leather shoes (1). A study of their manufacturing process will follow, (2) and then an evaluation of their distribution and uses (3).

[7] See Jursa 2005 for a detailed presentation of the Neo-Babylonian archives.

[8] Text Dar 457.

[9] Darcy 2015: 85; Heckenbenner 2004.

[10] Veldmeijer 2019.

[11] van Ess and Pedde 1992, pl. 129. The first bag (no. 1560) was attached to the right hand of the deceased, the second one (no. 1561) was not far from the hand. The content of the bags is not known.

[12] van Ess and Pedde 1992: 123 pl. 129.

1. The Terminology of Leather Shoes

1.1 Neo-Babylonian terminology

In Neo-Babylonian, the word for shoes is written *šēnu* (feminine noun) or *mešēnu* preceded by the Sumerian determinative kuš, meaning leather or skin.[13] These words, of a generic nature, are used regardless of the context (shoes for soldiers, workers and travellers recorded in temple archives or shoes for a more general use mentioned in private archives).

Different writings are attested in Neo-Babylonian texts. First of all, the Akkadian *mešēnu* appears under the following spellings, in texts from Babylon, Sippar and Uruk:[14]

> ^{kuš}*me-e-še-e-nu*: BM 63917: 12 (= Bertin 1585 = Bongenaar 1993); BM 64112: 13' (= Bertin 2932 = MacGinnis 2012, no. 32); BM 68702: A 4', B 4' (= MacGinnis 2012, no. 49); CT 55, 69: 3; Dar 4: 9; Dar 457: 3; Nbn 824: 13
> ^{kuš}*me-še-e-nu*: CT 55, 785: 3; CT 56, 556: 2; Nbn 566: 8
> ^{kuš}*me-e-še-nu*: CT 56, 565: 7
> ^{kuš}*me-še-nu*: BM 63917: 4 (= Bertin 1585 = Bongenaar 1993); GC 2, 397: 7, 10
> ^{kuš}*me-še-en*: BM 64116: 1 (= Bertin 2934); BM 70342: 4' (= Zawadzki 2003, no. 2); BM 79658: 7, 9, 10 (= Zawadzki 2003, no. 1); OIP 122, 129: 4; Nbk 173: 1, 5

Sometimes, the determinative kuš is not used.[15] The writing ^{kuš}*še-e-nu*, common in older periods, is rare in Neo-Babylonian. There is no evidence in Neo-Babylonian texts that the terms *šēnu* and *mešēnu* refer to different types of footwear.[16] The shoes *šēnu* appear in documents that record travel provisions, exactly like *mešēnu*.

> ^{kuš}*še-e-nu*: BM 61766: 6 (= MacGinnis 2002, no. 1); Dar 253: 8; PTS 2516: 2 (= Joannès 1987)

The Sumerian equivalent ^{kuš}e.sír appears, strikingly, only at Uruk. The Akkadian spelling was more popular among Sipparean scribes.

[13] CAD Š/II: 289, *šēnu* A 1 "sandal, shoe"; CAD M/II: 38, *mešēnu* "a type of shoe"; AHw p. 1213b, *šēnu*, "Sandale, Schuh" and p. 648b, *mešēnu*, "Sandale, Schuh".

[14] Also in broken context: BM 75181: 5 (= Sack Ner 94 = Bongenaar 1997: 398, n. 347) "18 *me-še*-[*e-nu*]"; CT 56, 429: 8 "[x ^{kuš}*me-še*]-*e-nu*"; YOS 3, 127: 11 "^{kuš}*me-še*-[*nu*]"; Nbk 165: 1 "^{kuš}*me-še*$^{?}$-^{r}*en*$^{!?}$"; BM 60858: 6 (= MacGinnis 2012, no. 13) "^{kuš}*me-*^{r}*še*$^{\rceil}$-[*e-n*]*i*"; BM 64707: 2 (= MacGinnis 1998) "*me-e-š*[*e-nu*]". Leather shoes are also attested in the following unpublished texts: BM 60331; BM 64876; BM 68617 quoted by MacGinnis 2012: 3; BM 76040 quoted by MacGinnis 2012: 8; and BM 61206 quoted by Janković 2008: 453.

[15] BM 75181: 5 (= Sack Ner 94 = Bongenaar 1997: 398, n. 347); Nbn 824: 13; CT 56, 556: 2; BM 64112: 13' (= Bertin 2932 = MacGinnis 2012, no. 32); BM 64707: 2 (= MacGinnis 1998).

[16] Contrary to Salonen 1969.

> ^{kuš}e.sír: BIN 1, 28: 34; GC 1, 227: 2; GC 1, 405: 16, 18; GC 2, 211: 11; NBC 4787: 4 (= Jursa 2010: 632–633, n. 3346); TCL 9, 85: 18; VS 6, 317: 10; YOS 3, 10: 24; YOS 3, 136: 20; YOS 19, 212: 2; YOS 19, 228: 3; YOS 19, 289: 7

Most of the time, the word (*me*)*šēnu* seems to refer to a pair of shoes, not to a single shoe. Indeed, soldiers and workers generally receive the same number of garments, weapons and (*me*)*šēnu*. For example, the text BM 64707 from Sippar, dated to the reign of Cambyses (523 BCE) records "11 *širʾam*-jerkins, 11 (pairs of) *mešēnu* shoes".[17] Furthermore, 45 *mešēnu* are recorded in BM 64116: 1 (Bertin 2934) from Sippar (Nebuchadnezzar II reign, 566 BCE). This odd number certainly refers to 45 pairs of shoes.[18]

The text Dar 253:8 records 24 shoes ^{kuš}*šēnu* and only 12 ^{túg}kur.ra-garments, 12 *širʾam*-jerkins and 12 *karballatu*-headgears. It is probable that the soldiers received here two pairs each, one to wear and one to change. Indeed, soldiers could receive two pairs of shoes of two different types as noted by Bojana Janković in her study on travel provisions and soldiers' equipment.[19] It is the case, for example, in the following undated text from Sippar:[20]

> "16 ^{túg}kur.ra-garments 16 *karballatu*-headgears, 16 pairs of open shoes 16 (pairs of shoes) of Hamban type."

I will now discuss in more detail the different categories of leather shoes attested in the texts.

1.2 The different styles of leather shoes

Mesopotamian statues, reliefs and seals impressions offer an overview of the diversity of footwear, a selection of which is reproduced at the end of the book of Armas Salonen on *Fussbekleidung* (1969: pl. I–XXX). The Neo-Babylonian

[17] BM 64707: 2' (= MacGinnis 1998) "11-*et šir-a*-[*a*]*m* 11 *me-e-š*[*e-nu*])". Other examples are found on the following texts: *mešēnu*: BM 68702: 1' and 3'–4' (= MacGinnis 2012, no. 49) "50 ^{túg}kur.ra-garments, 50 *širʾam*-jerkins, (…) [50] headgears, 50 (pairs of) *mešēnu* shoes" ($^{(1')}$ 50 ^{túg}kur.ra 50 ^{túg}*šir-a-am* (…) / $^{(4')}$ [50 *ka*]*r-bal-la-ta*' 50 *me-e-še-e-nu*); *šēnu*: PTS 2516 (= Joannès 1987): 1–3 "1 ^{túg}[kur.ra-garment], 1 *širʾam*-jerkin, 1 (pairs) of *šēnu* shoes of Hamban-type" ($^{(1)}$ 1-*en* ^{túg}[kur.ra] / $^{(2)}$ 1-*et* ^{túg}*šir-a-am*' 1-*en* ^{kuš}*še*-[*e-nu*] / $^{(3)}$ *ḫa-am-ban-ú-a-ta*); see also the following texts where the same number of (*me*)*šēnu* and leather bags are recorded: GC 1, 405: 16–17; Nbk 173: 1, 5; OIP 122, 129: 1–4; and YOS 3, 127: 11–12.

[18] In the same way, in the text Nbk 165: 1–2 from Sippar (Nebuchadnezzar II reign, 579 BCE), Kī-Šamaš receives one *mešēnu*, that is to say one pair of shoes and not a single shoe.

[19] Janković 2008: 453–454.

[20] CT 55, 785: 1–4 "$^{(1)}$ 16 ^{túg}kur.ra^{meš} / $^{(2)}$ 16 ^{túg}*ka-bar*^{sic}*-la-tu*$_4$^{meš} / $^{(3)}$ 16 ^{kuš}*me-še-e-nu pe-*ʿ*ti*'$^{?}$ʾ-*ú-[tu]* / $^{(4)}$ 16 ^{kuš}ʿ*ḫa-am*ʾ-[*ba-nu-tu*$_4$]". See also BM 79658: 1–2 and 7–11 (= Zawadzki 2003, no. 1) "30 ^{túg}kur.ra-garments for 30 [soldiers] at Tyre (…), 29 pairs of open shoes, 29 pairs of shoes of Hamban type, one pair of open shoes, one pair of shoes of Hamban type for Ša-Nabû-šū" ($^{(1)}$ 30 ^{túg}kur.ʿraʾ^{meš} *šá* 30 ^{l}[^{u}erín^{meš}] / $^{(2)}$ *šá* ^{uru}*Ṣu-ú-ru* (…) $^{(7)}$ 29 ^{kuš}*me-še-en pe-tu-ú-tu*$_4$ / $^{(8)}$ 2ʿ9ʾ ^{ʿkuš}[*ḫa*]-ʿ*am*ʾ-*ba-na-tu*$_4$ / $^{(9)}$ ^{kuš}*me-š*[*e-e*]*n* [*pe*]*-tu-*ʿ*ú*ʾ / $^{(10)}$ ^{kuš}*me-*ʿ*še-en*ʾ *ḫa-am-ba-nu-tu*$_4$ / $^{(11)}$ *a-na* ^{l}*šá-*^{d}nà-*šu-ú*").

term (*me*)*šēnu* is generic and covers different types of shoes. An adjective is sometimes added to specify the category of footwear. For instance, the lexical list Ur_5.ra-*ḫubullu* XI: 117–122 records several categories of *šēnu* shoes, including tawed (*riṣitu*), open (*paṭirtu*), large (*rabītu*), small (*ṣeḫertu*), those for soldier/worker contingents (*ša kiṣri*), and for women (*ša sinnišāti*).[21]

References to open shoes (*mešēnu petûtu*) are found in Neo-Babylonian archival texts. They are delivered to the Ebabbar by a craftsman in the text BM 64116: 1–2 (= Bertin 2934), dated to Nebuchadnezzar II reign (566 BCE) and they are given as travel provisions to soldiers at Sippar (CT 55, 785: 3; BM 61206: 1 quoted by Janković 2008: 453; BM 79658: 7 and 9 = Zawadzki 2003, no. 1) and Uruk (GC 1, 405: 20).

No text describes the aspect of these open shoes. Bojana Janković suggested it could have been sandals used as summer footwear, in contrast to closed winter shoes, and supposes that it explains why soldiers sometimes received two pairs.[22] The use of "open" perhaps means that the standard (*me*)*šēnu* were closed shoes.

1.3 The shoes of Hamban

Another type of shoes is recorded in Neo-Babylonian texts: the *mešēnu ḫambanūtu*, shoes of Hamban type. The word *ḫambanūtu* appears during the Neo-Babylonian period.[23] Hamban is a territory in western Iran attested in the cuneiform documentation since the Kassite period.[24]

The (*me*)*šēnu ḫambanūtu* are attested in texts from Uruk (PTS 2516: 2 = Joannès 1987; GC 1, 405: 16?, 18, 19; GC 2, 169: 1; GC 2, 398: 10); and Sippar (BM 79658: 8, 10 = Zawadzki 2003, no. 1; CT 55, 785: 4 ; CT 56, 23: 3; CT 56, 556: 4; CT 56, 650). Sometimes, the term *ḫambanūtu* appears alone.[25] As the *mešēnu ḫambanūtu* and *ḫambanūtu* appear in the same context (provisions delivered to soldiers), Bojana Janković deduced that both spellings refer to shoes of Hamban type, even when *mešēnu* was omitted.[26]

[21] Landsberger 1959: 128–129.

[22] Janković 2008: 453–454.

[23] Salonen 1960: 20–26 proposes that the Sumerian é.ba.an read ha_x.ba.an would be the equivalent of the late Akkadian term *ḫambanūtu*. But this hypothesis was considered unlikely (Postgate 1970: 444–445 with bibliography).

[24] Lewine 1972/75: 71 and bibliography; Zadok 1985: 145. Members of the *bīt Hamban* tribe appear in Post-Kassite Babylonia under Babylonian rule according to Brinkman 1968: 232 and 248.

[25] BM 79658: 8 "2ʳ9 ^{kuš}ʾ[*ḫa*]-ʳ*am*ʾ-*ba-na-tu*$_4$" (= Zawadzki 2003, no. 1); CT 56, 23: 3 "8 ^{kuš}*ḫa-am-<ba>-na-tu*$_4$"; CT 56, 556: 4 "^{kuš}*ḫa-am-ba-nu-tu*$_4$"; CT 56, 650: 8 "*ḫa-am-ba-na*-[…..]"; GC 1, 405: 19 "2 ^{kuš}*ḫa-am-ban*^{me}"; GC 2, 169: 1 "^{kuš}*ḫa-am-ban-ú-a-a-ta*"; GC 2, 398: 10 "ʳ6?ʾ ^{kuš}*ḫa-am-*[*ban*]".

[26] Janković 2008: 454. Furthermore, in the text BM 79658 (= Zawadzki 2003, no. 1), *mešēnu* is clearly implied on line 8: "(7) 29 pairs of open shoes, (8) 29 pairs of ^{kuš}*ḫambanūtu*, (9) one pair of open shoes, (10) one pair of ^{kuš}*mešēnu ḫambanūtu*".

The shoes of Hamban are recorded only in travel provisions for soldiers and workers in Babylonian temples. These boots in particular were given to soldiers engaged in long distance expeditions. Two texts document the use of Hamban shoes by soldiers sent to Tyre under the rule of Nebuchadnezzar II: PTS 2516 (= Joannès 1987) from Uruk and BM 79658 (= Zawadzki 2003, no. 1) from Sippar.[27]

The precise location of Hamban is unknown.[28] According to Karen Radner, the Assyrian province of Bīt-Hamban was located to the south of Parsua, where the Diyala river leaves the Zagros, along the Great Khorasan Road, the future Silk road.[29] The conquest of the region by Tiglath-Pileser III (744 BCE) increased contacts between the Assyrians and the Medes who settled in the area, and secured for the Assyrians horse supplies from Media.[30]

On Neo-Assyrian reliefs, the Medes are represented wearing high-laced boots (Fig 1).[31] The same kind of shoes were also adopted by Assyrian soldiers on foot or on horseback (Fig. 2). They were certainly adapted to fight and offered good leg protection. The following text from Sippar, dated to Neriglissar's reign (559–556 BCE), seems to indicate that the shoes of Hamban could be worn for riding a horse or a mule:[32]

> "[x si]lver for 8 bags, [x si]lver for 2 saddleclothes, [x si]lver for 8 *ḫambanūtu*- (pairs of shoes), [……] 4 *sūtu* of oil / [……] 2 *sūtu* of cress (…)."

Craftsmen of the Eanna temple received the *ḫambanūtu* to work on them (GC 2, 169: 1–4; GC 1, 227: 1–2), but there is no sign of temple craftsmen making and delivering them, contrary to open shoes (BM 64116 = Bertin 2934). Therefore, the shoes of Hamban were perhaps bought by the temples on the market. Some texts show that in Babylonia, shoes of Hamban could be bought for silver (GC 1, 405: 19, 1/3 of shekel; CT 56, 23: 3 [x] silver). There is no evidence that these shoes were imported from Media, they could also have been made in Babylonia in the style of Median footwear.

It is interesting to note that in Herodotus' Histories, his description of the Babylonian costume speaks of a specific kind of boots:[33]

[27] Joannès 1987, Zawadzki 2003, Kleber 2008 (on Ṣūru and Tyre) and Kleber 2019 (on the relations between Tyre and Mesopotamia, with previous bibliography).

[28] Lanfranchi 2003: 81–82; Lewine 1972/5 suggested that, while its localisation is uncertain, it could be located in the vicinity of Šāḫabād Garb or Sar Pol-i-Zohāb.

[29] Radner 2003: 57; Radner 2013: 443.

[30] Radner 2012.

[31] Examples on the reliefs AO 19887 and AO 19887 from Khorsabad, Louvre Museum, mentioned by Radner 2012.

[32] CT 56, 23: 1–5 "(1) […… kù].babbar *šá* 8 ˹kuš˺*nu-ú-ṭu*^{meš} / (2) […… kù].˹babbar˺ *šá* 2 *ú-ka-pi-e* / (3) […… kù.babbar] ˹*šá*˺ 8 ^{kuš}*ḫa-am-<ba>-na-tu*$_4$ / (4) [……] ˹x x˺ BI 4 bán *šam-ni* / (5) [……] ˹2 bán˺ *saḫ-le-e*".

[33] Herodotus, *Histories* I 165.

> "The dress of the Babylonians is a linen tunic reaching to the feet, and above it another tunic made in wool, besides which they have a short white cloak thrown round them, and shoes of a peculiar fashion, similar to the Boeotians *embades*."

The *embades* are, in classical Greek literature, a sort of boots that cover the feet and legs, worn especially by soldiers and horsemen.[34]

2. Techniques of Temples' Craftsmen

2.1 The leatherworkers in charge of making shoes

In Babylonian temples, leatherworkers, *aškāpu* (^{lú}ašgab) were responsible for making shoes. According to the prosopography of leatherworkers in the Ebabbar temple of Sippar (Bongenaar 1997: 397–399 and 411–415), craftsmen who delivered large quantities of shoes to Ebabbar were leaders of craftsmen teams. Šamaš-ana-bītišu and Nabû-iddina led the leather work at Sippar, the first under Nebuchadnezzar II and the second under Neriglissar, Lābāši and his helper Murānu under the reign of Nabonidus, and Kinūnaya under the reign of Darius.[35] These craftsmen were not specialized only in making shoes, they performed other tasks for the temple. At Uruk, leatherworkers worked in teams like other craftsmen. For example, text YOS 7, 4:14 from Uruk dated to Cyrus' reign (538 BCE), records beer rations for a group of leatherworkers. It is probable that one of them was also responsible for the work before the temple authorities. One man can be identified in relation with shoe-manufacturing for the Eanna temple: Šamaš-ibni, *aškāpu*. He received materials for making shoes in the texts GC 1, 227 and GC 2, 169 dated to the 41st year of Nebuchadnezzar II reign (564 BCE).

It is difficult to know if the shoes were made by the craftsmen on a regular basis or on special occasions. The impression is that the temple ordered shoes from the craftsmen for specific purposes, especially military expeditions, and not to supply a stock or distribute annual rations. In the example quoted above, the work of Šamaš-ibni coincides with the sending of supplies and equipment to soldiers at Tyre (Zawadzki 2003, no. 1 and no. 2). In the 15th year of Nabonidus (541 BCE), more than 56 pairs of shoes were made by the leatherworker Lābāši for the archers of the Ebabbar who were going on an expedition outside Sippar (BM 63917 = Bertin 1585 = Bongenaar NABU 1993/41). Shoes were often ordered in large quantities by the temple of Sippar from the craftsmen.

[34] See Dercy's (2015: 94–95) study of *embades* with all the references to the occurrences of the term in Greek literature.

[35] See the prosopography of Bongenaar 1997: 411–415.

Fig. 1. Median tribute bearer, Khorsabad Palace, *ca*. 710 BCE.
Detail of a wall panel, Louvre, AO 19887 (picture reproduced with courtesy of the curator of the *Antiquités Orientales du Musée du Louvre*).

Fig. 2. Assyrian horse rider, Nineveh Palace, *ca*. 645 BCE.
Detail of a wall panel, Louvre, AO 19902 (picture reproduced with courtesy of the curator of the *Antiquités Orientales du Musée du Louvre*).

For example, 18 pairs in BM 75181 (= Sack Ner 94), and 45 pairs in BM 64116 (= Bertin 2934), destined to the soldiers sent to Bēl-šar-uṣur.

The working raw materials given to leatherworkers to make shoes are called *(i)simmānu*. For example, the text Dar 4: 8–10 from Sippar dated to Darius reign (521 BCE) reads: "[x] shekels of silver for the working materials (*simmānu*) of the shoes of the bowmen, were given to Kinūnaya the leatherworker".[36] These working materials entrusted by the temple administration to craftsmen were carefully recorded on the account of these workers, as the following undated text from Sippar illustrates:[37]

> "[x] shekels of silver which (was) for 40 leather quivers counted against the account of Murānu the leatherworker – he has not given (them); (it is) counted towards the working materials for the shoes for the archers against the account of Murānu."

2.2 The preparation of the skin

The text BM 63917 (= Bongenaar 1993) quoted above describes what these materials were:[38]

> "Working material on behalf of the archers given to Lābāši, the leatherworker: cow-hides, madder (*ḫūratu*) and alum (*gabû*), from this, 50 pairs of shoes."

The leatherworkers received animal hides. The type of skin given to leatherworkers for making shoes was cowhides *gildu* (plural: *giladu*).[39] The hides of cattle (cow, ox, calf) were certainly preferred for making footwear because they provide a more solid and thicker leather than small animal hides.[40]

The transformation of the skins into leather is complex but can be summarized in three main steps. First, the skin is prepared by washing and removing flesh and hair. Then, it is transformed into leather to make it rotproof. Different techniques were used for this purpose in antiquity, and it is not clear if all of

[36] "(8) [x g]ín kù.babbar *a-na si-ma-nu-ú* / (9) ˹*šá me-e*˺-*še-e-nu šá* lú$erin_2$meš *šá* gišban / (10) *a-na* I*ki-nu-na-a-a* lúašgab sì-*na*".

[37] BM 64112: 10'–14' (= MacGinnis 2012, no. 32 = Bertin 2932) "(10') [x] gín kù.babbar *šá a-na* 40 kuš*til-lu* / (11') [*a-na* ug]u I*mu-ra-nu* lúašgab *ma-nu* / (12') ˹*ul id-din*˺ *a-na si-im-ma-nu-ú* / (13') ˹*šá*˺ *me-e-še-e-nu šá* lúerínmeš *šá* gišban / (14') *a-na* ugu I*mu-ra-nu ma-nu*".

[38] BM 63917: 1–4 (= Bongenaar 1993) "(1) [*s*]*i-im-ma-nu-ú šá a-na* lúerínmeš *šá* gišb[an *a-na*] / (2) I*la-a-ba-ši* lúašgab sì-*na* kuš*gi-l*[*a-du*] / (3) *ḫu-ra-tu, ù* na4*gab-bu-ú ina lì*[*b-bi*] / (4) 50 [kuš*me*]-*e-še-nu*!".

[39] AHw p. 286 "Haut"; CAD G: 71, "hide". The translation cow skin comes from a tablet from Sippar published by Pinches 1893: 190–191; see Stol 1983: 528 and Bongenaar 1997: 397. Cow skins are used to make shoes according to the temple archive: BM 63917: 2 (= Bongenaar 1993); BM 75181: 1 (= Sack Ner 94 = Bongenaar 1997: 398, n. 347); and also in CT 56, 10: 2; CT 56, 18: 12. The *ṣallu* skin is also used for footwear according to a letter but the sender complains about his shoes (CG 2, 397: 7–9).

[40] In the Greek and Roman periods, the most common animal skin used for making footwear was also bovine skin. Dercy 2015: 85–86. Heckenbenner 2004: 11.

them were known in Mesopotamia.[41] The last step of leather preparation is currying, which consists of stretching and burnishing the skin to make it supple.

The Neo-Babylonian texts that deal with the manufacturing of shoes do not detail the techniques of the craftsmen. The purpose of the scribes was to record the valuable materials they received from the administration and the finished products they delivered. Nevertheless, information on techniques can be deduced from raw materials. Leatherworkers received alum and madder to make shoes.[42] The technique used for the skin preparation was therefore tawing (in French, *le mégissage*). It is a tanning technique that uses alum, a mineral salt. The tanning preparation also contains salt, flour, oil and ashes which explains the presence of barley and oil among the materials given to Lābāši.[43]

Although nowadays this technique is mainly known for the treatment of small animals (sheep and goats), it was used in antiquity for all types of skins. The technique is faster and easier than vegetal tanning. It makes leather flexible but not completely waterproof.[44] Alum was imported from Egypt to Mesopotamia. It is not only a tanning agent but also a mordant for dyes. The materials given to Lābāši show that leather was dyed with madder (*ḫurātu*).[45] The leather produced was orange-red, and Babylonian soldiers therefore wore colored shoes. The garments received by the Babylonian soldiers do not usually carry any mention of color. However, *šir^{2}am*-jerkins dyed in red appear in the text Nbn 661 (Sippar, 543 BCE), in a list of equipment for soldiers.[46] In the text BM 63899 (= Zawadzki 2013, n°534), a high quantity of madder, 2.5 talents (75 kilograms), is given to a craftsman to dye ^{túg}kur.ra garments. These occurrences are indications of the presence of the color red not only on the shoes but also on the clothing of the garments worn by some Babylonian soldiers. This offers a glimpse into the color of military uniforms.

Tawing is attested in Mesopotamia since the Sumerian period in texts dated to the Ur III period.[47] It should be noted, however, that in antiquity, different tanning techniques could be used for the same object. For example, Roman shoes had alum-tanned uppers and vegetal-tanned soles.[48] According to Joann Scurlock (2008) vegetable tanning was also known in Mesopotamia.[49]

[41] These techniques are: the chamoising/chamoisage (preparation of the skin with oil); the tawing/mégissage (alum); vegetal tanning/tannage végétal (gallnut, sumac, pomegranate peel and other vegetals rich in taning agents). See Scurlock 2008 for a discussion on the techniques used in Mesopotamia.

[42] BM 63917: 1–4 (= Bongenaar 1993) quoted above.

[43] Camb 155; CT 55, 359; CT 55, 366; CT 56, 13.

[44] Halasz-Csiba 2002: 396.

[45] On the identification of the word with madder see Stol 1983: 530.

[46] Nbn 661: 5–6 "$^{(5)}$ ^{túg}*šir*$^{?}$*-a-am* / $^{(6)}$ *šá ta-bar-ri*."

[47] The use of alum and madder to make leather is mentioned in the texts of Umma (Sigrist 1981: 144–145) as well as in the archive of Isin (Van De Mieroop 1987: 30–31) and Mari (Joannès 1984: 143–144).

[48] Heckenbenner *et al*. 2004: 8.

[49] Scurlock 2008: 173–175.

2.3 Cutting and assembling

Cow skins used to make shoes can be of different sizes, as seen in the text Camb 71: 4–6 from Sippar (529 BCE) and which lists small (tur, *ṣeḫru*) and large (gal, *rabû*) cow-skins *gildu*. The Akkadian term *šidipu*/*šidapu* may refer to pieces of leather prepared to make shoes, according to a suggestion by Arminius Bongenaar (1993: 398).[50] The following text from Sippar, undated, reads:[51]

> "1 cowhide-*gildu*: 28 *šidipu*,
> 2 cowhides-*gildu*: 38 *šidipu*,
> for 18 (pairs of) shoes."

From 3 hides, 66 *šidipu* were made, probably of different sizes, then were transformed into 18 pairs of shoes. An average of six pairs were made per hide, with 1–2 *šidipu* pieces per shoe.[52] It is possible that these *šidipu*-pieces of skin were cut again to make the different parts of the shoe. Indeed, in the text GC 1, 227 from Uruk, dated to Nebuchadnezzar II's reign (564 BCE), "11 *šidapu* for 11 (pairs of) shoes" are listed,[53] which means that a *šidapu* had to be cut in two parts or more to make the two shoes.

These different pieces of leather had to be assembled together. The leatherworkers made glue (*šindu*/*šimtu*)[54] by melting animal skins, especially cowskins. For example, text CT 56, 18 from Sippar (date lost) reads: "12 minas (weight of) one cow skin-*gildu*, given to Šamaš-ana-bītišu, the leatherworker for (making) glue-*šindu*".[55] The texts only document the use of this glue by carpenters, for instance in text FLP 1548 from Uruk, dated to Nebuchadnezzar II (569 BCE): "1 1/2 mina of glue (*šindu*) are at the disposal of Nabu-zēr-iqīša,

[50] AHw p. 1230 *šidāpu* "Leder Art"; CAD Š/II: 402, *šidapu* "a type of leather". The *šidapu*/*šidipu* are attested in BM 75181: 2 and 4 (Sack Ner 94 = Bongenaar 1997: 398, n. 347) "*ši-di-ip-š*[*ú*?]"; VS 6, 317: 9 "^{kuš}*ši-da-pu*! (copy: *mu*)"; GC 1, 227: 1 "⌜^{kuš}*ši-da-pu*⌝"; GC 2, 169: 2 "^{kuš}*ši-da-pa*". CT 56, 10: 1 is perhaps a different word, the *šiddu* curtain.

[51] BM 75181: 1–5 (Sack Ner 94 = Bongenaar 1997: 398, n. 347) "(1) 1-*en* ^{kuš}*gi-il-d*[*u*] / (2) 28 *ši-di-ip-š*[*ú*?] / (3) 2-*ú* ^{kuš}*gi-il-du* / (4) 38 *ši-di-i*[*p-šú*?] / (5) *a-na* 18 *me-še*-[*e-nu*]".

[52] Umma texts mention 10 pairs of shoes made from one cow hide (Sigrist 1981: 174).

[53] GC 1, 227:1–2 "(1) 11 ^{kuš}⌜*ši-da-pu*⌝ / (2) *a-na* 11 ^{kuš}e.sír".

[54] AHw p. 1238 *šimtu*(*m*), *šindu* meaning 1: "Farbe, Anstrich"; CAD Š/III: 9–10, *šimtu* (*šindu, simtu*) 1 "paint, glue, varnish". The translation glue for *šindu* spelled *ši-in-du* in Neo-Babylonian was accepted by Bongenaar 1997: 399. See also van Driel 1993: 241 and n. 138. At Mari, the term še.gín/*šimtum* has also been interpreted as a material used by leatherworkers of carpenters as glue or varnish. But at Mari, this glue seems to be vegetal in nature. (Durand 1983: 377–380).

[55] CT 56, 18: 1–4 "(1) 12 ma.na 1 ^{kuš}*gi-il-*⌜*du*!⌝ (copy: lu?)/ (2) ⌜*a*⌝*-na ši-in-du a-na* / (3) ^{Id}utu-*a-na-é-šú* / (4) ^{Id}ašgab sì-*na*". Other examples from Sippar, CT 56, 11: 1–2 "1 talent of cow skin-*gildu* for glue-*šindu* (*ši-in-du*)"; CT 56, 12: 1–2 "38 cow skins-*gildu*, 4 talents their weight, for glue-*šindu* (*ši-in-di*)"; and Uruk, YOS 17, 65: 1–2 "30 talents of cow skins-*gildu* for glue-*šindu* (^{kuš}*ši-in-du*)". On *gildu* and ^{kuš}tab.ba see Jursa 1994: 206–207.

the carpenter, for work".[56] In pre-industrial craft, glue made of cattle skins was used as paint or varnish for wood. Even if glue was used by leatherworkers to reinforce shoes, the main way to fix the different pieces of leather was sewing, using solid threads of flax, sinew or fine leather straps.[57] This step is not documented in Neo-Babylonian texts, but it is well attested in the archives of Umma and Mari.[58] Text CT 56, 13 from Sippar, dated to Nabonidus' reign (546 BCE), records materials given to the leatherworker for tawing, and linen (gada, *kitû*) given to a mender (^{lú}túg.kal.kal, *mukabbû*) for doing repairs on objects that are not mentioned in the text. The finishing work (cutting, lacing, decoration) is not documented.

The temple craftsmen did not seem to make the shoes bespoke. They probably prepared shoes of different sizes which were then distributed accordingly. An undated letter from Uruk reflects the problems that could be caused by sending the wrong size shoes: the sender angrily writes "The shoes he gave me are too small for my feet!".[59]

3. The Distribution of Leather Shoes

3.1 The price of a pair of shoes

A text from Sippar mentions the price of a pair of shoes (*mešēnu*): Nbn 566 gives the following price in an acknowledgement of debt dated from the reign of Nabonidus (544 BCE) "four shekels of silver, in proportion of five for one shekel of silver", that is to say 1/5 shekel for the pair.[60] Tablets from Uruk also contain information on the prices of leather shoes. NBC 4787, a sealed private account from Uruk without date, lists sums of silver received by the writer's partner, including "1/2 shekel from/in the form of shoes which […]".[61] The number of shoes is not stated. In YOS 19, 228, also from Uruk (604 BCE) and which enumerates travel supplies, two shekels of silver are given as the value of four pairs of shoes and two leather bags (*nūṭu*). The text GC 1, 405 from Uruk (551 BCE) lists travel supplies (*ṣidītu*) given to two men. Instead of two pairs of shoes of Hamban type, they received the sum of two third shekels of silver, probably to buy shoes themselves. Therefore, the value of one pair of

[56] FLP 1548: 1–3 "$^{(1)}$ 1 1/2 ma.na *šin-du* / $^{(2)}$ *ina* igi ^{Id}nà.numun.ba-*šá* / $^{(3)}$ ^{lú}nagar *a-na dul-lu*"; at Sippar see CT 56, 16 : 1–3; CT 56, 19: 1–3. In Umma texts, the glue še-gín was made by heating the hides (Sigrist 1981: 158–159). It was also given to carpenters, as in Neo-Babylonian texts.

[57] Heckenbenner *et al*. 2004: 7 and 16.

[58] Sigrist 1981: 163; Joannès 1984: 144.

[59] GC 2, 397: 7–9 "$^{(7)}$ ^{kuš}*me-še-nu ki-i* / $^{(8)}$ *id-di-nu* ˹*al*˺-*la* gìr^{II}-*ía* ˹x˺ / $^{(9)}$ *qal-la-la*."

[60] Nbn 566: 8–10 "$^{(8)}$ 4 ^{kuš}*me-še-e-nu* / $^{(9)}$ *ki-i pi-i* 5 *a-na* 1 gín / $^{(10)}$ kù.babbar."

[61] NBC 4787: 4 (= Jursa 2010: 632, n. 3346) "1/2 gín *šá* ^{kuš}e.sír *šá* UD x."

shoes of Hamban type was evaluated at one third shekel of silver, a higher price than the simple *mešēnu* pair of shoes valued at one fifth of a shekel. These prices probably did depend on the type of shoes, their quality, state (new or old), and many other parameters. These examples give an order of magnitude and can be compared with the monthly salary of a worker: around 2 to 3 shekels of silver under the reign of Nabonidus.[62]

As a comparison, the *Edict of Diocletian* (301 CE) gives several maximum prices for different types of shoes. The more expensive pair, the *calcei* of the Patricians, is worth 150 denarius. The cheaper *taurinae* sandals for women made of ox hide was worth 30 denarius.[63] The daily salary of a fed farm worker was 25 denarius.[64] It is interesting to see that the price varies not only according to the style of the shoes but also according to its owner, as the *Edict* always specifies for whom the footwear is intended.

3.2 Shoes distributions in temples

The shoes made by craftsmen who worked for the temples were made for specific purposes. Bojana Janković and Bruno Gombert have shown that leather shoes were part of the equipment given to soldiers that had to travel.[65] The comfort and solidity of leather make it suitable for this use. Each man received one or two pairs a year.[66] The army was an important consumer of leather, a material needed to make tents, quivers, horse or donkey harnesses, shoes, bags and waterskins.

On occasions, workers also received shoes. The text CT 55, 69: 3 from Sippar, dated to Nabonidus' reign (544–543 BCE), lists leather shoes among the allocations of farmers (^{lú}engar.meš). As they also received food supplies (oil, cress, dates, salt) called provisions (*ṣidītu*), it is likely that they were going to travel.

Shoes did not belong to the usual clothing rations given to temple workers. These rations contained, most of the time ^{túg}kur.ra or wool. Nevertheless, exceptionally, leather or skins might be intended for dressing. The text Camb 18 from Sippar (529 BCE) reads: "50 skins, (for) the clothing, Nabû-zēr-ukīn delivered to the Ebabbar, the skins were given to Lābāši-Marduk."[67]

[62] Jursa 2010: 812.

[63] *Edict of Diocletian* IX (on footwear). According to this document, the "Babylonian sandals" was worth 120 denarius, which interestingly shows the value attributed to Near Eastern style of shoes under the Roman Empire.

[64] Heckenbenner *et al*. 2004: 23.

[65] Janković 2008: 452–454; Gombert 2018: 127–130.

[66] Usually two pairs at Uruk, one pair at Sippar according to Janković 2008: 453.

[67] Camb 18: 1–2 "$^{(1)}$ 50 kuš *lu-bu-uš* ^{Id}nà.numun.gin *a-na* / $^{(2)}$ é.babbar.ra *it-ta-din* kuš^{meš} *a-na* ^{I}*la-ba-ši-*rd*šú*⌝ sì-*na*."

3.3 The making and consumption of leather shoes in Babylonian cities

Most of the information about leather craftsmen comes from the temples and concerns the individuals who worked for sanctuaries. However, apprenticeship contracts show the existence of independent leather workers in Babylonian cities.

According to the apprenticeship contract BM 40743 (= *AfO* 52: 86, no. 8) from Babylon, dated to the reign of Xerxes (521 BCE), a woman, ^{f}Abi-raḫim places her son Šalammānu in an apprenticeship with a specialised craftsman for 6 years to learn leather work (*aškāpūtu*). This length of time is rather long compared to other professions documented in archives.[68] Šalammānu is apparently of free status, but the master, Paṭemun, is a slave with an Egyptian name, and the witnesses in the contract bear non-Akkadian personal names.[69] This attests to the presence of people of foreign origins in the milieu of Babylon's leather craftsmen.[70] In another apprenticeship contract from Babylon, Dar 457, from the Egibi archive (504 BCE), a woman, ^{f}Amat-Baba, gives her slave Ultu-pān-Bēl-lū-šulmu in apprenticeship to a leatherworker, himself a slave.[71] The master's compensation for teaching his craft is 10 pairs of shoes per year, suggesting a specialisation of this craftsman in the manufacturing of footwear.

Therefore, leather workers could be either of free or servile status, they took apprentices to teach them their crafts and some of them were specialised in making leather shoes. It shows that leather shoes could be bought by the population in shops in Babylonian cities.[72]

4. Conclusion

Babylonian texts help to clarify the terminology of objects – in this case, leather shoes – by observing the context in which they appear. They also contain clues about the techniques used by the craftsmen. The leather workers of temples knew the technique of tawing, using alum and madder dyeing. This technique is attested since the Sumerian period, which testifies to a remarkable continuity of know-how in the context of temple craftsmanship.

New leather objects appeared in the first millennium BCE, such as the Hamban shoes. There were probably high boots, inspired by Median horse-riding

[68] Hackl in Jursa 2010: 700–725.

[69] Hackl 2011, n° 8; Hackl and Jursa 2015: 178 (on Paṭemun).

[70] The presence of craftsmen of foreign origin in Babylonia was also noticed by Pedersén 2005, among the personnel of the palace of Babylon who received oil rations under Nebuchadnezzar II.

[71] Edition and bibliography on www.achemenet.com.

[72] On Babylonian shops, see Baker 2010.

footwear, and worn during long-distance travels on foot or horse/donkey back. The apparition of these shoes might have been a consequence of closer contacts with Elam during the Assyrian period. These boots were – according to the present state of the documentation – not made by temple craftsmen, but bought locally for distribution to temple soldiers.

Aside the craft production of the sanctuaries, independent leather workers practiced their profession in Babylonian cities, and one of their specialities was shoemaking. In contrast to temple craftsmen, we see through onomastics in apprenticeship contracts the presence of people of foreign origins, especially slaves, next to people bearing Akkadian personal names. This suggests the possibility of techniques and know-how transfers in the milieu of urban Babylonian craftsmen.

The data on prices show that leather shoes were accessible to the wealthy population. The texts available to us mainly provide information on the use of leather shoes by soldiers and workers, but the presence of urban artisans suggests that this type of footwear was more widespread among the population.

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BREAD PRODUCTION IN PRIVATE CONTEXT IN FIRST MILLENNIUM BCE BABYLONIA

ROSAURA CAUCHI*

"Eat the bread, Enkidu, the thing proper to life;
Drink the ale, the lot of the land."
(*The Epic of Gilgameš*, 96–98)

In the history of food, bread is certainly the most frequently-consumed foodstuff, uniting diverse cultures and people all around the world. Bread represents the dominion of man over nature and is a cultural *topos* and eternal allegory of life. The Italian expression "portare il pane a casa" – "bringing the bread home" – corresponds to the meaning of "earning" but also implicitly to the meaning of "eating". My first memory of bread is linked to my grandmother. When a piece of bread fell to the floor, she hurriedly picked it up, kissed it and said: "u pane è grazia di Diu" – "bread is God's gift". She was Sicilian, and in Sicily respect for bread is sacred. The bread is never placed upside down, because it brings bad luck, you must not skewer it with a knife because it is disrespectful, and if it fell to the ground and you could not eat it anymore, you had to hurry and pick it up to prevent anyone from stepping on it.[1] Each country and each city boasts dozens of different types and qualities of bread, differing in their dough, shape, leavening or cooking time, and there are infinite names that are given to them in order to distinguish them from each other. Equally numerous are the "votive" or festive loaves, specially prepared for certain patronal feasts, with the precise intent of protective symbolism. Similarly, in the Near East, the ancient and modern words for "bread" are used as a generic term for "food", and bread was and is still today of fundamental importance in people's lives. Bread was consumed by all members of ancient Near Eastern society, rich and poor, and was offered to the gods. The importance of bread

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[1] Pitrè 1889.

in the ancient Near East is well documented,[2] but the individuals who produced the bread are either only poorly documented or not at all. Who were the "private"[3] bakers in Babylonia of the first millennium BCE, in which context did they operate and what exactly did they produce?

The aim of this paper is to answer these questions, drawing on philological, iconographical, and archaeological sources in an interdisciplinary approach in order to enhance our understanding of one of the most basic and yet important aspects of daily life in Mesopotamia. Furthermore, hypotheses on the level of bread production and its market value will be presented.

1. Bread Production in the Textual Sources of First Millennium BCE Babylonia

For the first millennium BCE, there is some information regarding bakers in institutional contexts,[4] but these are not relevant for the study of bread production for daily use and for consumption by ordinary people. The temple bakers we hear about were priests or prebend holders whose presence and work were required for the purpose of daily worship as one of the principal "purveying trades" besides brewers and butchers.[5] The principal activities of prebendary bakers documented in our sources are milling, selecting flour, baking and presenting offerings to the gods.[6] They had to transform raw into finished products fitting for divine consumption. In exchange for these activities, they received several types of income: payment in dates or barley called *pappasu*, the remains of offerings, excess raw material used for the preparation of offerings and the division of meat of sacrificed animals.[7] The pertinent documentation, while abundant, is not representative of bread production and the baker's trade beyond the realm of the cult, to which we now turn. This subject is both less well documented and less well researched.

The overarching theme of this article is bread production in private contexts, with a special focus on its main actors and agents. First, we will investigate and try to understand who the bakers were, who carried out the main role in the *chaîne opératoire* of the production of bread. Furthermore, we will investigate the places where the production of bread took place (can we call them

[2] Balossi Restelli and Mori 2014: 38–56; Gaspa 2011: 3–22; Gaspa 2012; Grottanelli and Milano 2004; Milano 1989; Postgate 2015: 159–172.

[3] By private bakers we mean bakers who carried out their business in a non-institutional context.

[4] See Waerzeggers 2010; Still 2019: 116–126.

[5] van Driel 2002: 123–125.

[6] Waerzeggers 2010: 212f.

[7] Waerzeggers 2010: 235.

bakeries?), and which types of bread can be identified. Finally, the article will conclude with a short discussion on the economic value of bread and its potential market price.

2. The Bakers

Two categories of private sources in particular shed light on the social background of bakers without institutional affiliations: apprenticeship and house rental contracts.

In general, apprenticeship contracts, studied in detail by Mariano San Nicolò, Herbert Petschow and more recently by Johannes Hackl, as a genre, are few in number.[8] In total, the Late-Babylonian corpus consists of 35 texts and covers a chronological span of 370 years, beginning in 629 BCE and ending in 258 BCE.[9] Of these 35 texts, seven cover the apprenticeship of the baker's profession, *nuḫatimmūtu*.

The apprenticeship contracts formulary consists of standardized clauses, the combination of which depend on what the text intends to communicate.[10] These clauses provide us with different kinds of information on the apprentice bakers, for example, regarding their social status – in the *nuḫatimmūtu* contracts the bakers are all slaves[11] –, their level of specialization, the duration of their training and the remuneration they received during their training period. Sometimes we are even told whether they continued to be employed by their masters after the training period had ended.

Table 1: Apprenticeship contracts regarding the baker's profession

Text	Duration of training period	Date	City
Nbn 475	12 + [(x)] months	Nbn 20-IX-10	Babylon
TMH 2/3, 214[12]	17 months	Nbn 21-VI-x	Borsippa
Cyr 248 = BM 30952 (76-11-17, 679)[13]	16 months	Cyr 21-I-07	Babylon

[8] San Nicolò 1950; Petschow 1980/83; Hackl 2010; and Hackl 2011.

[9] Hackl 2010: 701.

[10] For a detailed description of the different clauses see San Nicolò 1950; Petschow 1980/83; and Hackl 2010: 703.

[11] In general apprentices are often either slaves or *širkus*, freemen are also attested (albeit not as bakers); see Hackl 2010: table 110.

[12] Edited in Joannès 1989: 141 (translation) and 225–226 (transcription). Note collation in Hackl 2010: 706 n. 3650.

[13] Hackl 2010: 702.

Text	Duration of training period	Date	City
BOR 2, 119 (= BM 114717)[14]	12 months	Dar I, 18-X-08	Sippar
Abraham 2004, no. 84 (= BOR 1, 83)[15]	15 months	Dar I, 15-XII-26	Babylon
BM 16656[16]	18 months	Dar II, 29-VIII-10	Babylon
BM 37939+37947[17]	2 years	Art II/III	Babylon?

THM 2/3, 214[18] from the Ea-ilūtu-bāni archive is a good example of a contract in which several of these informative clauses are represented in the same text:

> "Linūḫ-libbi-ilī, the slave of Zēr-Bābili, son of Nabû-šumu-iškun, descendant of Ilūtu-bāni, has been placed at the disposal of Nabû-rēmu-šukun, a baker slave belonging to ^{f}Uzbaḫu, for a period of [one] year and five months. He must teach him the baker's trade, his own craft, making bread, grounding from regular (flour) to the level (of proficiency) that he himself has attained in this trade.
> As soon as he trains him, a remuneration (*qīštu*) of [1? shekel] of silver will be considered his wage. If he does not train him, he must pay as compensation (*mandattu*) 1 *sūtu* of barley per day."
> Witnesses; Date; Linūḫ-libbi-ilī was at his disposal (beginning with) the 1st day of the (month) Duʾūzu.

This text gives information on the duration of the apprenticeship, which in this case corresponds to seventeen months. In the other *nuḫatimmūtu* contracts, the duration of apprenticeships ranges from twelve months to two years.[19] Our text also gives information on the social status of the master, his profession, and level of knowledge. From the text at hand, we know that he is a slave and a baker. Most of the master bakers were slaves (Table 2). The rest are free men or clerk (*šaknu*)?. Free men occur in two texts from Babylon (BOR 2, 119 = BM 114717 and Abraham 2004, no. 84 = BOR 1, 83). Only in one case, also from Babylon, the master is a clerk of Gūzānu, the chamberlain (*šaknu*? of Gūzānu, the *ustarbaru*) (BM 37939+37947).[20]

The phrase *kī ša šū lamdu,* translated as "to the level (of proficiency) which he himself has attained in this trade", is an indirect reference to the level of expertise attributed to the master.

[14] Hackl 2011, no. 7.
[15] Published in Abraham 2004: 360–361. Hackl 2010: 701 n. 3626 states that Abraham 2004, no. 84 (= BM 41442) is not a duplicate of BOR 1, 83, but rather the very same tablet.
[16] Hackl 2011, no. 9.
[17] Hackl 2011, no. 11.
[18] See n. 10.
[19] All of the apprenticeship contracts give only the duration of the apprenticeship with one exception, Cyr 248, which states the end of the apprenticeship as well. See Hackl 2010: 708.
[20] For more information on the reading of this line see Hackl 2011, no. 11, n. 10.

Table 2: Status of masters who taught the baker's profession

Status of master	Free	Slave	*širku*	*šaknu*?
Attestations	2	4	–	1

The contract was drawn up seventy-nine days after the slave had already been sent to learn the baker's trade. From this we might deduce that he had passed a trial period, after which the master was obliged to train the apprentice for seventeen more months.

In the document in question, a special form of remuneration was offered to the master for having invested time and effort in the teaching practice.[21] In this case, the payment of 1? shekel of silver is referred to as *qīštu* "gift".[22]

In the event that the master failed to fulfill his responsibilities in teaching the apprentice the right level of expertise as agreed to in the contract, he would have had to pay penalties.[23] In this case – since the apprentice was a slave – the master baker was obliged to pay a compensatory payment, called *mandattu*,[24] of 1 *sūtu* of barley per day.[25]

It is of special importance to note that this contract includes a detailed description of the skills the apprentice baker had to learn. Usually contracts simply use the terms full/complete (*qatû* and *gabbi*) to refer to the obligation of comprehensive training in the profession.[26] However, in TuM 2/3, 214: 6–7, learning how to become a baker included being able to "(make) bread, grind (flour) according to the rules (*ṭenû u sadru*)".[27]

Similarly, another *nuḫatimmūtu* contract, BM 16656, gives a detailed description of the craft of the baker:

> "Minû-ana-Bēl-dān, son of Bēl-bullissu, has, of his own free will, given Bēl-ēdu-uṣur, his slave, prisoner of war (*qallu ṣabtu*), the Egyptian, to Bēl-aḫu-ittannu the slave of Marduk-nāṣir, to learn the profession of baker, (including the production of) (traditional) bread (ninda.ḫi.a), long bread (*urāku*-bread) and Egyptian bread (ninda.ḫi.a *šá miṣir*), from the month 1 Kislīmu, year 10 (of king Darius II) (and) for a period of 1 year and 6 months."

[21] Fifteen texts attest the "honorarium" regarding the remuneration to the master in case he is successful in teaching the profession to the apprentice. See Hackl 2010: 711.

[22] Usually, these recompenses consisted of payments in silver (ranging from 1 shekel to 20 shekels) but in some cases clothes and shoes are also attested: see Hackl 2010: 711.

[23] Hackl 2010: 712.

[24] Dandamaev 1984: 379, translates *mandattu* as "quitrent" a term that refers to the rent paid in exchange for a service. On the *mandattu* see also Mendelsohn 1949: 70; San Nicolò 1950: 13; Petschow 1956: 108.

[25] Hackl 2010: 712.

[26] Hackl 2010: 708.

[27] For the interpretation of this line see Hackl 2010: 708 n. 3670. See also Joannès 1989: 226.

In some cases, some apprentices with a certain level of experience were trained in a more specialized way in order to enhance skills they already had. This is the case in Nbn 475, from which we can assume that the apprentice had already acquired some baking training, since he is designated as *nuḫatimmu* from the outset. In this text, we also have information on the social background of the apprentice baker. Bēl-ēdu-uṣur was an Egyptian *qallu ṣabtu* (prisoner of war), as indicated by the *gentilis* "*miṣiria*".

Other information on the social background of non-institutional bakers originates from house rental contracts, in some of which the baker rents part of a house that must have been some sort of bakery, in exchange for bread as rental payment.[28] These texts demonstrate how some bakers were running their business by renting a bakery and selling their bread. Here is an example from Babylon, text Nbn 499:[29]

> "The *asuppu*-outbuilding (of/and) the *kāru*-storehouse of the baker, belonging to Šušranni-Marduk, son of Marduk-šumu-iddin, descendant of Adad-šumu-ereš, Šarēd, the grandfather of Šušranni-Marduk rented it out to Bēl-ṣullê-šeme, the slave of Nabû-aḫḫē-iddin, descendant of Egibi, for 2 *qû* of bread daily.
> From the second day of Ayāru the *kāru*-storehouse is at the disposal of Bēl-ṣullê-šeme.
> Witnesses, scribe, Babylon, month Ayāru, first day, 11th year of Nabonidus, king of Babylon.
> The reed hut with *kāru*-storehouse with door-boards is at the disposal of Bēl-ṣullê-šeme."

Eleven of these texts come from Uruk, Borsippa and Babylon. Most of the tenants are free men. The rest are either slaves or *širku* (Table 3). Slaves occur in one text from Uruk (GC 1, 35), two from Babylon (Nbn 499 and BM 65288) and in one case the place is lost (VS 5, 145). Only in one case from Babylon is a *širku* attested (Camb 213).

Usually, the texts deal with one tenant and one landlord. Only two texts suggest the presence of two tenants per contract (BM 65288 and BM 82744) and one has two landlords (Dar 60). In two cases, the tenants were female, showing how women were also involved in the work system (BM 65288 and BM 82744).

Table 3: Status of tenant "bakers"

Status of tenants	Free	Slave	*širku*	?/[…]
Attestations	7	4	1	1

[28] Zawadzki 2018: 69–73.
[29] (76-11-16, 182); 1.II.11 Nbn, Babylon. Edited in Zawadzki 2018: 270 no. 111.

Generally, the bakers are those who rent part of the house, except for BM 96243, in which the landlords have the title of baker.[30] In TCL 13, 187, the part of the house to be rented belongs to the baker of the tenant.[31]

The information related to the social status of the bakers attested so far seem to show a majority of free men in house rental contracts, as opposed to the greater number of slaves attested in apprenticeship contracts. Considering these data, we can suppose that families owning slave bakers were probably in a relatively comfortable economic situation that allowed them to have the necessary space for the baker to carry out his activities as well as for his accommodation. On the other hand, independent bakers, who were free men, perhaps could not afford to own an independent space where they could practice their profession. It is precisely these rented buildings, used for preparing and baking the bread, which will be discussed in the following section.

3. The Bakeries

Attestations of bakers' workshops and their independent business activities can occasionally be found as circumstantial evidence in documents that have a different focus. For example, we learn in Cyr 119 (536 BCE) about a baker slave who owned a workshop as *peculium*:[32]

> "1 mina and 12 shekels of silver is owed to Bēl-uballiṭ, son of Iqīša, descendant of Ṣāhit-sattukki by Nabû-zēru-iqīša, son of Nabû-mukīn-zēri, descendant of Isinnāya. He shall pay on the 15th of month Tašrītu (VII). His slave, Ina-ṣilli-Bīt-Akītu, the baker, is the security of Bēl-uballiṭ. No other creditor can dispose of (the slave). From the fifth of month Abu (V) Ina-ṣilli-Bīt-Akītu, the slave of Nabû-zēru-iqīša, shall pay a fee (*mandattu*) to Bēl-uballiṭ to compensate for interest on silver. Mušallim-Marduk, son of Lābāši, descendant of Ša-nāšišu stands surety for payment. Mušallim-Marduk has received all of his credit that was due from Nabû-zēru-iqīša. Witnesses, scribe, Sippar (Cyr 04-V-03)."

The slave baker Ina-ṣilli-Bīt-Akītu was given on terms of antichresis for a loan, but instead of working for the creditor, the slave paid the creditor interest on the loan that his master had taken. Obviously, this baker had a bakery and paid the interest from the income of his shop.

More substantial evidence comes from house rental contracts involving bakers. These do not yield additional information on the baker himself apart from the social status, but they shed light on the place they rented, and the quantity of bread asked as rent.

[30] In BM 96243, Šaddinnu son of Balāssu of the Bēliya'u family is known as prebendary baker. See Waerzeggers 2010: 201–213.

[31] Obv. "(1) é *ka-a-ri šá* ^{lú}mu *šá* ^{1}*lá*-gál".

[32] Edited in Waerzeggers 2014: 178–179.

Table 4: House rental contracts in exchange for payment of bread

Text	Date	Payment	Building rented out	City
GC 1, 35[33]	Nbk 28.XI.22	bread	south house + *rugbu*-house	Uruk
Nbn 499	Nbn 1.II.11	bread	*bīt asuppi*+ *bit kāri* of baker	Babylon
BM 65288[34]	Nbn 27.VIII.11	bread + *mandattu*[35]	–	Babylon
Camb 213	Camb 15.XI.3	bread	?/[…]	Babylon
BM 82744[36]	Camb 15.X.[x]	bread	*idi kāri* ?	Bīt-Zēriya
BM 29291[37]	Cyr 8/7	bread	?/[…]	Borsippa
Dar 60[38]	Dar 9.1.3	bread	*bīt kāri*	Babylon
TCL 13, 187	Dar 5.IX.10	bread + *nūptu*[39]	*bīt kāri*	Babylon
BM 96243[40]	Dar 11.II.20	bread	*bīt kāri*	Borsippa
Abraham 2004, no. 86	Dar 19.IX.36	bread	*bīt kāri* + *rugbu* house	[…]
VS 5, 145	[…]	bread	*bīt kāri* + *bīt qāti*	[…]

In seven cases, the building rented out in exchange for payment in bread is the *bīt kāri*, conventionally translated as "storehouse", or small house in the harbor area of the city that was rented to slaves and workmen (for example, *bīt kāri ša* ^{lú}mu), mostly for payment in kind.[41] In two cases, along with the *bīt kāri*, the building rented out is the *bīt rugbi*.[42] The term *bīt rugbi* is rendered with

[33] Edited in San Nicolo and Petschow 1960: 43–44.

[34] Edited in Zawadzki 2018: 272, no. 113.

[35] In this case "^{f}Kabtiya, the daughter of Itti-Marduk-balāṭu and [DN]-šūzibanni, the slave of Munaḫḫiš-Marduk, from the first day of Kislīmu will deliver to the brother of ^{f}Kabtiya, Munaḫḫiš-Marduk, 1 *qû* of bread together with a compensatory payment (his *mandattu*): 8–9 1 sìla ninda. ḫi.a, ki ⌜*man-da*⌝*-at-ti-šú i-na-ad-din-nu*".

[36] Edited in Zawadzki 2018: 275, no. 116.

[37] Translation in Zadok 2009: 208, no. 467.

[38] Edited in Zawadzki 2018, no. 118.

[39] On the translation of *nūptu* payment see CAD N: 343 "additional payment"; Baker 2004: 55 "supplementary payment". For a more recent and elaborate discussion on the *nūptu* payment see Zawadzki 2018: 91–96.

[40] *Bēliya'u*, no. 187. The text is part of the archive of the prebendary baker Šadinnu, son of Balāssu, of the Bēliya'u family which will be edited in the near future by Joanna Wojciechowska (Poznań).

[41] See CAD K: 238 f. s.v. *kāru* A in *bit kāri* mng. 3; and AHw p. 45lb s.v. *kāru* mng. On the renting of such buildings, see Oppenheim 1936: 55f.

[42] On the renting of *rugbu* see Oppenheim 1936: 63f.

the word "loft" or "upper room".[43] In one case (VS 5, 145), the *bīt qāti* is rented together with the *bīt kāri*. The translation of *bīt qāti* is still uncertain. The general meaning is "storeroom"[44] but, in this case, I am more inclined to agree with of Mariano San Nicolò's interpretation of it being a "workshop".[45]

Regardless, all these places could be described as some kind of "store" or "storage" where the baker was either living, baking bread, storing flour, or selling bread. Unfortunately, all the terms used are too generic for any concrete classification. However, a building that actually could be considered a real bakery is the *bīt asuppi*, attested once in one of our rental contracts (Nbn 499). The *bīt asuppi* has been translated as "outbuilding situated in a courtyard".[46] The reason why the *bīt asuppi* can be considered being as close to a private bakery as possible lies in this unpublished text NCBT 899 (date 26.VII.Nbk 18):

1. *a-di* 5 mu.an.na^{meš}
   ^{Id}amar.utu-gar-mu a-*šú šá* ^{I}*ta-qí-šá-*^{d}*gu-la*
   ina é ^{f}*ḫa-ni-ni-tu*$_4$ dumu.mí-*šu*
   šá ^{Id}ag-kal é *šá* ^{I}šeš-*it-ta-ši*
5. ^{lú}mu *ina lib-bi a-su-up-pi-šú*
   ip-pu-ú uš-šab
   mu.an.na 12 gín kù.babbar
   i-di é ^{Id}amar.utu-gar-mu
   a-na ^{f}*ḫa-ni-ni-tu*
10. *i-nam-din* ^{lú}*mu-kin-nu*
R. ^{I}*na-din* a ^{lú}uš.bar
   ^{Id}en-šeš^{meš}-*su* a-*šú šá* ^{Id}en-dù
   a ^{I}dù-*eš*-dingir ^{I}gi-^{d}amar.utu
   a-*šú šá* ^{I}a-*a u* ^{lú}umbisag ^{I}*šu-la-a*
15. [a]-*šú šá* ^{I}*šá*-^{Id}ag-*šú-ú* a ^{lú}šu.ha
   tin.tir^{ki} iti.du$_6$ ud.26.kam
   mu.18.kam ^{Id}ag-níg.du-urù
   lugal tin.tir^{ki}

"(1) For five years, Marduk-šākin-šumi, son of Taqīš-Gula, will live in the house of ^{f}Ḫanīnītu, daughter of Nabû-udammiq; the house in whose *asuppu*[47] Aḫu-ittaši (5) the baker conducts his trade. Yearly, Marduk-šākin-šumi will give to ^{f}Ḫanīnītu 12 shekels of silver for the rental of the house. (10) Witnesses: Nādin, descendent of the weaver, Bēl-aḫḫēšu, son of Bēl-ibni, descendant of Eppēš-ilī (and)

[43] See CAD R: 422f.

[44] CAD Q: 200f.

[45] San Nicolò and Ungnad 1935: 177; cf. Oppenheim 1936: 63 for "handhouse".

[46] Baker 2015: 383–391. For a discussion on the meaning of the term see Oppenheim 1936: 60–63.

[47] For other mentions of the *bīt asuppi* see Del Monte 2000 (mentioned in one of the texts of the division of the houses in the district of Adab in Uruk during the Seleucid period); see also VS 5, 50 (= San-Nicolò and Ungnad NRV, no. 628 [calling for the construction of an outbuilding *asuppu* of unspecified size on the northern wing of a house]).

> Mušallim-Marduk, son of Aplāya, and the scribe Šulāya (15) son of Ša-Nabû-šū descendant of Bāʾiru.
> Babylon, 26.VII.18, Nebuchadnezzar king of Babylon."

The text clearly identifies the *bīt asuppi* as the place where the baker conducts his trade, in other words, bakes. Additionally, Nbn 499 tells us that the rent for the *bīt asuppi* had to be paid in bread. Combining the evidence from both texts, it seems quite reasonable to assume that the *bīt asuppi* was indeed a bakery. This would also fit very well with the ethnographic evidence from modern day Jordan, where the tabun or tannur is usually located outside the house in a dedicated oven room, which can be described as a "small structure built of mudbrick that protects the oven, its fuel, the associated tools and further equipment as well as the baker during the rainy season".[48]

Similar evidence is known from the archaeological record. From the 1st millennium BCE, fireplaces in outer buildings are attested in the courtyards (137, 110) of House A I (Fig. 1) and II (140) in Nippur (Fig. 2), House D in Uruk (Fig. 3) and House B (WC-2) in Nippur (Fig. 4).[49]

Concentrations of tannurs and dome ovens were found not only in courtyards of private houses but also in open, common spaces, such as squares and streets, located among the houses.[50] From the Old Babylonian period, we have the example of the bakers' square in Ur[51] and the so-called bakery of Nippur.[52] A private house, with three circular dome ovens, which was called 1B Baker's Square by Woolley, was found in Ur.[53] Large ovens of this type were probably used for large-scale baking.[54] In Nippur, a large Old Babylonian structure, House A, was excavated in area WB.[55] Administrative texts describing the receipt of flour and the disbursement of bread, along with the presence of several bread ovens, suggest that this structure was used as a private bakery.[56]

Another example of a bakery was excavated at the Iron Age site of Tell Deir 'Alla in Jordan (Fig. 5), where a couple of tannurs were found in close proximity to each other.[57]

[48] For the illustration of the traditional bread making activity in modern Jordan, see https://www.youtube.com/watch?v=up7nC_bVD3M&list=WL&index=30.

[49] See Baker 2015: 383.

[50] For an accurate overview of tannurs concentration and centralized bread production in different near eastern archeological sites, see Rova 2014: 121–170.

[51] Brusasco 1999/00: 78; Woolley and Mallowan 1976: 158–159.

[52] Gibson 1978: 59; cf. Stone 1987: 108.

[53] See Woolley and Mallowan 1976: 158–159, pl. 50.

[54] Reynolds 2007: 176 and Miglus 2003: 40.

[55] Gibson 1978: fig. 41.

[56] Stone 1987: 108.

[57] van der Steen 1991.

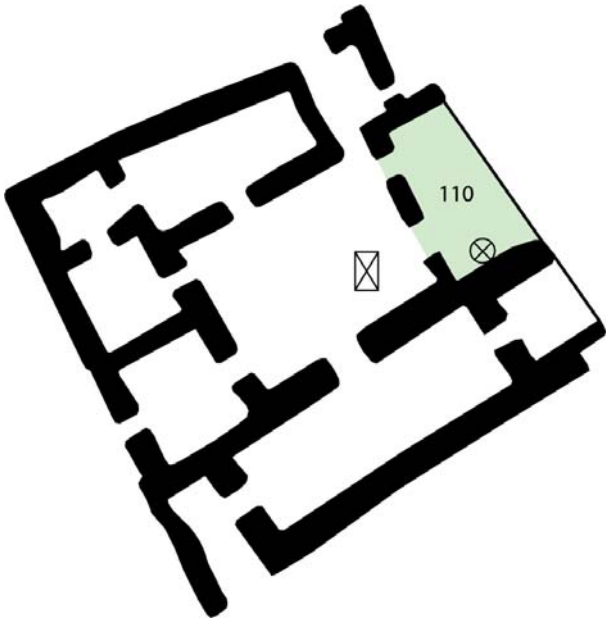

Fig. 1. Nippur House A (WC-2) layer II after Miglus 1999, Taf. 98 Abb. 434 (Illustration: D. Blattner).

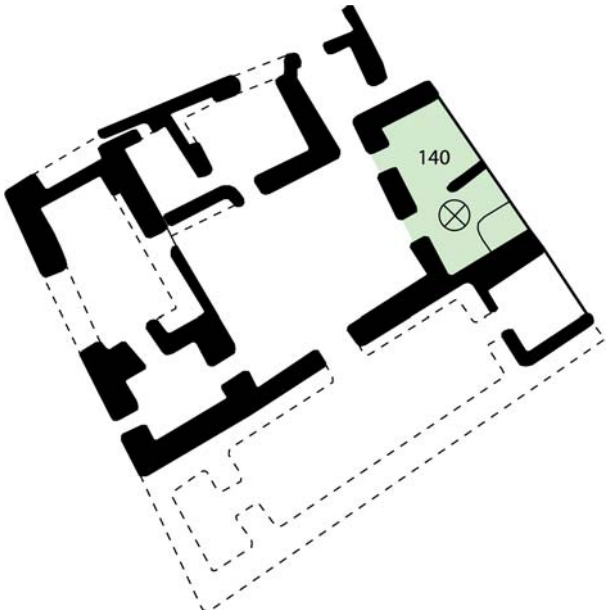

Fig. 2. Nippur House A (WC-2) layer I after Miglus 1999, Taf. 98 Abb. 435 (Illustration: D. Blattner).

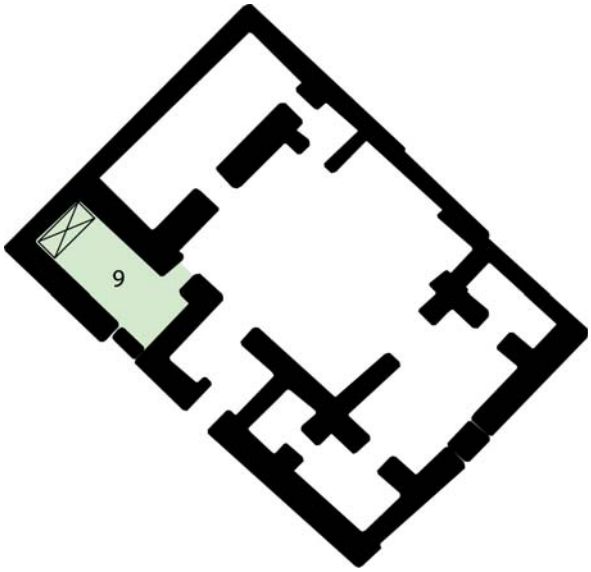

Fig. 3. Uruk House D (NdXVI4) after Miglus 1999,
Taf. 94 Abb. 414 (Illustration: D. Blattner).

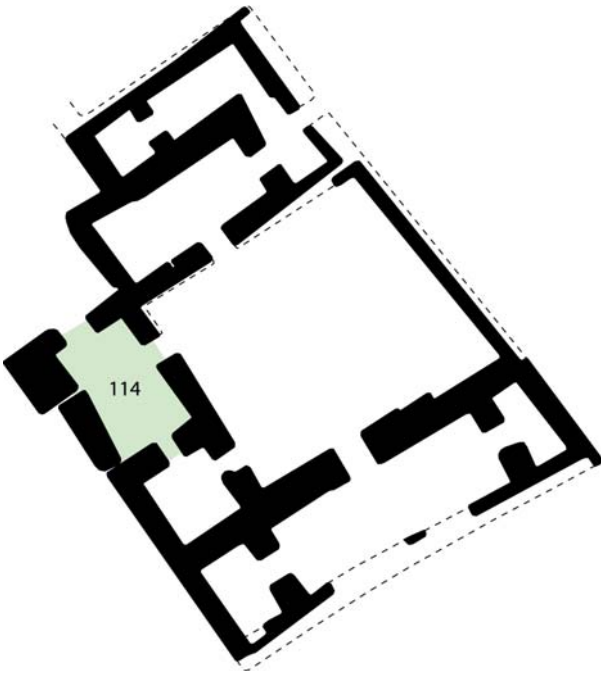

Fig. 4. Nippur House B (WC-2) layer II after Miglus 1999,
Taf. 94 Abb. 436 (Illustration: D. Blattner).

Fig. 5. Example of a couple of tannurs from Tell Deir ‘Alla;
van der Steen 1991, pl. I, 1.

In some cities of the Middle East “neighbourhood tannurs” are still in use today.[58] Families living in the vicinity of those privately-owned “bakeries” can take their home-made loaves of bread, transported on large table of wood, and give them to the baker to bake.[59]

4. Typology of Bread

Until now, we have investigated elements related to the identity of the bakers and to the place where the bakers produced and sold their products in private contexts. Two aspects still remain to be discussed: one related to the type of production (which kind of bread did they produce?), and one related to marketing. With regard to the type of bread production in a non-institutional context, philological sources do not fully discuss aspects related to the typology of bread *per se*. From the house rental contracts, it might be possible to identify the type of bread that was to be delivered by the tenants on a daily basis from the number of loaves.

[58] Rova 2014: 141.
[59] https://www.youtube.com/watch?v=SJvlrpEmORU&list=WL&index=7&t=181s.

Table 5: Quantity of bread paid as daily rent

Text	Date	Quantity of daily payment	City
GC 1, 35	Nbk 28.XI.22	12 loaves (*a-ka-lu*) + ½ shekel per year	Uruk
Nbn 499	Nbn 1.II.11	2 *qû*	Babylon
BM 65288	Nbn 27.VIII.11	1 *qû* of good quality bread	Babylon
BM 29291	Cyr 8/7	20 loaves + 4.5 shekels per year	Borsippa
Camb 213	Camb 15.XI.3	3 *qû*	Babylon
BM 82744	Camb 15.X.[x]	1 *qû*	Babylon
Dar 60	Dar 9.1.3	4 *qû*	Babylon
TCL 13, 187	Dar 5.IX.10	3 *qû* for making 6 loaves out of 1 *qû* of flour of best quality	Babylon
BM 96243	Dar 11.II.20	1 1/6 *qû* of flour for making 20 loaves (probably really small loaves)	Borsippa
Abraham 2004, no. 86	Dar 19.IX.36	4 *qû* (and) 1 *qû* 5… of outstanding quality	[…]
VS 5, 145	[…]	3 *qû* of bread	[…]

The quantity of bread that had to be paid as rent varied daily from 12 to 30 loaves, as 1 *qû* of flour approximately equals 10 loaves of bread, sometimes 6. Overall, according to Stefan Zawadzki,[60] this amount of bread paid as rent can be linked to *kusīptu* bread.[61]

Stefan Zawadzki's assumption is based on the text group of Nabû-ēter, known also as the DAR archive, published by Ran Zadok.[62] This corpus is a group of 187 administrative documents, mainly from Borsippa, dealing with the distribution of bread and other foodstuffs. According to some of these documents the following number of *kusīptu* loaves were issued each day (Table 6).[63] Many of the documents are addressed from Nabû-ēter to Bēl-ēter. In some cases, Nabû-ēter also acts as the recipient of the goods mentioned in the texts. Other recipients are also attested, unfortunately only seldomly with their patronymics and/or their professions.[64]

According to the Stefan Zawadzki's research (Table 6), the most common amounts of loaves to be delivered per day were 10 or 20. The smaller amounts were probably designated for single individuals or small families, as the much

[60] Zawadzki 2018: 72–74.

[61] *kusāpu* is the Neo-Assyrian generic term for bread, sometimes it is the equivalent of "food, sustenance": see Gaspa 2012: 52.

[62] Zadok 2005/06. See also Jursa 2005: 82.

[63] Zawadzki 2018: 72.

[64] For a detailed description on the recipients of the archive see Zadok 2005/06: 150.

larger numbers were much rarer and probably designated for groups of workers.[65]

Table 6: Numbers of *kusīptu* in DAR texts according to Zawadzki 2018: 72

Number of *kusīptu* breads delivered	Number of attestations
2	1
10	18
15	1
20	17
21	2
30	7
40	2
50	2
60	2
70	1
84	1
100	1

Combining the information we gathered from the rental contracts and the rations texts of the DAR archive, we can make assumptions on the typology of bread that was used as payment. When large amounts of loaves were delivered, it seems reasonable to assume that the size of the bread was smaller (*kusīptu*).[66] This assumption is confirmed when looking at the grammatical structure of the word *kusīptu* itself, which, according to Wolfram von Soden[67] implies a diminutive or pejorative meaning, resulting in the translation "small bite of bread" (Brotbissen).

For the production of 20 *kusīptu* bread loaves, 1 1/6 *qû* of flour were used, as in the case of BM 96243 where a house described as *bit kāri* was rented out to Iddin-nabû, son of Ubār, descendant of Ninurta-ušallim for 20 loaves daily made of 1 1/6 *qû* of flour each. In other cases, 6 loaves of bread were made from 1 *qû* of flour, as in the case of TCL 13, 187. This bread probably was the *ṣibtu* bread, which was usually described as a bread of good quality.[68]

[65] Zadok 2005/06: 73.
[66] Zadok 2005/06: 186.
[67] See von Soden 1969, GAG § 55, 16 b): 75; "Nominalformen dreikonsonantiger Wurzeln, Substantive deminutiver oder pejorative Bedeutung: verbal schema: 'purist' = *kusīptu* = small bite of bread ('Brotbissen')".
[68] Zadok 2005/06: 186.

Generally, for average bread quality, 1 *qû* of flour was needed in order to produce 10 loaves of bread. Today, in some villages of Jordan, with 3 kg of flour corresponding to 5 litres = *ca*. 1 *qû*, the amount of bread one can bake in the tannur is around 15 to 20 loaves between 25 and 35 centimeters in diameter each.[69]

As we have seen, private sources on bread production do not give information on the typology of bread itself but more on the quantity of loaves to be baked or delivered. An exception is given by the apprenticeship contract discussed above (BM 16656) which specifies the type of bread the baker apprentice had to learn during his training period. In the text, it is stated that Bēl-ēduṣur had to learn how to bake traditional bread ninda.ḫi.a, *urāku* bread (a long bread, possibly similar to a ciabatta or baguette),[70] and ninda.ḫi.a *ša miṣir* "Egyptian bread". This text is important since it is "unique" in regard to the information on the different types of bread produced in private contexts during 1st millennium BCE Babylonia. Other examples of this sort of information only originate from an institutional background – the Eanna temple of Uruk to be exact – in which some bakers received dates possibly for the production of a special sort of bread with dates.[71] This kind of bread could have looked similar to a type of bread from Palestine (Fig. 6).

Some more information is available from the Neo-Assyrian period, as fourteen entries of different varieties of bread survived in the first millennium "Practical Vocabulary of Aššur", in a section dedicated to bread.[72]

Unfortunately, bread has not been found in the archaeological context excavated so far in the Middle East other than Egypt, with the exception of fragments of charred flat bread, found in the private grave PG/1054 in the royal cemetery of Ur.[73] Therefore, our best recourse to fill this gap in the evidence requires combining the textual evidence with iconographical sources.

5. Bread in the Iconography of the First Millennium BCE

Bread is depicted in the iconographic sources from the 1st millennium BCE in scenes from the Neo-Assyrian and Syro-Hittite worlds, portraying banquets or rituals, always lying on top of a table.

[69] https://www.youtube.com/watch?v=up7nC_bVD3M&list=WL&index=30.

[70] The translation of this term is discussed in Hackl 2011: 88.

[71] Beaulieu 2003: 160–161, 221–222, 270, 272, 278, 304, 306.

[72] For a recent discussion on the lexicography of the Neo-Assyrian Bread see Postgate 2015; a survey of Neo-Assyrian bread terminology is offered also in Gaspa 2012: 45–91.

[73] See Ellison *et al*. 1978: 72.

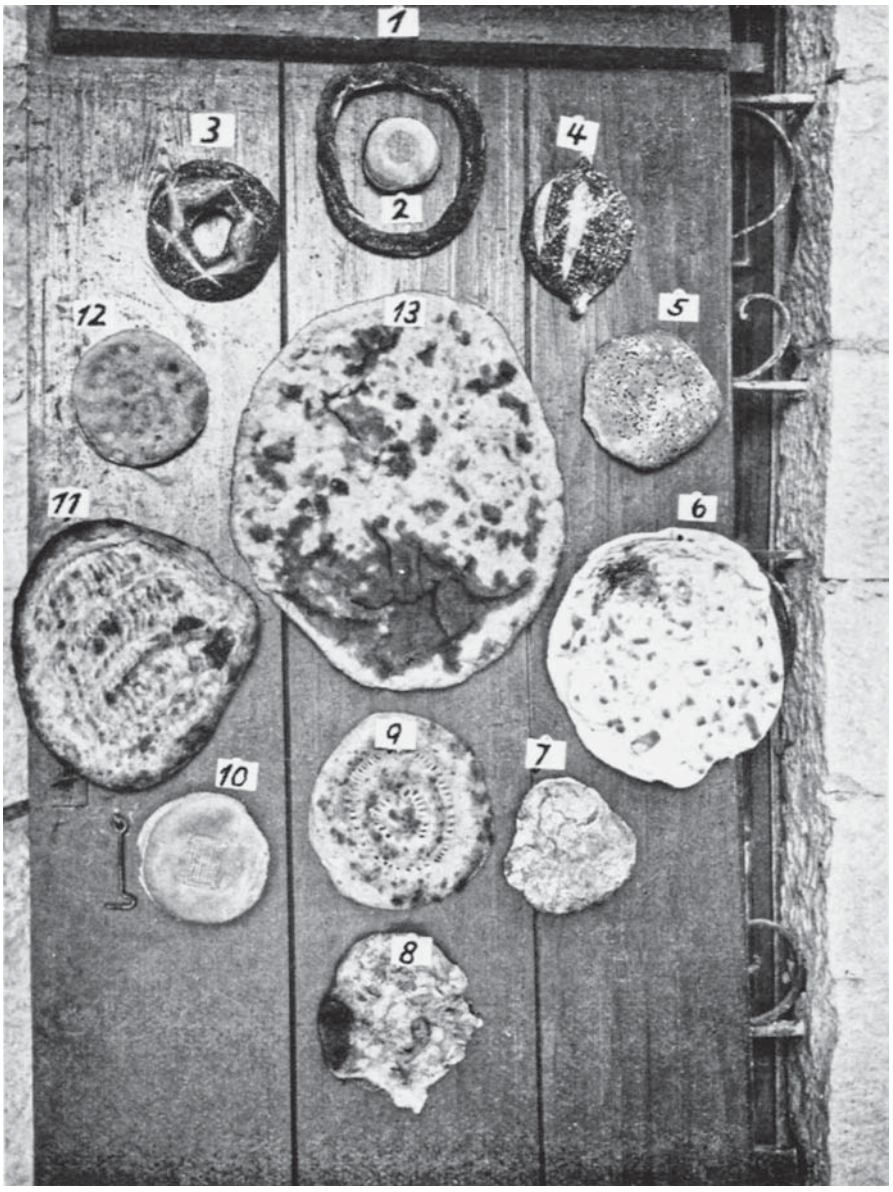

Fig. 6. Bread with dates (no. 12); Dalman 1935, pl. 30.

On a stele from Sam'al (Fig. 7), bread is lying on the table with some fruit on top of it.[74]

In the banquet scene relief of Assurbanipal from his palace in Nineveh, a bundle of bread, held together by some kind of band, is lying on the table (Fig. 8). The same kind of object appears also on the offering table at the libation scene after Assurbanipal's lion hunt (Fig. 9), as well as in ritual scenes in military camps (Figs. 10 and 11) and the banquet scenes from the palace of Sargon.[75] Over the years, this bundle has been interpreted in many different ways: Barthel Hrouda defines it as a "fan-shaped object", which he interpreted as a frond or "aspergillum".[76] Julian Reade, on the other hand, describes the object as a "bundle of onions" or "a stuck of crescentic objects resembling slices of melon".[77] I am more inclined to follow the interpretation of Stefan Maul, Salvatore Gaspa and Nicholas Postgate,[78] who state that the object on the table is some kind of flat bread bundled together.[79] It may be possible to combine both interpretations, of "fan shaped-object" and bread bundle, as breads, when bundled together, actually might have had the shape of a fan, similar to a type of bread produced in Kabul today.[80]

The interpretation of the bundles on the tables as bread finds further validation in textual sources describing rituals in which bread is always mentioned as one of the offerings presented to the gods. For example, the Ritual of Shebat is described as follows:[81]

> "(…) [the king en]ters and prostrates himself in front of Aššur. [He places] loaves of bread before Aššur. He swings the purification device over the censer, [gives] incense twice, and pours out a [libation] bowl (…)."

According to the ritual, the king placed loaves of bread before Aššur and then starts the purification ritual. A remarkably similar scene seems to be depicted in the libation scene after Assurbanipal's lion hunt, as the loaves of bread are already lying on the table when the king performs the libation.

Furthermore, in the Neo-Babylonian Ezida temple, "each session [of offerings, RC] required 7 or 8 loaves of bread, with or in, a *maz(za)ruttu* basket, and possibly some extra products like cakes, special breads and fruits, about

[74] For a more detailed description of the iconography and style of steles that depict bread on tables in the Syro-Anatolian context, see Rehm 2016; Bonatz 2014: 39–44; and Bonatz 2000.

[75] Albenda 1986: pl. 120.

[76] Maul 1994: 50, n. 38.

[77] Reade 2005: 23.

[78] Maul 1994: 54; Gaspa 2011: 8; and Postgate 2015: 168.

[79] The presentation of bread during the Jewish worship for the offer to the Lord (see Lv 24:5) foresees that bread loaves are disposed one on top of the other on two piles of six: see Gaspa 2012: 71, n. 701.

[80] https://www.youtube.com/watch?v=pNQi4j-b1Lc&list=WL&index=32&t=266s.

[81] 18–22, line 5; Parpola 2017: 4–8 no. 1.

Fig. 7. Stele from Sam'al; Bonatz 2000, pl. C 46.

which we are very badly informed."[82] The number of loaves of bread would correspond to the number of loaves displayed on the table.

Likewise, a banquet scene on a Neo-Assyrian Linear Style seal shows three objects of different shapes lying on a table (Fig. 12). According to Postgate, any of these could be a variety of bread.[83]

[82] Waerzeggers 2010: 232.
[83] Postgate 2015: 167.

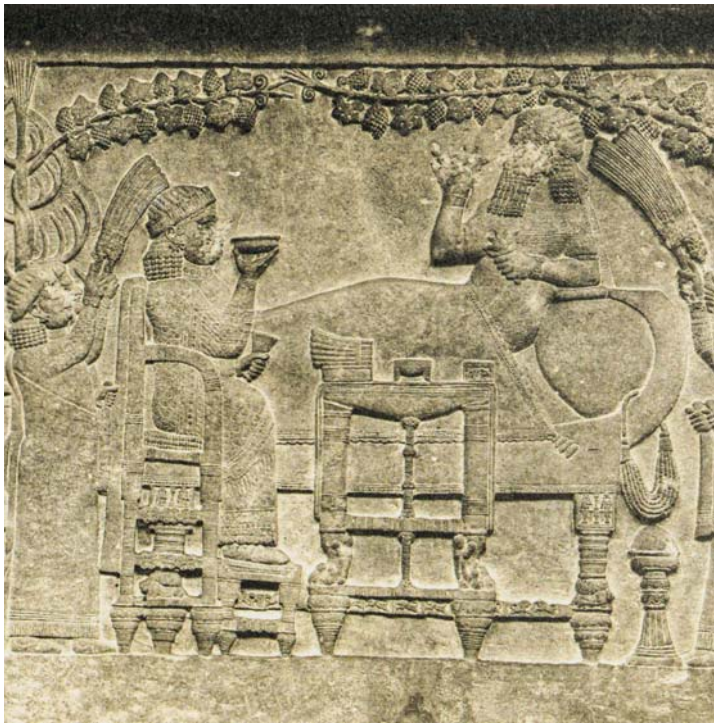

Fig. 8. Detail of the queen from the wall relief of Ashurbanipal depicting a Banquet scene. Ninive, North Palace, Hall 1928, pl. XLI.

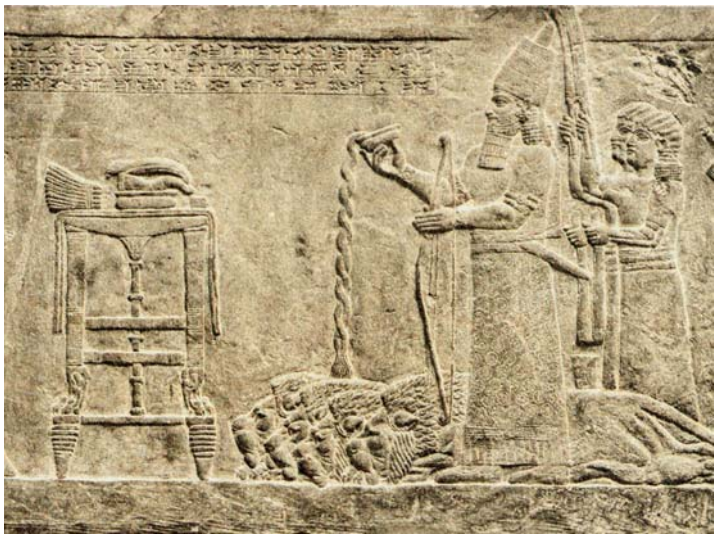

Fig. 9. Libation scene Assurbanipal, Hall 1928, pl. LII.

Fig. 10. Detail of Assyrian Relief from Khorsabad, Ritual in military camp; Botta and Flandin 1849–1850, pl. 146.

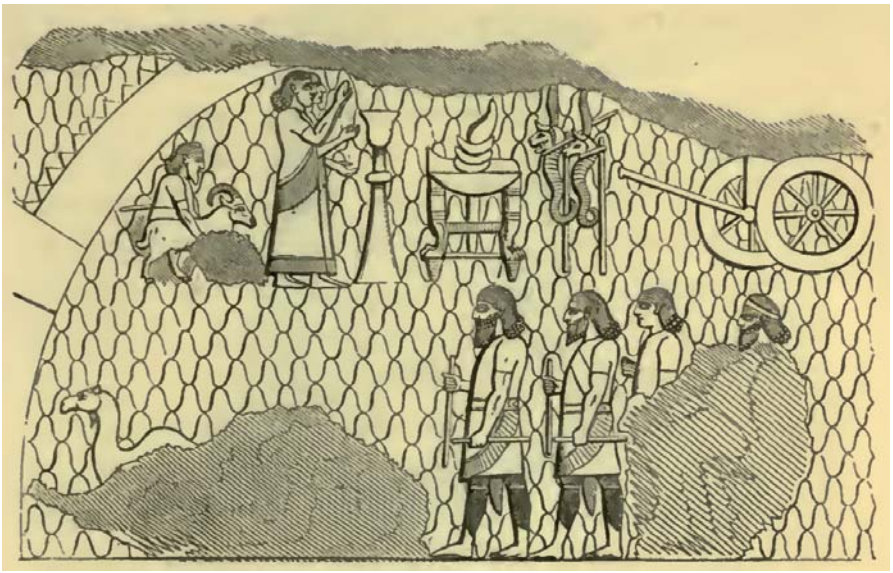

Fig. 11. Ritual in a military camp, Sennacherib; Layard 1849, p. 469.

Fig. 12. Neo-Assyrian cylinder seal, Linear style (Porada 1948, no. 673).

6. The Economics of Private Breadmaking

We have seen, especially in the house rental contracts, that the production of bread was at least to some degree commercialized. It was possible to pay rent in exchange for loaves of breads. This begs the question: how did one buy bread in Babylonia, in which quantities, and how did one pay for it? We know about the monetization of the economy in the sixth century BCE, but could the use of silver have been so common as to allow the purchase of some loaves of bread? Transactions of this type are not attested explicitly, as they would not require a written record, so we have to make a circumstantial argument.

We can approach the issue by examining rental contracts for workshops. We do not have enough data for drawing up valid statistics but what anecdotal evidence there is (Table 5 above), suggests that bakers were on average required to pay between one and two *qû* of bread per day as rent for their facilities until roughly the end of the reign of Nabonidus, while later, under Cambyses and Darius, three to four *qû* were normal. This increase is expected given the development of grain prices in the period. We will consider these two periods separately. Over the long sixth century, the median price for barley was 1.5 shekels of silver/*kurru*, the mean, 2.6.[84] For the purposes here, however, we will take 1.0 shekels as the base price until the fall of the Neo-Babylonian dynasty (correlated with an average daily rent for a bakery of 1.5 *qû*), and 3 shekels as the

[84] Jursa 2010: 448.

base price for the Persian period (correlated with an average daily rent for a bakery of 3.5 *qû*). A baker would thus have had to pay 45/105 litres of barley in the form of bread as monthly rent in our two periods, respectively: the equivalent of 0.25/1.75 shekels of silver. The workshop would have had to generate this income, plus, we assume *argumenti causa*, the minimum subsistence requirement for an urban household, twenty-two *kurru* of barley per year (22 shekels under Nabonidus, 66 shekels under Darius, 1.83/5.5 shekels per month).[85] This brings the total theoretical net revenue of the baker's business to 1.83 *kurru* = 329,4 + 45/105 litres = 2.08/7,25 shekels per month. We will assume, furthermore, that this net revenue is equal to the skill premium added to the value of the raw materials used by the baker and that, based on mediaeval data,[86] this skill premium added 20% to the value of the bread. Therefore, our theoretical net revenue/skill premium of monthly 374.4/434.4 litres of bread (2.08/7.25 shekels of silver) corresponds to 2246.4 l/2606.4 litres of bread processed *in toto* about 12.5–14.5 *kurru*.[87] According to this calculation, our baker would have had to use roughly 75 to 87 litres of barley per day. From ethnographic evidence, we know that in a tannur, 15 to 20 loaves of bread with a diameter between 25 and 35 centimeters can be produced per hour.[88] Taking in consideration that *kusīptu* loaves were smaller than 25 centimeters we might suppose that it was possible to produce at least 30 loaves per hour. Furthermore, from the archaeological record we know that sometimes, two tannurs were used in the same bakery at the same time.[89] This would result in an hourly production rate of 60 loaves of bread, corresponding to 60 × (1/6 *qû* to 1/10 *qû*) = 6–10 *qû*.

Combining this information with the necessary production rate of 75–87 litres of barley a day, this would require a working time in between 7.5 and 13 hours per day depending on size of bread/amount of flour used per loaf (ranging from 1/10 to 1/6 *qû* per loaf) for the reign of Nabonidus, and in between 8.5 and 14.5 hours per day for the reign of Darius. This seems hardly realistic, considering the environmental circumstances, especially the high temperatures in Mesopotamia and in a bakery in particular. A daily working time of around five hours seems more appropriate, which in turn would only result in 35-40% (300 *kusīptu*) of the necessary production rate and output necessary to sustain a family during this period. This seems more realistic. Our baker's dependants, therefore, would have had to contribute to the family's survival – as is expected.

[85] Jursa 2010: 298.
[86] See Clark 2005.
[87] This figure is probably too low as we have not added the (unquantifiable) cost of fuel to our calculation.
[88] https://www.youtube.com/watch?v=up7nC_bVD3M&list=WL&index=30.
[89] See Rova 2014.

A final point: the price of a loaf of bread, according to our assumptions, would have been 120% of the cost of the material, meaning that, for a loaf of 1 *akalu* (1/10 *qa*), 1/1800 × 1,2 = 1/1500 of a shekel under Nabonidus, or 1/500 of a shekel under Darius. Given that the smallest fraction of the silver shekel that was weighed and was demonstrably in circulation was the *hallūru*, 1/40 of a shekel, it is thus not implausible to assume that people bought reasonable quantities of bread for household use with silver; but it would not have been possible to buy with silver a single *kusīptu* to take away over the counter.

7. Conclusion

The bakers of the Neo-Babylonian period could be either slaves or "free" men and were highly specialized, as we know from apprenticeship contracts. This is exemplary for the significant degree of economic specialization in this sector of craft production in the Neo-Babylonian period. Some slave bakers had to work for their owners, while at the same time selling their products to customers on the market, and through that could generate profits from their businesses, which were used to pay rent for their workshops or even extinguish debts of their own or their masters. Since not all families could afford slaves with such a high degree of specialization, they were driven to the marketplace, especially if they wanted to buy special products, such as Egyptian, or long bread. It seems that the baker's trade was probably not exceptionally lucrative – and therefore a domain of non-elite sectors of the population. Still we know from the archaeological record that specialized baking facilities capable of producing large quantities of bread beyond the needs of individual households clearly existed from early periods onwards. All this evidence for commercialization notwithstanding, the purchasing power of the best attested means of payment, silver, was too high to allow acquiring small(ish) quantities of bread. The evidence suggests that such commercial transactions took place, but their practicalities remain beyond our grasp.

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Digital Resources

Footnotes 48 and 69: Traditional Bread Baking in Northern Jordan
https://www.youtube.com/watch?v=up7nC_bVD3M&list=WL&index=30
(As consulted on 20/05/2020)

Footnotes 59: Bread Culture in Jordan
https://www.youtube.com/watch?v=SJvlrpEmORU&list=WL&index=7&t=181s
(As consulted on 20/05/2020)

Footnotes 80: Classic Bread Baking in Afghanistan
https://www.youtube.com/watch?v=pNQi4j-b1Lc&list=WL&index=32&t=266s
(As consulted on 20/05/2020)

IN SEARCH OF EGYPTIAN SOAP: THE DEMOTIC *ꜣnḏyr*

DAMIEN AGUT-LABORDÈRE*

In memory of François Kayser (1959-2020)

Contrary to what is sometimes written, soap was not invented by a Frenchman! The French chemist Nicolas Leblanc, who is sometimes credited with this invention, was in fact the creator, in 1787, of a process for producing soda ash (sodium carbonate) from sea salt.[1] The discovery of the saponification process – the conversion of fat or oil by the action of an alkali to create a detergent or a cosmetic substance – is difficult to situate in space and time. As for Egypt, we will simply observe that the "twice a day and twice every night" purifications made by the priests described by Herodotus (2.37.3) are done exclusively with water: "Twice a day and twice every night they wash in cold water (ψυχρός)." However, the rich Egyptian vocabulary has a term that is sometimes translated as "soap" or a "soap-like substance": Demotic *ꜣnḏyr*. This article explores the meanings of this word.

In the Chicago Demotic Dictionary, *ꜣnḏyr*  is translated as "salt paste (used for soap)".[2] To the best of my knowledge, a single occurrence is attested in thousands of Demotic texts.[3] It appears in the Theban Magical Papyrus of London and Leiden dated to the 3rd century AD containing spells and recipes in Demotic, Greek and Old Coptic.[4] The word is mentioned in a recipe for medicine (*pẖr.t*) aiming "to stop liquid in a woman" (second prescription):[5]

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[1] Ritner 1992: 287.

[2] Demotic: *Dem. Gl.* 6; *CDD 3*: 41. Coptic: *CD* 781a; *CED* 318; *KHwb* 10; *DELC* 14b.

[3] The word *ꜣnḏrꜣ*, attested in P. BM 10508 20.21 (Instructions of Chasheshonqy), more probably means "beans", *CED* 10. *CDD 3*: 41 proposes to assign *ꜣnḏrꜣ* in the genus of Phaseolus. This hypothesis could not be retained since this type of bean originates from Central America and is only known in the Old World from the 16th century.

[4] Griffith and Thompson 1904; Betz 1992.

[5] P. Leiden, Rijksmuseum van Oudheden dem. I. 383 + P. British Museum EA 10070, v° 6, 2-8 (transl. J. H. Johnson in Betz 1992: 243, slightly modified).

> "White lead (dem. *psymytsy* = gr. ψιμύθιον); you should pound (*nt*) it with a little *ꜣnḏyr* (*wʿ ḫm ꜣnḏyr*) of an oil dealer very carefully (*n s-nḥe m-šs sp-sn*); you should put true oil of fine quality to it (*ṯꜣy nḥḥ n mꜣʿ … ỉw=f nfr*); together with an egg (*swḥ.t*) you should pound (*nt*) them, you should bring a string of fine woven linen; you should dye (*sp*) it with its medicine; she should wash in the bath (*ḏqm n tꜣ s.t-ywn.t*) and wash in good wine (*ỉrp ỉw=f nꜣ-nfr*); you should put the medicated strip up in her; you should push it in and / out in her womb for a short time, in the manner of a man's phallus, until the medication permeates; you should remove it; and you should leave her until evening. When evening comes, you should dye a bandage in genuine honey and put it up in her until dawn, for three (another [manuscripts] says, four) days."

"White lead" (hydrocerussite) and *ꜣnḏyr* seem therefore to have been reduced together to powder or in paste and, then, mixed with oil and egg, that can respectively act as solvent and thickener. This recipe makes it possible to prepare a kind of balm with which a textile is then coated. The use of the verb *nt* "to grind" is not decisive in determining the consistency of *ꜣnḏyr* because it is also used to designate the crushing of hard substances, ceruse, as liquid and semi-liquid ones (oil and egg). Nevertheless, the examination of the determinative of *ꜣnḏyr* – ∘ (Gardiner N33) – supports the hypothesis that the substance it designates is a mineral of sandy or granular nature. This determinative is also attested in the name of medical or cosmetic products based on mineral components (Gardiner quotes as example *pḫr.t* "medicine, prescription" and *msdm.t* "black-eye paint", "kohl"[6]). In this perspective, *ꜣnḏyr* can designate a mineral as well as a product made from a mineral base.

1. Coptic Etymology and Comparison with Greek Equivalents

ꜣnḏyr has been related to Coptic ⲁⲛⲭⲓⲣ which, in Brugsch's *Wörterbuch*, is the equivalent to Greek σμῆγμα.[7] Maybe influenced by the word *sp* "to dye" in the magical recipe, Brugsch translated both words by "pigmentum" while the meaning of σμῆγμ-α/σμῆμα is "soap, unguent" (from σμάω "wipe or cleanse with soap or unguent").[8] The most evocative example of equivalence between ⲁⲛⲭⲓⲣ and σμῆγμα is provided by the Coptic translation of the Septuagint version of Daniel 13:17, in the story of *Suzanne and the Elders*. Beautiful and chaste Suzanne was caught in her bath by two lecherous old men and resisted them. Just as she is about to bathe, she addresses her maid in the following manner: "'Bring me oil and σμῆγμα/ⲁⲛⲭⲓⲣ' she said to the maids,

[6] Gardiner 1957: 490.
[7] Brusgch 1867: 10.
[8] *LSJ* 1619.

'and shut the garden gates while I bathe'."[9] The cosmetic nature of *ꜣnḏyr* is firmly established thanks to this parallel. However, one may be surprised by the mention of oil that anoints, with *ꜣnḏyr*, Suzanne in her bath.

Unexpectedly, this association of an alkali with oil can also be observed in the field of textile production.[10] P. Tebt. III 703 (*ca.* 210 BCE) is a copy of an official memorandum giving instructions concerning the organization of various economic activities. Column iv. 102–103 is devoted to the inspection of the workshops dedicated to linen bleaching:[11]

> "Visit also the boiling houses (ἑψητήρια) where the flax is washed and make a list, and report so that there may be a supply of castor oil (κῖκί) and natron (νίτρον) for washing."

The fact that the oil required by the Ptolemaic administration was castor oil is a good clue that these products were intended to be mixed to make cold soap. Indeed, unlike other oils, castor oil does not need to be heated when combined with alkali to produce a "cold soap".[12] This combination makes it possible to produce a detergent at low cost that can be used by bleachers.[13] The same combination of oil and vegetal alkali[14] is also attested in Sippar (Babylonia) by a cuneiform text related to the activity of Šulā and Bunene-ibni, two bleachers working for the Ebabbar temple in 545 BC (Nbn 502).[15] In this latter case, alkali was derived from tamarisk ashes and was combined with sesame oil to make a soap.[16]

Indeed, if Egyptian and Mesopotamian bleachers most likely mixed oil and soda to produce soap, it is hard to imagine that Suzanne did the same in her bath.[17] It is more likely that she had to use the two elements one after the other. ⲁⲛⲭⲓⲣ/σμῆγμα cleanses the skin by its corrosive action while the oil is applied

[9] *CD* 780b and 781a; Carlini and Citi 1981: 96, f. 4a. 19–20.

[10] On the role played by natron in textile production in Kayser 1991: 221; Muhs 2005: 82 and Dogaer 2020. See also, the more technical approaches proposed by Lucas 1962: 267 and Vogelsang-Eastwood 2000: 284.

[11] Dogaer 2020: 195–198.

[12] Gathmann 1893: 57–58.

[13] Dogaer 2020: 200.

[14] Zawadzki 2006: 63–64, quoted by Quillien 2021: 189. See also Quillien 2014: 285–286.

[15] I would like to thank Louise Quillien for sharing her translation of this text.

[16] Tamarisk as a source of vegetal alkali in Mesopotamia is discussed in Konkol and Rasmussen 2015: 255–256. I owe this reference to Manon Ramez.

[17] This association of alkali and fatty substance for cosmetic purposes could be combined in a single "cold cream" as attested by the content of two cosmetic jars found in the so-called "Tomb of the three princesses" (18th Dynasty). The chemical analysis of the substance they contained reveals that it "was a mixture of oil and lime, an unguent which might be applied to the body and then wiped off again, leaving the skin clean and soft." In his report, Hans T. Clarke, the chemist charged by Herbert E. Winlock of the analysis, notes: "Such cleansing cream was all that man had until actual soap made its appearance quite recently." See Winlock 1948: 53 (first quotation) and 67 (second one). I owe this reference to Lucas 1962: 85.

as wetting agent to increase the spreading and penetrating properties of ⲁⲛϫⲓⲣ/σμῆγμα and, as a secondary purpose, to moister the skin.[18]

Back to Daniel 13:17, the mentions of ⲁⲛϫⲓⲣ/σμῆγμα cannot be merely translated as soap, because it appears associated with oil, meaning that the alkali had not been mixed with the fatty substance beforehand.[19] In such a context, ⲁⲛϫⲓⲣ/σμῆγμα could designate, through a metonymical process, a basic salt of mineral origin used for cosmetic purpose, most probably natron. This reasoning sheds light on the mineral or granular determinative of *ꜣnḏyr* in the Magical Papyrus of London and Leiden. Therapeutic mixtures combining oil (*nḥḥ*) and alkaline salts (as natron, *ḥsmn*) are also attested in the Hieratic Ebers papyrus dated from about the middle of the second millennium BCE.[20] These ointments were used for curing (*Eb*. 119, "to prevent inflammation") by washing part of the body (*Eb*. 719, "to wash face"). Moreover, reinforcing the similarities with the Demotic Magical Papyrus, the author(s) of P. Ebers insist on the need to grind (*nḏ*) these kinds of preparation carefully (*Eb*. 115 and 119). All this tends to confirm that the Demotic balm could be the long descendant of the fat/oil + alkali mixtures mentioned in P. Ebers; both share not only the same composition but also a similar curative, and also cleaning, purpose. The only occurrence of *ꜣnḏyr* we have most likely refers therefore to a certain quality of natron, through metonymy. The question of the primary meaning of this word remains therefore unanswered.

2. Word Formation and Technological Approach

Examining the word formation may be of some help to get out of this impasse. The formation of ⲁⲛϫⲓⲣ/*ꜣnḏyr* has been briefly investigated by Jaroslav Černý's *Coptic Etymological Dictionary* (entry ϫⲓⲣ "brine") which he proposed to derive from **ꜥ-n-ḏyr*, and translates as "'piece of salt' as soap".[21] This would be consistent with the second of the two steps of the *chaîne opératoire* for making solid soap.[22] The first one is the saponification in itself, it consists in boiling together a fat or oil with an alkali. This produces a mix of saponified fat and glycerol (see Fig. 1). The second step, the lixiviation (also called leaching), aims to separate one from the other by plunging this mixture in a brine.

[18] "(…) l'huile dans le bain (est) employée de façon complémentaire avec le natron pour atténuer son agressivité", Blonski 2012: 277. In his dissertation (p. 275–277), M. Blonski provides a useful and complete overview on the use of natron and oil in bath based on Greek and Latin sources.

[19] Blonski 2012: 281.

[20] Scholl 2002, see *Eb*. 105; 115; 119; 120; 124; 547 = 550; 719.

[21] *CED* 318.

[22] Charles 1985: 53.

Fig. 1. Vat of Aleppo soap at the Al-Jebeili factory, Aleppo, Syria, 2010.
Masses of saponified fat in process of formation – maybe the "piece of brine" floating on the surface, are visible in the foreground.
© Bernard Gagnon. Wikimedia Commons.
(https://fr.wikipedia.org/wiki/Fichier:Aleppo_soap_-_vat.jpg)

Soap lumps, less soluble than glycerol, float on the surface while glycerol, combined with brine, form a sort of lye with detergent properties.[23]

Then, the saponified fat has to be further purified, and thickened, a second time by being again immersed and boiled in an alkaline or salt solution. A third and final purification of the same type is sometimes required.

The **ḏyr*/ϫⲓⲣ could refer to the lixiviation phase of the soap making process. In this case, **ꜥ-n-ḏyr* "piece of brine" could designate the lumps of saponified fat floating on the surface of the solution. If our reasoning is correct, it means that *ꜣnḏyr* has its origin in another metonymic designation of soap, based not on the mineral used in the manufacturing process but on the last stage of it.[24] The same lexicographical phenomenon is attested with the word ϫⲓⲣ which can designate the "brine" and a kind of "small fish preserved in brine".[25]

[23] I wonder if this lye, a by-product of the saponification process, could not be identified with the liquid-*tꜣ* "of the washermen (*tꜣ n rḫt.w*)" mentioned in *Eb*. 105.

[24] *CD* 780b, 781a.

[25] *CD* 780b, 781a.

3. Conclusion

The specific mention of brine in the etymology of *ꜣnḏyr* leads to conclude that this word could designate "soap" in the full sense of the term while the metonymic meaning of *ꜣnḏyr* for "natron" could then refer to a certain quality of this mineral used to carry out saponification. The use of this rare word in the Magical Papyrus of London and Leyden would then be the result of a desire for precision; it is not just any natron that is needed to make the medicine intended "to stop liquid in a woman" but a certain quality that was only available from "oil merchants", as the text states.[26] This indication means that the latter were in charge of soap production in the Theban region in the 3rd-4th century AD. In the end, Ancient Egyptian soap remains elusive. The same vagueness surrounds the use of the Greek word σμῆγμα, at least in Egyptian documentation.[27] Things become clearer, at least in Greek, with the appearance of the word σάπων derived from Gallic and Germanic languages through the Galatians settled in Asia Minor,[28] but σάπων is attested in Egypt in Late Antique and early medieval texts.[29]

Abbreviations

CD Crum, W. E., *A Coptic Dictionary*, Oxford: Clarendon Press, 1939.

CDD Johnson, J. (ed.), *Chicago Demotic Dictionary*, Chicago: Oriental Institute, 2001–2014 (available online: https://oi.uchicago.edu/research/publications/demotic-dictionary-oriental-institute-university-chicago).

CED Černý, J., *Coptic Etymological Dictionary*, Cambridge: Cambridge University Press, 1976.

DELC Vycichl, W., *Dictionnaire étymologique de la langue copte*, Leuven: Peeters, 1983.

Dem.Gl Erichsen, W., *Demotisches Glossar*, Copenhague: Munksgaard, 1954.

Eb. Scholl, R., *Der Papyrus Ebers. Die größte Buchrolle zur Heilkunde Altägyptens*, Leipzig: Universität Leipzig.

KHwb Westendorff, W., *Koptisches Handwörterbuch bearb. auf der Grundlage des Koptischen Handwörterbuchs von Wilhelm Spiegelberg*, Heidelberg: Universitätsverlag Winter, 2008.

[26] The fact that there were different qualities of natron can be deduced from the variety of the Egyptian vocabulary (Devauchelle 2020: 320–321) but also from physico-chemical analysis (Devauchelle 2020: 330–331). It is tempting to identify *ꜣnḏyr* with the so-called aphronite described by Pliny as the "the most tenuous (*tenuissimum*) part of the nitre" (Plin. Nat. 31.110, see Blonski 2012: 274–275). Michel Blonski is led, as we are for *ꜣnḏyr*, to assume that *aphronitrum* is used to designate both a variety of nitre and the detergent used at the balneum (Blonski 2012: 884).

[27] In this perspective it is interesting to note that the Latin version of Oribasius translates as *sapone Gallicu* a substance called σμῆγμα in the Greek version, André 1956: 350.

[28] Blonski 2012: 282.

[29] A recently published occurrence of the word in Egypt (dated to 7th century AD) in Delattre and Martin 2016, no. 44, l. 1.

LSJ Liddell, H., Scott, R. and Jones, H. S., *A Greek-English Lexicon*, Oxford: Oxford University Press, 1996.

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PART 2

MATERIAL CULTURE IN WORSHIP CONTEXT

TIARAS AND CROWNS OF NEO-BABYLONIAN DEITIES

PAUL-ALAIN BEAULIEU*

The tiaras and crowns of Neo-Babylonian deities are documented by a substantial epigraphic and iconographic record which remains to be investigated and synthesized. My purpose in this contribution is to take initial steps in that direction, focusing on the textual evidence. First, I must define the words "tiara" and "crown". I understand the word "tiara" to refer to a tall, richly decorated headdress. The closest modern parallels would be the miter worn by bishops or the papal tiara, which is in fact composed of three superimposed crowns. The tiaras of gods in late second and first millennium iconography are usually tall cylindrical headgears and for that reason the Greek term *pólos* has often been applied to them. The Akkadian word for tiara is *agû*, from Sumerian aga. The inscription of the Kassite king Agum-kakrime contains an elaborate description of the tiara of the god Marduk. The inscription dates presumably from around 1500 BCE but its authenticity has often been questioned:[1]

> (II.50) *a-ge-e qá-ar-ni ṣi-ra-a-ti a-ge-e be-lu-ti si-mat i-lu-ti ša ša-lum-ma-ti ma-la-ti*(?) (III.1) *ša* na_4 za.gìn *ù* kù.gi *i-na* sag.du-*šu lu-ú áš-ku-nu-ma i-na* ugu sag *a-ge-šu* na_4 nír ig[i m]uš.gír (III.6) na_4.me *ni*-[*si*]*q-ti lu-ú áš-ku-nu-ma* na_4 nír na_4 muš.g[í]r na_4 zú *mar-ha-ši* na_4 z[a.g]ìn na_4 nír.babbar.dili (III.11) *ina* ugu *a-ge-š*[*u*] *lu ú-za-i-nu*-[*ma*]
>
> "(III.3) I placed (III.2) on his (the god Marduk's) head (II.50) a tiara with splendid horns, the tiara of lordship, the mark of divinity, filled with awesome luminosity and made of lapis-lazuli and gold. (III.4) On top of his tiara (III.7) I set a *hulālu* eyestone of serpentine (and) choice stones, and (III.12) I overlaid his tiara with *hulālu* stone, serpentine, (III.9) obsidian from Marhaši, lapis lazuli, (and) *nirpappardilû* stone."[2]

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[1] 5 R 33, Col. II:50 – Col. III:12. For the much-debated question of its authenticity, see the recent synthesis by Paulus 2018; and for recent editions see Stein 2000: 150–165, and Oshima 2011: 233–252 (with photographs of the tablets on p. 258–261).

[2] The readings of some of these stone names are uncertain and I differ from Stein and Oshima on a few points. The stone na_4 nír.babbar.dil is interpreted as *nirpappardillû* by von Soden (AHw: 793b), but as *pappardilû-hulālu* in CAD P: 109a, who sees it a variety of *hulālu* stone. Schuster-Brandis 2008: 403 proposes that this stone is in fact the equivalent of *pappardilû* (probably to be identified as "banded agate").

The inscription emphasizes that the tiara is decorated with horns (*agê qarnī ṣīrāti*) and that these are markers of divinity (*simāt ilūti*). Horned caps and tiaras became the obligatory symbols of gods in the third millennium and the description of Marduk's tiara is consistent with this tradition.[3] The inscription also depicts the tiara as "filled with awesome luminosity" (*šalummatu malât*).[4] It implies that the radiance emanating from the god, Marduk in this case, resided mostly in the tiara. In her study of divine luminosity, Elena Cassin called attention to this feature of the tiara as fount of the radiance produced by gods.[5] We find the same notion expressed in Marduk's Address to the Demons, which describes Marduk (Asalluhi) as "coiffed with a tiara whose radiance is covered with fearsomeness" (*āpir agê ša melammûšu rašubbatu za'nu*).[6] Without explicitly mentioning a tiara, the Babylonian Epic of Creation deploys similar rhetoric to describes the aura emanating from Marduk's head as he is marching to confront Tiamat: "and on his head he wore an aura of terror" ((IV.58) *melammi rašubbati āpir rašuššu*).[7] The tiara was considered the physical and concrete manifestation of the god's aura. The Assyrians shared these views. Esarhaddon proudly describes the radiance of the new tiara he presented to the god Aššur:[8]

> (85) aga *šú-a-tú la-biš me-lam-mu* (86) *za-in bal-tu na-ši šá-lum-ma-tu hi-it-lu-up nam-ri-ri* an.šár en gal-*e ma-diš im-hur-ma i-ṭib ka-bat-ta-šú im-me-ru zi-mu-šú*
>
> "The god Aššur, the great lord, accepted magnanimously that tiara, (which is) clothed in splendorous radiance, full of dignity, radiating a glow, (and) wrapped in brilliance, and his spirit was pleased (and) his countenance shone."

We should assume that the components of tiaras worn by divine images were chosen to reflect these numinous qualities. This probably accounts for the fact that, as far as we can tell from the textual evidence, the tiara was always made of gold. I do not know a single reference to a tiara made of another metal, much less of fabric. As the Agum-kakrime inscription tells us, the tiara was also decorated with gemstones and ornaments. Many such ornaments and components of divine tiaras are mentioned in Neo-Babylonian administrative texts and

[3] The development of horned caps and tiaras is briefly surveyed by Boehmer 1972/1975, with illustrations of the various types.

[4] The word *agû* is atypically treated as a feminine substantive here. However, one could argue that the 3rd fem. sing. stative *malât* is governed by *ilūti*, in which case one should translate "the mark of a divinity that is filled with awesome luminosity", but this is uncertain. One notes that, according to the copy (5 R 33), the preceding four lines all end with the sign *-ti*, and this may have misled the scribe into ending that line with the same sign. However, according to the photograph of the tablet published by Oshima 2011: 258, pl. 1, the sign after *ma-la-* is barely visible.

[5] Cassin 1968: 22–26.

[6] The passage is quoted by Lambert 1954/56: 313, text B, line 7.

[7] This is quoted according to the edition by Lambert 2013: 88–89.

[8] Esarhaddon 48, 85–86. This is quoted according to the edition by Leichty 2011: 108.

letters and some of them can be identified in the iconography of the late second and first millennium.

While the *agû* ranked as the most important headdress worn by Neo-Babylonian deities, archival texts also mention the *kulūlu* "crown". I understand this word to refer to a smaller object in the shape of a headband or cap. The word *kulūlu* in Neo-Babylonian texts refers in fact to two distinct types of headdress: a piece of textile in the shape of a turban, and a small crown made of gold and decorated with ornaments.[9] In Neo-Babylonian texts, the *kulūlu* crown is written syllabically (*ku-lu-lu*, or more rarely *kul-lu-lu*). The *kulūlu* turban, on the other hand, is often preceded by the logogram túg.hi.a, thus the reading should be in fact *lubār*(*u*) *kulūlu* unless we understand túg.hi.a as semantic determinative. The *kulūlu* turban can also be written without that determinative, but turban and crown are never confused since the turban always appears in texts dealing with textiles, and the crown in texts dealing with jewelry. In temple archives these texts do not overlap because they dealt with the administration of distinct crafts, those of the weaver and goldsmith. One notes that there is no specific logogram for *kulūlu* since the word appears to be a late second millennium innovation, although it is probably derived from *kilīlu* "circlet, headband", already attested in Old Akkadian. That word probably gave birth to the denominative verb *kullulu* "to cover" in the late second millennium and from that root the substantive *kulūlu* appeared at the same time.[10]

1. Esarhaddon and the Tiaras of Babylonian Gods

Some letters from the state archives of Nineveh mention the refurbishing of the tiaras of Babylonian gods during the reign of Esarhaddon. They form the earliest corpus of texts describing the tiaras of Neo-Babylonian deities. Three of them, SAA 10, 41, SAA 10, 348 and SAA 10, 353, deal with the making of the tiara of the god Nabû.

SAA 10, 41 (= Parpola LAS 58): this letter is dated tentatively to mid-July 671 BCE by Simo Parpola; it was sent by Nabû-ahhē-erība and perhaps also Balasî (name restored) to the king (presumably Esarhaddon). The subject is

[9] The word *kulūlu* is discussed by Waetzoldt 1980/83: 199, with references to such objects made of fabric and precious metal. He also discusses several other words describing headgears, caps and turbans made mostly of textile (for example, *erru*, *kubšu*, *paršīgu*). In Neo-Babylonian texts only the *agû* and the *kulūlu* are made with precious metal, always gold. Boehmer 1980/83 surveys the various types of headgears as represented in the iconography.

[10] The evidence is discussed in CAD and AHw under *kilīlu*, *kulūlu*, and *kullulu*. Von Soden classifies the verb *kullulu* as a denominative from *kilīlu*. Both *kullulu* and *kulūlu* first appear in Middle Assyrian and Standard Babylonian texts.

a tiara concerning which the king had previously written to them. Although this is not explicitly mentioned, the tiara in question probably belongs to the god Nabû since the correspondents invoke the blessings of that god on behalf of the king and crown prince. The letter mentions eyestones in connection with the tiara (obv. (8) na_4 igi.min.meš *šá ú-kal-li-mu-na-ši-ni* (9) *dam-qa a-dan-niš* "the eyestones which were shown to us are very beautiful"). The letter further mentions that obsidian (na_4 zú) is available to make eyestones (rev. (1) [n]a_4! igi.min.meš) and *šanduppu* ornaments (rev. (5) na_4! *šá*!*-an-dup-pu*) as no other material is available; these relate presumably to the tiara mentioned earlier in the letter.

SAA 10, 348 (= Parpola LAS 276): this letter is dated precisely July 22, 671 BCE according to Parpola; it was sent by Mār-Issar to the king (Esarhaddon). The sender mentions that he received 30 sealed stones (obv. (7) 30 na_4.meš *kan-ku*) delivered by a messenger he sent to the palace. He also mentions that he received 26 eyestones of serpentine belonging to the king (obv. (11) 26 na_4 igi. min.meš (12) *šá* na_4 muš.gír.meš *šá* man en-*iá*) and one mina of gold belonging to the queen mother, Naqia/Zakûtu (obv. (12) 1 ma.na kù.gi (13) *šá* ama lugal). He states that these will be used for the crown of the god Nabû (obv. (16) *a-na a-ge-e šá* ^{d}pa (17) *ep-pu-šu*).

SAA 10, 353 (= Parpola LAS 281): this letter is datable to early April 670 BCE according to Simo Parpola; it was sent by Mār-Issar to the king (Esarhaddon). It mentions that the tiara of the god Nabû is completed (obv. (5) *a-g*[*u*]-*u*! *šá* [d]pa (6) [*gam-mu-ur*]) and that the name of the king (Esarhaddon) and of the crown prince of Babylon (Šamaš-šumu-ukīn) have been inscribed on it. It further mentions *ašgikû* jewels from Egypt, but it is not certain whether they belonged to the tiara; the text is quite damaged at this point and it could deal with a separate topic. The letter is concerned with the affairs of Borsippa and therefore it is certain that the god Nabû it mentions is the one residing in that city.

According to Simo Parpola these three related letters concern the restoration of the tiara of the god Nabû of Borsippa, a topic also seemingly the subject of SAA 10, 40 (= Parpola LAS 57), which is very fragmentary but was also sent by Balasî and Nabû-ahhe-erība and also deals with eyestones, *šanduppu* ornaments and *ašgikû* stones. He stresses the importance of eyestones as decoration for tiaras.[11] The word for eyestone in Akkadian is identical with "eye" *īnu* (logogram na_4 igi, na_4 igi.min, also plural me or meš). Made of various stones such as agate or serpentine,[12] sometimes also artificially produced, eyestones

[11] See Parpola 1983: 63, commentary to Parpola LAS 58.

[12] The identification of ancient stones is notoriously difficult, and I am proposing these equivalences as tentative. Clayden 2009: 40 lists the various stones from which eyestones were carved but does not propose any positive identification. Schuster-Brandis 2008: 391–458 summarizes current proposals to identify many stones and suggests new ones.

had a white base with a brown or black centerpiece, hence reminiscent of eyes, and could be encased in gold frames. He speculates that eyestones were mounted on divine tiaras to symbolize the all-pervasive power of sight of the gods.[13] That such ideas would have naturally occurred to some seems believable, although there is no source to prove it.[14] Their association with the divine is reflected in the description of a stone called "eye of Belus" by Pliny the Elder: "The 'Eye of Baal' (*Beli oculus*) has a whitish ground surrounding a dark eye which sends out a golden gleam from its midst. Because of its appearance, the stone is consecrated to the holiest god of the Assyrians."[15] According to SAA 10, 348, eyestones of serpentine were offered by the king for the crown of Nabû. Many eyestones bear dedicatory inscriptions of rulers, and in fact such an inscription is known for Ešarra-hammat, the wife of Esarhaddon.[16] Tim Clayden in his exhaustive study of eyestones has stressed their elite status closely linked to the king and also their religious function as votive objects and sacred decoration.[17] While eyestones seem to have been choice ornaments for divine tiaras, this was not their sole function. Bracelets, necklaces, and functional luxury items such as bowls could include eyestones in their decoration. Eyestone motifs also appear painted on various other objects, testifying to their general aesthetic appeal.[18]

Esarhaddon's plan to restore Babylonian temples is reflected in two other letters which concern the cults of Babylon and Uruk.

SAA 13, 174: letter from Rašil to the king (Esarhaddon). The sender mentions that he made the tiara of the god Anu ordered by the king (obv. (7) aga ^{d}*a-nim šá* lugal *be-lí-a iq-ba-a* dù-*uš*). He further says that the gems for that crown (obv. (16) *ana* šà aga ^{d}*a-nim di-ga-lu* (17) *il-la-ku*) have been stored in the treasury of the temple of the god Aššur. Since the letter also mentions precious metals and objects for Bēl and Zarpanītu, the god Anu mentioned here was probably a resident of Babylon.

SAA 10, 349 (= Parpola LAS 277): this letter is dated September 27, 671 BCE by Simo Parpola on the basis of astronomical observations reported on the reverse and evidence from the inscriptions of Esarhaddon which place the return of Uṣur-amāssu to Uruk late in his reign; it was sent by Mār-Issar to the king (Esarhaddon). Mār-Issar informs him about the progress of the work on the divine statues of Uruk. He claims that the goddess Uṣur-amāssu is now

[13] See Parpola 1983: 264, commentary to Parpola LAS 276.

[14] See Knott 2019: 105, on the function of eyestones: "There is little doubt that the potency of these objects was drawn, in part, from their ability to capture the power of seeing eyes."

[15] See Pliny, *Natural History*, Book 37, Ch. 55, quoted by Lambert 1969: 71. I reproduce here the translation of the Loeb Classical Library (Eichholz 1962: 286–287).

[16] See Lambert 1969.

[17] See Clayden 2009: 55.

[18] See Knott 2019: 108–110.

equipped with a golden tiara (obv. (16) *a-gu-ú* kù.gi *šak-na-at*). The object was apparently still not finished more than a decade later. A text from Uruk dated to the tenth year of Šamaš-šumu-ukīn and discussed below describes the tiara of Usur-amāssu in detail and seems to imply that the work was still in progress.[19]

2. Neo- and Late Babylonian Uruk

Neo-Babylonian temple archives yield the richest amount of textual information on tiaras and crowns of deities. The Eanna archive at Uruk provides the most detailed set of evidence. At Uruk the local pantheon was governed by goddesses. Most of them were forms of Ištar. The texts dealing with jewelry are in their majority dated to the sixth century and mention the tiaras of the goddesses Ištar, Nanaya, Uṣur-amāssu, and Urkayītu, and perhaps also of the god Zababa. We also hear about the crowns of the following goddesses: Ištar (perhaps), Nanaya, Uṣur-amāssu, Urkayītu, Kurunnītu, and a group called "the Goddesses" (*Bēlētu* in Akkadian).[20] This latter term could refer to the "Daughters of the Eanna temple".[21] The texts mention several ornaments affixed to these crowns and tiaras. As far as we know they were all made of gold with the exception of the ornament called *sāmtu*, a bead of carnelian. The data from Uruk can be tabulated as follows (Table 1).

Table 1: Data from Uruk

Tiaras and Crowns at Uruk	
agû "tiara"	Ištar, Nanaya, Uṣur-amāssu, Urkayītu, Zababa(?)
kulūlu "crown"	Ištar(?), Nanaya, Uṣur-amāssu, Urkayītu, Kurunnītu, the Goddesses
Ornaments for the Tiaras and Crowns of Uruk	
arzallu a jewel (tiara)	Uṣur-amāssu, Zababa(?)

[19] It is possible, of course, that the goddess had more than one tiara, although the texts never allude to this.

[20] The data is tabulated in Beaulieu 2003: 9; the textual data for the tiaras and crowns which are presented here are published and discussed in that book under the separate rubrics devoted to each deity (140–141 for Ištar; 179–180 for the Goddesses; 191 for Nanaya; 232–236 for Uṣur-amāssu; 257 for Urkayītu; 322 for Kurunnītu; and 349 for Zababa).

[21] The identity of the "Goddesses" (*Bēlētu*) is inconclusively discussed in Beaulieu 2003: 179. Since contemporary texts from Sippar mention the "Daughters of Ebabbar", the word Bēlētu probably refers to the "Daughters of Eanna" mentioned in later rituals (CAD M/I: 304a). I thank Prof. Stefan Zawadzki who brought this to my attention.

ayaru "rosette" (uncertain)	The Goddesses
ayaru pānû "frontal rosette" (crown, tiara)	Ištar, Bēltu-ša-Rēš, Uṣur-amāssu, the Goddesses
erimmatu "egg-shaped ornament" (tiara)	Uṣur-amāssu
gappu "feather" (tiara)	Ištar, Nanaya, Uṣur-amāssu
inbu "fruit-shaped ornament" (crown)	Urkayītu
sāmtu "carnelian bead" (crown)	Nanaya, Urkayītu
šihittu "a plant ornament(?)" (tiara)	Urkayītu
tarkīsu an ornament (crown)	Ištar(?), Uṣur-amāssu

Two ornaments merit special mention. One is the *ayaru pānû*, the "frontal rosette", which is the flower-shaped ornament in front of the headgear. This ornament probably carried important symbolic value and is depicted several times in the iconography. The *ayaru pānû* may have been affixed to other parts of the jewelry of the deity as well (such as the pectoral) since it is not always specifically mentioned in association with the tiara or crown.[22] It may have been quite elaborate; TCL 12, 39 lists 81 beads of gold, 50 beads of carnelian, and 50 beads of lapis-lazuli in connection with two frontal rosettes belonging to the Goddesses ((4) 81 na_4 kù.gi 50 na_4 gug 50 na_4 za.[gìn] (5) 2 *a-a-ri pa-ni šá* ^{d}gašan.meš); one can therefore envision colorful flower-shaped ornaments encrusted with beads of gold, carnelian and lapis, but the formulation of the text is elliptical and one cannot be entirely certain that the beads mentioned on line 4 were meant for the rosettes.

The other important ornament is the *gappu* "feather". It seems that golden feathers were attached only to the tiara, not to the crown. Texts from Uruk mention them in connection with the tiaras of Ištar, Nanaya, and Uṣur-amāssu. The absence of horns (*qarnu*) from these descriptions is significant. Babylonian representations of gods from the late second and first millennium BCE usually show them wearing feathered rather than horned tiaras. Therefore, texts and images agree that feathers had replaced horns as main symbolic marker of divinity in Babylonia. This is confirmed by a text from Uruk which has an extensive description of the tiara of the goddess Uṣur-amāssu. YBC 11390 is dated to the tenth year of Šamaš-šumu-ukīn. It does not mention horns at all; but it begins on lines 2 and 3 with an allocation of 6 minas of red gold to make 20 golden feathers and two other components of the tiara, namely an *abūlu* and a *zuburinnu* with a *samahalu* clasp.[23]

[22] For Neo-Babylonian Uruk, see Beaulieu 2003: 141 (section 3.5.3) for the frontal rosettes of Ištar; 194 (section 4.2.2.4) for Nanaya; 218 (section 4.3.2.2) for the goddess Bēltu-ša-Rēš.

[23] YBC 11390, 1–3.

1. kù.gi sa$_5$ *šá a-na* aga kù.gi *šá* ^{d}ùri-*a-mat-su mah*$^{?}$-*ru*$^{?}$-*ni*
2. 6 ma.na kù.gi sa$_5$ 20 *ga-ap-pi* 1-*en a-bu-lu*$_4$
3. *ù zu-bu-rin-ni šá sa-ma-hal*

"(1) Red gold received(?) for the golden tiara of the goddess Uṣur-amāssu. (2) 6 minas of red gold (for) 20 feathers, one *abūlu*, (3) and a *zuburinnu* with a *samahalu* clasp."

The text also mentions 37 egg-shaped ornaments of gold (*erimmatu*), 158 *arzallu* ornaments of gold, and many other components, mostly clasps and catches. The vocabulary is often obscure or otherwise unknown. The text ends with a summation that the tiara weighs 47 minas and 16 ½ shekels of red gold, making it a heavy and complex piece of jewelry, approaching a weight of one talent.[24]

23. pap 29 ma.na 15$^{?}$ gín kù.gi sa$_5$
24. *a-na* aga kù.gi *šá* ^{d}ùri-*a-mat-su*
25. *e-pu-uš ina lìb-bi* 1 ma.na 14 ½ gín *mi-si*
26. *ú-rak* ká *šu-pa-lu-ú*
27. *ù* 47 5/6 ma.na 16 ½ gín kù.gi sa$_5$
28. *dul-lu* x *ep-šú šá* aga kù.gi
29. mu 10-kam ^{d}giš.nu$_{11}$-mu-gi.na
30. lugal tin.tir^{ki}

"(23) Total: 29 (and) 15(?) shekels of red gold, (24) for the golden tiara of the goddess Uṣur-amāssu, (25) worked (or "I worked"); including 1 mina and 14 ½ shekels of refined (copper?) (26) (for) the lower opening, (27) and 47 minas (and) 16 ½ shekels of red gold, (28) the finished work on the golden tiara. (29) 10th year of Šamaš-šumu-ukīn, (30) king of Babylon."

Considering that Uṣur-amāssu was but one of the five main goddesses of Uruk, the amount of gold hoarded in the Eanna temple must have been considerable, but not unusual for a large sanctuary. One can compare Herodotus' claim that the weight in gold of Marduk's entire paraphernalia in Babylon amounted to 800 talents, a figure that is no doubt exaggerated but nonetheless reveals the scale on which precious metal was accumulated.[25] The feathers alone weighed between 15 and 20 shekels each. This is not surprising because two other texts from Uruk each record the allocation of just a little less than

[24] YBC 11390, 23–30.

[25] Herodotus, *Histories* I, 183.1: "In the Babylonian temple there is another shrine below, where is a great golden image of Zeus, sitting at a great golden table, and the footstool and the chair are also gold; the gold of the whole was said by the Chaldeans to be eight hundred talents' weight" (quoted from the edition by Godley 1920: 227). An inscription of Aššur-etel-ilāni records the gift of an offering table plated with red *ṣāriru* gold to Marduk in the Esagil temple, and another one a scepter of red gold to Marduk of Sippar-Aruru (Frame 1995: 262–264). One is also reminded of Thucydides' report that the statue of the goddess Athena was covered with forty talents of refined gold (*Peloponnesian War* II, 13).

one mina of gold to make feathers and other components for the tiaras of Nanaya and Ištar:[26]

1. 55 gín 2-*ta* šu.min.me kù*.gi*
2. 5 *gáp-pu* kù.gi
3. 63 bar*.me* kù*.gi* *šá** aga* kù.gi
4. *šá* ^{d}*na-na-a*

"(1) 55 2/3 shekels of gold (for) (2) 5 golden feathers and (3) 63 pieces of gold plating for the golden tiara (4) of the goddess Nanaya"

1. 53 gín 3 igi-4-gál.la.me kù.gi
2. 2 *ga-ap-pu šá* aga kù.gi
3. *šá* ^{d}gašan *šá* unug^{ki}

"(1) 53 ¾ shekels of gold (for) (2) two feathers belonging to the golden tiara (3) of the divine Lady-of-Uruk (Ištar)"

Feathered tiaras became the habitual marker of divinity in Babylonia during the late Kassite period.[27] The trend continued during the Second Dynasty of Isin. At that time the king borrowed outward attributes of the god Marduk, including the feathered tiara. The earliest such royal figure occurs on a kudurru of Marduk-nadin-ahhe, where we see that king paying homage to the symbol of the god Marduk (Fig. 1). In this case we note that the base of the tiara is decorated with flower-shaped ornaments, probably the *ayaru* mentioned in Neo-Babylonian inventories. Marduk himself is represented wearing a feathered tiara decorated with various circular ornaments on a lapis-lazuli cylinder seal from Babylon (Fig. 2). The object dates from the reign of the king Marduk-zākir-šumi I in the ninth century BCE. The seal maker has very distinctly carved a frontal rosette (*ayaru pānû*) as a prominent feature of the tiara. The other items affixed to the tiara are circular objects which look like eyestones.

In Assyria horned tiaras remained the norm for gods. In some cases, however, we see a combination of horns with feathers. The addition of feathers could reflect Babylonian religious influence. The *lamassu*s at Khorsabad wear this type of tiara (Fig. 3); in addition to the feathers and double layers of horns, we see very clearly rows of flower-shaped *ayaru* ornaments affixed to the tiara. It must be noted that in most figurative representations of feathered tiaras the number of feathers is between sixteen and twenty.[28] This nicely corresponds to

[26] First text GC 2, 51; second text PTS 3073.

[27] Unger 1938 outlined the development of divine headgears in Mesopotamia, classifying them by types; his conclusions are still largely valid. Ornan 2005: 227–284 includes a large iconographic repertory of Mesopotamian deities wearing feathered, horned, and mixed tiaras.

[28] Almost all representations are in low or high relief on cylinder seals or larger sculpture; the figure is obtained by doubling the number of visible feathers (assuming that representations in profile show exactly half of the whole).

Fig. 1. 21.10 – The Isin II ruler Marduk-nādin-ahhē (*ca*. 1095–1078) wears the feathered cylindrical tiara of Babylonian kings and deities. © The Walters Art Museum (Public Domain).

Fig. 2. VA Bab 646 – Cylinder seal dedicated to Marduk by king Marduk-zākir-šumi (9th century BCE) depicting the god riding his *mušḫuššu* dragon over the cosmic waters (Vorderasiatisches Museum, Berlin).
Drawing taken from F. H. Weissbach, *Babylonische Miscellen*, WVDOG 4, Leipzig, 1903, p. 16, fig. I.

Fig. 3. AO 19858 – Winged *lamassu* from Khorsabad wearing feathered tiara with double layers of horns and rows of flower-shaped *ayaru*-ornaments. Musée du Louvre, Paris.
© WikiCommons (https://commons.wikimedia.org/wiki/File:Human-headed_winged_bull_from_Khorsabad.jpg).

the Uruk text YBC 11390 which mentions twenty gold feathers for the tiara of the goddess Uṣur-amāssu.

The Eanna archive also contains some data on the crown, the *kulūlu*. However, the only elaborate description of such a crown comes from much later. YOS 20, 35 is a text from the Hellenistic period which comes from the administrative archives of the Rēš and Irigal temples.[29] The obverse reads as follows:

1. ud 22-kam *šá* iti ab mu 71-kam ^{I}*se* lugal
2. *šá i-hi-ṭu-'u* ^{lú}kù.dím.meš *gam-ri*
3. *ku-lu-lu šá* 32-*it a-a-ri*
4. *har-ru-ra-šú u*$^{!?}$ *sa-na-ah-šú* 10-*et a-a-ri*
5. *pa-ni-šú šá* 15 *u* 2.30 2 ma.na *ù*
6. 4 gín kù.babbar *u* kù.gi *e-lat* kù.gi *šá* 1-*et a-a-ri*
7. *pa-ni* 2 ½ gín kù.gi *šá ina* šu.min-*ia iš-šá-a*
8. pap kù.babbar lá-*šú gam-ri šá ku-lu-lu* 2 ma.[na]
9. 6 ½ gín kù.babbar *u* kù.gi

"(1) The 22nd day of the month Ṭebētu, in the year 71 (SE) during the reign of Seleucus (II), then all the goldsmiths weighed out (the following): a crown with 32 rosettes, its chain and pendant with 10 rosettes; (5) its right and left sides (weighing) 2 minas and 4 shekels of gold and silver. Apart from the gold of one frontal rosette: 2 ½ shekels of gold that is taken from my hands. Total of the complete weight of the crown: 2 minas 6 ½ shekels of silver and gold."

The text probably gives a complete description of the object. It includes 42 rosettes (*ayaru*), one frontal rosette (the *ayaru pānû*), the two halves of the headband (called the right and left sides), and a chain and pendant. The total weight is a little more than 2 minas of silver and gold, that is to say, about one kilogram. Therefore, this *kulūlu* crown must have been a comparatively light piece of openwork, akin to but smaller than the crown discovered in the tomb of queen Hamâ at Nimrud.[30] The ornaments of Hamâ's openwork crown are joined by strings, bands and clasps; the rosette (*ayaru*) is very prominent as a motif and alternates with pomegranates, while the crown is topped with leaves and sphinxes.

Without reaching the size and weight of a tiara, the crown was still an elaborate piece of craftsmanship. This is shown by some Neo-Babylonian texts from Uruk. PTS 2813 mentions "130 beads of carnelian for the crown of the goddess Nanaya" ((1) 130 na_4 gug (2) *a-na <<šá>> ku-lu-lu šá* ^{d}*na-na-a*); presumably these were set in gold mountings as part of larger ornaments. Indeed, YOS 17, 247 mentions "170 beads of carnelian for the fruit-shaped ornaments (*inbu*)

[29] The tablet was previously published with copy, full edition, and discussion in Beaulieu 1989: 62–68.

[30] For the attribution to Hamâ see Spurrier 2017, with photograph of the crown on p. 150. Detailed photos of the crown are provided by Damerji 1999: 30–32.

of the crown of the goddess Urkayītu" ((1) 170 na_4 gug *a-na* gurun*.me (2) *šá ku-lu-lu šá* ^{d}unug*^{ki}*-*i**-*ti**), and FLP 1609 records an allocation of "23 shekels of red gold for 620 clasps (*sanhānu*) belonging to the crown of the goddess Urkayītu" ((1) 1/3 3 gín kù.gi sa_5 (2) 620 *sa-an-ha-na* (3) *šá* <<*šá*>> *kul-lu-lu šá* ^{d}unug^{ki}-*i-ti*). The function of these numerous clasps and catches was probably to affix the ornaments to the headband or other structural components of the crown.

3. Neo-Babylonian Larsa

Two Neo-Babylonian texts from Uruk refer to the tiara of the god Šamaš. This is of course the god Šamaš of Larsa. Uruk supplied Larsa with a good part of its cultic needs, and this included not only offerings but also the clothing and jewelry of the resident deities of the Ebabbar temple.[31] It seems likely that only the larger temples could employ important guilds of craftsmen. The first relevant text is an undated memo preserved in the Oriental Institute at Chicago. It read as follows:[32]

(obverse.)
1. *ina* šà-*bi* 3 ½ ma.na 7 ½ gín
2. kù.gi *šá a-na* aga *šá* ^{d}utu
3. *a-na* ^{Id}nà-pap *u* ^{I}*ri-mut*
4. sum-*nu* 1 ½ ma.na *ina* šà-*bi*
5. *ina* igi ^{Id}nà-pap
(reverse uninscribed.)

"(1)From (a sum of) 3 ½ minas (and) 7 ½ shekels of gold which was allotted to Nabû-nāṣir and Rīmūt for the tiara of the god Šamaš, 1 ½ minas are (5)at the disposal of Nabû-nāṣir."

The reverse of the tablet has a drawing of a rectangular object with an element protruding at one of its corners. This might be a sketchy depiction of the tiara of Šamaš with a tassel. It is not certain which way we should look at it, either a tall or low headdress.[33] However, drawings on Neo-Babylonian administrative texts do not necessarily relate to the contents of the documents, even if in this case I don't see what else it could represent except the tiara mentioned on the tablet.

[31] The evidence is discussed in Beaulieu 1991: 58–60.

[32] OIP 122, no. 114 (A 4282). Publication of the tablet with photo, transliteration, and translation by Weisberg 2003: 142 and pl. 48 (also 3 for the drawing, interpreted by Weisberg as possibly the tiara mentioned in the text).

[33] The drawing by Weisberg is not exact as the curved element protruding from the tiara is in fact a lump of clay on the tablet according to the photograph.

The other text about Šamaš of Larsa is an unpublished tablet from the Yale Babylonian Collection, NCBT 385.[34] It reads as follows:

obverse
1. 4 na_4 igi.min.me
2. 2 na_4 *er-im-mat*
3. *a-na* aga kù.gi *šá* ^{d}utu
4. *ina* igi ^{Id}amar.ud-mu-dù a-*šú šá* ^{I}šeš-*me-e*
lower edge
5. iti sig_4 ud 2-kam mu 13-kam
reverse
6. ^{d}nà-a-pap lugal e^{ki}

"(1) Four eyestones (and) two egg-shaped ornaments for the golden tiara of the god Šamaš are at the disposal of Marduk-šumu-ibni, son of Ah-immê. (5) Month of Simānu, 2nd day, 13th year of Nabopolassar, king of Babylon."

The dating to Nabopolassar is interesting in light of the inscriptions of his son and successor Nebuchadnezzar II. Nebuchadnezzar claims in his building inscription from Larsa that the temple of Šamaš, Ebabbar, lay in ruins and that its perimeter could not even be recognized when he proceeded to rebuild it.[35] If this is true, we may wonder where the god Šamaš was residing. It is possible that the god had taken refuge in Uruk during the political turmoil of the preceding centuries. Otherwise we must assume that Nebuchadnezzar's claims are hyperbolic and that the Ebabbar temple was a fully functioning sanctuary to which he only made repairs.[36]

4. Neo-Babylonian Sippar

The Ebabbar archive at Sippar has yielded some data on tiaras and crowns, mostly dating to the sixth century BCE (CT 55, 293–321).[37] Unfortunately, the texts are often in a fragmentary state. They mention the tiaras of the god Šamaš and his consort the goddess Aya. Both deities also had a crown and the one belonging to Šamaš was ornamented with kidney-shaped beads made of gold (*tukpītu*). We hear also of the crown of the goddess Gula, decorated with rosettes (*ayaru*), probably also made of gold although the interpretation of the

[34] The new catalog number of the tablet is YPM BC 034930 (= Yale Peabody Museum, Babylonian Collection). The tablet is published here in transliteration by Courtesy of the Yale Babylonian Collection. The reverse has traces of a stamp seal impression, published by Ehrenberg 1999, no. 208 (99, photo pl. 27).

[35] For a translation of the inscription see Beaulieu 2000: 308–309.

[36] The French archaeological expedition of the 1970s and 1980s found clear evidence of Nebuchadnezzar's building activities on the Ebabbar temple; the results are described by Huot 2014: 139–155.

[37] The texts were studied by Joannès 1992, with editions and commentaries.

text is uncertain because of its poor state of preservation. The data can be tabulated as follows (Table 2).

Table 2: Data from Sippar

Tiaras and Crowns at Sippar	
agû "tiara"	Šamaš, Aya
kulūlu "crown"	Šamaš, Aya, Gula
Ornaments for the Tiaras and Crowns of Sippar	
ayaru "rosette" (crown)	Gula
tukpītu "kidney-shaped beads" (crown)	The Goddesses

In the second year of his reign (554–553 BCE), Nabonidus undertook building works at Sippar.[38] On that occasion he ordered the making of a new tiara for the god Šamaš and commemorated it with a special inscription on a cylinder. The inscription is known from a single exemplar preserved in the British Museum (BM 42269):[39]

Column I
41. *ì-nu-šu ša* ^{d}utu en gal di.kud *ṣi-rim ša* an-*e* ù ki-*tim*
42. *a-ši-ib* é.babbar.ra *ša qé-reb* zimbir^{ki} en-*ia*
43. aga kù.gi *si-mat i-lu-ti-šu ša ap-ru ra-šu-uš-šu*
44. *ti-iq-nu tu-uq-qù-nu bu-un-nu-ú ṣa-ri-nu*
45. *šat-ti-ša-am-ma šu-úr-šu-du la i-ba-aš-šu-ú te-na-a-šu*
46. *ma-na-ma* lugal *a-lik mah-ri-ia te-né-e* aga *šu-a-ti la i-pú-šú*
47. *a-na e-peš* aga kù.gi šà *pa-li-ih ra-ša-ku pu-*[*lu-úh*]*-ti*
48. *ú-pa-ah-hi-ir-ma* dumu.meš tin.tir^{ki} *ù* bár.[sipa]^{ki}

Column II
1. *en-qu-ti ra-áš ṭè-mi ki-ma la-bi-ri-im-ma li-in-né-pu-uš iq-bu-ni*

"(I.41) At that time, for the god Šamaš, the great lord, the exalted judge of heaven and earth, who resides in the Ebabbar temple in the city of Sippar, my lord, a tiara of gold, the mark of his divinity that he wears on his head, that is adorned with an insignia (and) that is beautifully decorated with a *ṣarīnu*, (I.45) that is securely attached every year, for which there is no replacement, (and which) no king who came before me had made a replacement for that tiara, my heart was fearful, I became terrified concerning making a (new) golden tiara. I gathered the citizens of Babylon and Bor[sippa], (II.1) skilled men with experience, and they said to me 'Let it be made like the original'."

[38] The date of the work at Sippar is confirmed by the Royal Chronicle (Weiershäuser and Novotny 2020: 27–28), which places it in the same year as the elevation of Nabonidus' daughter to high priestess of Sîn at Ur, securely dated to the second year of his reign. The fashioning of the new tiara almost certainly took place in that same year.

[39] I am generally following here the recent edition by Weiershäuser and Novotny 2020 (Nabonidus 25).

Having received this advice Nabonidus proceeded with a series of extispicies, asking the gods whether he could make the tiara without the *ṣarīnu* decoration (*ana epēš agê ša la ṣarīni*). After having received negative answers repeatedly he ordered more consultations and, in the end, received a favorable answer for making the tiara like the original one, with a *ṣarīnu*, and thus the matter was resolved:

Column II
32. *ter-ti šu-a-ti ap-pa-lis-ma a-na a-mat* ^{d}utu
33. *ù* ^{d}iškur en.meš *bi-ri at-kal-ma*
34. aga kù.gi *ki-ma la-bi-ri-im-ma šá ṣa-ri-ni in* na_4.giš.nu_{11}.gal
35. *ù* na_4.ugu.aš.gì.gì *šu-šu-bu in* na_4.meš *ni-siq-tim šuk-lu-lu*
36. *in ši-pir* ^{d}kù.bi.bàn.da *u* ^{d}nin.za.dím *eš-ši-iš ab-ni*
37. u_4*-mi-iš ú-na-am-mi-ir-ma*
38. *ma-ha-ar* ^{d}utu *be-lí-ia ú-ki-in*

"(II.32) I saw this extispicy and trusted in the words of the gods Šamaš and Adad, the lords of divination. I made a golden tiara like the original one with a *ṣarīnu*, set with alabaster (II.35) and turquoise (and) perfected with precious stones. I created it anew by the craft of the deities Kusibanda and Ninzadim. I made (it) shine like daylight and firmly placed (it) in the presence of the god Šamaš, my lord."

The statement that the tiara was placed in front of the god Šamaš induced the CAD to interpret the word *ṣarīnu* as *zarinnu*, a stand or small table.[40] But this contradicts the previous statement that the tiara was beautifully decorated with a *ṣarīnu* (*bunnû ṣarīnu*), an improbable reference to a table or stand. The word is left without translation in recent editions of the inscriptions of Nabonidus. So, what is this *ṣarīnu* which seems to have stirred such emotions? The answer may well lie in the archaeological assemblage discovered in the foundations of the Neo-Babylonian Ebabbar temple at Sippar. This assemblage includes the well-known Sun-God Tablet of Nabû-apla-iddina, who reigned three centuries before Nabonidus (Fig. 4). It is almost certain that the Sun-God Tablet was discovered when Nabonidus restored the Ebabbar temple and reburied it with other deposits in the foundations of the temple.[41] The relief on top the tablet depicts the god Šamaš seated in his shrine. On the left, the high priest of Šamaš leads the king by the hand toward the god. The king is followed by a protective goddess wearing a tiara similar to that of Šamaš. In front of the god we see a large solar symbol placed on a table, attached with ropes held by the twin gods on top of the shrine.

[40] CAD Z: 68, *zarinnu* B; the CAD keeps the word distinct from *zarinnu* A, which describes a quality of objects. AHw proposes the same distinction.

[41] For the details of the archaeological assemblage and its dating to the beginning of the reign of Nabonidus, when he restored the Ebabbar temple, see Woods 2004: 34–35.

Fig. 4. BM 91000 – Stone tablet of the Babylonian king Nabû-apla-iddina (9th century BCE), with depiction of the god Šamaš in his shrine (British Museum, BM 91000). © WikiCommons (https://commons.wikimedia.org/wiki/File:Tablet_of_Shamash_relief.jpg).

The relief has three captions. The one on the left is straightforward: "Representation of the god Šamaš, the great lord, who resides in the Ebabbar temple in Sippar" ((1) *ṣa-lam* ^{d}utu en gal (2) *a-šib* é.babbar.ra (3) *šá qé-reb* ud.kib.nun^{ki}). The other two captions, however, have eluded a convincing explanation. The one that concerns us is the caption in front of the tiara of Šamaš: (1) aga ^{d}utu (2) muš igi.min. Various interpretations of muš igi.min have been proposed. In my view the reading should be *ṣer-ini*$_4$ since these are standard phonetic values for these two signs.[42] The caption would thus translate "Tiara of Šamaš, a *ṣerīnu*" or "Tiara of Šamaš, with a *ṣerīnu*". Both Hans-Peter Schaudig and Christopher Woods have considered the reading *ṣerīnu* as possible and compared it with the *ṣarīnu* of the Nabonidus inscription. However, Hans-Peter Schaudig does not propose any specific explanation of the caption.[43] Woods,

[42] Borger 2010: 407, gives the phonetic reading of igi.min as *ini*$_4$.

[43] See Schaudig 2001: 381–382, n. 459, where he discusses the word *ṣarīnu* / *zarinnu* at length, with references to previous literature.

on the other hand, sees a possible double entendre.[44] According to him the main reading of the caption would be nimgir ^{d}utu muš igi.min "the herald of Šamaš, a two-faced snake," referring to the twin gods on top of the shrine. The secondary, cryptic reading would be aga ^{d}utu *ṣàr-ini*$_4$, pointing not to the tiara, but to the solar symbol on the stand facing the shrine, since the term *agû* can also refer to the halo of the moon or sun. In his view the caption would point to the fact that the symbol of the Sun-God stands in front of the shrine, on a table called a *ṣarīnu* or *zarinnu*. Thus, he maintains the interpretation of the CAD for that word. Also, his proposal dissociates the caption from the tiara worn by the god Šamaš on the relief. However, given the placement of the caption, it seems more logical to assume that it was meant primarily to describe the tiara.

In 2001 Ursula Seidl proposed a new interpretation of the caption: aga ^{d}utu *ṣer-ši*.[45] The rare word *ṣeršu* means "protuberance" and can refer to the horns of the moon.[46] In her view the caption describes the tiara of Šamaš, not the symbol on the stand, and she claims that both *ṣeršu* in the Sun-God Tablet and *ṣarīnu* in the Nabonidus inscription refer to its main characteristic, the layers of horns. She points out that this type of tiara had become obsolete by the late second millennium, and the two terms would therefore represent attempts at describing such an object. However, her reading *ṣer-ši* for muš igi.min seems contrived; although the sign igi carries the phonetic value *ši*, it is not clear whether igi.min can have the same reading since it is basically the logogram denoting "two eyes", hence the phonetic reading *ini*$_4$ based on *īnu* "eye" seems more appropriate. Therefore, I would make a slight modification to her proposal, replacing the reading *ṣer-ši* with *ṣer-ini*$_4$. Thus, the *ṣerīnu* of the Sun-God Tablet and the *ṣarīnu* of the Nabonidus inscription would in fact be the same word describing the layers of horns on the tiara. There are two other possible attestations of that word. One is in a fragmentary Middle-Babylonian text from Dūr-Kurigalzu which seems to describe statues and other objects, perhaps belonging to the royal palace; it is written *ṣe-ri-nu*.[47] The other one is in a ritual text from the Seleucid period where it refers to a decoration on a vase or container and it is spelled *ṣa-ri-i-ni*.[48] I am unable to propose an

[44] The evidence is presented in Woods 2004: 92.

[45] Seidl 2001: 128–129.

[46] The word is listed as *ṣiršu* in CAD but as *ṣeršu* in AHw, which provides more textual references.

[47] The word appears in an inventory from Dūr-Kurigalzu published by Gurney 1953, text 25: the inventory is very fragmentary but it could deal with statues (it mentions stones including lapis); the context for the word *serīnu* is largely lost. AHw lists the word as separate lemma (p. 1105a, *ṣirīnu*) and refers to *zarinnu* for comparison.

[48] Both CAD (Z, *zarinnu* B) and AHw (p. 1515b, *z/ṣarīnu*) claim that this is the same word as the *ṣarīnu* of the Nabonidus inscription, although they cannot harmonize the proposed meaning "stand, table" with the evidence of the ritual text, which seems to imply that the *ṣa-ri-i-ni* is a decoration on gold vessels which appears to be made of *algamēšu* stone.

etymology of *sẹrīnu*. Perhaps it is a dual form of *ṣēru* "snake" (*ṣērān*, *ṣērīn*). It could refer to the snake-like appearance of the horns surrounding the tiara on both sides, as we can see very clearly on the *lamassu*s from Khorsabad and Nimrud, but I will not speculate further in that direction.

The making of a tiara with *ṣarīnu* decoration coheres well with Nabonidus's antiquarian interests. He must have been shown the Sun-God Tablet and, on the advice of experts he consulted, resolved to make a new tiara for Šamaš with layers of horns, a *serīnu*, as depicted on the relief. The Sun God Tablet was already an antiquarian revival when it was produced in the ninth century. The inscription on the Tablet states that the statue of Šamaš had been lost and needed to be made anew according to a model that was found by accident on the west bank of the Euphrates. The image of Šamaš was not a contemporary depiction but an ancient one, corresponding more closely to the depiction of Šamaš on the Code of Hammurabi than to gods portrayed in late Kassite and post-Kassite iconography, usually coiffed with feathered headdresses. It seems that this particular tiara had never been made again for the god Šamaš until Nabonidus decided to revive it. This is what he claims: "no king who came before me had made a replacement for that tiara." However, that type of tiara had not been completely forgotten in the Neo-Babylonian period since it still appears on figurines of protective deities buried in foundations of buildings. Such figurines have been found under the palace of Nebuchadnezzar in Babylon.[49]

The new tiara of Šamaš of Sippar was very probably made in Babylon since Nabonidus asked experts from Babylon and Borsippa for their advice on its form. A text from Sippar records an order to deliver flour to the expert craftsmen who brought a tiara at the beginning of the third year of Nabonidus:[50]

(obverse.)
1. 5 bán *qé-me hal-la-la*
2. *a-na* ^{lú}*um*-[*man*]-*nu*
3. *šá it-ti*
4. *a-ge-e il-lik-ku-nu*
5. *i-din* iti bára
(reverse.)
6. ud 7-kam mu 3-kam
7. ^{d}nà-i
8. lugal tin.tir^{ki}

"(obv.5) Give (obv.1) five *sâtu* of *halhallu* flour to the expert craftsmen who came with the tiara. Month Nisannu, (rev.5) seventh day, third year of Nabonidus, king of Babylon."

[49] An example is preserved in the Vorderasiatisches Museum in Berlin; see Finkel and Seymour 2008: 91, fig. 72; original publication by Klengel-Brandt and Cholidis 2006, no. 693.
[50] CT 55, 51.

Since we know from other sources that the Ebabbar temple was restored in the second year of Nabonidus, it seems reasonable to assume that this text refers to the new tiara with the *ṣarīnu* decoration. Sippar probably lacked craftsmen who could make such an object.[51] They brought the tiara at the beginning of the third year, in time for the New Year Festival in Nisannu, the first month, and this coheres well with the statement of the Nabonidus cylinder that the tiara of Šamaš was placed on the god's head every year (*šattišamma šuršudu*).

A text dated to the 25th year of Darius I contains a list of the jewelry (*šukuttu*) put on the goddess Aya in the month Nisannu, including her tiara:[52]

obverse
1. *šu-kut-tu*$_4$ *ša* iti bára ud <x>-kam mu 25-kam
2. ^{I}*da-ri-ia-muš* lugal e^{ki} lugal kur.kur.meš
3. *a-na* ^{d}*a-a tal-li-ku*
---
4. 1 *a-gu-ú*
5. 4-*ta* gaba.meš

"(1) Jewelry that went on the goddess Aya on the xth day of the month Nisannu in the 25th year of Darius (I), king of Babylon, king of the lands. One tiara; (5) four pectorals; (etc …)"

Another text, CT 55, 321, mentions craftsmen (*ummânu*) who came from Babylon; it is dated on the 29th day of the month Nisannu in the eighth year of Cyrus. On that occasion a tiara ([*a*]-*gu-ú*) was delivered, qualified as *iškar bīti* "work assignment for the temple"; the text records various ornaments and confirms that these were made by craftsmen residing in Babylon. The combined evidence from these administrative records indicates that the tiara and other important pieces of sacred jewelry were made and repaired in Babylon, and that they were brought every year to Sippar for the New Year celebrations. Several texts from the Ebabbar archive record allocations of rations to expert craftsmen (*ummânu*), some of whom are specifically designated as "having come from Babylon" (*ummânū ša ultu Babili illikūnu*). These texts date generally to the first two months of the year; since they span most of the sixth century, they confirm that these trips took place regularly and that they coincided with the New Year celebrations.[53]

[51] Sippar, like Larsa, probably lacked the resources to maintain guilds of specialists in all fields of craftsmanship.

[52] CT 55, 317.

[53] Originally, I assumed that CT 55, 51 and similar texts mentioning *ummânū* coming from Babylon referred to the scholars who advised Nabonidus on the restoration of temples and cultic objects (Beaulieu 1989a: 6–12). As pointed out by Bongenaar 1997: 367–369, this view must be rejected in light of the series of texts showing that such trips were quite regular and that the word *ummānû* in these cases referred to expert craftsmen.

5. Conclusions

To conclude, a somewhat coherent picture emerges from this preliminary study. The terms *agû* and *kulūlu* refer to distinct objects, the former being a tall cylindrical headdress, the latter a headband or crown in openwork. The *agû* was clearly the more important one. Texts associate the radiance of the god (*melammu*, *namrirru*, *rašubbatu*, *šalummatu*) with the *agû*, and its decoration was probably carefully monitored to reflect the nature of the god, its divinity (*simāt ilūti*). Among the favored ornaments for tiaras one notes eyestones, egg-shaped jewels (*erimmatu*) and flower-shaped jewels (*ayaru*). All of them were roughly circular in shape, and this may have been felt aesthetically appealing and therefore appropriate for divine tiaras. In the 12th century the feathered tiara was introduced in Babylonia and replaced the horned tiara as main indicator of divinity, although the latter never disappeared completely. The feathered tiara was also worn by kings until the introduction of the tasseled bonnet in the ninth century. In Assyria, the horned headdress remained the canonical symbol of divinity but was sometimes combined with feathers. The term *ṣarīnu* probably referred to the multiple layers of horns on the tiara of deities and that type of headdress was still known in the Neo-Babylonian period but used only rarely. This could explain why Nabonidus felt the urge to devote an entire inscription to its revival for the god Šamaš of Sippar.

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THE SCENTS OF BABYLONIAN SANCTUARIES

LAURA COUSIN*

"(The Babylonians) let their hair grow,
cover their heads with a mitre,
and rub the whole body with perfumes."
(Herodotus, *Histories* I, CXCV)

"Whenever a Babylonian has an intercourse with his wife,
he burns perfumes, and sits down with them to purify himself.
His wife does the same thing on the other side."
(Herodotus, *Histories* I, CXCVIII)

The use of perfumes and aromatic products has been attested in Mesopotamia since the 3rd millennium BCE by cuneiform documentation, and most certainly dates back to earlier periods. In Mesopotamia, perfumes come in the form of perfumed water and, even more often, perfumed oil, made with several fragrant substances. These latter are generally of plant origin, in which case they are wood or resins. The process of extracting essences from perfumed plants to produce scented waters, ointments or oils is a technique used since the second half of the third millennium in Mesopotamia. During the Neo-Babylonian and Persian-Achaemenid periods (the period between 626 and 484 BCE, which was named by Michael Jursa as the "Long Sixth Century"),[1] and particularly in Babylonia, the variety of scented products used increased. This increase is allowed thanks to the access to the Arabian Peninsula, and also because Babylonia is at the centre of a vast empire set up during the reign of Nebuchadnezzar II (604–562), giving access to the resources of the Levant.[2] The lists and recipes of perfumes then include woods (like cedar, *erēnu* or cypress, *šurmīnu*), plants whose stems are used instead (like the fragrant reed, *qanû*), berries (like juniper, *burāšu*), gums and resins (like myrrh, *murru*, and bdellium, *bidurḫu*).

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[1] Jursa 2014.

[2] Jursa 2009.

Since the 1950s, there have been several major studies about perfume in Mesopotamia. Thus, Erich Ebeling (1950) devoted a monograph to perfume recipes; then, these data were taken up by Michael Jursa (2004) in a summary article published in the *Reallexikon der Assyriologie*. In addition, we owe several contributions to Francis Joannès (1993 and 2006): one on perfumes and their production according to the documentation of the city of Mari in the second millennium BCE, and the other on the care of patients treated with fumigations or potions, the latter of which may come from an office attached to certain shrines and called in Akkadian *bīt ḫilṣi* ("building where oil is filtered and refined").[3] Finally, we owe again to Michael Jursa (2009) a general repertory of aromatics used in the first millennium. More generally, there is a revival in approaches to perfumes and smells in current contributions. They are now closer to a more general history related to emotions, which is itself a fairly recent historical object.[4]

Temples are places where the senses are at work, especially the sense of smell, as Kiersten Neumann (2018) demonstrated with the example of the temple of the god Nabû at Kalḫu in Assyria. Thus, the fact that temples contain building elements made of fragrant wood and prepare food whose smoke is supposed to please the gods shows the whole issue of scents in Babylonian sanctuaries. For example, an inscription of King Nebuchadnezzar II relates the renovation of the Ezida temple in Borsippa, sanctuary of the god Nabû and he particularly insists on the fragrant woods used to decorate the chapels:[5]

> "Ezida, the true house, I made anew in Borsippa; I clothed with brilliant gold the cedars in its roofing (*e-re-nim ṣu-lu-li-šu* kù.gi *na-am-ra-am ú-ša-al-bi-iš*). I adorned its structure with gold, silver, precious stones, copper, *musukkannu*-wood and cedar-wood (*in* kù.gi kù.babbar na_4.na_4 *ni_5-sì-iq-tim e-ra-a* ^{giš}mes.<má>.gan.na *e-re-nim u-za-'-in*). I established Nabû and Nanaya in joy and exultation inside a dwelling of (their) contentment."

In this contribution, I will focus on the production of scented oils in the Babylonian temples, as well as on the adornments of some divinities that could remind us of certain good smells. They could also take concrete forms, like stones or jewelry reminiscent of fruits or flowers. To study these elements of jewelry, we can refer to some inventories that were composed during the Neo-Babylonian period. In a first part, I will study the production of perfumes in the temples, then, in a second part, I will be interested in the jewels in the shape of fruits and flowers, before concluding in a third part, on the links between perfumes and worship.

[3] See the paper of Francis Joannès about spatial organization in the Babylonian sanctuaries in this volume.

[4] See Thomason 2016; Schellenberg and Krüger (eds.) 2019; Neumann 2019; and more recently Nadali and Pinnock (eds.) 2020.

[5] Da Riva 2013a: 223 (inscription C34, col. II, l. 18–25).

1. The Production of Perfumes in the Temples

1.1 Perfumes in the Old Babylonian period

The production of perfumes by Babylonian sanctuaries dates back at least to the Old Babylonian period, as indicated in a royal inscription dated to the reign of Rīm-Sîn of Larsa (1822–1763 BCE):[6]

> "(For the god/goddess …, Rīm-Sîn, …)], who takes care of [Gir]su [(and) of the district of L]agaš, who perfectly executes the *me*s and rites of Eridu, who is in the admiration of the Ebabbar, king of Larsa, king of the countries of Sumer and Akkad, built for him/her the Eirara, whose perfume is sweet, whose many (aromatic) woods are costly (ir.si.im.bi du$_{10}$.ga.àm ˹giš˺.hi.a.bi peš.peš ˹mu˺.na.dù)…"

This temple is known by the ceremonial name of é.ì.rá.rá, "House of the Perfumer", according to Andrew R. George, who proposes that this temple be located in the city of Ur.[7] The translation of Eirara gives *bīt raqqîm* in Akkadian, a perfumery or workshop that produces perfumes. It is not known to which deity this temple was dedicated, although Dominique Charpin suggests that it could be a goddess Nin-e'irara, but it is not certain.[8]

Meanwhile, for the Old Babylonian period during the reign of Sîn-iqīšam or even Rīm-Sîn, a group of 63 texts from the kingdom of Larsa mentions the deliveries of perfumed oils for individuals, the king and the deities, by a workshop called é.ì.du$_{10}$.ga, "House of Good Oil".[9] In addition, this corpus highlights the long-distance exchanges that govern access to aromatics: resins come from Dilmun via the Persian Gulf, woods from the West via the Middle Euphrates region. Once they arrived in Larsa, these basic materials were traded by merchants who then supplied the temples and the Palace, and were transformed into perfume according to two processes, cold or hot maceration, as in the Mari kingdom.[10]

We can also note the existence of at least one prebend related to perfume in the text TMH 10 13 (col. III, l. 14'). This is an Old Babylonian text from Nippur with a long-shared heritage:[11]

> "(…) one third of the office of *pašīšum*-priest of Nusku, one third of the function of perfumer (igi.3.gál nam.ì.rá.rá): Abba-kala has given an extra share, as equivalent of the *pašīšum*-priest office and the office of buršuma of Ninlil, and the é.ku$_4$ office (*ērib bīti*) of Ninlil and Nusku and his sustenance (field), to Imšiši."

[6] Frayne 1990: E4.2.14.7.

[7] George 1993: 103.

[8] Charpin 2017: 186. Dominique Charpin compares the name of the Eirara temple with that of the é.ì.gara$_4$ temple, "House of Butterfat" (George 1993: 103), dedicated to a goddess named Nin-e'igara.

[9] Middeke-Conlin 2014.

[10] Middeke-Conlin 2014: 24–25.

[11] For the translation, see Goddeeris 2016: 67.

Anne Goddeeris, who edited this text, points out about this prebend that it is "a temple office otherwise undocumented in the Old Babylonian texts".[12] Even if the documentation is for the moment silent on this subject, one may wonder whether such prebends could not be attested in other temples in Mesopotamia.

1.2 Perfumes in the Neo- and Late Babylonian texts

Several texts of the time of Šulgi already evoke during the period of Ur III ingredients used to make perfumes in Umma and Puzriš-Dagan.[13] A major-domo (šabra) by the name of Lugalizim buys herbs for religious festival offerings, which are made in the form of scented oils. 17 aromatics have been brought to light by these texts, including cedar (eren), cypress (šu.úr.me), myrtle (ád), or essences that are still obscure, such as gu_4.ku.ru or šem.$gana_2$.[14]

Perfume recipes from the Middle Assyrian period are known through the work of Erich Ebeling (1950). If they are referred to as recipes, it should be noted that some proportions and ingredients are not given or remain unknown, because of the bad state of preservation of the cuneiform tablets. These recipes have been compiled into a technical compendium, which constitutes scholarly literature.

There are several techniques for producing perfume as highlighted by Francis Joannès (1993), then by Michael Jursa (2004). If in temples and palaces, aromatic substances are generally burnt to diffuse good fragrances, it was discovered very early on that it was possible to macerate and infuse these same aromatics until saturation. They were then macerated in milk or fatty substances. It was at the end of the third millennium BCE that the control of cold maceration made it possible to produce perfumed oils. In Mari, another technique called "pot oil" was developed, which is a hot preparation made in the kitchen. The production of perfumed water is in the minority.[15] If no representation of the preparation of perfumes for Mesopotamia has been unearthed to our knowledge, we can however refer to an interesting Egyptian relief kept in the Louvre Museum, and coming from the tomb of Païrkep (under the 26th dynasty, in the 6th century BCE), showing a group of female perfume-makers preparing a lily perfume.[16]

The production of perfumed oil in the Neo-Babylonian sanctuaries is known from the archives of the Ebabbar and Eanna temples. According to the archives

[12] *Ibidem*: 70.
[13] Brunke and Sallaberger 2010.
[14] *Ibidem*: 49–51.
[15] About this question, see Charpin 2014.
[16] Wall panel E 11377, see https://www.louvre.fr/oeuvre-notices/linteau-sculpte-en-bas-relief-du-tombeau-de-pairkep-la-preparation-du-parfum-de-lis (consulted on 2020.11.30).

of the Ebabbar temple in Sippar, temple dedicated to the Sun-god Šamaš, there are several types of oils used for specific days and particular gods. Two oils called *kiṣru* and *siltu* were obviously produced from a sesame oil base, to which fragrant substances were added.[17] In Sippar, inside the Ebabbar temple, stands the small shrine of Šarrat-Sippar, the Eedinna, "House of the Steppe",[18] which is linked to the production of perfumes. This temple was restored by Nabopolassar and is consecrated in one of his royal inscriptions, the *Cylinder of the Eedinna*.[19] This shrine belongs to the group of small temples called *ekurrāte* in Akkadian, a term common to four minor shrines dedicated to Adad, Gula, Anunnītu and Šarrat-Sippar. No administrative documents from the reign of Nabopolassar have been uncovered here, which could mention the activities of the temple of Šarrat-Sippar.[20]

Several prebenders associated with the Šarrat-Sippar sanctuary are known. The prebend of the entrants (*ērib bītūtu*) to the sanctuary is in the hands of the Bēl-eṭēru family. Some men of this family are involved in the preparation of perfume, according to the prosopography established by Arminius Bongenaar: for example, Bēl-uballiṭ receives herbs for an oil qualified as *rabû* (BM 64097), "great oil".[21] The *rabû*-oil is specifically associated with the preparation known as *ḫilṣu*, and with the goddess Šarrat-Sippar. Bēl-uballiṭ's grandfather, Sîn-ilī, and his father Bēl-aḫa-ittannu, also receive products for the cult, including wool for Šarrat-Sippar's garment, sesame and herbs for the *rabû*-oil made for her sacred wedding:[22]

> "… (sesame) for the *rabû*-oil (destined) for the wedding ceremony of Šarrat-Sippar on the 17th day of the 11th month and sesame for the gathering, which was given to Eriba, the entrant of the Šarrat-Sippar shrine."

On the other hand, a woman named Kaššaya is designated as *rabītu ša bīt Šarrat-Sippar* "great (lady) in the service of the temple of Šarrat-Sippar".[23] Arminius Bongenaar suggests that she could be one of the daughters of Nebuchadnezzar II, but the princess seems to be settled in the town of Uruk instead.[24] Moreover, one may wonder about the status of this woman: does she have

[17] Bongenaar 1997: 267. For the *kiṣru*, see Camb 438 and Dar 239. For the *siltu*, see Nbn 692, Nbn 1060, Camb 438, Dar 239, and CT 56, 140.

[18] It might seem unusual that a temple producing perfumed oil should bear this ceremonial name. However, since the steppe is known to be a very dry environment, it does not seem harmless that a toilet product that nourishes the skin is produced there. I am grateful to Mustapha Djabellaoui for communicating this idea to me.

[19] For an edition for this royal inscription, see Da Riva 2013b: 70–73.

[20] See Da Riva 2002 about the activities of the Ebabbar temple in 640–580 BCE.

[21] Bongenaar 1997: 244.

[22] About the text BM 74912, see Bongenaar 1997: 248, l. 7–13: *Erībā ērib bīti ša Šarrat-Sippar* (issue of sesame) *ša šamni* gal-*ú šá* u_4 17 iti zíz *ša ḫašāda ša Šarrat-Sippar*.

[23] Bongenaar 1997: 249.

[24] About the question of the daughters of Nebuchadnezzar II, see Beaulieu 1998.

a perfume-making prebend, or is she rather a cult officiant? This question will be addressed later (§3.3).

1.3 The use of perfumes as fumigation

In addition to the oils, the perfume can also take the form of fumigation. Fumigation (*sarāqu* meaning "to disperse") represents the operation during which products, such as herbs or aromatic woods, are put into a perfume burner: burning these materials gives them a good smell that pleases the gods. Fumigation is a form of offering, which also has the function of purifying the ambient air. The object used for fumigations is the perfume burner, known under the terms of *šēḫtu* and *qutrīnu* for older periods, and under the term *nignakku* until the Hellenistic period.[25] The *nignakku* can be made of gold, silver and appears in many rituals. Together with the torch and the basin, used to collect sacred water (*egubbû*), it is used in contexts of consecration and purification. Furthermore, in an inventory from the Eanna temple of Uruk, a perfume burner is particularly associated with the healing goddess Gula, and the text NCBT 755 relates the repair of this silver object.[26] It should be noted that perfume burners are represented on well-known reliefs: that of the "Garden Party", and another of the Palace of Darius in Persepolis. On these two reliefs, they seem to protect royal personalities from the outside world, creating a purifying barrier between them and other individuals.

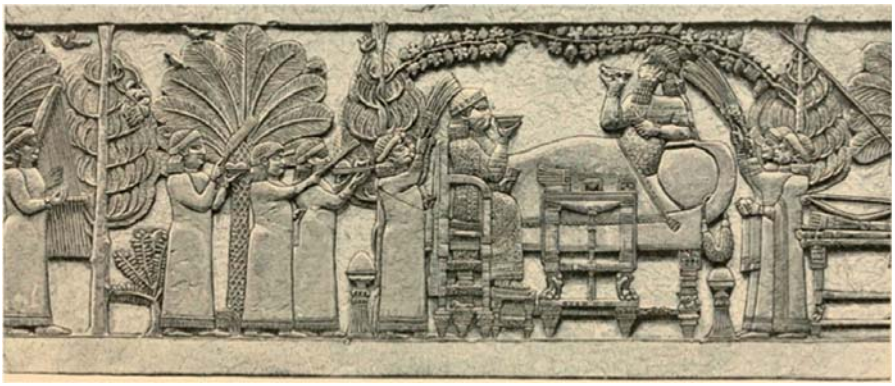

Fig. 1. The "Garden Party" representing King Ashurbanipal and his queen Liballi-šarrat; London, British Museum. Drawing taken from Wright 1905.

[25] Linssen 2004: 145.
[26] Beaulieu 2003: 316.

It is possible to burn cedar needles (*lukšu*), boxwood (*šimeššalû*), herbs (*riqqū*) and juniper (*burāšu*). Some aromatic substances could be produced in the vicinity of the temples. We know, for example, the garden of juniper bushes surrounding the temple of Gula, the Eḫursagsikilla, in Babylon,[27] and also a garden in the Eanna, which is connected to a chapel of the goddess Nanaya, the Eḫilianna.[28] Both gardens can also be put into perspective with CT 14, 50, the list of plants in the garden of King Merodach-baladan II in the 8th century BCE.

When it refers to fumigation, we think of frankincense, but the term "incense" may therefore be used in its original form, meaning "that which is burnt". In the Assyrian ritual *Šurpu*, we find the following incantation, giving an example of the different woods that can be burnt and used for fumigation:[29]

> "Incantation. Incense, who dwells in the mountains, who inhabits the mountains, you are pure! Juniper, cedar, incense which resides in the mountains, the effective incense was given to us, the high mountains (us) gave it for purification. In the pure incense burner, filled with dazzling splendour, the sweet oil, the fine oil, worthy of the table, and the pure […], the purifying materials, produce the smoke of incense, their product, may it be pure as the sky […]!"

Fumigations are very present in incantations, because they are reputed to be very much appreciated by the gods, and also make it possible to obtain omens.[30] Finally, one cannot avoid the question of frankincense. According to the Old Testament (Hebrew Bible), particularly in the passages devoted to the Queen of Sheba, and also according to classical sources, Babylonia experienced the arrival of frankincense in the first millennium BCE, which then spread massively:[31]

> "And the Queen of Sheba heard of Solomon [ ] and she came to test him with riddles. So, she came to Jerusalem with a very large escort of camels carrying frankincense,[32] gold in great quantity, precious stones."

Nevertheless, this does not seem to be apparent from the sources available to us. Frankincense, *labānatu* in Akkadian, does not appear in the texts of the

[27] George 1992: 305–306.

[28] Linssen 2004: 147.

[29] Reiner 1958: 48; and Mouton 2013: 58. *Šurpu* ix, 96–106: én na.izi kur.ta ri.a kur.ra.ta sig_7.ga na.ri.ga.àm kur.ra.ta è.a šim.li šim.giš.erin na.izi kur.ta ri.a á.gál.e na.izi im.ma.an.sum ḫur⌜.sag sukud.da na.ba.ši.in.ri níg.na na.ri.ga ní.ḫus ri.a ì.dùg.ga ì.zag.ga me.te giš bansur.ke_4 ⌜…⌝ dadag.ga níg.nam.sikil.la.ke_4 ⌜na⌝.izi sig_7.ga.bi mu.ni.íb.è.a an.gim ḫé.en.sikil.la šà.an.gim ḫé.en.dadag.ga eme. ḫul.gál bar.šè ḫé.im ta.gub.

[30] Mouton 2013: 62.

[31] 1 Kings x, 1–2.

[32] Depending on the different versions, frankincense becomes "incense", "aromatics", "perfumes" or "balms". About the perfume of the Queen of Sheba, see this interesting initiative: https://www.cnrs.fr/fr/lorigine-du-parfum-de-la-reine-de-saba (consulted on 2020.12.05).

rituals, which contrasts with, for example, what Herodotus wrote in *Histories* (I. 183, 1–2):

> "In the temple of Babylon there is another shrine below, where there is a large golden image of Zeus, sitting at a large golden table, the stool and the chair are also made of gold; the Chaldeans said that the gold of the whole set weighed eight hundred talents. Outside the temple is a golden altar. There is also another great altar, on which entire herds are sacrificed; only small animals may be sacrificed on the golden altar, but on the greater altar the Chaldeans offer the weight of a thousand talents of incense every year, when they celebrate the feast of this god; and in the time of Cyrus there was still in this sacred enclosure a statue in solid gold twenty feet high."

In cuneiform textual documentation, and especially in administrative documentation, there is no mention of frankincense, and very rarely of myrrh, these are traditional substances that are used in sanctuaries as part of rituals.[33] One may therefore wonder whether our view of these two substances is not biased. The routes between Babylonia and the Persian Gulf, on the one hand, and between Babylonia and the Mediterranean, on the other, have been gradually established, but there could be a distortion between the export flows and the proper use of these substances in Babylonia.[34]

2. Jewels in the Shape of Flowers and Fruits

2.1 An overview about inventories of Babylonian temples

During their history, the Babylonian temples produced inventories of sacred furniture and vessels for the use of the gods and goddesses they housed. During the Neo-Babylonian period, this type of text took the form of control notes on which were noted the entries and exits of precious objects belonging to the divine treasure. In addition, exhaustive inventories describing the furniture and crockery of the gods are frequent in Mesopotamia. They often begin with the term *šutukku*, meaning "jewellery", and allowed close control over the circulation of precious objects. The latter could be stolen, and the number of precious objects had to be carefully recorded, as it increased with the donations of the king and private individuals. Two treasures deserve our attention, those of the sanctuaries of Sippar and Uruk.

In 1992, Francis Joannès brought to light a file of texts listing the treasure of the Ebabbar temple of Sippar, and especially the jewels attributed to the

[33] About this issue, see Jursa 2009.

[34] On the subject of wood and wood imports in the first millennium BCE, see in particular Graslin-Thomé 2009: 214–230; see also Boivin 2018: 141–142 about the circulation of woods during the First Dynasty of the Sealand.

goddesses. According to the documents from the Ebabbar treasure, he proposed a reconstruction of the appearance of the jewels. The jewelry is also the property of the Sun-god Šamaš, his spouse Aya and of the healing goddess Gula.

The text NBC 4894, which is kept in the Yale Babylonian Collection, is considered to be one of the most complete inventories of a treasure of a Babylonian temple, in this case that of the Eanna of Uruk.[35] This document is of a special nature: the temple administration could decide to carry out a more complete inventory, if the number of objects belonging to the divine treasure increased. The document NBC 4894 is, therefore, an exhaustive inventory of 80 lines of objects belonging to goddesses Ištar and Nanaya. There are mentions of 52 necklaces, hundreds of jewels, other precious objects such as pearls, figurines and objects of grooming.

2.2 Flowers[36]

Jewels are largely composite objects. They are composed of elements threaded on cords, which may be made of linen fiber for example, or made of precious materials such as gold and precious stones. On these cords or threads, stones are then placed which can take on different shapes: cylindrical, date-shaped what could be called fusiform, ball and pomegranate.[37]

Firstly, jewelry elements can take the form of rosettes and be used as sequins. The rosette motif is recurrent in Mesopotamian art: it can be found in architecture, for example in the Southern Palace of Babylon in the throne room, or embroidered on rich garments as shown in some Assyrian reliefs, and finally it is used in the jewelry of the gods, as well as on the jewelry of the queens of Nimrud.[38]

The rosette, along with elements in the shape of a lion, a star or unknown shapes such as *tenšû* or *ḫašû*, is part of the sequins.[39] Among the terms in Akkadian we can therefore mention:

– the *ayaru*-rosette, which can be found on the tiara of the goddess Uṣur-amāssu, and on the jewels of the goddesses Ištar, Nanaya, Uṣur-amāssu and Urkayītu;[40]
– two other types of rosettes are called *ayaru pānû* "frontal rosette", which is found on the crown and tiara of the goddesses Ištar, Nanaya,

[35] About text NBC 4894, see Beaulieu 1999 and 2003: 142–146.
[36] See also Paul-Alain Beaulieu's paper in this volume.
[37] Joannès 1992.
[38] On the rosette and the jewels of the gods in general, see Oppenheim 1949, and about the Assyrian textiles, Gaspa 2014.
[39] Beaulieu 2003: 21.
[40] Beaulieu 2003: 9 and 11.

Fig. 2. Necklace pendants and beads (18th–17th centuries BCE Babylonia).
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Bēltu-ša-Rēš, Uṣur-amāssu;[41] or *ayaru ša tamlê* "inlaid rosette", used for the jewelry of the goddesses Ištar and Nanaya;[42]

– we can also add the presence of an ornament called *šiḫittu*, which could refer to a plant, but for the moment unknown. It is used for the Urkayītu tiara.[43]

It is also interesting to wonder about the presence of flowers among the elements of jewelry: indeed, as we have seen above, perfumes are made from woods, large resinous trees such as cedar, which may have been chosen for

[41] Beaulieu 2003: 10.
[42] Beaulieu 2003: 11.
[43] Beaulieu 2003: 10. See also the contribution of Paul-Alain Beaulieu in this volume.

their adaptation to maceration techniques, tending to explain that more fragile elements, such as flowers, could not have withstood this treatment.[44] The flowers are then represented as an olfactory ornament, in the same way as the fruits.

2.3 The use of fruit-shaped jewelry: the different types of ornaments

Fruits are part of the offerings generally received by gods and goddesses. For example, in the Eanna temple of Uruk, the deities receive dates known as "Dilmun dates" (*asnû*), qualified in this way because of their very high quality, grapes (*muzīqu*), pomegranates (*nurmû*), dates (*suluppu*) and dried figs (*uribtu*).[45] In addition, according to the administrative documentation from the Eanna temple, there are mentions of stones (for example the carnelian) and even jewels in the form of fruit, some of which refer to food offerings.

Fruit-shaped stones are used in the composition of jewelry and ornaments of various types: pectorals, necklaces, tiaras, and crowns. One can mention the fruit-shaped *inbu*-ornament – *inbu* literally meaning "fruit" – used for the crown of the goddess Urkayītu, and for the jewelry of the goddesses Ištar, Nanaya, Uṣur-amāssu and Kurunnītu.[46] In fact, the texts are rarely explicit about the nature of the fruits used as models for making jewelry. In the text PTS 3136, for example, the pectorals of the goddess Nanaya are mentioned:[47]

> "63 eye-stones of banded agate, 67 cylinder-seal-shaped beads for egg-shaped ornaments, 61 *dubkātu* beads, 38 carnelian beads, 19 cylinder-seal-shaped beads for fruit-shaped ornaments; total (of the jewelry) for the breast ornaments of Nanaya."

If the fruit in question is not specified, it may be suggested that it could be dates, whose shape comes closest to cylinder seals. Furthermore, in the corpus of texts from the Ebabbar of Sippar, the text AnOr 8, 33 (l. 7–8) details the release of necklaces for the Sun-god Šamaš and his spouse Aya, which takes place on 7/ii/Nbk 5. The first necklace deserves our attention:[48]

> "First necklace: 3 strings, 17 cylinders of unequal dimensions set in gold, 37 da(tes) in gold); 39 gold nuggets, forming a chain, 25 cylinders between the nuggets, of unequal (dimensions)."

[44] Dodinet 2014: 52.

[45] Beaulieu 2003: 28–29.

[46] Beaulieu 2003: 10–11.

[47] Transcription in Beaulieu 2003: 193: 63 na_4.igi.min na_4.babbar.dil 67 na_4.kišib.me *a-na er-rim-mat* 61 na_4 *dub-kát* 38 na_4.gug.me 19 na_4.kišib.me *a-na* gurun.me pap *a-na* gaba.me *šá* ^{d}*na-na-a*.

[48] Transcription in Joannès 1992: 177: 1+en gú 3 dur 17 na_4.kišib l*a mit-ḫar man-di-ti* kù.gi 37 *ú*$^{?}$-^{r}*ḫi-nu*^{1} kù.gi 39 na_4 kù.gi *ḫar-ḫar-ri* 25 na_4.kišib.meš *šá bi-rit* na_4 *la* [*mit-ḫar*].

Still in Sippar, some goldsmiths' notes detail the creation of fruit-shaped ornaments (Nbn 719 and Cyr 97), of ornaments in the form of a date (Cyr 116) and of rosettes (Nbn 1081).[49]

As can be seen from the documents studied, particularly in the texts from the Eanna of Uruk, the flower and fruit jewels are most often related to goddesses, and one can even add minor goddesses such as Kurrunītu, goddess of beer and drinks in general. Thus, a pectoral is fashioned for the goddess from 56 fruit-shaped cornelian beads, according to the text YBC 6923.[50] However, the text AnOr 8, 33 from Sippar could suggest that flower and fruit jewels may be used for gods, leaving this question open.

It is also questionable whether the colour of the stone used, in this case carnelian, is important to represent the intended ornament. The stone could be chosen for its colour that comes closest to the natural element.[51] Such ornaments are also found on tiaras or crowns of goddesses, as shown in the text YOS 17, 247 (l. 170):[52]

> "170 beads of carnelian for the fruit-shaped ornaments of the crown of Urkayītu."

Concerning the pomegranate-shaped ornaments, we can refer to the text NCBT 310, in which it is a question of the re-use of six old gold pomegranates (for a weight of 16 1/40 shekels) which are used to make a ring that is part of the composition of the pectoral of Bēltu-ša-Rēš:[53]

> "16 1/40 shekels of gold (obtained from) 6 old gold pomegranates, together with ½ minus 1/16 shekel (obtained from) the reinforcement on the whip, (to make) from it one suspension ring for the breast ornament of Bēltu-ša-Rēš, received by Kudurannu."

According to the text GC 2, 45, pieces of carnelian (na$_4$ *tak-kàs* šá na$_4$ gug) are used to make fruit-shaped ornaments, "consisting of pomegranate-shaped beads belonging to the Nanaya necklace" (˹*a-na* gurun.me˺ *šá* nu.úr.ma ˹*šá* gú *šá*˺ ^{d}*na-na-a*).[54] These precious objects are said to belong to the Nanaya's *pišannu*-box, as stated in the text PTS 2264.[55] It should be noted that one last deity

[49] I thank very much Louise Quillien for these references.

[50] Beaulieu 2003: 322.

[51] I thank very much Manon Ramez for sharing this idea with me.

[52] Transcription in Beaulieu 2003: 257: na$_4$.˹gug˺ *a-na* gurun.me 2 ˹*šá ku*˺*-lu-lu šá* ^{d}unug^{ki}*-i-ti*.

[53] Transcription in Beaulieu 2003: 217: 16 gín *ḫal-lu-ru* kù.gi 6 nu.úr.ma kù.˹gi˺ *la-bi-ru-ti* a-di ½ gín *mi-šil bit-qa* lá *tar-di-ti šá ina muḫ-ḫi il-tu-úḫ* 1-*en sa-an-ḫa* <<ti>> *ina lìb-bi a-na* gaba *šá* ^{d}gašan *šá* sag ^{l}níg.du-*nu ma-ḫi-ir*.

[54] Beaulieu 2003: 196. The text GC 2, 45 mentions na$_4$ *takkas ša* na$_4$.gug. The term *takkas* is difficult to translate in this context: CAD T: 75–76 gives as the general translation "unworked block, slab", and is based on the analysis of Jean-Marie Durand (1983: 228). See also Arkhipov 2012: 44. On carnelian, see Schuster-Brandis 2008: 413–414, and Michel 2017.

[55] Beaulieu 2003: 198.

receives pomegranate-shaped elements: the Divine Chariot. The text NCBT 1121 relates a delivery of gold to goldsmiths (*kutimmu*) to repair pomegranate-shaped beads on the divine chariot.[56] Some sections of the inventories mention objects connected to a particular deity, and among these objects one can find the divine staff or standards. This divine chariot is associated with the "Lady of Uruk".

Some jewels, and notably rosettes, were excavated in Ur during the excavations leaded by Sir Leonard Woolley, but it remains difficult to establish if they were used for the gods' statues.[57] Moreover one can refer to the treasure of the tombs of the queens of Nimrud which moreover presents gold elements in the shape of a pomegranate.[58]

3. Perfumes and Cult

3.1 The question of the *ḫilṣu*-oil

We will first examine the case of the oil called in Akkadian *ḫilṣu*. There are two sacred wedding ceremonies in Sippar, one between Šamaš and his consort Aya,[59] and the other between Šamaš and the goddess Šarrat-Sippar, and in the latter case, the *ḫilṣu*-oil is used.[60]

The term *ḫilṣu* has a special meaning in the archives of the Ebabbar temple: it can refer to a perfume, or to the ceremony in which this preparation is used. This oil appears, in Sippar, in relation to the goddess Šarrat-Sippar and documents, already identified by Arminius Bongenaar in 1997, mention its manufacture: a *ḫilṣu* preparation requires 6 litres of sesame oil, to which herbs are added, up to 14 different types of plants. Finally, this oil seems to be prepared in Sippar for specific days: the 8th of *Ulūlu* (month 6), the 8th and 24th of *Araḫsamnu* (month 8) and the 18th of *Šabattu* (month 11).[61]

In the archives of the Eanna temple in Uruk, several documents mention a building called *bīt ḫilṣi*, "a building where oil is filtered and refined". One of them, UCP 9/2, 27, kept at the Hearst Museum in California, is dated to the reign of Nebuchadnezzar II.[62] It details the ingredients given to a man called Nabû-mušetiq-ṣēti for the "work for *bīt ḫilṣi*". He makes 22 different aromatic products (from cedar, cypress, myrtle, boxwood, sweet reed, myrrh for

[56] Beaulieu 2003: 295.
[57] Woolley 1962: pl. 22.
[58] See Hussein 2016 for a general view of the jewelry of the Nimrud's queens.
[59] Matsushima 1985.
[60] Bongenaar 1997: 242–243.
[61] Bongenaar 1997: 267.
[62] Joannès 2006: 76–77.

example). The *bīt ḫilṣi* of Uruk is under the responsibility of a priest called *šangû bīt ḫilṣi*, and is specifically associated with the goddesses Uṣur-amāssu and Urkayītu.[63] Another *bīt ḫilṣi* is attested in the city of Ur, according to a royal inscription on brick dating from the reign of the Babylonian King Nabonidus (556–539 BCE). This royal inscription is dedicated to the goddess Ningal (probably in year 16 or 17 of Nabonidus[64]):[65]

> "(I) Nabonidus, king of the world, king of Babylon, who built for Ningal, his Lady, the Enunmah, the *bīt hilṣi* in the temple of Ekišnugal."

Furthermore, during the Hellenistic period, and more precisely in Babylon, there is a *bīt ḫilṣi* in the temple of the Esabad, dedicated to the goddess of medicine Gula.[66] This may also be the ultimate specialization of this pharmacy-temple, linked to the therapeutic care that would have been given in the temple of Gula.[67] It is interesting to note that in the case of the *ḫilṣu*-oil and the *bīt ḫilṣi*, and according to the data available to us, we currently have a systematic association of this fragrant oil with the goddesses.

Finally, if we return to the fragrant substances used, we may wonder whether the use of some of them does not participate in the ritual aspect of perfumes. Cedar is an interesting example: literature has consecrated it in the *Epic of Gilgameš*, notably in the famous passage with the giant Humbaba.[68] Cedar appears as a costly and luxurious wood, but also coming from a fabulous land, helping to make it a most precious and symbol-charged substance.

3.2 Perfume containers in temple inventories

Several types of objects may contain perfume, including cosmetic boxes (or vases) known as *mušālu* and *muttabiltu*.[69] It is not easy to determine whether these two types of objects were used to collect make-up or perfume instead, but they are found in the inventories of the goddesses Ištar and Nanaya, and they are mentioned in rituals from Babylon.[70]

[63] Joannès 2006: 77–82.

[64] Beaulieu 1989: 42.

[65] UET 1, 189; see Schaudig 2001: 339–340. We owe a new edition of the inscriptions of Amēl-Marduk, Neriglissar and Nabonidus to Weiershäuser and Novotny 2020. As I was unable to consult it for the moment, I refer to the previous edition of the inscriptions of Nabonidus (Schaudig 2001). See also the Oracc website which hosts this Neo-Babylonian corpus.

[66] Joannès 2006: 88–89.

[67] On the link between perfume, medicine, and pharmacy in older periods, see Limet 1978. About odorous substances and their use in medicine, see Scurlock 2006: 67–71. More generally, see Charpin 2017: 52–56, who develops the idea of a function of pharmacy for the temples dedicated to Gula.

[68] Al-Rawi and George 2014.

[69] Beaulieu 2003: 384 and Cousin 2022.

[70] Da Riva and Galetti 2018.

Fig. 3. Alabastron Sb 608, reign of Nebuchadnezzar II;
Paris, Louvre Museum.
© WikiCommons (https://commons.m.wikimedia.org/wiki/
File:AlabastronNabuchodonosor_II_Sb_608.jpg).

These objects can be made from precious materials (such as gold) or more common ones (such as reed, *qanû*). An alabastron kept in the Louvre Museum and inscribed with the name of Nebuchadnezzar II (Sb 608) could have been used to collect cosmetics, although it should be noted that alabaster remains a porous stone, which should be studied in more detail to understand its function as a container and vessel.

3.3 Perfumes and cult staff

In sanctuaries, the perfume seems to be rather produced by the men who hold the prebends, but in some documents, it seems that women are the ones who handle the perfume, or scented elements, during the rituals. This is particularly interesting because it allows us to review the place of women in the cult, and to show their involvement with the goddesses. It should also be noted that female perfume-makers appear in the archives of the Babylonian palace and could have exercised their profession in the service of royalty.[71]

The place of women in the cult seems to have diminished in the first millennium compared to the second,[72] as shown by the case of En-nigaldi-Nanna, who was consecrated as *entu*-priestess of the Moon-god Sîn by her father, King Nabonidus, after the office of priestess had remained vacant for several centuries.[73] Thus, the woman Kaššaya, mentioned above, is a *rabītu*, which can be translated as "great lady" in the service of Šarrat-Sippar. Furthermore, in the rituals studied by Andrew R. George, a group of women called *bītānâtu* is specifically linked to the goddess Bēlet-Bābili (Ištar of Babylon) in her temple, the Eturkalamma located in the capital city.[74] In a ritual taking place in the month of *Simanu* (BM 32656), which has similarities with the so-called "Divine Love Lyrics",[75] this group of women is active on the 9th day of *Simanu* in the afternoon (l. 9–12). The tablet would be dated to the Seleucid or Parthian periods, that is to say, to the very end of the first millennium BCE, but it is possible that it is a copy of an earlier text:[76]

> "The 9th day: the female members of the temple staff (*bītānâtu*) of Eturkalamma assemble and make merry in the lobby of E-turkalamma. They hurl *ḫašḫuru*-fruits at all the cult-rooms. They say 'Come on now! Come on now!' (This is the ritual for the afternoon.)"[77]

[71] About the question of the female perfume-makers in the Palace of Babylon, see Cousin 2016.

[72] Waerzeggers 2010: 49–51.

[73] Beaulieu 1989: 127–132.

[74] George 2000: 278.

[75] About the Divine Love Lyrics, see Lambert 1975.

[76] George 2000: 276, col. IV, l. 9'–13' for the transcription: u_4 9.kam dumu.munus.meš ^{f}*bi-ta-na-a-tú šá* é.tùr.kalam.ma *i-paḫ-ḫu-ra-nim-ma ina áš-ruk-kát šá* é.tùr.kalam.ma *ni-gu-tú ip-pu-ša-' ina* é.kur.ra.meš *ka-la-šu-un-nu* giš.ḫašḫur *i-šal-la-a a-ga-an-num-ma* min dug_4.ga.meš.

[77] George 2000: 278 for the translation.

Hašhuru-fruits (perhaps apples[78]), are considered to be aphrodisiacs, and should be related to Ištar's role as a goddess of love.

A small corpus of texts highlighted by Caroline Waerzeggers also evokes the female officials called *sallūḫatu*, who help to sprinkle the temples of Uruk.[79] Moreover, according to two fragmentary ritual texts recently published by Rocío Da Riva and Gianluca Galetti (2018), interesting elements can be drawn concerning the involvement of women in the temples of the city of Babylon. The texts BM 40790 and BM 40854+ in fact refer to rituals connected with the *Akītu* of *Nisanu*, the Babylonian New Year,[80] and which bring together goddesses and female cult officials in this context. These two documents, dating from the Late Babylonian period and obviously produced by the same scribe, refer to rituals performed inside the temple of Esagil. This temple is dedicated to the god Marduk, but it also houses the *cella*s of the gods and goddesses of his divine family.

The texts BM 40790 and BM 40854+ deal more particularly with Nabû, god of the scribes and son of Marduk, and his divine spouse Nanaya, as well as their respective *cella*s located in the temple of Esagil: the Ezida (*cella* of Nabû in Esagil) and the Euršaba (*cella* of Nanaya in Esagil). It is also probable that the goddess Nanaya is, in these rituals, rather to be compared and identified with the goddess of love, Ištar.[81]

BM 40790 and BM 40854+ present the acts performed during rituals: they describe offerings, libations, songs, the clothing of divine statues and the handling of objects (such as mirrors, combs, cosmetic containers). These texts contain descriptions of cult activities carried out around the Esagil and Marduk during the *Akītu* celebration, and of other minor rites and ceremonies that take place on the fringe of the new year festival. This shows that the New Year festival has a triple role: celebrating Marduk, his divine son Nabû, but also the city of Babylon more generally.

One of the most interesting aspects of the texts BM 40790 and BM 40854+ is the presentation of women officiating in the field of worship, including a woman serving as *ḫullālānītu*. This is the only attestation of this term, but it seems that this person is related to the goddess Nanaya/Ištar. It may be noted that the *ḫullālānītu* intendant is preferably interested in goddesses, as is indicated in the part of the ritual dedicated to the first day of the month of *Nisanu* (BM 40790, col. II, l. 10–13):

> "After the *pišannu*-box has gone to Ezida, (and) the oil has gone to Ezida, the *cella* of Nanaya, the *ḫullālānītu* will take the mirror of (the goddess) Sutītu,

[78] CAD Ḫ, p. 139–140.
[79] See NCBT 6 and OIP 122, 36: cf. Waerzeggers 2010: 49–51.
[80] About the Babylonian New Year festival in general, see Zgoll 2006.
[81] Da Riva and Galetti 2018.

> the mirror of (the goddess) Gula of E-ulla. A reed (?) … (a container?) containing aromatic oil, (the priestesses-*ḫullālānītu*) will take them with them."[82]

In the text BM 40854+, a large part of the ritual is performed by the female officiant-*ḫullālānītu* and by a female singer who appears alone or with a *kurgarrû*,[83] a male officiant associated with the cult of Ištar (col. IV, l. 1–5):[84]

> "… before Nanaya … [of] Nanaya, Qibi-dumqī … she will assign to the temple of Bēltiya, and to the golden mirror, the [*ḫullālānītu*] … [the songstress] will go and stand in front of it, she will go to the temple of Mār-bīti. *šamnu*-oil … she will take into the temple, [she will get] up to the bedchamber, and she will lead Uṣur-amassu (by the hand)."

In these two passages, it is interesting to see that the officiant-*ḫullālānītu* is associated, firstly, with goddesses, and secondly, relates them to objects perhaps more closely related to femininity, such as mirrors and cosmetic containers, or even perfumed oils, thus raising the question of the gendered aspect of the cult.

4. Conclusions

Several points emerged at the end of this presentation, which attempted to show that Babylonian sanctuaries produced a certain number of objects, perfumes and jewelry that could be described as olfactory ornaments.

First of all, the production of perfumes by Babylonian sanctuaries dates back at least to the Old Babylonian period, and the production of perfumed oil in the Neo-Babylonian sanctuaries is known from the archives of the Ebabbar and Eanna temples. Perfumes can be in the form of oils and fumigations, the gods being surrounded by good smells that please them.

Secondly, in divine context, we see that it is very generally goddesses who are associated with floral-shaped jewelry, and with fruit-shaped jewelry. Thirdly, the manufacture of perfumes is well attested in several sanctuaries in Babylonia, Eanna, Ebabbar, but also Esabad dedicated to the goddess of medicine Gula. Furthermore, perfumed oils seem to be placed rather in relation to goddesses, as well as women officiating in the cult, as shown in several rituals

[82] BM 40790, col. II, l. 10'–13': cf. Da Riva and Galetti 2018: 198 for the translation: egir *pi-šá-an-nu ana* é.zi.da du-*ma* ⌜ì.giš⌝ *ina* é.zi.⌜da⌝ é [o] *šá* ^{d}*na-na-a na-ma-ri šá* ^{d}*su-*⌜*ti*⌝*-ti* ⌜*na*⌝*-ma-ri šá* ^{d}*gu-la* ⌜*é-ul*⌝*-la* ⌜^{mí}⌝*ḫu-ul-la-la-a-ni-tú*-meš ti.meš giš.gi *in-na-ḫu-*⌜*ú*⌝ [(*šá*)(?)] ì.giš *šá ra-qé-e it-ti-ši-na i-lam-ma-a*.

[83] About the *kurgarrû*, see Peled 2014.

[84] BM 40854+, col. IV, l. 1'–5': cf. Da Riva and Galetti 2018: 218 for the translation: [x x x x] ⌜*ana*?⌝ ⌜igi?⌝ ⌜^{d}*na-na-a*⌝ x x [x x x x x x x] [x *šá*] ^{d}*na-na-a* ^{d}*qí-bi*-sig$_5$ [x] x [x x x x] x [x] x [x x *ana*] é ^{d}gašan-*ía te-si-iḫ-ma na-mar* kù.gi ^{mí}[*ḫu-ul-la-la-a-ni-tú*(?) x x x x] ⌜du⌝-*ak* [o] [^{mí}*na*] *r-tú ina* igi-*šú a-di* é ^{d}a.é du-*ak* ì.giš? [x x x x x] x ⌜*ana*?⌝ é? *ta-ṣab-bat* [zi]-*am-ma ana* é giš.nú *u* ^{d}ùru.inim-*su ta-ṣab*-[*bat*].

of the first millennium BCE. Finally, one may wonder whether perfumes and jewelry in the form of fruits and flowers could be qualified as "olfactory ornaments", which would embellish the divine images and participate in their aura. These olfactory ornaments are reminiscent of the preparation of Ištar before going to meet her lover Dumuzi, or even a passage from the *Epic of Creation* where the king of the gods Marduk is described as "the one whose breath is perfumed".[85] We can see that perfume and good smells participate in seduction as shown in the hoarse myth of the *Song of Ullikummi*, evoking the goddess Šaušga who prepares and burns cedar wood to seduce the god Ullikummi.[86]

The theme of the olfactory ornaments is common to other ancient civilizations, and we can consequently refer to a study by Lydie Bodiou and Véronique Mehl (2008) in Ancient Greece.[87] They point out that the Greek gods naturally smelled good, so all the places they frequented had to reflect this state by also being perfumed, or even, one might add, by producing perfumed elements (perfumed oils) or referring to pleasant smells (jewelry in the form of flowers or fruit).[88] It is also not insignificant that Ancient Near Eastern myths – in the same way as Greek mythology – often evoke the preparation of gods and goddesses and the care they take to perfume their bodies, probably as part of their radiance.[89]

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[85] See Lambert 2013.
[86] Mouton 2013: 62.
[87] This point was also raised by Cécile Michel (2007: 58), who referred to perfume as a component of an "olfactory beauty".
[88] Bodiou and Mehl 2008: 15–18.
[89] About the divine radiance, see Cassin 1968.

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DRINKS OFFERED TO THE GODS IN NEO-BABYLONIAN TEMPLES

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There exists a rich historiography concerning liquid offerings in Babylonian temples, sometimes embedded in more general studies about cultic services, sometimes treated specifically. Some considerations are given here on the various aspects of liquid offerings to the deities, or to their cult statues, in Babylonian shrines during the first millennium BCE. These observations are articulated on two main points: first, the actual nature of the offerings with the types of beverages offered, and second, the role of the vessels used to present the drinks or to pour libations.

Liquid offerings are mainly – but not exclusively – made during everyday meals (*sattukku*): this point will be examined first and foremost here, leaving aside for the time being more specific ceremonies. As we know since the publication of the *Rituels accadiens* by François Thureau-Dangin,[1] these meal offerings were part of a daily liturgy which followed a constant procedure, with the exception of rituals linked to particular ceremonies. The main stages of this daily liturgy were established and analysed first by Marc J. H. Linssen, then by Caroline Waerzeggers.[2] Thus, the course of the cultic day (*ginû*) includes: (1) the awakening of the temple, (2) the opening of the doors, (3) two morning meals (*rabû* and *tardennu*), (4) two evening meals (*rabû* and *tardennu*), (5) the closing of the doors. Each of the meal offerings included the presentation of drinks to the gods.

1. PRESENTING A DRINK TO THE GOD

The textual reference on the subject is a well-known document, which has already been extensively quoted and commented on, and which is preserved in its Seleucid Urukean version. It is the passage devoted to beverages (lines 1–20) in the text from the *Rituels accadiens* (AO 6451= *Textes d'Uruk* no. 38, abbreviated here to TU 38) describing what François Thureau-Dangin called

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[1] Thureau-Dangin 1921.

[2] Linssen 2004; Waerzeggers 2010.

"the daily sacrifices of the temple of Anu" and which deals with all food offerings. The following is the revised edition proposed by Marc J. H. Linssen and entitled "A description of the daily offerings in the temples of Uruk".[3]

u_4-mi-šam kal mu.an.na *ina nap-tan* gal-*ú šá še-e-ri e-lat šap-pi*-meš *šá ma-aq-*
/qa-né-e
2 18 *šap-pi*-meš kù.gi *ina* ^{giš}bansur ^{d}60 *ta-rak-kas ina lìb-bi* 7 *šap-pi ana* 15
3 kaš še.bar 4 kaš *lab-ku* 7 *šap-pi a-na* 150 3 kaš še.bar 1-*en* kaš *lab-ku*
4 1-*en* kaš *na-a-šú* 1-*en* kaš *zar-ba-ba ù* ga *ina šap-pi* na_4 giš.nu_{11}.gal
4 {pa} *šap-pi*-meš kù.gi *šá* gestin sur.ra *a-na ma-ḫar* ^{d}*a-nim ta-rak-kas*
6 *šá tar-den-nu šá še-e-ri ù* gal-*ú ù tar-den-nu šá li-lat* kimin-*ma*
ina gal-*ú ù tar-den-nu šá li-lat* ga *ul i-qar-rub ina šap-pi*-meš kù.gi
8 *šá* ^{giš}bansur 5 *šap-pi*-meš kù.gi *šá ṣa-ri-i-ni* na_4 [al]ga[me]s

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5 *šap-pi*-meš kù.gi *šá* 1 *qa*-ta-àm *i-ṣab-bat ma-aq-qa-né-e šá* é *pa-pa-ḫa* [^{d}60]
10 *ina lìb-bi* 1-*en* kaš še.bar 1-*en* kaš *lab-ku* 1-*en* kaš *na-a-šú* 1-*en* geštin sur.ra [*ù*
/1-*en*]
šap-pi šá 5 ninda.há *i-ṣab-bat šá* gestin kur *a-za-al-lu* 4 *ti-l*[*im-dù* kù.gi]
12 *šá* é *pa-pa-ḫa* ^{d}60 *ina lìb-bi* l-*et ti-lim-dù* kù.gi *šá ši-iq-du* [*še-en-de-et*(?)]
l-*et ti-lim-dù* kù.gi *šá a-a-ri še-en-de-et*
14 l-*et ti-lim-dù* kù.gi *šá* dur *ti-ik-ka-šu* nigin-*ú* l-*et ti-lim*-[*dù* kù.gi …]
pap 4-*ta ti-lim-dù* kù.gi *ina muḫ-ḫi kan-du-ri-né-e* […]
16 *šá* ^{d}*a-nim ù an-tu$_4$* […]

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14 *šap-pi*-meš kù.gi *ina* ^{giš}banšur *an-tu$_4$* ku_5-*kás* kaš.sag.meš gi[m *šá* ^{giš}bansur
/ ^{d}60]
18 12 *šap-pi*-meš kù.gi igi ^{d}innin 10 *šap-pi*-meš kù.gi igi [^{d}*na-na-a*]
e-lat šap-pi-meš kù.gi *šá kal* mu.an.na *šá* dingir.meš *a-šá-bu-tu šá* [unug^{ki}]
20 *ù e-lat šap-pi*-meš kù.gi *šá a-na ṣi-di-ti* dingir.meš *ù* 2-ta *ti-lim-dù* […] *ù kan-*
/ *nu*?

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1 Every day of the entire year, for the main meal of the morning, you will arrange (1. 2), in addition to the *šappu*-containers belonging to the libation bowls,
2 18 golden *šappu*-containers on the offering table of Anu. Of these (18 containers) you will arrange in the presence of Anu (1. 5): 7 *šappu*-containers on the right,
3 3 with barley-beer, 4 with *labku*-beer, (and) 7 *šappu*-containers on the left, 3 with barley-beer, 1 with *labku*-beer,
4 1 with *nāšu*-beer, 1 with *zarbābu*-beer, and milk in an alabaster *šappu*-container,
5 (and) 4 golden *šappu*-containers with drawn wine.
6 For the second (meal) of the morning and the main and second (meal) of the evening *ditto*, but
7 no milk will be served for the main and second (meal) of the evening. Among the golden *šappu*-containers

[3] Linssen 2004: 172–183. At the end of l. 10, I prefer to read: [*ù* 1+*en*], *šap-pi*, instead of: [*ù* 1+*en* ga], *šap-pi*.

8 for the offering table, there are 5 golden *šappu*-containers with a *ṣarīnu*-stand of *algamēšu*-stone.

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9 5 golden *šappu*-containers, each holding 1 litre, are the libation bowls of the *cella* [of Anu].
10 Of these (5 golden *šappu*-containers :) 1 with barley-beer, 1 with *labku*-beer, 1 with *nāšu*-beer, 1 with drawn wine [and 1]
11 *šappu*-container holding 5 *akalu,* is for wine from the country Izallu. 4 [golden] *til*[*imtu*-vases]
12 belong to the *cella* of Anu. Of these 1 golden *tilimtu*-vase [is decorated(?)] with almonds,
13 1 golden *tilimtu*-vase, which is decorated with rosettes,
14 1 golden *tilimtu*-vase, which has a torque around its neck, 1 [golden] *tili*[*m-tu-vase,* which …]
15 (This makes) a total of 4 golden *tilimtu*-vases on stands […]
16 of Anu and Antu […]

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17 You will arrange 14 golden *šappu*-containers on the offering table of Antu (containing:) (the same) first-quality beers, exactl[y as those on the offering table of Anu].
18 12 golden *šappu*-containers (are to be set up) in front of Ištar, 10 *šappu*-containers in front of [Nanaya].
19 Not included are: the golden *šappu*-containers of the whole year for the (other) gods residing in [Uruk].

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20 And not included are (also): the golden *šappu*-containers, which (are filled) with the travel provisions for (the procession of) the gods and the 2 *tilimtu*-vases, which[…] will set up.

Here we observe a distinction made between liquids used for drinking (*mašqû*, var. *mašqītu*) and those used for libations (l. 1 and 9: *maqqānu*).[4] Liquids used for libations are connected to two types of vessels: *šappu*-cups that have a capacity of approximately 1 *qa* (= 1 litre) and *tilimtu*-jars. Beverages are only delivered in *šappu*-cups.

1.1 Arrangement of the drinks (*mašqû*)

In Anu's *cella* (*papāḫu*), both the drinks of the god's meal, divided into eighteen cups on Anu's offering table, are presented (l. 2), and the liquid offerings that are used for libations: five *šappu*-cups (l. 9) and four *tilimtu*-jars (l. 11–12). Fourteen cups are placed on the offering table of Antu, twelve on the table of

[4] The word "libation" is taken here with the basic meaning of an act of pouring a liquid (water, beer, wine, oil, milk) mainly for the benefit of a deity. Cf. Heimpel 1987: 1–5.

Ištar, and ten on the table of Nanaya. It is possible that these tables were displayed in the *cella* belonging to each of these deities, even if this is not specified in the text. The goddesses, in fact, are only offered drinks and not libations.

Each of these offering tables presents a similar arrangement (cf. l. 17: *kīma ša paššūri Anu*): a set of cups on the right, an equal number of cups on the left, a third, smaller set in the centre(?).[5]

We may assume that the arrangement of the cups follows a principle of symmetry, although the precise distribution is provided only for Anu's table: 7 on the right + 4 in the centre + 7 on the left. A reasonable hypothesis as to the others' distribution can be proposed with 6 + 2 + 6 for Antu's table, 5 + 2 + 5 for Ištar's table, and 4 + 2 + 4 for Nanaya's table. For all these deities, the cups containing the drink served with the meal are thus 18 (Anu) + 14 (Antu) + 12 (Ištar) + 10 (Nanaya) = 54 cups.

These drinks are absorbed directly by the deity during his or her meal and do not seem to be manipulated in any way. They can be considered as a "static display" of the drinks.

1.2 Arrangement of the liquids for libation (*maqqānu*)

There are five *šappu*-cups and four *tilimtu*-jars used for libations. While the offering tables are specific to each deity, the cups for libations, although placed in Anu's *cella*, are apparently used together (cf. the end of l. 16, which associates Anu and Antu).

The five libation cups are used in the course of the ritual of every cultic day, which included, in addition to the offering of the meal, some words (prayers, recitations, songs), and gestures (liquid poured into the *šappu*). The libation was therefore a ritual gesture by which the offering took on a dynamic character, which differed from the static presentation of the drinks.

According to Julia Krul,[6] the *šappu*-cups related to libations received the liquid (beer, milk, wine), poured from the drinking vessels placed on Anu's table. However, it is usually the *tilimtu* that has the function of collecting libations, and the drink circuit of TU 38 can hardly have been designed in three

[5] Paola Corò (Corò 2012: 284), analyzing the distribution of cups by type of drink, points out that the text does not explicitly specify the place of the last 4 cups and that they may also have been placed on the right-hand side of the table : "*i 7 vasi che devono essere posizionati alla presenza di Anu, sulla destra, conterranno esclusivamente birra, di due tipi (d'orzo e* labku*); i 7 destinati al lato sinistro, conterranno birra (d'orzo,* labku, nāšu *e* zarbābu*) e uno anche del latte. I rimanenti 4 vasi, contenenti vino, non è chiaro se stiano sulla tavola ancora a sinistra, romendo lo schema simmetrico della preparazione, oppure se occupino un'altra posizione, non specificata dal testo*."

[6] Krul 2018: 158, n. 97.

stages: first the *šappu*-cup on the table, then another *šappu*-cup for libation, thirdly the *tilimtu*-jar as the final recipient.

Another explanation can therefore be proposed which separates liquid offerings in two groups, and no doubt in two phases of the cultic action: a static offering, which is placed on the table and drunk together with the meal, directly by the god in the intimacy of the curtains drawn around his or her statue. And a dynamic offering which is performed by a priest in the libation from one of the five *šappu*-cups to one of the four *tilimtu*-jars.

This libation may not be exclusively related to the liturgy of the meal, it may have accompanied other ritual procedures, and been performed at other moments of the day. In fact, the main reason for the association of drinks (*mašqû*) and libations (*maqqānu*) by the author of the text TU 38 is that they consist of the very same liquids and were presented in the same containers: they were therefore all included in the part of the text devoted to food offerings.

1.3 Contents and containers

On Anu's table, the first cup contains barley beer (kaš še.bar = *šikar uṭṭati*), the second a beer made from germinated malt (*šikaru labku*), the third sweet date/grape/fig beer (*šikaru nāšu*), the fourth pressed wine (*karānu ḫalṣu*) and the fifth, of smaller capacity (5 *akalu* or 1/2 litre), the so-called "Azallu wine" (*karān māt Azallu*).[7]

As we have already seen in the case of libations, the *šappu*-cups are associated with *tilimtu*-jars. The latter are described not by their content, but by the decoration proper to each one. They were therefore probably empty at the beginning of the ceremony. These *tilimtu*-jars are made of gold and are placed on wooden supports (*kandurû*), probably because of their shape and size.

The first jar is decorated with almond (*šiqdu*), the second with rosettes (*ayaru*), the third with a kind of necklace or torque "around the neck", which confirms that it has a circular shape. The mention of the decoration of the fourth *tilimtu*-jar has disappeared in the broken part of the text.

The explanation of the pair *šappu-tilimtu* is not given in the text of the ritual and several hypotheses are possible, which are not mutually exclusive:

1. Each *tilimtu* can be considered to be specific to a deity. As there are four deities (Anu, Antu, Ištar, Nanaya), one *tilimtu*-jar would be assigned to each of them. But we note that all the *tilimtu* are placed in the *cella* of Anu (TU 38: 11–12, 4, *ti*[*limtu hurāṣi*] *ša bīt papāḫa Anu*);

[7] In Neo-Assyrian times, the country Azallu (or Izalla) covered the area between Harran in the west to Guzana in the east. As early as the 9th century BCE, it was known for its wine production: cf. Younger Jr. 2016: 270.

2. Or, the four *tilimtu*-jars are to be used for the final collection of the libations and are arranged by type of liquid: barley beer, malt beer, date beer, wine. This would imply mixing pressed wine (*ḫalṣu*) and the Azallu wine;

3. Or finally, the use of each *tilimtu*-jar coincides with a specific moment in the ritual of the meal, and the various types of liquids are poured into it in an undifferentiated manner.

These liquids (beer and wine) are not the only ones to be employed for libations, since Marc J. H. Linssen mentions libations made with wine, beer, milk, honey, ghee, oil, and cedar oil and sometimes just water libations.[8]

1.4 Other beverage offerings

The preceding list of drinks taken from the ritual of the temple of Anu can be compared with a passage of the text called by its editor "Nebuchadnezzar King of Justice":[9]

10 …… *billatu*(kaš.ú.sa) *damiqtu*(sig$_5$) ˹*dišpu*(làl)˺ *ḫemētu* (ì.nun.na)
šamnu(ì.giš) *ḫal-ṣa šizbu*(ga) *reš-tu-u ulušinnu*(kaš.zíz.àm)
12 *du-uš-šu-pu šikaru*(kaš) *rēštû*(sag) *aš-na-an*
karān(geštin) *re-še-e-ti šadê*(kur)-me *u mātāti*(kur.kur-me)
14 *kal*(dù.a.bi)-*ši-na*…

10 (…) fine quality mixed beer, honey, butter
refined oil, first quality milk, *ulušinnu*-beer,
12 sweet first beer made of grain,
wine, the best of the mountains
14 and all lands…

This passage concerning food offerings is structured as an enumeration of everything that was presented at the meals of the gods, without any particular precision on the mode of presentation. It simply establishes a separation between meat, fruit, vegetables, and liquids. The latter category includes beer (*billatu damiqtu*, *ulušinnu*, *duššupu šikaru rēštû ašnan*),[10] honey (*dišpu*), ghee (*ḫimētu*), oil (*šamnu ḫalṣu*), milk (*šizbu rēštû*), and wine (*karān rēšēti šadû u mātāti kali-šina*).

Beer is therefore classified into three categories: *billatu* (kaš.ú.sa), which is the common name for malted barley beer, *ulušinnu* (emmer beer) and *duššupu šikar ašnan* (sweet grain beer). High-fat and sweet liquids are inserted between

[8] Linssen 2004: 159.

[9] Lambert 1965: 7, Col. v, 10–14 for the liquids.

[10] I am not following here the sequence proposed by Wilfred G. Lambert (*ulušinnu duššupu*, *šikaru reštu*, *ašnan* "sweet *ulušinnu*-beer, first beer, grain…"), but instead the parallel of BMS 2: 29, cited by CAD A$_2$: 451b (*aqqīka duššupu šikar ašnan* "I have made libations for you of sweet beer made from grain").

generic *billatu* beer and the other beer categories according to a logic that is not explained, unless they are mixed into the beer afterwards.[11]

Next come milk and wine, this latter one originating from mountainous regions like the upper Diyala valley or the Taurus foothills, and from foreign countries referred to as "all countries" (*mātātu kali-šina*), a designation which relates mainly to the Levant during the reign of Nebuchadnezzar II.

Another rather unusual ritual, which pre-dates the Neo-Babylonian period, and which is a protective ritual (*namburbû*) intended to protect the royal Neo-Assyrian army from epidemics when it goes into expeditions, can be mentioned here too in parallel:[12]

12 ……kaš.sag kaš *mi-iḫ-ḫa* geštin ga kaš.zíz.àm bal-*qi*
13 9 dug la.ḫa.an kaš.sag geštin ga kaš.zíz.àm múd udu.nitá múd udu.zéḫ(munus.áš.gàr) nita nu zu
14 múd uz.tur.mušen múd péš.giš.gi ì *ḫal-ṣa* diri-*ma ina* ugu [gi.du$_8$(?)].meš gar-*an*

12 "……You libate fine beer, *miḫḫu*-beer, wine, milk, emmer beer.
13 You fill nine *laḫannu*-bottles with fine beer, wine, milk, emmer beer, blood of a male sheep, blood of a female kid that has not mated,
14 duck's blood, blood of a 'reed-thicket mouse', (and) refined oil, and you place (the vessels) on the [portable altars]."

The officiant must erect four portable altars: one for the City God (dingir.uru), the second for the City Goddess (^{d}15.uru), the third for the protective City Genie (^{d}alad.uru), and the last one for the protective City Goddess (^{d}lamma.uru). He must then present them with an offering meal, which includes the usual drinks (beer – wine – milk), but also the blood of animals offered at the meal, which is then used in the preparation of a prophylactic substance. This blood offering is never found in daily cult, and it is present here neither as libations nor as drinks, but to be sanctified by the divine presence before being used in the magical operation that follows. On the other hand, we note that the sequence 'beer (with its several varieties) – milk – wine' is found both for libations and for drink offerings.

During the first millennium BCE therefore, there exists a basic trilogy (beer – milk – wine) in liquid offerings, and some liquid ingredients which are not necessarily drinks can be part of culinary or magical preparations. Their inclusion in the category "liquids" is therefore due to their nature and not to their use.

[11] I thank Louise Quillien for this suggestion.
[12] Caplice 1970.

2. The Trilogy of Beer, Milk, and Wine

The liquids that are served as a drink, and which are therefore a constituent part of the meal offering, are of three kinds in most of the written sources: beer, milk, and wine.[13] The proportions in which they are used are not the same: if we assume that the drinking cups mentioned in TU 38 are of standard capacity, and therefore more or less identical, we would have for the eighteen cups of Anu's meal: 72.2% beer, 5.5% milk (about 1/20), and 22.2% wine (between 1/5 and 1/4). Beer thus constitutes three quarters of the total.

It can be observed that water is not mentioned as a drink in Uruk's text. However, water is not absent from meals, but is used above all to cleanse or purify. It is sprinkled in many rituals,[14] or is presented before, during, and after the meal, as "water for the hands"[15] which is used to cleanse the hands of the eater. In other rituals, water can be cited as the liquid of libations,[16] but it does not figure as a drink at the table of the gods in Uruk, neither in the Neo-Babylonian period, nor in the Seleucid one.[17]

2.1 Beer

In text TU 38, beer includes at least four categories which are divided into two groups: barley beer (*šikar uṭṭati* and *labku*-beer), and date beer (*nāšu*-beer and *zarbābu*-beer). Of the thirteen beer cups that make up the god's drink, six contain kaš še.bar, five contain *labku*-beer, one contains *nāšu*-beer and one contains *zarbābu*-beer. Barley beer therefore represents the main part of what the divine statue drinks.

It is known that this distribution does not reflect the reality of everyday life in Babylonia in the 6th century BCE when date beer was by far the most widely consumed alcoholic drink. The preparation of barley beer, which is more elaborate and more "traditional", requires a technical skill which explains, among other reasons, the existence of brewers' prebends in sanctuaries. The common

[13] They are also the three most frequently used liquids for libations (*nīqu*): cf. CAD $Š_2$: 424a.

[14] George 2006; BM 54312 (l. 4): *mê nāri, mê būri*, *mê Idiglat mê Puratti* (to purify the statue of Annunītu).

[15] Cf. Çağirgan and Lambert 1991/93, Col. II, 55–57: *bābu ina pānat Bēl ippette alla ša mê qatê ana Bēl našû Nādin-mê-qātē u Mukīl-mê-balāṭi ultu papāḫi urradūnim-ma ina bāb papāḫi ina ašri-šunu uššabū*.

[16] Especially in the ritual of the *kispu* (CAD N_1: 337). But water is not usually used as a drink in prestigious places.

[17] Charpin 2017: 182–183 provides the following explanation: "On ne saurait sous-estimer l'importance de la bière dans la civilisation mésopotamienne : elle tient notamment au fait qu'il s'agissait d'une boisson saine du point de vue pathologique, alors que l'eau pouvait contenir des germes dangereux à une époque où la stérilisation était inconnue, et dont par ailleurs la valeur nutritive était importante." A similar explanation is provided by Daniel T. Potts for the milk, cf. *infra*, note 29.

use of date beer began to emerge in the Middle Babylonian period,[18] but we perhaps should not oppose barley beer and date beer too strongly because since the third millennium it has been noted that barley beer could be "softened" by date syrup.[19] And, according to the Greek author Polyaenus,[20] the Achaemenid Great King drank "a beer made half from dates, half from grapes", which could be *nāšu*-beer.

Barley beer is present here under a generic name: kaš še.bar. However, this designation remains rare,[21] and in the context of offerings, common barley beer is more often referred to as kaš.sag (first-quality beer). Barley beer is also served at the meal of the god under the denomination of *labku*-beer, which could be a "beer made with germinating malt".[22]

As for date beer, it is present in TU 38 under two types: the *nāšu* beer, which is a beverage fermented from dates, to which figs, grapes, or other sweet fruits can be added, and which is part of common drinking habits. According to A. Leo Oppenheim,[23] a peddler called the *ša-nāši-šu* was selling it in the street. The *zarbābu* beer is also a soft or sweet beer made of dates.[24]

We can see that some beers (or fermented drinks) were sweeter than others, and must therefore have had a special relationship with some types of food, depending on taste associations: for example, Marc J. H. Linssen notes that *qullupu* – a honey cake – is often associated with *nāšu*-beer.[25] But not all of these associations are obvious to us, as a beverage's sweetness does not always go with a food's sweetness and can also be associated with a sour flavour in ancient cuisine.

In fact, the diversity of beers can also respond to different moments of the meal, or simply to the desire to present different qualities, in search for multiplicity well attested in Mesopotamia that would meet all possible needs.

2.2 Milk[26]

One of the functions of milk presented as an offering in a specific vessel, an alabaster cup, could also be to represent a substance used as a substitute for

[18] Stol 1994: 162.

[19] Stol 1994: 156–157.

[20] Polyaenus, *Stratègèmata* IV, 3, 32.

[21] Cf. in a text from private archives (Baker 2004, no. 41), a work agreement concerning a prebend: *ištēn šappa ša* kaš še.bar [1]*Ina-qāt-Bēl-lumhur ana Iddin-Nabû inamdin*.

[22] ḪAR.gud B VI:71 (MSL 11: 88): kaš-dida = *biqlētu* = *billat labki*. CAD B: 244b connects *biqlētu* to a stage of germination of the malt but reads *billat ribki*. CAD R: 321b does not decide between the two readings: *labku* or *ribku*. For a reading *labku* in the *Rituels accadiens*, see CAD L: 34a.

[23] Oppenheim 1950: 59, n. 29. Cf. also Stol 1994: 160.

[24] Stol 1994: 161. Cf. also Lambert 1982: 217, Col. IV, 65, where *duššupu* and *zarbābu* are associated.

[25] Linssen 2004: 47.

[26] Stol 1993: 100; Biga 1994; McCormick 2012, p. 101.

water as a non-alcoholic drink. This milk is cow's milk, according to the contract YOS 7, 65 from the early Persian period, in which the Eanna entrusted two cows with their calf to prebendaries (*rē'û ša šizbi*) for one year to produce milk that was then brought as an offering to the goddess Ištar. It is especially noted that milk only appears at the morning meal in TU 38. Its use in general has been explained in several ways: the milk is considered by Paul-Alain Beaulieu, for example, to be used mainly for mixing with flour.[27] In the context of its use as a beverage, Marc J. H. Linssen, for his part, interprets the non-permanent presence of milk[28] by following Jean Bottéro: "*This omission (of the milk) in the afternoon can be explained: milking was done in the morning and after a few hours milk was not in condition to be served. Other analogous rituals also mention milk, sometimes even 'sugared'* (matqu). *It was thus indeed a drink, but it was a luxury beverage and except for shepherds and livestock-raisers and their neighbours it was reserved for the gods, or for the great of the world.*"[29]

However, the use of milk itself has been the subject of observations by Daniel T. Potts concerning its consumption by populations who live along the Persian Gulf coast,[30] on account of its salubrity, unlike water: "*Just as importantly, as we know from ethnographic studies in the region, sheep and goats are able to drink brackish water, which is unpotable for human groups, and convert it into potable milk that can be either drunk as it is or turned into a variety of cheese-and yogurt-related products. Having a herd is thus tantamount to having a mobile water purification system.*"

Milk could therefore be considered, in terms of drinking, as the survival of an initial offering in its most elementary form, that of a non-alcoholic and salubrious drink. Offerings of beer and wine belong to an already more elaborate level of consumption, since they are fermented drinks, with a (slight) degree of alcohol.

2.3 Wine

Finally, wine is presented on Anu's table in four cups. It is referred to as geštin sur.ra = *karānu ṣahtu* = "pressed wine". It was thus produced from grapes that were crushed or pressed, and whose must was then left to ferment.

[27] Beaulieu 2003: 165: "The milk may have been used in connection with the *rasinnūtu*-prebend, which involved the soaking of flour in milk to prepare dough."

[28] Linssen 2004: 137, n. 38; "Fresh milk cannot be kept for more than a few morning hours, when it is cool."

[29] Bottéro 2002: 139.

[30] Potts 2009: 30.

Again, there are many varieties of wine: in Neo-Babylonian texts, wine is usually qualified by its geographical origin.[31] Such places of origin include Arnabānu, A/Izallu, Bītāti, Hilbūnu, Sūḫu, Ṣim(m)ir, Tu'immu, and Upiya. If this was no more the case in the Seleucid period (only Azallu's wine appears in the libations), it was still true in Neo-Babylonian royal inscriptions. One can also mention a document such as GC 1, 225:

2 dug *šáp-pa-a-ta*
2 *šá* ^{kur}*i-zal-la*
12 ^{uru}é.me
4 2 ^{kur}*ar-na-ba-nu*
pap 16 dug *šap-pa-a-ta*
6 [*a*]-*na* é.<sag>.íl.la […]
[en] 16.ta *šá* ^{d}utu
8 [ta ^{kur}*su*]-*ú-ḫu*
[*šá a-na* x] gín kù.babbar ^{I}abgal
10 a-*šú šá* ^{I}*nad-na-a iš-šá*-[*a*]
^{I}abgal *a-na* é ^{d}utu igi-*ir*
12 iti dirig še.gur$_{10}$.ku$_5$ u$_4$ 2.kam
mu 42.kam
14 ^{d}nà.níg.du.urì
lugal tin.tir^{ki}

"2 jars (of wine) from the land Izalla 12 jars from the city of Bītātu 2 from the land of Arnabanu total: 16 jars of wine [were brought(?)] for Esagil. [They are] 16 (jars) (for?) the god Šamaš [from the land Su]ḫu [for x] shekels of silver which Apkallu son of Nadnaia took away. Apkallu received them for the temple of Šamaš. On the 2 of the intercalary month Addaru, year 42 of Nebuchadnezzar, king of Babylon."

In addition to geographical indications, there are sometimes also quality ratings for wine: "pure" (*ellu*), or "old/new" (*labīru/eššu*)[32]. One point that is of particular interest with regard to wine in the text of the *Rituels accadiens*, but also in older texts, is that no specialist in the temples who would be in charge of its preparation is ever identified. We know that the preparation of beer was done by brewers (*sīrâšu*), that of milk by the shepherds of the milk (*rē'û ša šizbi*). But who treats the wine, when documentation from Mari's Palace demonstrates that as early as the 18th century the method of preparing good wine that is neither too sour nor too strong was known?[33]

According to the Neo-Babylonian epistolary literature, the temples mention a recurring need for wine: it was therefore a drink commonly presented on the

[31] Cf. also Da Riva 2013: 223. I thank Manon Ramez for this reference.

[32] VAB 4, 90: Col. I, 22; cf. CAD K: 205a. The reading geštin MUD "red(?) wine" in Dar 22:11 marked as "uncertain" by the CAD should be discarded. The passage concerns *mašīḫu*-measures of dates, to be read: (l. 11) 2 *mi-šil ma-ši-ḫi sat*^{1}*-tuk*^{1} *re*^{1}*-ḫi*, (l. 12) *pap-pa-su šá* é ^{d}gu. la.

[33] Cf. Chambon 2009.

table of the gods. It is known that the Ebabbar of Sippar possessed estates in the Habur valley that provided it with wine.[34] The Eanna temple in Uruk seems to have obtained wine mainly through long-distance trade, but it cannot be excluded that royal power was also the supplier of this rare and valuable food.

There are in fact two possibilities: either the brewers also had in their attributions the treatment of grapes to obtain *karānu*-wine, but this is not confirmed by any textual attestation; or the wine was supplied by the royal power and its agents in the same way as other uncommon products, and it was within the Court that the true specialists for its preparation were to be found. It remains difficult to have a definitive idea on this point. It should be noted, however, that text ABL 951 (= SAA XIII, 134: 16'–26'), written during the reign of Aššurbanipal in an Assyrian context, suggests that the king provided wine for the cult.

> "He has appointed officials of his own choosing in the temple. Moreover, the king's father set up golden bottles of …-litre capacity (with) royal images on them. They would fill with wine the one in front of Bēl and the one in front of Nabû. They would be decanted. The wine was the palace allotment. Now this has been stopped. He himself measures out the wine and carries it in. And formerly, when my father supervised the house of eunuch's ordinary beer from groats was decanted, and he used to inspect [new] and old (beer) at the same time."[35]

However, one may also question the actual relevance of the categories listed in Uruk's Seleucid text.[36] Julien Monerie thus considers that during the Hellenistic period wine remained a rare product, and that if a Babylonian viticulture emerged, it was almost exclusively for the Greeks established in the country.[37] It is therefore not to be excluded that TU 38 could be a didactic text, which presents the model of what an "offering according to the norms" should be, not necessarily related to any contemporary reality, but allowing the clergy of Uruk to build up a prestigious liturgy, as abundant and rich as that of Babylon.

We also come to the conclusion that wine served on the table of the gods of Uruk is not a particularly ancient type of food offering. There seems to have been an accumulation over time of various types of drinks served on the table of the gods: first barley beer (from the most ancient tradition) – then date beer – and finally wine. The status of milk is more difficult to establish, if not as an initial substitute for water. The addition of date beer would be a reflection of the Middle and Neo-Babylonian usage of everyday drinks, while the addition

[34] Cf. Jursa and Wagensonner 2014.

[35] Translation by Cole and Machinist 1998: 102–103.

[36] MacGovern 2007: 201 mentions a goblet from an Uruk tomb from the 7th or 6th century BCE with a residue of resinous wine.

[37] Monerie 2017: 226: "Il semble donc que le vin d'importation méditerranéenne soit demeuré un produit de luxe en basse Mésopotamie comme il l'avait été durant les siècles précédents."

of wine could be a legacy of Middle and then especially Neo-Assyrian royal practice, being an element of prestige introduced into the temples so that the meals of the gods would equal those of the kings in splendour.

3. Religious Offering Furniture

Usually, a cup (*kāsu*) or a rhyton (*kaqqudu*, *qarnu*) is used for drinking – and here we can use the classification proposed by Salvatore Gaspa.[38] In the ritual TU 38, however, it is *šappu*-cups that are mentioned as drinking vessels. Some interpreters consider the *šappu* to be a large bowl or a pitcher, the content of which is poured into the god's drinking cup. However, this latter one is not mentioned. Actually, this solution is probably not to be dismissed, and one is thus faced with two possibilities. Either the *šappu* is a drinking cup in which one drinks directly (an ordinary *šappu* with a capacity of 1 *qa* has a volume of 1 dm^3, which is not very different from the *Parisian pint* (0.952 litre), or the *Canadian pint* (1.13 litre), and is worth a little less than twice the *English imperial pint* (0.56 litre)). Or, the *šappu* is in actual fact a vessel used between the original large jar, the *dannu*, and the cup in which the divinity is supposed to drink, but which is not, as noted before, mentioned in the text.

It is worth comparing these figures with those provided by two files: first the inventory of the "house of the emblem" (*bīt urīni*) in the Eanna of Uruk during the 6th century BCE,[39] and secondly a fragmentary inventory of the treasury of the Ekišnugal of Ur in the administrative document UET 4, 143.

3.1 Analysing the inventories of the *bīt urīni*

This file is made of a particular set of seven almost duplicate documents, which combines elements of everyday cult furniture (*sattukku*/*gīnu*) and vessels that are only used on specific occasions (cf. Table 1). It contains several single utensils, which suggests that it concerned only one cult statue, probably that of the Lady of Uruk. The whole set of furniture listed in the seven known exemplars, dated between year 1 of Nabonidus (555 BCE) and year 6 of Cambyses (523 BCE) is stable and is divided into several "functional groups". Those of interest to us are the following:

– a first group associates jars with their supports; the whole set is composed of one *adaru*-display stand(?) and about fifteen supports (*kankannu*) combined with jars (*dannu*): this makes one think of the *šappu*s presented on Anu's table in TU 38. However, the jars are not placed on the table, but

[38] Gaspa 2014: 25–40.
[39] Cf. Joannès 1981: 143–150.

Table 1: The inventories of the *bīt urīni* in Eanna

	YOS 19, 266 5-vii-Nbn 1	**YOS 19, 267 6-xii-Nbn 2**	**HE 145 1-xii-Nbn 6**
adaru	1 *a-da-ru* kù-babbar	1 *a-da-ri* kù-babbar	1 *a-da-ri* kù-babbar
dannu	16 *dan-nu-tu* kù-babbar	16 *dan-nu* kù-babbar	16 *dan-nu-t*[*u*] kù-babbar
kankannu	15 *kan-kan-na-a-ti* kù-babbar	15 *kan-kan-na* kù-babbar	15 *kan-kan-na-a-ti* kù-babbar
namḫartu	2 *nam-ḫa-ra-a-ti* kù-babbar	3 *nam-ḫa-ri* kù-babbar	3 *nam-ḫa-ra-a-ti* kù-babbar
šiddatu+ namzītu *ša ḫarê* (1)		1 *šid-da-tú* kù-babbar gal-*tú šá ḫa-re-e* lugal + 4 *nam-za-a-ta* tur-me kù-babbar *ḫa-re-e* lugal	1 *šid-da-ti* kù-babbar *šá ḫa-re-e* + 7 *nam-za-a-ti*kù-babbar *šá ḫa-re-e*
šiddatu+ namzītu (2)	2 *šid-da-a-ti* kù-babbar + 4 *nam-za-a-ti šá* *bi-rit šid-du*	2 *šid-du*-meš gal-me kù-babbar *šá bi-rit šid-du* + 4 *nam-za-a-ta* kù-babbar	2 *šid-da-a-ti* kù-babbar *ù* 4 *nam-za-a-ti* *šá bi-rit* ús
malītu (1)	4 *ma-la-a-ti* kù-babbar *šá šul-lum* é	9 *ma-la a-ta* kù-babbar	7 *ma-la-a-ti* kù-babbar *šá šul-lum* é
baṭū	1 *ba-ṭu-ú* kù-babbar *šá šul-lum* é	1 *ba-ṭu-ú* gal-*ú* *šá šul-lum* é kù-babbar	1 *ba-ṭu-ú* kù-babbar *šá šul-lum* é
masab karê	1 *ma-sá-ab* gur_7 kù-babbar *šá ma-aq-qí-tú*	1 *ma-sa-ab ka-ru-ú* kù-babbar	1 *ma-sá-ab* gur_7 kù-babbar *šá ma-aq-qí-tu*
tangallu	1 *tan-gal-lu-ú* mun kù-babbar *šá* *lu-up-pu-tu*	1 *tan-ga-lu-ú* mun kù-babbar	1 *tan-gal-le-e* mun kù-babbar *šá lu-up-pu-tu*
libbu	14 *lìb-bé-e* kù-gi	[14] *lìb-bé*-meš kù-gi	14 *lìb-bé-e* kù-gi
šul(ā)pu	14 *šu-la-pu* kù-gi	[1]4 *šul-pu* kù-gi	14 *šu-la-pu* kù-gi
maqqû	1 *ma-aq-qu-ú* kù-gi *šá šul-lum* é	1 *ma-aq-qu-ú* kù-gi	1 *ma-aq-qu-ú* [kù-gi *šá šul-lum* é
malītu (1)	1 *ma-li-ti* kù-gi tur-*tú* *šá* lú tur *šá ú-de-e-šú*	1 *ma-li-tú* tur-*tú* kù-gi	1 *ma-li-tú* kù-gi tur-*tu* *šá* lú tur *šá ú-de-e-šú*
šappu	[3 *šap-pe-e*] na_4 giš-nu_{11}-gal [*šá ši-iz-bi*]	2 *šap-pe-e šá* na_4 giš-nu_{11}-gal	3 *šap-pe-e* na_4 giš-nu_{11}-gal *šá ši-iz-bi*

YOS 6, 62 **6-xii-Nbn 6**	**YOS 6, 192** **8-ix-Nbn 15**	**YOS 6, 189** **8-vii-Nbn 17**	**YOS 7, 185** **15-xi-Camb. 6**
1 *a-da-ru* kù-babbar	1 *a-da-ru* kù-babbar	1 *a-da-ru* kù-babbar	1 *a-da-ri* kù-babbar
16 *dan-nu-tu* kù-babbar	16 *dan-nu-tu* kù-babbar	16 *dan-nu-tu* kù-babbar	16 *dan-nu-tu*-meš
15 *kan-kan-na-a-tú* kù-babbar	15 *kan-kan-na-a-ta* kù-babbar		15 *kan-kan-na-a-ta* kù-babbar
3 *nam-ḫa-ra-a-tú* kù-babbar	3 *nam-ḫa-ra-a-ta* kù-babbar	3 *nam-ḫar-ra-a-ta* [kù-babbar]	[x]+1 *nam-ḫa-ra-a-ta* kù-babbar
1 *šid-da-ti* kù-babbar *šá ḫa-re-e* + 7 [*nam-za*]-*a-tú* kù-babbar *šá ḫa-re-e*			1 ^{giš}*šid-da-tu*$_4$ kù-babbar *šá* *ḫa-re-e* lugal + 7 *nam-zi-tu*$_4$ kù-babbar *šá* <*ḫa*>-*re-e* lugal
2 *šid-da-a-tú* kù-babbar *ù* 4 *nam-za-a-tú* kù-babbar *šá bi-rit* ús	2 *šid-da-a-ta* kù-babbar *šá* kimin + 4 *nam-za-a-ta* *šá bi-rit* šid·*du*	2 *šid-da-a-ta* kù-babbar *šá bi-rit šid·du* + 4 *nam-za-a-ta* kù-babbar	[2] *šid-da-tu*$_4$-meš kù-babbar + [4] *nam-zi-tu*$_4$-meš kù-babbar
7 *ma-la-a-ti* kù-babbar *šá šul-lum* é	6 *ma-la-a-ta* kù-babbar	6 *ma-la-a-ta* kù-babbar *ina* šà 1 *ina* é *pa-pa-ḫa*	[5]+1 *ma-la-a-ta*-meš kù-babbar
1 *ba-ṭu-ú* kù-babbar *šá šul-lum* é			1 *ba-ṭu-ú šá šul-lum* é
1 *ma-sá-ab* gur$_7$ kù-babbar *šá* *ma-aq-qí-ti*	1 *ma-sá-ab* gur$_7$ kù-babbar *šá ma-aq-qí-tu*$_4$	1 *ma-sá-ab* gur$_7$ *šá ma-aq-qí-ti*	1 *ma-sab* gur$_7$ [……]
1 *tan-gal-le-e* mun kù-babbar *šá* *lu-up-pu-tu*	1 *ta-an-gál-lu-ú* mun-há *šá lu-up-pu-tú*	1 *ta-an-gál-lu-ú* mun-há *šá lu-up-pu-tú*	1 *tan-ga-lu-ú* kù-babbar mun-há
14 [*lìb-bé*]-*e* kù-gi	14 *lìb-bé-e* kù-gi	14 *lìb-bé-e* kù-gi	14 *lìb-bé*-meš kù-gi
14 *šu-la-pu* kù-gi	14 *šu-la-pu* kù-gi	14 *šu-la-pu* kù-gi	14 *šu-la-pi*-meš kù-gi
1 *ma-aq-qu-ú* kù-gi *šá šul-lum* é	1 *ma-aq-qu-ú* kù-gi *šá šul-lum* é	1 *ma-aq*-[*qu-ú* kù-gi *šá šul-lum* é]	1 *ma-aq-qu-ú* [kù-gi]
1 *ma-li-ti* kù-gi tur-*tu* *šá* lú tur *šá ú-de-e-šú*	1 *ma-le-e* tur-*tú šá* tur *šá* lú *ú-de-e-šú*	1 *ma-li-ti* tur-[*tú*] kù-gi *šá* lú t[ur *šá ú-de-e-šú*]	1 *ma-li-tu*$_4$ tur-*tu*$_4$ kù-gi
3 *šap-pe-e* na$_4$ giš-nu$_{11}$-gal *šá* *ši-zib*	2 *šap-pe-e šá* na$_4$ giš-nu$_{11}$-gal	2+1 *ša*[*p-pe-e šá* na$_4$ giš-nu$_{11}$-gal]	2 *šap-pi*-meš *šá* na$_4$ giš-nu$_{11}$-gal

on a separate piece of furniture, the so-called "*adaru*-display stand(?)", which is probably placed next to the table;

– a second set (*šiddatu*+*namzītu*) is used to prepare beer for two different ceremonies (*birīt šiddī* and *ḫarû*). However, in the great Neo-Babylonian temples, beer is not prepared usually in the holy part of the temple but is brought from outside by the brewer prebendaries. It could be conjectured that this ensemble is then only used for specific liturgies during which beer must be produced in the immediate vicinity of the *cella*;
– a group of fourteen *libbu* (heart-shaped drinking cups?) associated with fourteen *šulāpu* (a variant for the *šulpu*-pipe, it seems), which could then be what is used for the drinking of beer;
– three alabaster cups for milk;
– then a specific vessel for the libations (*maqqû*) of the *šulum bīti*-ceremony.

Here again, several points are worth underlining. For example, the groups of fourteen to sixteen elements can be compared with the way the table of the god Anu was dressed in Hellenistic times: the various kinds of drinks (beer – wine – milk) were placed on the table, or next to it. In contrast to the Seleucid period, in the Neo-Babylonian Eanna, the deities are presented with two different sets: the jars (*dannu*) with their *kankannu*-support and the drinking cups (*libbu*).

But the vessel in which the goddess drinks is certainly specific to the drink being consumed: the deity does not drink beer from the same vessel as wine.

Some *dannu*-jars contain beer, others wine, and the same is also true for the *libbu*-cups. Milk, in its alabaster-*šappu*, is treated separately.

The *namzītu*-fermenting vat in which the beer is prepared is brought near the *cella*, in the area called *birīt šiddī*: the question is whether this object is present at every offering meal or only for special ceremonies. Indeed, some other items are used in rituals other than the ordinary meal during liturgies such as the *šulum bīti*, or the king's *ḫarû*.

Finally, as in the *Rituels accadiens*, the whole furniture is made of precious metal (silver and gold) or precious stone (alabaster). We are clearly in the field of luxury tableware.

3.2 The inventory UET 4, 143

This luxurious aspect also emerges from an examination of the inventory UET 4, 143, which lists the sacred vessels of a great temple of Ur, probably the Ekišnugal itself. The *šappu*-cups are also made of gold here, and some of them were donated by ancient kings, whose names were probably engraved on them.

As these two documentary examples show, daily cult is therefore an opportunity not only to feed and make the deity or group of deities drink, but also to do so using luxury furniture and vessels and a mode of presentation that is no doubt close to the etiquette observed for the king's table.

Table 2: UET 4, 143:1–10

Red gold	Purified gold	Silver	Subject
1 1/3 mina 7 shekels			Additional gold, weight of one *šappu*-cup: gift of Burnaburiaš (II.), king of Babylon
2? minas			Additional gold, weight of one *šappu*-cup of 1 mina 17 shekels and two *šappu*-[cups] of 5/6 of mina: gift of Kurigalzu, king of Babylon
[……]	[……]		Weight of six *šappu*-cups: gift of Melišipak, king of Babylon
[……]	[……]		Weight of one *šappu*-cup: gift of Marduk-apla-iddina (I.), king of Babylon
˹ x x ˺			Weight of 2 *šappu*-cups plus (one) broken *šappu*-cup, brought by (?) [……] that Ninazu-iqīša, the mason, has stolen: gift of *Nebuchadnezzar* (I.), king of Babylon

4. Conclusion

There are still many outstanding questions about the way in which the cult was actually conducted. How were drinks consumed? Were libations a substitute for the simple presentation of cups on the offering table? Can it be considered that for solid food and drinks there was both a presentation of the offering which should be called "dynamic" (with the rising smoke of grilled meat and the smell of dishes on one side, the flow of liquid during libation, on the other) and another type of presentation that could be called "static" (dishes and drinking cups placed on the offering table in view of the divine statue) which allowed for additions and a more complex presentation?

If we know that the food of the offerings was redistributed between the clerks, either before or after the meal ceremony, what about the liquids? Records of drinks (beer and wine) being redistributed do not seem to exist. Part of the drinks was perhaps allocated before the presentation.

The pomp of the offering table had the function of revealing the prestige and wealth of the consuming deity on the one hand, but also the piety and power of those who were at the origin of the sacrifice: first and foremost the temple staff, but in the background the royal power, at least as long as Babylonia had a native royal dynasty and this dynasty manifested its prodigality in the temples. In the same way that the "luxury tableware of the Mari kings" has been

studied,[40] it should be possible to evoke the luxury tableware of the god Marduk and that of the goddess Ištar.

The addition to barley beer of other kinds of fruit beers and especially dates, but also offerings of wines of various origins, is a phenomenon which seems typical of the 1st millennium BCE and the establishment of Neo-Assyrian, then Neo-Babylonian, Empires. And it seems that in this context, Babylonians borrowed from Assyria and its system of royal courtship, an etiquette which would have served as a model. Already, Jean Bottéro noted: "we must first consult the liturgical rituals, transposed from the court etiquette."[41]

The reality of a great range of drinks in cult offerings, especially the various kinds of wine, is certainly valid for the Neo-Babylonian period, as an effect of the western extension of Babylon's domination. It is not certain that this variety still existed during the Achaemenid period, when Babylon's relations with the Levant became less intense. This raises the problem of the reality of what is described in some passages of the *Rituels accadiens* when they were recorded in Uruk, under the Seleucid dynasty. Do they describe an actual cult, or are they to be considered primarily as didactic texts?

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[40] Guichard 2005.
[41] Bottéro 2002: 167.

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THE MANUFACTURING OF ANNUNĪTU'S DIVINE WEAPONS IN SIPPAR DURING THE REIGN OF NABONIDUS

BRUNO GOMBERT*

"To Annunītu lady of battle, equipped with bow and quiver,
keeping well the words of Enlil, her father, overwhelming
the enemy, destroying the wicked, the leader of gods."[1]
Nabonidus' inscription about the rebuilding
of Eulmaš, Annunītu's temple.

The goddess Annunītu first appears during the third millennium BCE, in the Narām-Sîn royal inscriptions. Before becoming an independent deity, she was initially an epithet given to the name of Inanna/Ištar and used by scribes to represent her warlike nature.[2] Probably built on the noun *anantu*(*m*) ("battle", "strife"), *anunnitu* could actually mean "she is of the skirmish", "the skirmisher" or "the martial one".[3] In the Narām-Sîn inscriptions, Annunītu stood alongside the king during battle and her presence was decisive in reaching victory.[4]

Due to this feature, she was worshipped during most of the period documented by cuneiform sources. Indeed, from the third to the second half of the first millennium BCE, royal inscriptions frequently mention the construction or restoration of temples and statues for Annunītu.[5] In the Sippar region, the cult of Annunītu was well implanted since the beginning of the 2nd millennium BCE during the Old Babylonian period.[6] The goddess had an important temple, the Eulmaš, with her own priesthood, in the city of Sippar-Amnānum, located about 7 km of her twin city, Sippar-ša-Šamaš.

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[1] *a-na* ^{d}*a-nu-ni-tu*$_4$ gašan mè *na-šá-ta* ^{giš}ban *ù iš-pa-ti mu-šal-li-ma-at qí-bi-it* $^{d+}$en-líl *a-bi-šu sa-pi-na-at* ^{lú}*na-ak-ru mu-hal-li-qa-at ra-ag-gu a-li-ka-at mah-ri ša* dingir-dingir; VAB IV: 228, l. 22–25, from Schaudig 2001: 424–425.

[2] The matter of divine names' epithets has been well studied (Gelb 1987). For Annunītu, see Selz 2000: 34–35, and related bibliography (especially Jacobsen 1963).

[3] Selz 2000: 34–35; Asher-Greve and Westenholz 2013: 133.

[4] RIME 2, E2.1.4.1, E2.1.4.2, E2.1.4.6.

[5] For a review of inscriptions mentioning building of statues and temples dedicated to Annunītu, see Gödecken 1973: 144–147.

[6] On Annunītu's cult during the Old Babylonian period, see Harris 1975, and Myers 2002: 93–106.

It is from the latter city that information about Annunītu's cult, between 7th and the 5th century BCE, has come to us. Indeed, in the archive of the Šamaš sanctuary, the Ebabbar, the administrative texts relating to the daily management of the temple bear witness to the different aspects of Annunītu's cult. While these aspects have been well treated in various studies dealing with the cultic activities in Sippar at that time, one special feature of the goddess worship has been has been neglected: a small dossier containing less than ten administrative texts documents the intervention of temple craftsmen on weapons and military equipment intended for the goddess Annunītu.[7]

Even though available sources are quantitatively limited, they are rich in information especially if we consider them in the wider perspective of weapons manufacture in Sippar. This is one of the main interests of this issue: not only can we approach it through the theme of divine weapons in Mesopotamia, but also, as part of the "Material Culture of Babylonia" project (MCB), it allows me to introduce the theme of weaponry production in sanctuaries.

1. The Dossier's Overview

Annunītu's cult in Sippar is abundantly and regularly documented by the administrative texts of the Ebabbar archive over a period extending from the reign of Nabopolassar to that of Darius I.[8] The vast majority of sources mentioning the goddess relate to the management of the sacred meal prepared for her,[9] and the making, repairing and cleaning of clothing for her statue.[10] In many ways, the file about Annunītu's warlike equipment differs from sources dealing with the management of her cult.

1.1 Sources

The file concerning Annunītu's military equipment is rather limited in quantity and chronology. It currently includes four published and three unpublished texts cited by John MacGinnis in his study of Sippar's armed forces.[11] One of

[7] About Annunītu's weaponry, one can find few information in Bongenaar 1993, Bongenaar 1997: 133, and MacGinnis 2012: 4.

[8] Bongenaar 1997: 229–233; Myers 2002: 266–268, 319–323, 316–319, 355–357; and Zawadzki 2006: 178–179.

[9] Bongenaar 1997, especially p. 421.

[10] Most references are quoted in Zawadzki 2006.

[11] MacGinnis 2012: 4. My present article should have included a publication of the unpublished texts quoted by John MacGinnis but they could not be reproduced because of the Covid-19 pandemic. They will be edited as soon as possible. In addition, the file could further be enriched by new unpublished texts, among the British Museum's Sippar collection, but these have not yet been identified.

them, BM 60501, was read from photographs but its state of preservation makes its addition to the file problematic. The table below (Table 1) sums-up the available documentation.

Table 1: Texts documenting Annunītu's warlike equipment

Référence	Date	Type	Paraphrase
Nbn 31 = BM 75470	4-iv-Nbn 1 (555)	Receipt	Delivery of 10 silver shekels to a leatherworker for the *tillu* of Annunītu.
BM 67536 *unpublished*	[…]-[…]-Nbn 1 (555-554)	Receipt ?	Account listing quantities and personal names.[12]
CT 55, 235 = BM 55719	22-x-Nbn 11 (545)	Receipt	Delivery of 3 shekels of silver to a smith for the *patru* of Annunītu's *tillu*.
CT 55, 421 = BM 57051	[…]-ii-Nbn 13 (543)	Receipt	Delivery of 4 silver shekels to a leatherworker going to Babylon, for the *tillu* of Annunītu.
Bongenaar 1993: 30–31 = BM 63917, Bertin 1585	2-iv-Nbn 15 (541)	Receipt	Delivery of hides to a leather worker to make boxes for the *tillu* and the bow of Annunītu.
BM 84241 *unpublished*	5-xi-Nbn […]	Receipt	Receipt for tools.[13]
BM 60501[14] *unpublished*	12-v-[…]	Receipt	Delivery to the temple of arrows for [Annunītu].

A few comments and clarifications are necessary.

First of all, it must be noted that all the texts, with the possible exception of BM 60501 whose date is damaged, can be dated to the reign of Nabonidus.

Then, the file is composed of receipt records, on the one hand supplies to craftsmen of raw materials or silver, and on the other hand the returns to the temple of products manufactured with these materials. In format and content, they differ little from the rest of the documentation relating to the manufacture of weapons and equipment for the armed forces of the Ebabbar.[15] It should be noted that several texts documenting the manufacture of ornaments and other cultic objects for the goddess, some also dating from Nabonidus' reign, were not included in the file.[16] Not being able to determine with certainty whether

[12] Grayson and Leichty 1987: 208.
[13] Finkelstein, Leichty and Walker 1998: 360.
[14] = Strassmaier II 361/3.
[15] On the manufacture of weapons for the sanctuaries' soldiers, see Gombert 2018: 114–192.
[16] BM 75883; Nbn 301; Nbn 447; Nbn 489; *etc*. See below.

these pieces were made in the particular context, as we shall see, of the making of Annunītu's warrior panoply or in the more usual context of her regular cult, the choice was made to focus only on items related to weaponry.

Finally, the file's texts show that two names were used to designate the goddess: Annunītu (Nbn 31; CT 55, 235; and CT 55, 421) and Annunītu-ša-Sippar-Annunītu (BM 63917). Initially, the cult of Annunītu was worshipped, not in Sippar of Šamaš where the Ebabbar was located, but in the twin city, Sippar of Annunītu where her shrine, the Eulmaš, was probably located.[17] The latter having been destroyed by Sennacherib, Annunītu may have been welcomed among the deities of the Ebabbar until his temple was rebuilt at the end of Nabonidus' reign.[18] While we will have the occasion to come back to this event and to what it implies in terms of contextualization, for now, we can exclude that the names have designated two different deities.[19]

1.2 Annunītu's warlike equipment inventory

The lexical proximity between the weapons of the temple soldiers and the equipment provided to the goddess means that the items are well known and can be identified with a good degree of accuracy.

The best documented item is Annunītu's *tillu* (Nbn 31; BM 63917; CT 55, 235; and CT 55, 421). Historians agree to identify the *tillu* with a kind of weapon container for arrows, sometimes accompanied by a bow, so that it is generally regarded as a quiver.[20] This identification is consistent with what we learn from Annunītu's weapons file.[21]

The generic word *patru* refers to a weapon with a blade and handle that can be identified as a knife, dagger, or sword.[22] The *patru* of Annunītu appears in a single text (CT 55, 235) and only its material, iron (*parzillu*), is specified.[23] The fact that the goddess had a quiver suggests that bows and arrows were also part of her weaponry. Formal evidence is, however, indirect or problematic:

[17] Without engaging in debate, it should be noted that there is no consensus on the question of the location of the sanctuary of Annunītu in the Neo-Babylonian period (Joannès 1988: 76–77; Bongenaar 1997: 231–233; and Jursa 1999: 71–72).

[18] Beaulieu 1989: 34–37, 210–212, and 227–228.

[19] Zawadzki 2006: 196.

[20] The word *tillu* has been translated as "scabbard" (Joannès 1982: 189, and Kozuh 2006: 232), "quiver" (MacGinnis 2012: 50, Kleber 2014: 435–437, and Bongenaar 1997: 133), "bow quiver" (MacGinnis 2012: 50), "bow and arrow quiver" (Joannès 2000: 72).

[21] CT 55, 421 mentions both arrows and the *tillu* of Annunītu, but it is not clear whether the two elements were intended to be associated. In BM 63917, the *tillu* is indirectly associated with the bow (see below). In other Ebabbar texts, the *tillu* usually appears with bows and arrows (Camb 93; CT 56, 558; and MacGinnis 2012 no. 26).

[22] CAD P: 279–284 ("knife", "dagger", "sword"), and Salonen 1965: 49–55.

[23] "1 iron sword of the quiver of Annunītu" (1-*et* an-bar *paṭ-ri šá til-li šá* ^{d}*a-nu-ni-tu*$_4$, CT 55, 235: 2–3).

the arrows (*šiltāhu*) of Annunītu could be documented by the unpublished text BM 60501, but the name of the goddess is restored in full there.[24] Moreover, arrows are mentioned in a text where the quiver of Annunītu also appears, but we do not know if the two elements were intended to be assembled.[25] Furthermore, the syntax "the bow of Annunītu" (*qaštu ša Annunītu*) never appears in the documentation for now.[26] There is no doubt, however, that the bow mentioned in BM 63917, which accompanied the goddess' quiver, also belonged to her.

Finally, the text edited by Arminius Bongenaar (BM 63917) also mentions transport containers (*bītu*) for the goddess' bow and quiver.[27] The context and purpose of their manufacture deserve a broader development which will be proposed at the end of this article.

To sum up, the equipment manufactured for Annunītu by Ebabbar craftsmen probably consisted of at least a quiver, a bow, some arrows and a kind of sword or dagger.

2. Manufacturing Processes

The main aspects directly highlighted by the sources relate to the modalities of manufacture of the various parts that compose the goddess' warlike equipment. We are therefore able to identify the craftsmen involved in the process, to reconstruct how their work was organized and how they were supplied with raw materials.

2.1 Craftsmen involved

At least three craftsmen were involved in the manufacture of Annunītu's equipment:[28] Arad-Gula the smith (^{lú}simug, *nappāhu*), Lābāši, and Nabû-iddin, both leather workers (^{lú}ašgab, *aškāpu*). Thanks to the Ebabbar archive's rich prosopographic material, their career is pretty well-known:

[24] "[…] delivered to Ebabbar […] arrows of [Annunītu]" ([…] *šil-ta-hu šá* ^{d}[*a*$^{?}$-*nu*$^{?}$-*ni*$^{?}$-*tu*$_4$$^{?}$ *a-n*]*a* é-babbar-ra *it*-[*ṭa-din*]; BM 60501, l. 3–4). Since the only Ebabbar deity receiving weapons is Annunītu, the restitution of her name is likely.

[25] "Four shekels silver for Anunītu's quiver, two shekels silver for arrowheads" (4$^{?}$ gín kù-babbar *a-na til-li* {iṣ} ˹*šá*˺ ^{d}*a-nu-ni-tu*$_4$ 2 gín kù-babbar *a-na* sag-du *šil-ta-hu*, CT 55, 421: 1–4).

[26] The goddess' bow perhaps appears in BM 67536 (MacGinnis 2012: 4).

[27] For the translation of *bītu* as "box", see Bongenaar 1993.

[28] BM 60501 could mention a leather worker named ˹Iš˺eš$^{?}$-'*i-li*'-*ú* (l. 2), but no similar name appears in the prosopographic corpus of the Ebabbar.

Nabû-iddin appears in at least 6 texts between Nebuchadnezzar II's reign and Nabonidus' year 2 (553 BCE).[29] He is the first craftsman to have worked on the *tillu* of Annunītu in 555 BCE (Nbn 31).

Lābāši is the second leather worker involved on the *tillu* between 543 BCE (CT 55, 421) and 541 BCE (Bongenaar 1993 [= BM 63917]: 30–31). He appears in at least 22 texts between 550 BCE (Nabonidus' year 6) and 528 BCE (Cambyses' year 2).[30]

The full title of Arad-Gula is specified in several texts of the archive: he is an ironsmith (*nappāh parzilli*) whose career is documented by at least 21 texts written between 553 BCE (Nabonidus' year 3) and 544 BCE (Nabonidus' year 11).[31] He worked on Annunītu's *patru* in 545 BCE (CT 55, 235).

2.1.1 Legal status

Among the artisans working for the Ebabbar, several groups can be distinguished according to their socio-legal status:

- Oblates (*širkû*), dependent temple workers who were paid and fed through the ration system (*kurummatu*).[32]
- Prebend owners performed their tasks within the strict framework of the worship service rendered to a god. In exchange for this service, they received a retribution (*pappasu*). Although several textile professions were directly associated with prebendaries,[33] since a god's clothing was an integral part of his worship,[34] there is no prebend strictly linked to the manufacture of divine paraphernalia before the Hellenistic period.[35] Arminius Bongenaar found, however, that some goldsmiths had a prebend of "temple-enterer" (*ērib bīti*).[36]
- Free craftsmen who were solicited by the Ebabbar in case of need and paid a wage (*idu*).

The regular presence of Nabû-iddin, Lābāši, and Arad-Gula in the ration lists indicates that they belonged to the first category, that of dependent craftsmen.[37] This has two consequences: on the one hand, they are craftsmen who did not

[29] Bongenaar 1997: 414.
[30] Bongenaar 1997: 412–413.
[31] Bongenaar 1997: 370–371.
[32] Jursa 2008: 389.
[33] Among the craftsmen of the Ebabbar, weavers and washers were prebendaries (Quillien 2021: 263).
[34] Oppenheim 1964.
[35] Bongenaar 1997: 354.
[36] See for example the Balihu family in which several protagonists were *erīb bīti*, jointly exercising the trade of goldsmith (Bongenaar 1997: 365–366).
[37] For Lābāši, see CT 56, 687; CT 56, 677; *etc*. For Nabû-iddin, see CT 57, 198. For Arad-Gula, see CT 55, 771; CT 56, 669; and BM 64124.

receive wages for their labour – we will see later that this is an important point for our purpose; on the other hand, the artisans involved were not part of the prebendary staff, who performed a religious service and were allowed to interact with the sacred space of the deities and belonged to a higher social category.

2.1.2 Hierarchical position and level of qualification

Within the Ebabbar the craftsmen were grouped by profession. In each profession, they were organized and hierarchized probably according to criteria such as the level of know-how, qualification, or seniority. From a strictly documentary point of view, the position of Nabû-iddin, Lābāši, and Arad-Gula could be suggested by the rank their names occupy in the ration lists: each of them appears, at least on one occasion, in first place before other craftsmen of the same profession.[38] While the argument is not decisive, it nevertheless suggests that the three craftsmen may have been, at some point in their careers, at the head of the workshop in which they worked.[39] For Arminius Bongenaar, Lābāši could even have been a kind of chief of the leather workers despite the fact that he was never referred to by this title.[40] He may have been preceded in this office by Nabû-iddin who, despite a less substantial documentation, presents a similar profile for the beginning of Nabonidus' reign.[41] The case of Arad-Gula is more complex because he seems to have been integrated into a double hierarchical system: the hierarchy of ironworkers in which he seems to have a similar position to that of the two leatherworkers, and the broader hierarchy of metalworkers in which ironworkers had a lower position.[42]

Whatever uncertainties remain concerning the position of the craftsmen who took charge of the realization of the war equipment of Annunītu, it has quite concrete consequences on what we can discern of their skills.

Firstly, based on the quantity of raw material they could receive on certain occasions and, correlatively, the number of items to be manufactured, it can be assumed that they were in charge of supervising work performed by all the craftsmen of their workshop. The case is particularly well illustrated by BM 63917. Lābāši, the only recipient of the raw materials supplied by the Ebabbar according to the document, was probably not the only one in charge of

[38] Lists of workers, for example, are structured as follows: groups of about ten names are always preceded by the team leader's name, the *rab ešerti* (BM 59410; CT 56, 87; *etc*.).

[39] For Arad-Gula, see BM 64124 and for Lābāši see CT 56, 667. The case of Nabû-iddin is less clear, but according to the prosopography of Arminius Bongenaar, he is the only Ebabbar leather worker between the end of Nebuchadnezzar II's reign and the beginning of Nabonidus'.

[40] Bongenaar 1997: 198.

[41] See below for similarities in the profiles of the three craftsmen.

[42] For the lower position of the ironsmiths in comparison to goldsmiths and bronzesmiths, see Zawadzki 1991.

manufacturing the more than 100 pieces requested by the temple.[43] He necessarily had to divide the production among other leather craftsmen and supervise their work. Although the documentation is less eloquent concerning Arad-Gula, we find him in similar situations, suggesting that their qualifications also allowed them to supervise important projects.[44]

Correspondingly, the diversity of the material delivered by the craftsmen to the Ebabbar authorities testifies to the polyvalence that they could show in the practice of their craft. This aspect is less evident in the career of Nabû-iddin due to a limited documentary corpus. On the other hand, in a context where ironsmiths seem to have worked in pairs, a smith manufacturing weapons and the other tools,[45] Arad-Gula was involved in the making of both types of items.[46]

Then, we can see that among the craftsmen of the same profession who worked in their time, Lābāši, Nabû-iddin and Arad-Gula are the privileged recipients of the rarest raw materials, sometimes imported. One will quote as an example the Egyptian alum myrrh for the two leather craftsmen,[47] or the iron of Hume from Cilicia for Arad-Gula.[48]

Finally, the craftsmen's know-how could be also demonstrated by the nature of the projects in which they took part and the degree of prestige attached to them. For example, we know that shortly after working on the *tillu* at Annunītu, Lābāši had to make a leather item for the Šamaš chariot.[49] However, neither Nabû-iddin nor Arad-Gula seems to have been involved in similar projects apart from their manufacture of the goddess' warlike equipment. The silence of the sources, for Arad-Gula, deserves a few more remarks. Indeed, the making of metal cultic objects is well documented by the Ebabbar archive and is generally devolved to goldsmiths (*kutimmu*) and bronzesmiths (*nappāh siparri*), who worked metal by melting and casting it into moulds.[50] Incidentally, it should be noted that, at the time when Arad-Gula was in office, Bēl-uballiṭ, another smith specialized in metal smelting and purification,[51] made two items for Annunītu's non-warlike paraphernalia: her scepter (^{giš}pa, *haṭṭu*)[52] and two

[43] The work ordered from Lābāši consisted of producing more than 100 pieces, sandals, and quivers, in addition to the weapon boxes for Annunītu.

[44] BM 60121 (12 nails, *sikkatu*), and CT 55, 235 (60 arrowheads, *qaqqad šiltahi*).

[45] Jursa and Zawadzki 2001.

[46] In the Ebabbar archive, we can see Arad-Gula manufacturing ploughshares, chisels for doors, arrowheads, and other unidentified items.

[47] CT 55 368 (Egyptian alum delivery to Nabû-iddin).

[48] Nbn 571.

[49] Nbn 1000; CT 55, 282; and MacGinnis 1995 no 6.

[50] Zawadzki 1991, and Bongenaar 1997: 354–363.

[51] Bongenaar 1997: 354–355 and 372–373.

[52] Nbn 489 (see below). It should be noted that the scepter seems to have been part of the traditional panoply of the goddess since the Old Babylonian period as shown by the text from

precious metal containers.[53] However, as we will come back to this, ironworking would require techniques that other metalworkers may not have mastered. In the Ebabbar archive, only ironsmiths appear in the context of the production of forged metal items, weapons in particular, and the Ebabbar authorities probably preferred to order the production of the *patru* from a craftsman who was skilled in the manufacture of this type of weapon, rather than from one whose prestige was more appropriate to the task to be undertaken.

2.2 Raw materials acquisitions

Some information has come down to us on how the craftsmen obtained the raw materials used to make Annunītu's warlike equipment and, consequently, on the raw materials themselves.

2.2.1 Material deliveries by the Ebabbar

As dependent craftsmen (*širkû*), Arad-Gula, Nabû-iddin, and Lābāši were provided with materials directly from the sanctuary. The process is particularly well documented by the text BM 63917, which records the delivery of animal skins, madder, and alum to Lābāši. Without going into details, each of these materials was part of the process of transforming skins into leather. Lābāši then had to deliver the manufactured products.

2.2.2 Purchase of raw materials

Instead of materials, the temple could deliver silver to its craftsmen so that they could get their supplies directly from the market. This would happen regularly when materials were lacking in warehouses. Arad-Gula (3 shekels: CT 55, 235), Lābāši (4 shekels: CT 55, 421), and Nabû-iddin (10 shekels: Nbn 31) each received silver to manufacture the item they worked on. In view of their legal status, we can exclude that these sums were a form of remuneration. Unfortunately, texts never specify what these sums were intended to acquire.

If we consider that the acquisition of raw materials was the reason for these expenses, the list of what Arad-Gula was able to buy with the 3 shekels of silver paid for Annunītu's *patru* is rather limited. Indeed, according to the sanctuaries' archives, the materials with which the ironsmiths worked were not

Mari ARM XXII 188, in which the scepter (*haṭṭum*) and the circle (*kippatum*) of Annunītum are mentioned.

[53] Nbn 301.

very varied: charcoal (*bulû*)[54] and other combustibles,[55] oil (*šamnu*),[56] and, of course iron, which is therefore the main candidate to identify the expense recorded in CT 55, 235. The fact that the text specifies that the *patru* was made of this material reinforces, in our opinion, this hypothesis. Of course, we cannot exclude that the 3 shekels were used to acquire other materials, but it must be noted that this sum is close to the prices we know for the manufacture of the same type of goods in a similar context.[57] We shall return to this point.

The analysis of the amounts disbursed for the *tillu* is more problematic. Indeed, 10 shekels were delivered to Nabû-iddin in 555 (Nbn 31) then 4 shekels to Lābāši in 543 (CT 55, 421), when the manufacture of a quiver for archers normally cost more than twenty times less.[58] We know that leather workers had to use a wide variety of raw materials (different animal skins of varying qualities, madder (*hūratu*), glue (*šimtu*), alum ($^{na}{}_{4}$*gabû*), *etc.*), and that these were often bought by craftsmen from the sanctuary's funds, even for products that the sanctuary could produce, such as skins, glue or madder.[59] However, the idea that rare materials were bought and used to treat the leather and thus embellish the appearance of the quiver is not enough to explain the difference between the production cost of a classic quiver and that of Annunītu.[60] We will develop a hypothesis according to which two quivers could have been made for the goddess but, even taking this into account, the 10 shekels provided to Nabû-iddin still largely exceed normal production costs. As it stands, it is therefore difficult to affirm that the totality of the sums paid for the *tillu* of Annunītu was devoted to the purchase of raw materials, knowing that the 4 shekels given to Lābāši were spent in Babylon.

[54] BM 75517; CT 55, 202; and CT 55, 250. Charcoal could be used as a combustible but could also be used to lower the melting temperature of iron (Joannès 1993: 109).

[55] Lab 1 (Bongenaar 1997: 361). The importance of firewood for the work of ironsmiths could be documented in a letter from Uruk (BIN 1, 53).

[56] GC 1, 212. Oil was used to harden warm iron in order to fix the chemical elements that had amalgamated in the metal

[57] For the price of weapons from Neo-Babylonian documentation, see Gombert 2018: 133–142.

[58] In MacGinnis 2012, no. 32 (= BM 64112//Bertin 2932) the text editor reads "14? leather quivers from the hands of Šamaš-uballiṭ for 2 shekels of silver" ((5-6) ⌜14?⌝ ^{kuš}*til-lu ina* šu^{II} ^{Id}utu-din-*iṭ*). If the quivers' number restitution proposed by the author is correct, a single object would cost 1/7 shekel. In any case, the low cost of a quiver is confirmed later in the text: "(7-8) 3 bows, 7 leather quivers for 3 1/4 shekels of silver" (3-*ta* ^{giš}ban 7 ^{kuš}*til-lu a-na* 3 gín 4-*tú* kù-babbar). Knowing that a bow cost between 1 and 3 shekels (Gombert 2018: 142).

[59] BM 64112; CT 55, 282; Dar 4 (miscellaneous materials); CT 57, 255 (green dyed leather, *dusû*); CT 55, 243; CT 56, 28; Nbn 1000; and Cyr 214 (hides).

[60] In comparison, the purchase of 15 hides for the Šamaš Chariot costs 3 shekels (Nbn 1000). On the other hand, a rare raw material like Egyptian alum (*gabû ša misir*) could cost a little more than 1 shekel for one mina (Nbn 214).

2.2.3 A commercial expedition to Babylon

The expedition to Babylon needed for the making of the *tillu* is documented by CT 55, 421: [61]

> "(1–7) 4 sicles of silver for the quiver of Anunnītu, 2 sicles for arrowheads have been brought to Bab[ylon] via Lābāši the leather worker. (8–10) 12 litres of floor […], travel's provisions […] have been given."

The text records the provision to Lābāši of goods necessary for the expedition: provisions for the journey and silver for purchases. What Lābāši bought for the quiver of Annunītu in the capital is not specified and we can only make hypotheses based on what we know from similar expeditions.

The Ebabbar archive provides information on several visits to Babylon by craftsmen from Sippar and, although this question deserves a more exhaustive study, we can already isolate some of the features of these expeditions. First of all, these expeditions seem to involve mainly leather workers and metalworkers.[62] Then, their objective seems to have been the acquisition of raw materials,[63] undoubtedly motivated by attractive costs, but above all manufactured products such as dyed skins or metal objects, such as weapons or precious metal ornaments and cultic objects.[64] Finally, the purchase of manufactured products seems to have been motivated less by a cost approach than by the search for products that were not produced in Sippar, or at least not at a satisfactory level of quality. The texts Nbn 121 and Nbn 489 illustrate this system well. Both texts record the shipment of large quantities of precious metal to Babylon to be transformed into worship equipment by local craftsmen.[65] It should also be noted that the 3 minas of red gold sent to Babylon in 485 BCE (Nbn 11), according to Nbn 489, were to be used to make Annunītu's scepter.[66] At the same time, Paul-Alain Beaulieu showed, in a study published in the same volume, that in order to make a tiara for Šamaš, Nabonidus had to gather craftsmen from Babylon and Borsippa, "skilled men with experience".[67] The Ebabbar

[61] (1–7) 4? gín kù-babbar *a-na til-li* {*iṣ*} ˹*šá*˺ ^{d}*a-nu-ni-tu*$_4$ 2 gín kù-babbar *a-na* sag-du *šil-ta-hu ina* šu^{II} ^{l}*la-ba-ši* ^{lú}ašgab *a-na* ˹tin?˺-[tir^{ki}] *šu-bul* [x x x] (8–10) 0,0.2 *qé-me*-[x x x] *ṣi-di-tu*$_4$ [x x x] sì-*in*.

[62] Jursa 2010: 70 and 73–80.

[63] BM 75281, BM 63924, and BM 114719 (Jursa 2010: 79).

[64] CT 55, 421; Nbn 121; Nbn 489; and Nbn 928. Craftsmen purchasing finished product in Babylon are also documented in the Eanna archive from Uruk (BIN 1, 138; and maybe YOS 21, 8).

[65] In Nbn 121, 1 talent of silver and 3 minas and 20 shekels of gold are sent to Babylon to be transformed into censers (*nignakku*) and *makkasu*-bowls (Jursa 2010: 79). For Nbn 489 see below.

[66] "[a total of 3] red gold mines for the scepter of Annunītu that were sent to Babylon via Marduk-šum-uṣur son of Belšunu, Šamaš-eriba descendant of Balihu and Bēl-uballiṭ, the smith" (˹pap 3˺ ma-na kù-gi *sa-a-mu* ˹*ina* šu^{II} ˹^{d}amar-utu-mu-šes a-*šú šá* ^{d}en-*šú-nu* ^{id}utu-su a ^{d}balih-*ú u* ^{d}en-din-*iṭ* ^{lú}simug *a-na* ^{giš}pa *šá* ^{d}*a-nu-ni-tu*$_4$ *a-na* tin-tir^{ki} *šu-bul*, l. 8–12).

[67] BM 42269 (see the contribution of Paul-Alain Beaulieu in this volume).

archive also specifies that the goldsmiths of Babylon who came to Sippar belonged to the professional category of specialized craftsmen (*ummânū*).[68]

How then should we interpret Lābāši's expedition to Babylon mentioned in CT 55, 421? We cannot exclude that it was motivated by the search for competitive prices, especially since the purchase of arrows mentioned in the same text may have been part of this logic.[69] However, the occurrences gathered above lead us to believe that he was looking for local craft productions, intended to adorn the quiver, that could not be found in Sippar. We will see moreover that several examples of ornaments specifically designed for quivers have been found.

Anyway, this commercial expedition allows us to underline the adaptation of the infrastructures in charge of craftsmanship in Sippar so that the manufacture of the goddess' warlike equipment could be carried out. First of all, the project was not entrusted to the craftsmen who were most often involved in the production of cultic objects, but to those who essentially produced the objects of daily life, especially weapons and soldiers' tools. Given the nature of the task, they were probably the most qualified to carry it out. Then, the need to magnify built items, in accordance with the importance of Annunītu, led the authorities of the Ebabbar to seek artisanal productions which were not carried out in Sippar, we will come back to this. In view of these adaptations, one has the impression that the sanctuary of Sippar tried to meet an order for which it did not have all the required production tools. This order may have come from the king Nabonidus, whose reign is precisely marked by the rising of the goddess among other gods, as we will see.

3. Hypotheses on Aspects of Annunītu's Weapons

To a large extent, the aspect of the warrior equipment of Annunītu is not apparent in the documents of the Ebabbar archive, which focuses only on the administrative aspects of the manufacturing process. In order to propose hypotheses about the appearance of the quiver and the sword, the only pieces of which manufacture is documented, we must therefore compare the data gathered with what we know about the techniques used by the craftsmen, the archaeological material available, and the rich iconographic corpus representing armed goddesses.

[68] Bongenaar 1997: 367–369.

[69] CT 55, 421 also documents the purchase of arrows that Lābāši also had to bring back from Babylon. The number of arrows purchased is not specified but we know from YOS 21, 8, a letter from Eanna probably written in Babylon (Kleber 2008: 301), that 1 shekel could buy 70 and 100 arrows in the capital, depending on their quality. In comparison, in Sippar 1 shekel could buy 30 arrowheads (CT 55, 235) or 44 arrows (Nbn 661).

3.1 Armed goddesses' representations in iconographic documentation

Armed goddesses are a recurring figure in Mesopotamian iconography and statuary.[70] In this corpus the differentiation and identification of Annunītu is difficult but, for our purpose, this is not really problematic. Many representations seem to be inspired by the mythological figure of the warrior Ištar, from which Annunītu was born.[71] While the patterns represented by Mesopotamian artists may have evolved over time, several figurative archetypes relating to the arms of the goddesses, particularly in the iconography of the first millennium BCE, reflect items made by the Ebabbar craftsmen for Annunītu. Thus, on a cylinder seal from the Neo-Assyrian period in the British Museum (BM 89769, cf. Fig. 1), Ištar's equipment looks almost identical to Annunītu's.

Fig. 1. BM 89769 – Cylinder seal impression of the goddess Ištar, (720–700 BCE) © Trustees of the British Museum.

The quiver is an essential motif in the iconographic representations of armed goddesses since the end of the second millennium BCE.[72] In some pictures, it is even the only piece of equipment carried by the deity depicted and, from a figurative point of view, it could probably be used to symbolize the whole of

[70] On this issue, see first Colbow 1991, as well as Asher-Greve and Westenholz 2013: 149–286 (on iconography) and Bahrani 2001: 130–133.

[71] Jacobsen 1963; Gödecken 1973; Asher-Greve and Westenholz 2013: 62 and 71.

[72] Colbow 1991: 51, 53–54, 62, 65, 70–71, 73, 75, 77–78, 81, 83–85, 87, 93, 192, 268, 315, 355, 361, 374, 377, 393, 431, 435, 438, 483, 487, 498, 507.

her armament. Moreover, especially in the iconography of the 2nd millennium BCE, the quiver sometimes contained different types of weapons (arrows, scepters, maces, swords, *etc*.).[73] We have seen that, the *patru* of Annunītu itself could have been carried in the quiver. Finally, it should be noted that on the seal print, Ištar is provided with two quivers. The motif is recurrent,[74] leading to the question of whether two pieces could have been similarly made for Annunītu. This hypothesis would even shed light on the file's chronology and partially explain the importance of the silver invested in this project: a first *tillu* would have been made in the first year of Nabonidus' reign and a second during the second half of his reign. It cannot be excluded, however, that only one quiver was made in year 1 (Nbn 31) and that the operations that took place between years 11 and 15 (CT 55, 235; CT 55, 421; and BM 63917) corresponded to embellishment work (manufacture of the *patru*, ornaments and transport boxes).

Swords and daggers are also abundantly represented among the weapons of armed goddesses. They are often equipped with a sickle sword like the one we can see, arranged in its scabbard, on the Fig. 1.[75] If the sickle sword seems to have been actually employed by soldiers in the second millennium BCE, its use in this context has declined to serve only as a manifestation of a divine presence and its ability to bestow victory in battle.[76] The choice was therefore made by the artist to depict the sword in such a way as to highlight its sacred dimension.

In contrast, the representation of the bow seems motivated by more secular considerations. First of all, it does not display any element referring to a divine symbolism, such as, for example, Ištar's star which adorned the weapon on some pictures.[77] Moreover, its characteristic triangular shape and its duck-headed ears are undoubtedly reminiscent of the bows that were used by the native soldiers of the Assyrian army.[78] On Fig. 1, the bow is held by the goddess with two arrows. Finally, the picture shows that other elements completed the goddess' panoply. The items accompanying the sword-sickle could represent straight swords arranged in scabbards, maces[79] or scepters.[80] Thus, it is not excluded that the gold scepter whose manufacture was mentioned above, could have been an integral part of the warlike panoply of Annunītu.

[73] Colbow 1991, pls. 10, 14, 17, 22, 24, 35a, 56, 60, *etc*.

[74] Colbow 1991, pls. 3, 17, 20, 21, 22–25, 35a, 240, 244, *etc*.

[75] Asher-Greve and Westenholz 2013, figs. 106, 109, 143, 149.

[76] On the use of the sickle sword see Hamblin 2006: 66–71; Kang 1989: 150; and Barron 2010: 63–64.

[77] Asher-Greve and Westenholz 2013: 283 and figs. 150a, 150b.

[78] Zutterman 2003: 125–132, and fig. 2.

[79] Colbow 1991, pls. 75, 82, 96b; Asher-Greve and Westenholz 2013, figs. 106, 107, 109, 134, *etc*.

[80] Colbow 1991, pls. 40–43, 53, 55, *etc*.

3.2 Hypotheses on the *patru*'s aspect

In terms of know-how and craftsmanship, working with iron brings certain imperatives. Indeed, this metal reaches its melting point at 1537°C. However, creating fireplaces reaching and maintaining such a temperature was difficult in Babylonia due to the scarcity of firewood. Iron objects were therefore forged from a metal bloom. It was then hammered at a constant temperature until the object had its final shape. The created item was finally tempered in water or oil to allow the metal to cool down quickly and solidify. This technique, which implies that iron blacksmiths were not able to make complex shapes that could only be obtained by casting melted metal into a mould,[81] has certain implications for the overall appearance of Annunītu's pattern. Indeed, we expect that knives, daggers or swords forged by ironsmiths will be mostly flat, without relief, with an iron handle extending the blade or with a fastening system with tang. Archaeological material dating from the Neo-Babylonian and Achaemenid periods largely confirms this assertion (Fig. 2).[82]

If information is lacking on Annunītu's *patru*, data from CT 55, 235 can be extrapolated to serve as a point of comparison. Indeed, the 3 silver shekels given for the weapon of the goddess, can be compared to the 3.5 silver shekels that correspond to the value of the 2 minas (1 kg) iron *patru* mentioned in YOS 17, 270, a text from the Eanna archive. The two quantities of silver being relatively close, we can propose the hypothesis that the iron part of Annunītu's *patru*, the blade, and perhaps part of the handle, could weigh around 1 kg.[83] Now, the weight of two items among the sample presented above are known to us by Kristin Kleber who was able to obtain weights from the Vorderasiatisches Museum in Berlin.[84] The first, AUWE 7 no. 725, was weighed at 71 g, and the second, AUWE 21 no. 1227, at 204 g. Even considering the loss of weight due to soil corrosion, the estimated weight of the Annunītu *patru* far exceeds that of the archaeological material, which is composed of daggers or knives. Based on our estimates, the weapon of the goddess could therefore be identified with a larger item, presumably a kind of sword. However, any assumptions about the possible size of the sword of Annunītu are made difficult

[81] The most notable example of Late Babylonian bronze weapons is the socketed trilobed arrowheads (Gombert 2018: 287–291).

[82] AUWE 7 no. 719 to no. 727; AUWE 7 no. 732; and AUWE 21 no. 1227 to 1230.

[83] The extrapolation process is methodologically problematic. In particular, because by reasoning in this way, we assume that in both cases the silver was paid only to finance the raw material. However, on the one hand, we can exclude that the sum paid in YOS 17, 270 financed the labor, since the crafts of Eanna were based on the work of the oblates paid by rations as at Sippar; on the other hand, we note that swords provided to soldiers weighed between nearly 800 and a little more than 1300 g (Gombert 2018: 296). At the minimum, we can note that the proposed estimate thus corresponds to the order of magnitude of weapons of the same type.

[84] Kleber 2014: 440.

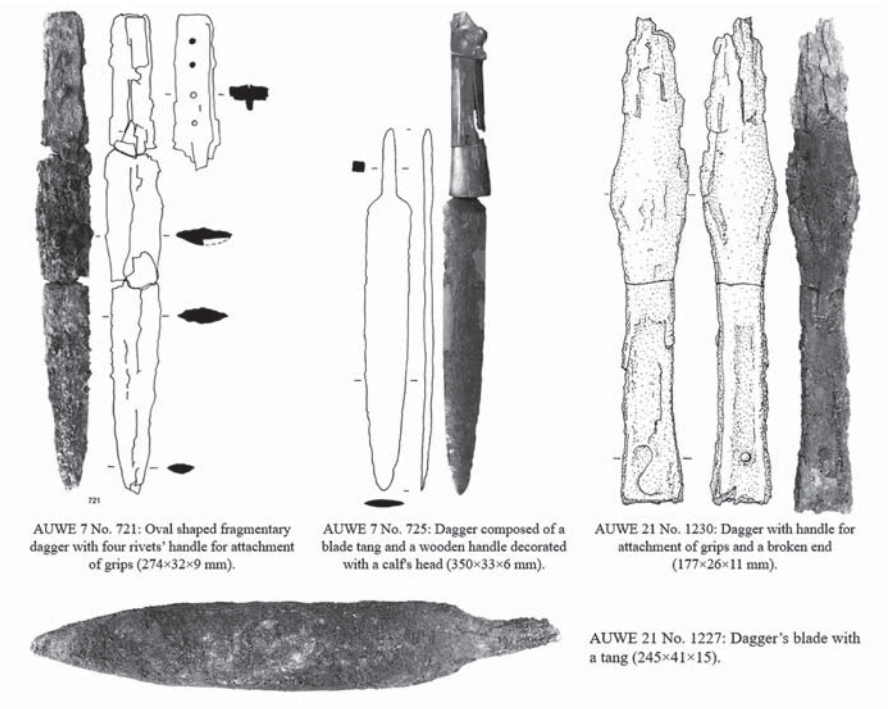

Fig. 2. Late Babylonian iron daggers found at Warka.

by the fact that we do not know the size of the divine statues. Of course, if our supposition that Annunītu's sword might have had more or less the same weight as a weapon supplied to a soldier were corroborated, it would be a serious clue to move forward on the issue.

The general shape of the sword has yet to be determined. Was its blade straight like those of the weapons provided to the soldiers, or curved as in the representations of armed goddesses? Several sickle swords have been discovered by archaeologists. One of them, made during the Middle Assyrian period (1307–1275 BCE) and now in the Metropolitan Museum of Art in New York, is particularly remarkable for its state of preservation and its inscription in the name of King Adad-nērārī II (Fig. 3).While no such made of iron and dating back to the first millennium BCE seems to have been excavated to date,[85] we know from temple archives and archaeological material from Warka that the sanctuaries' ironsmiths were able to make curved blades.[86] On the basis of

[85] Massafra 2012.

[86] The manufacture by ironsmiths of iron sickle (*niggallu*) for agricultural work is attested by the Ebabbar archive (CT 55, 221; Nbn 867; Nbn 980; Nbk 418; *etc.*). Moreover, a Late Babylonian sickle was found at Warka (AUWE 21 no. 1272).

Fig. 3. 11.166.1 – Middle-Assyrian bronze sickle sword,
© Metropolitan Museum of Art.

the technique used only, it is therefore difficult to propose satisfactory hypotheses about the blade's shape. Finally, the only element that leads us to identify Annunītu's *patru* with a straight sword is that it was designed to be stored in the quiver.

3.3 Hypotheses on the *tillu*'s aspect

The manufacture of leather objects by the craftsmen of the temple proceeded in two stages: the preparation of the skins and the making of the object.[87] In short, the first step consisted of cutting, drying and tanning the skins which were then assembled, by sewing or gluing.[88] Wooden parts could hypothetically reinforce the structure of the object.[89] According to this process, the quiver(s) of the goddess would have consisted of assemblages of pieces of leather,

[87] The leather working process has been described in detail by JoAnn Scurlock (Scurlock 2008).

[88] For an example of the assemblage of leather objects, we can refer to the study on shoes proposed by Louise Quillien in this same volume.

[89] The Ebabbar archive shows that leather workers could receive deliveries of reeds (Lab 1).

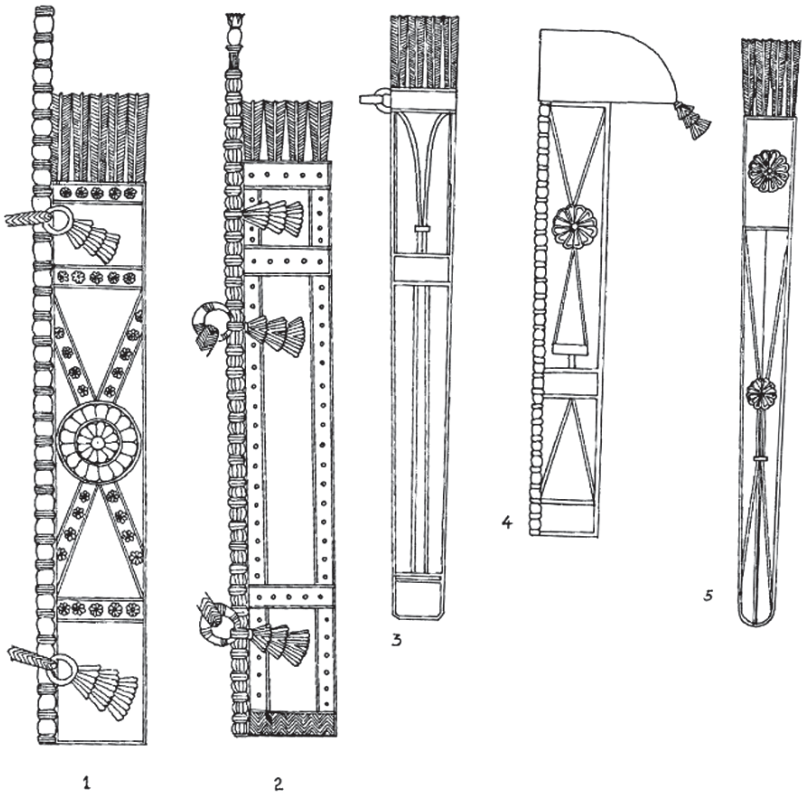

Fig. 4. Arrows quivers from Neo-Assyrian reliefs,
(from Madhloom 1970, pl. 25).

probably hardened, designed to carry arrows and an iron sword of about 1 kg,[90] but without the bow. Based on iconography, especially Neo-Assyrian, it can be assumed that the item(s) made by Lābāši and Nabû-iddin were rectangular or trapezoidal in shape, characteristic of arrow quivers (Fig. 5).

The quiver(s) were probably dyed and the madder delivery to Lābāši in BM 63917, could give us an indication. This plant was indeed used to give the leather a red tint. However, according to the text, madder seems to have been delivered in the context of boxes carrying the weapons of Annunītu manufacturing, not for the quiver(s) themselves.

The most significant element concerning the appearance of the quiver concerns the commercial expedition to Babylon. We conclude the development on

[90] In the absence of examples of swords in quivers, we know that soldiers could carry axes in them (Bittner 1987, pl. 15.3).

Fig. 5. First millennium BCE quivers' plaques from Mesopotamia and neighborhood.

this issue by emphasizing the role of the capital in the manufacture of metal objects made by highly skilled craftsmen. In this respect, the archaeological material provided us with several examples of metal pieces that were specifically designed for quivers, used as ornaments and possibly as reinforcements (Fig. 5).

These are metal plates, divided into several assembled parts or in a single piece, intended to be fixed on quivers. On some pieces, the holes regularly drilled along the length of the plate suggest that it was sewn or nailed to the leather.

Of course, the fact that Annunītu's quiver(s) are equipped with such pieces remains hypothetical, but several elements in the dossier point to this direction. In particular, the fact that the tanner travelled in person to Babylon, possibly to order items adapted in size and to supervise the work.

Despite the speculation, we must retain that the equipment manufactured for Annunītu was probably chosen according to precise criteria. It seems that those

who commissioned the project ensured that the appearance of the armed statue corresponded to the iconographic and mythological codes of the warlike goddesses.

4. The Warlike Equipment of Anunnītu in Context

As we have seen, the file about the weaponization of Annunītu is closely linked to Nabonidus' reign, which has two features that can be used as contextualization elements: the religious reform attributed to the king, and the rise of the Persian Empire during the second half of his reign.

4.1 Annunītu and Nabonidus' religious policy

We know that the reign of Nabonidus was marked by a religious policy, which may have opposed him to the traditional priesthood of the great cities of Babylonia. His efforts would have been intended to upset the Babylonian pantheon in order to bring the Moon-god Sîn at the top. Therefore, all along his reign Nabonidus granted a special treatment to Sippar where Šamaš, Sîn's son, was dwelling, as well as Annunītu, the Moon-god's daughter.[91]

Incidentally, the documentation testifies to several royal interventions towards the goddess.

The most important act of Nabonidus with regard to Annunītu is undoubtedly the reconstruction of her temple the Eulmaš in the city of Sippar-Annunītu commemorated in two inscriptions.[92] According to Paul-Alain Beaulieu, these late inscriptions make it possible to date the event to the second half of Nabonidus' reign, probably between his 15th and 17th years of reign.[93]

Earlier, during Nabonidus' 10th year, the royal authority, via the Crown Prince Belšazzar, had already honored the goddess by offering her a 1 mina golden tongue.[94]

More indirectly, the elevation of Annunītu's position amongst Sipparean gods in cattle-offering lists and garment texts points to a rising of the goddess within the local pantheon.[95] It is almost certain that the disruption of the Sipparean pantheon is a direct consequence of Nabonidus' religious policy. In fact, in inscriptions about the Eulmaš rebuilding, the Babylonian king insists on the weaponry of the goddess consisting of a bow and a quiver.[96]

[91] Zawadzki 2014 and further bibliography.
[92] VAB IV: 219–229 (Beaulieu 1989, inscription no. 16) and VAB IV: 230–235 (Beaulieu 1989, inscription no. 17).
[93] Beaulieu 1989: 34–37.
[94] BM 67003, edited by John MacGinnis (MacGinnis 1994).
[95] Myers 2002: 319–323, and Zawadzki 2006: 178–179.
[96] VAB IV: 228, l. 22.

According to this evidence, it seems pretty likely that Annunītu's weaponization in Sippar also fits into the general context of the religious reform undertaken by Nabonidus. It is even likely that the manufacture by the Ebabbar of the goddess' warlike equipment could have been made following a kind of royal order. If we accept this hypothesis, we can consider, from the chronology of the goddess' weapons file, that the crown could have intervened twice.

The first time at the very beginning of the Nabonidus' reign. Two texts in our file were indeed redacted during his 1st year.[97]

The second time could have taken place between year 11 and year 15 when three texts of the file were redacted. It is during this period that king Cyrus began to extend the borders of the Achaemenid Empire beyond traditional Persian territory, gradually increasing the threat against Babylonia.

4.2 Annunītu and the military tensions at the end of Nabonidus' reign

In the whole cultic activities of the Ebabbar, Annunītu had a special situation. Some ceremonies were specially dedicated to her and she was dressed in clothes very colored and in clothes usually intended for male deities.[98] These specificities suggest that Annunītu was worshipped for characteristics that other gods did not share, probably her warlike dimension. While no sources from the Neo-Babylonian Period document the role of the goddess in military affairs, two texts from the Mari archive show the crucial part played by her cult in such a context.[99]

Yet, it turns out that the second phase of the manufacture of Annunītu's warlike weaponry takes place almost at the exact moment when the military tensions between Achaemenid Persia and Babylonia emerge. The *Nabonidus Chronicle* teaches us that during year 9 of the Babylonian king (547–546 BCE), Cyrus went west to campaign in Anatolia against the king of Lydia, passing near, maybe through, Babylonia.[100] The same year, likely fearing a surprise attack by Persian troops on the way back, the Crown Prince Belšazzar was in Dūr-Karāši, a fortress in the north of Sippar, watching Cyrus' movements.[101] From Nabonidus' year 9 to the capture of Babylon in 539 BCE (year 17), the

[97] Even if Nabonidus' inscriptions about Annunītu date from the end of the king's reign, the religious policy with regards to the goddess' cult in Sippar began at his early years (Myers 2002: 321).

[98] Bongenaar 1997: 307; Zawadzki 2006: 77–78, 94, 111, 118–119, 123–124, 187, 194–207; and Quillien 2021: 538–539.

[99] We know from the texts ARM XXVI/1 213 and ARM XXVI/1 214 that a member of Annunītum's cultural staff, the *assinnu*, transmitted, through oracles, goddess predictions concerning the outcome of the battles. Incidentally, in *Zimrī-Lîm's Epic*, a literary text from the same period, also shows that the goddess stood to the right of Mari's king Zimrī-Lîm during the fighting (Guichard 2014: 13 (l. 26) and 126–127).

[100] ABC 7, col. II, l. 15–18.

[101] Beaulieu 1989: 198–199.

whole Neo-Babylonian documentation shows an increase in purchases, manufactures and distributions of weapons,[102] as well as an augmentation in the number of soldiers sent to the military camp (*madaktu*).[103] These clues can most certainly be understood as testimony to the militarization and armament of Babylonia in the face of the rising Persian threat.

Consequently, the goddess' weaponization would not only be part of Nabonidus' religious policy, but also of the context of the preparation for war in Babylonia. The key element of the file comes from BM 63917 written during the month *dūzu* in year 15 of Nabonidus (541 BCE):[104]

> "(17–20)(For) the quiver of Annunītu of Sippar-Annunītu who was led away (*abāku*) to the son of the king, he (Lābāši) has manufactured two sheep and goat *ṣallu*-hides, for the box of the quiver et and for the box of the bow."

The document clearly indicates that the quiver of Annunītu was "led away" (*abāku*)[105] to the Crown Prince who was probably out of Sippar by then. While we cannot exclude that this event took place in the context of the rebuilding of the Eulmaš which was probably started at the same time, we prefer another interpretation. Indeed, we know that, at least during the previous years, the Crown Prince was likely away from Babylonia and Paul-Alain Beaulieu suggested that he was moving with the army along the northern borders.[106] Maybe, Belšazzar feeling that he would soon have to engage in battle, could have taken the quiver with him to symbolize the presence of a goddess able to bring him victory, like a kind of standard. Although the use of divine weapons in this specific context is poorly documented by administrative and legal sources,[107] it is a recurring motif in Mesopotamian literature: divinizing objects, sometimes weapons, often symbolize the presence of a god or goddess at the side of warriors during battles.[108]

[102] Gombert 2018: 158–162.

[103] Gombert 2018: 245–247.

[104] (17–20) ^{kuš}*til-lu* ˹*šá*˺ ^{d}*a-nu-ni-tu*$_4$ *sip-par*^{ki}-^{d}*a-nu-ni-tu*$_4$ *šá a-na* dumu-lugal *i-bu-ku* 2 ^{kuš}*ṣal-la*-meš *šá* udu-nita$_2$ ùz *a-na* é *til-lu u* é ^{giš}ban *i-te-pu-uš*.

[105] For *abāku* "to bring along", "to lead away", see CAD A/1 (*abāku*): 6–8.

[106] Beaulieu 1989: 204–205, based on CT 56, 429 and Nbn 824.

[107] In legal and administrative sources, divine weapons most often appear in legal matters (Joannès 2000: 79). Joanna Töyräänvuori proposes that the divine weapons of the storm god could be used as standards accompanying the army, in order to sacralize a campaign but direct proofs are sparse (Töyräänvuori 2012: 155–160). Steven Holloway proposes that the weapons of Aššur had a similar function based on literary and iconographic evidence (Holloway 2001). Proof of the use of a god's weapons in military context can be found in a Mari letter (ARM XXVI/1, 205), and more indirectly in a Neo-Assyrian letter (SAA 16, 132). For these documents, see Töyräänvuori 2012: 40–41.

[108] A good example of this literary *topos* comes from an inscription of the Neo-Assyrian king Aššurnaṣirpal: "With the support of Aššur, the great lord, my lord, and the divine standard which goes before me, (and) with the fierce weapons which Aššur, (my) lord, gave to me I mustered (my) weapons (and) troops (and) marched to the pass of the city Babitu" (*ina* ^{giš}*tukul-ti aš-šur* en

5. Conclusion

Although quantitatively limited, the file on the warlike equipment of the goddess Annunītu has the advantage of documenting a well-known element of Mesopotamian society, the divine weapons, through a less common prism, that of their manufacture. If the reconstruction proposed here is correct, Nabonidus would have ordered the realization of the items to the Ebabbar, which entrusted it to its craftsmen. Given the nature of the objects to be manufactured, at least one or several quivers (*tillu*) and a kind of sword (*patru*), the most qualified craftsmen where not those usually involved in the realization of cultic objects, but those who manufactured the military equipment of the temple's armed forces. The latter, through the temple's resources, invested significant means and relatively large amounts of silver to complete the project, even going to Babylon probably to buy items they did not know how to make themselves. We have proposed here that the objective of this expedition could have been the purchase of a piece to embellish the quiver, one probably intended to represent the presence of the goddess at the side of the one who transported it. It is at least in this way that we interpret the fact that Crown Prince Belšazzar took the quiver with him in the context of the rising of the Achaemenid Persian threat against Babylonia. In the eventuality of a confrontation with the troops of King Cyrus, he could thus have relied on the presence of the war goddess to win the battle. However, more than likely having a concrete military function, Annunītu's weapons were used to promote Nabonidus' religious reform through the valorization of Sîn's daughter.

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gal-*e* en-*ia u* ^{d}ùri-gal du igi-*ia ina* ^{giš}tukul-meš *ez-zu-te šá aš-šur* en *iš-ru-ka a-na a-ia-ši* ^{giš}tukul-meš érin.há.meš-a *ad-ki a-na né-re-be šá* ^{uru}*ba-bi-te a-lik*, RIMA 2, A.0.101.1: Col. II, l. 25–27). See also Nāram-Sîn's inscriptions quoted in the introduction.

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PART 3

WORSHIP SPACES, TOPOGRAPHY AND MATERIAL CULTURE

SOME THOUGHTS ON THE SPATIAL ORGANIZATION OF NEO-BABYLONIAN TEMPLES

FRANCIS JOANNÈS*

Among the elements of material culture which are attested in the textual documentation of the Neo-Babylonian period, we find structures built inside sanctuaries. These spaces either have a name of their own (*bābu*, *papāḫu*, *kisallu*) or have been given a more neutral designation like *bītu* (sumerian: é) with a qualification that specifies their location and use. While the inner topography of a number of Neo-Babylonian temples has been the subject of numerous studies based on archaeological sources,[1] the use of textual documentation has been less frequent. The texts of Babylonian rituals published and analysed by François Thureau-Dangin (1921), then, among others, by Beate Pongratz-Leisten (1994), Galip Çagirğan and Wilfred G. Lambert (1991–1993), Andrew R. George (2000), Marc Linssen (2004), Rocío da Riva and Gianluca Galetti (2018), and most recently by Julia Krul (2019) remain our basic sources so far, but it seems possible to enlarge the research. Thanks to the syntheses elaborated by Paul-Alain Beaulieu (2003), Kristin Kleber (2008) and Bojana Janković (2013) for the Eanna of Uruk, by Michael Jursa (1995), Arminius Bongenaar (1997), Radoslaw Tarasewicz and Stefan Zawadzki (2013b, 2018) for the Ebabbar of Sippar or by Caroline Waerzeggers (2010) for the Ezida of Borsippa,[2] and by means of the data provided by the administrative documentation of the Neo-Babylonian sanctuaries in general, it is possible to generalize to most of the great Neo-Babylonian temples the thoughts to which the edition of the *Rituels accadiens* by François Thureau-Dangin had given rise.

We do not intend here to reconstruct a complete topography of Neo-Babylonian temples, such a task goes beyond the limits of this paper,[3] but to study the mentions of *bītu* + a qualifying term or expression, and to examine from this how spaces inside the sanctuary were structured and which activities

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[1] Among many others we can cite Allinger-Csollich 1998, Baker 2008, Baker 2013, Baker 2014, Downey 1988, Falkenstein 1941, George 1996, George 2000, Heinrich 1982, Koldewey 1972, Margueron 1991, Kose 1998, Lenzen 1969, Miglus 1993, Weissbach and Wetzel 1938.

[2] See also Hurowitz 1992 for the building of Mesopotamian temples in general.

[3] See basically Castel 1991.

took place there.[4] Not included here are, however, designations like *bītu* + a name of god or goddess, which refer to the chapels or temples of the gods and goddesses named. Also not included in this study are designations specific to some sacred buildings or places like *gigunû*, *kirû*, *kummu*, *maštaku*, *parakku*, *šahūru*, *šubtu* or *ziqqurratu*, which deserve a study of their own.

The starting point for this research is therefore the term *bītu* (Sumerian: é), which, as showed by the CAD,[5] is polysemic in a religious context: the word *bītu* can designate an architectural (temple) or institutional (sanctuary) complex, a group of rooms (house) or even a single room (bedroom).[6] The word *bītu* is often qualified by a complementary name, which specifies its function. Actually, this term is not always really clear considering our own terminological criteria. For example, what is the actual meaning of a designation like "the house of secrecy" (*bīt pirišti*), "the house of the emblem" (*bīt urinni*), or "the house of the fermenting vessel" (*bīt namzīti*)? The purpose of this paper is therefore to register the designations and qualifications found in the texts of that time that allow us to judge whether or not the function of certain rooms was pre-determined and, above all, to see how the inner space of the temple was organized and developed.

The temples of the Neo-Babylonian period thus include many spaces that have been analysed both from an archaeological point of view and from textual records. A basic distinction is first to be made between the *holy space*, exclusively reserved for the divine residence and frequented by the purified religious personnel (the *ērib bīti*) who were engaged in cultic activities directly related to the maintenance of the cult statues, and a *secular space*, dedicated to production and storage activities, which includes everything related to the management of personnel and resources (especially agricultural and animal) as well as administrative activities, which often involved writing and produced a large quantity of documents that were intended to be housed for a longer or shorter period of time in the temple. However, in the large architectural complex that is a temple of the Neo-Babylonian period, both spaces, the holy and the secular, often interpenetrate and there exists a transition area of dual nature where sacred and secular overlap following the times of day or the cultic calendar. This is the case, for example, concerning food offerings: once the products of

[4] A similar reflection has already been conducted by Paul-Alain Beaulieu on the religious terminology of the temples of Uruk during the Neo-Babylonian time (Beaulieu 2003: 30): "In the absence of a systematic directory, the cultic geography of Uruk must be reconstructed from the data yielded by archival texts, which mention a number of cultic locales occupied by specific deities. These cultic locales fall by and large within four categories: 1. those with ceremonial names; 2. those with descriptive names; 3. the chapels of the Courtyard; 4. the *bītu*s."

[5] CAD B: 282–295.

[6] See also the methodological analysis by Dominique Charpin (Charpin 2017: 195–200) on the designation of secular spaces and those dedicated to cultic activities in temples at the beginning of the 2nd millennium.

agriculture or livestock, which had often already been transformed into flour, meat, fruit and vegetables, were brought from outside into the temple, they were cooked for meal offerings in this transition zone to which access was reserved for prebendaries. Then, the priests themselves introduced them into the holy area, which was the place where the deities lived. These activities can thus lead to different uses of the same space, especially the courtyards, which are both places of circulation and gathering.

Furthermore, we do not find any mention of temple areas devoted to human housing, except perhaps the lodges of some gatekeepers. But this remains at the present time to be confirmed.[7]

Finally, we note that the activities carried out in the temple are dependent on a pre-existing architectural layout and that they are closely adapted to it. Such a monumental complex was not intended to be substantially modified. For example, we are aware of the caution taken by King Nabonidus during the restorations that he carried out so as not to alter, even "by the thickness of a finger", the dimensions of the buildings on which he worked.[8]

1. The Holy Space

This space includes many different *bītu*s, dedicated to the residence of the gods' statues, to some rituals, and to the keeping of what can be called "treasures", on the model of the "treasures" of the cathedrals or abbeys of medieval Western Europe: there, one finds what is used for the life of the divinity and for the exercise of daily liturgy. This holy space is enclosed within an area defined by the term *siḫirtu* "sacred complex".[9]

1.1 The *cella* (*papāḫu*)

This holy space is organized around a room used as the residence of the god's statue, often translated by the term *cella* and rendered in Akkadian by *papāḫu*. In greater temples the *cella* has a name of its own, usually Sumerian: it houses the statue of the main deity of the temple, but can also have statues or symbols

[7] Understanding the term *d/takkannu* as a designation of a private room or apartment, which appears in the text published in Beaulieu 1992: 101–103 (= YOS 19, 110) is especially interesting, as it concerns an area situated inside the Eanna where some oblates would have been housed. But this is only a hypothesis in the present state of the documentation. See also Hackl, Jursa and Schmidl 2014: 134.

[8] Cf. Castel 1991: 179: "En effet, la plupart des sanctuaires néo-babyloniens ont été reconstruits ou au moins réaménagés à l'aplomb d'une construction antérieure. L'origine des plans remonte très souvent à des époques très lointaines."

[9] George 1992: 419: "temple precinct", Jursa 1999: 57: "Termpelbezirk".

of other deities that belong to the "circle" of this main deity.[10] It is commonly preceded by an *antecella* that serves as antechamber.

In his *cella* of the Babylonian Esagil, the é.umuš.a ("House of Command"), the god Marduk is seated on a throne,[11] and his antechamber, named du$_6$.ki.sikil ("Mound, Pure Place"), is under the supervision of a cherub (*kāribu*).[12] There is no clear evidence of the presence of statues of praying kings.[13] But it is now known that some royal statues, often simply referred to as *ṣalam šarri*, were also worshipped in locations of their own inside the great temples. This phenomenon is attested for Sargon of Akkad, Nabonidus and Darius I in the Ebabbar,[14] and Nabonidus in Uruk.[15]

It has been noticed that great temples, even if they were dedicated to a single main deity, often have a bi- or tri-partite structure[16] that housed the spouse and the vizier of this main deity, although other combinations are possible. This is the case for example in the Esagil of Babylon (Bēl-Bēltiya-Nabû), in the Ebabbar of Sippar (Šamaš-Aya-Bunene), the Ezida of Borsippa (Nabû-Nanaya-Tašmētum), and the Ehursagtila of Babylon with Ninurta-Gula-Marduk.[17] At Uruk, during the Neo-Babylonian Period, the temple of Ištar is architecturally organized around two *cella*s: the one for Ištar (é.nir.gal.an.na) and the other for Nanaya (é.hi.li.an.na), but they are not alone: a pentad of goddesses (Ištar, Nanaya, Bēltu-ša-Rēš, Uṣur-amāssu, Aška'itu) is usually mentioned at the top of the offering lists of the Eanna.[18] The other religious pole of Uruk, the Bīt Rēš, which becomes the main temple from the 5th century onward, is dedicated

[10] For example, in the list *An=Anum* II: 263–275, the "circle of Marduk" in the Esagil includes the baker Mīna-ikûl-bēlī, the brewer Mīna-ištî-bēlī and the two protectors against demons (udug) Nādin-mê-qāti and Mukīl-mê-balāṭi. The latter two had their own chapel in the Esagil called é.a.sikil, the "House of pure water": cf. George 1992: 47, 37 and 409; Litke 1998: 98–99; Krebernik 1995: 410.

[11] On the decoration of Marduk's cella in the Esagil restored by Nebuchadnezzar II, cf. BM 45619:31'–44' in George 1988: 143–144. A partial print of the throne that supported the cult statue of the god Ea in the Ekarzagina, his temple located between the main building of the Esagil and the Euphrates, was found during the German excavations in Babylon: cf. Koldewey 1911: 42–43 ("Auf dem Asphaltüberzug dieses Postamentes fand sich der Abdruck eines hölzernen, reich geschnitzten Thrones. Er muß hier umgestürzt und an Ort und Stelle verbrannt sein, wobei der flüssig gewordene und später wieder erhärtete Asphalt den Abdruck der gerade auf ihm liegenden und zu allerletzt verbrannten oder verkohlten Seite des Thrones bewahrt") and George 1992: 303.

[12] The prebendary service of this protective spirit is mentioned several times in the archives of the Nappāḫu family: cf. Baker 2004: 34–35.

[13] On this possibility, cf. Castel 1991: 175.

[14] Kennedy 1969, Bongenaar 1997, Waerzeggers 2014.

[15] The issue has been comprehensively dealt with by Kleber 2008: 271–275 and especially Waerzeggers 2014: 327, n. 20 (with bibliography). Caroline Waerzeggers underlines the difference to be established in this type of cult between the statue of a legendary king like Sargon of Akkad and those of quasi-contemporary reigning kings from Nabonidus onwards.

[16] George 1992: 219.

[17] Baker 2011: 119.

[18] Beaulieu 2003: 179.

to the couple Anu-Antu. On the other hand, the main deity may itself be present under many forms in the temple and in adjoining shrines. Beate Pongratz-Leisten thus edited a text[19] that cites seven cult statues (*ṣalmu*) of Bēl-Marduk in Babylon, three of them present in the Esagil, in addition to the one of the é.umuš.a.

Thus, the ensemble *cella/antecella*, with possible adjoining rooms, serves as a residence for the cult statue of a main god or goddess, and works as a structural unit, which could be described as a "house" or "apartment complex". The term *bīt papāḫi* can also be used to describe this entire house.[20] It can, in the course of some rituals, be connected with other architectural ensembles, including houses of other deities that are connected to the house of the main god or goddess. Two examples are well known: the ritual of the divine marriage, which associates in a private bedroom the god and his spouse; and the divine processions, analysed in detail by Beate Pongratz-Leisten,[21] during the course of which each statue evolves in a hierarchical order and according to a codified circuit inside the temple.

1.2 Courtyards (*kisallu*) and adjoining chapels (*bītātu*)

The holy area of the temple also includes some courtyards (*kisallu*) which bear names specific to each temple. They may also just be referred to as "upper" or "lower" courtyard(s), or with an opposition between "main" and "secondary" courtyard(s). As we have already seen, there is also mention of some *cella*s accessed from these courtyards, and the god residing there is then referred to as "DN *ša kisalli*".[22] Finally, in the greater sanctuaries, the main court is often used as a meeting place for the divine assembly (*ubšukkinnakku*) where the gods decree the fates of the king and of the country.[23]

[19] For BM 119282, see Pongratz-Leisten 1994: 218, no. 6: 1–13, completed by Lambert 1997: 74–78. Cf. also George 1997 and Baker 2011.

[20] This is implied by the topographic and metrological text BM 78905 (republished by George 1992: 215–220), which gives the height of the door of the *papāḫu* of the god Šamaš in the Ebabbar of Sippar (18 cubits, or 9 m) in a façade 30 cubits (15 m) high, while the doors leading to the *papāḫu* of the goddess Aya and the god Bunene are 16 cubits (8 m) high. Similarly, text CT 56, 447 (= BM 56073) gives the count of bricks of the wall enclosing the terrace of the lower courtyard of the whole temple of Bunene (*bīt* ^{d}*Bunene u bītāti-šu*) and the count of those enclosing only the terrace of the *papāḫu* of Bunene with its inner courtyard and adjoining rooms (*bīt papāḫi ša* ^{d}*Bunene*): George 1992: 221–222.

[21] Pongratz-Leisten 1994: 50–84.

[22] See Paul-Alain Beaulieu's analysis, note 5 *supra*. This is what Heather D. Baker also calls "courtyard chapel" (Baker 2011: 119).

[23] Cf. George 1992: 289, for Babylon. The courtyard of the temple can also simply be used as a place where a cult statue is temporarily placed: cf. Maul 1999: 289, for Sippar, showing that the statue of Aya is sometimes seated in the lower courtyard (*kisallu šaplu*) of the Ebabbar, and George 1992: 216–219, for the relationship between the *cella* of Aya and the lower courtyard at Sippar.

It is therefore necessary to take into account the fact that each great temple has a lot of secondary *cella*s dedicated to deities other than the main god or goddess, which open directly onto the courtyard, without depending on the main *cella* for their access, and which have their own circuit of service. These "chapels" work as autonomous entities and have been widely analysed in the case of Eanna[24] or Ebabbar.[25] They may also themselves contain several rooms, as shown by the examples of the apartments structure of Bēltiya in the Esagil as analysed by Andrew R. George[26] and of the Lady of Sippar (Šarrat Sippar), in the Ebabbar of Sippar, whose chapel has an "inner part" (*bītānu*) and a "crown room" (*bīt agî*).[27]

The holy space that belongs to a deity, on the other hand, may evolve and can be developed or segmented. A good example can be found in the Ehursagtila of Babylon according to the analysis developed by Heather D. Baker:[28] in this temple devoted to Ninurta and Gula, a specific space was dedicated to the god Bēl-Marduk. From one of the entrance gates of the temple, it was possible to have a look over a single unity made up of the courtyard, the entrance corridor and the *cella* specifically occupied by the statue of Bēl made of haematite (^{na4}níg-gi-na). Thus, a sub-unit was constituted inside the Ehursagtila where Marduk was visible from the outside, without depending on the accesses that led to the *cella*s of Ninurta and Gula.

The space reserved for cult can at last be divided into subsets.[29] For example, in the course of some rituals, especially meal offerings, curtains (*šiddu*, *gadalalû*/*gidlu*) were put in place in front of the *cella*, in order to cut off the view and to allow the divine statue to consume its meal. The most representative of these restricted spaces is the one called the *birīt šiddī* "(the space) between the curtains".

Finally, in this organization of the holy space, we must also consider a vertical axis and what happens in such a dimension: during the ritual transcribed in the *Love Lyrics* of Babylon,[30] we are told that Bēltiya/Ṣarpanîtu is staying "in her room", while Bēl/Marduk is "on the roof". The holy space could therefore also be conceived from bottom to top, and the roof of the temple

[24] Beaulieu 2003: 30 "Four deities, namely Gula, Marduk, Ninurta, and Sîn, were known as gods 'of the Courtyard' (*ša kisalli*). The designation *ša kisalli* in such cases refers to the deity, not its sanctuary, as we often find *ša kisalli* appended only to a divine name (DN *ša kisalli*)." Cf. *ibidem*: 252 for Uṣur-amāssu's temple and p. 280 for Gula's temple.

[25] Bongenaar 1997; Zawadzki 2006 and 2013b.

[26] George 1992: 122–125.

[27] As noted in Bongenaar 1997: 168 and 242; according to CT 55, 306 the temple of Aya also included a *bītānu*.

[28] Baker 2011: the Ehursagtila was dedicated to Ninurta and Gula, but included a third *cella* reserved for Marduk, who had his own sacred space there. About this temple, see also the analysis by Walther Sallaberger: cf. Sallaberger 2013.

[29] Cf. Da Riva and Galetti 2018.

[30] Lambert 1975, Nissinen 2001.

could then be used for specific ceremonies and rituals. One thinks here first of the relation between the "low temple" and the "high temple" located at the top of the ziggurat, as in Babylon with the vertical relationship between the Esagil and the Etemenanki; but the case is repeated in Hellenistic Uruk, according to the *Ritual of the Torch* and the night procession in the Bīt Rēš recently studied and commented on by Julia Krul.[31]

1.3 Bedrooms and outbuildings

Among the annex rooms used by the gods, which are attached to the main holy space of the *cella*, we find a chamber used as a bedroom[32] and known by different names depending on times and places: *bīt erši*, but also *bīt ḫammūti*, *bīt tānēḫi*[33] in Uruk, *bīt mayyāli* in Sippar, or *bīt pirišti*. In the Eanna of Uruk, under its configuration in Hellenistic times, the goddess Nanaya sits in her *cella* called the é.hi.li.an.na ("House of the Luxuriance of Heaven"), which is flanked by a garden[34] and by a bedroom (é.ni.ir) called é.hi.li.kù.ga ("House of Pure Luxuriance"). In the Esagil, it is also known that the temple houses several beds for the statue of the god Marduk: at least two beds are located in the temple at the top of the Etemenanki and another one in the Esagil.[35]

A specific room, called *bīt pirišti* in Hellenistic times, has been studied by Timothy L. Doty,[36] who considers it as a room mainly devoted to the storing of the gods' clothing and cult objects, and which thus could be considered as a kind of "sacristy". Texts from Babylon, however, show that the *bīt pirišti* is considered there to be a bridal chamber, reserved, for example, for Bēl and Bēltiya, and that the function of "reserve" or "treasure" seems to apply less well.[37]

Finally, should we include in this category a room located near the *cella* which is called *bīt têrēti* and which would be in the Neo-Babylonian Eanna the place where the goddess Nanaya is dressed before the ritual described in the text LKU 51?[38] In the much older context of the Old Babylonian Royal Palace of Mari, a *bīt têrtim* was located at the main gate of the palace and served as an administrative concierge service.[39] However, a lexical text edited

[31] Krul 2018: 177–178.

[32] Matsushima 1985, 1987, 1988 and 2014; Nissinen 2001.

[33] George 1993: 134, no. 899 for Antu's bedroom in the Bīt Rēš. The term é.ni.ir also applies to Nanaya's bedroom in the Eanna. For the reading é.a.ni.ra = *ina bīt tānīḫti*, cf. CAD T: 171b.

[34] See note 24 *supra* and George 1993: 99 no. 464.

[35] Cf. George 1992: 429; on the restoration by Aššurbanipal of the bed of the god Marduk. See also Hurowitz 1992: 256 and George 1995: 178, n. 3.

[36] Doty 1993.

[37] In Sippar (cf. Bongenaar 1997: 149, n. 165) one finds twice (CT 55, 308 and CT 57, 279) people with the title "*ērib bīti* of the *bīt pirišti*": their role is perhaps more in relation to a ritual than to the handling of precious objects.

[38] George 1992: 199 and 474 translates it as "chapel of oracles(?)".

[39] Durand 1987: 42–43.

by Andrew R. George (= SpTU 1, 136) puts the *bīt têrēti* of Uruk in relation to Eanna's gate called ká.u_6.de. It could then be a building for administrative or economic use, which would have been ritualised for some occasions.[40]

The *cella* and the bedroom could therefore have been associated with one or more rooms that served as a storeroom in which dishes and furniture made of precious metal or ceremonial clothing were stored. The reconstructed plans of the Neo-Babylonian temples show such rooms, sometimes blind, which could play this role, but are we still in the holy space or are they rooms or buildings with a mere practical function?

According to Urukean sources, in addition to the Hellenistic *bīt pirišti*, we see that such a function of reserve is attributed in the Eanna to the *bīt urinni*,[41] but there is no information on its location inside or outside the holy area of the Eanna at present. It can be assumed, however, that the high value of the objects kept in the *bīt urinni* made it necessary to have it located in a part of the temple under close watch. On the other hand, there exists also a room or building called "Treasury" (é.níg.ga = *bīt makkūri*) in the Eanna of Uruk which had a keeper of its own[42] and whose terrace was repaired by Nebuchadnezzar II.

1.4 Other annexes

To these main components of the holy space can be added the structures that supply (holy) water, such as wells, tanks or cisterns which provided water to be used during rituals as well as for everyday use. Wells have been found in the Neo-Babylonian archaeological levels of many temples.[43] Medical and religious texts regularly mention cisterns "in the temple of Marduk" (*būrtu ša bīt Marduk*) and there were cisterns in the Esagil (*bīt būrti*) where water from the Euphrates and the Tigris was kept for the performance of rituals.[44]

Finally, we also find mentions of buildings used to house the sacred accessories of the gods, the most important of which being the god's chariot: in the Esagil, the *narkabtu* of Bēl had its own room or house (*bīt narkabti*). According

[40] According to the meaning given to the word *têrtum* "administrative report" or "oracle": cf. CAD T: 357–367. The second meaning is often linked to the use of the word in the plural.

[41] Cf. in this volume, the chapter on drink offerings to the gods.

[42] YOS 6, 229: "0,3.4.3 *qa Innin-iddina, maṣṣar bīt makkūri*." Kleber 2008: 258 considers this building as a "granary" (Speicher).

[43] Castel 1991: 176.

[44] The CAD B: 338a offers an alternative explanation, considering that the term *būrtu* here refers to water holes that subsist in the vicinity of the permanent bed of the Tigris or Euphrates rivers and from which the water used for the purification rituals of the temple would be drawn. But Tablet II of *Tintir* does cite at l. 33 and 37 (George 1992: 46–47 and 278–279) in the Esagil precinct a building specifically dedicated to the Euphrates and Tigris, the é.idim.sag.gá, which is referred to in the following line as a *būrtu*, measuring 3 m by 2.75 m. In the same text, the l. 42 explains the name of the èš.mah dedicated to Ea of the Ká.mah gate (which gives access to the lower Esagil courtyard) as the place where a bucket-*sussullu* for water (*šá* ^{giš}bugin.tur *šá* a.[meš]) was used, possibly referring to a well-type structure.

to Andrew R. George, it was located in the southern part of the main building of the Esagil, in a chapel called é.du$_6$.kù.ga ("House, the Pure Mount"), where the statue of the god Lugaldukuga sat.[45] This was also the case for the processional boats, and for some ensigns (*urigallu*, *zaqiptu*), which could be divinized and were worshipped in Neo-Babylonian Eanna.[46] According to the attestations recorded by Paul-Alain Beaulieu, the "chapels" in which these objects were kept are mentioned together with the courtyard chapels of some deities (*bīt* DN *ša* (*bīt*) *kisalli*). Therefore, they too may have been located around the inner courtyards of the temple. Finally, it has to be noted that although some buildings are associated with inner gardens, the latter are never characterized by the determinative é/*bītu*. They were therefore considered merely as open-air structures although they played an important role in many rituals.

2. The Secular Space of the Temple

This part of the temple is the place where people in the service of the gods are working as part of the daily cultic ceremonies. This service especially includes the care of statues: the preparation and setting of meal offerings, the treatment of the gods' clothing and of the ornamental elements like jewellery. The secular area is the point of arrival for what comes from the outside (offerings, agricultural and animal resources, tools), which are prepared by non-priestly or "uninitiated" staff and then handed over at the entrance of the holy area to the priestly or "initiated" staff,[47] before entering the courtyards, then the *cella*s of the residing gods.

2.1 The preparation of food offerings

Was the concept of "temple-kitchen" still in use in the 1st millennium BCE? It seems possible to suppose the existence of rooms or buildings used for culinary preparation of meals, similar to the types that Marie-Thérèse Barrelet studied for the 3rd and early 2nd millennium in Ur, Nippur and Uruk, in relation to the ziggurat of the temple, and which could be the *bīt ḫurše* quoted in some texts.[48] This has to do with the problem (impossible to deal with here as a

[45] George 1992: 272.

[46] Beaulieu 2003: 353–355.

[47] See Waerzeggers 2008. These are the *ramku*, who are dressed in linen garments, and are in line with the *išippu* of Eridu: cf. CAD R: 126–127. According to Nabonidus' inscription YOS 1, 45 (col. II: 25), the group of the *ramku* of the Ekišnugal in Ur includes the High Priest-*ēnu*, the priest in charge with purification-*išippu*, the cupbearer-*zabardabbû*, the brewer-*sirāšû*, the baker/cook-*engiṣu* and the miller-*āriru*.

[48] See *infra* § 2.1.1. Cf. in Mari's texts, the letter A.4446, where a *bīt ḫurše* is mentioned in connection with refined oil and aromatic woods: cf. Joannès 1993; I thank Manon Ramez for reminding me of this reference.

whole) of the protocol in use for the preparation and transmission of sacred meals, to which the prebendary system serves as institutional support.[49] We can, at least, present a few main points. Caroline Waerzeggers proposed a precise reconstruction of this process in the Ezida of Borsippa:[50]

> "*The* kisallu *was the scene of an elaborate ceremony that was held four times a day when brewers, bakers, fishers, gardeners and many others convened to deliver their products for the meals of Nabû. Skirted by the shrines of secondary deities, the* kisallu *was also an area of worship in its own right and itself an object of veneration. More importantly, the* kisallu *established an invisible line of division in the organisation of space within Ezida, as this was the area where the distinction between the initiated and uninitiated crystallised. Only those who were deemed qualified were allowed to enter the courtyard to participate in its busy ritual program.*"

In that respect, an interesting element is also provided, for the Esagil of Babylon, by an inscription of Neriglissar, which mentions some buildings of a complex located at the northern wall of the Esagil:[51]

> "*(As for the section of) the enclosure wall of Esagil that faces north, (an area) in which the* ramku- *(and)* kiništu-*priests of Esagil reside, whose foundations a former king had laid but whose superstructure he had not raised, which had become progressively lower due to terracing, and whose walls had become weak, its construction was no longer very stable, (and) its door-jamb(s) were no longer secure. To keep* bursaggû-*offerings clean, to arr[ange] purification rites, to keep* taklīmu-*offerings pure for the great lord, the god M[arduk], to properly administer* sattuk[ku]-*offerings, (and) to prevent act(s) of omission and cultic mistake(s) from occurr[ing], I examined (and) inspected its original foundation and (then) I secured its (new) foundations on its original foundations. I raised its high parts, making (them) as lofty as a mountain. I secured its door-jamb(s) and set up doors in its gate(s). I surrounded (it) with a strong base using bitumen and baked bricks.*"

The reason for locating the activities of the initiated staff of Esagil in this place is to ensure the absence of any impurity in food preparations: these offerings, which are characterized with the prestigious appellations of *bursaggû* (l. 18), or *taklīmu* (l. 19), but also with the more common *sattukku* (l. 20), must be perfectly pure (l. 18: *ullulu*, l. 20: *ubbubu* and *šullumu*) and must be presented without negligence (l. 21: *šeṭṭu*) or fault (l. 21: *ḫiṭṭītu*). It is therefore clear in that case, as proposed by Caroline Waerzeggers, that the sacrificial meals had to be transferred from the hands of the people working in the secular part of

[49] Barrelet 1974. The preparation of the sacrificial meals, which was provided directly in the holy area during the earlier periods, would have been "externalized" during the the 1st millennium and taken in care by the bakers, the brewers and the other people in charge of the meals.

[50] Waerzeggers 2010: 11.

[51] Da Riva 2013: 117–119 and Weiershäuser and Novotny 2020, "Neriglissar 1", Col. II: 9–28 (BM 113233). I follow here the translation of Frauke Weiershäuser and Jamie Novotny.

the temple to those of the consecrated officiants acting in the holy area in order to become suitable for the consumption of food by the gods. A boundary not only existed within the temple between the two areas (holy and secular), but also, in the Esagil, the process of preparation mentioned above for the final presentation of the meals had to actually be done in the building that Neriglissar was restoring. Perhaps the same type of task was performed in the Ezida of Borsippa in the *bīt tardenni*, where the second morning and evening service was prepared.[52]

2.1.1 The meat's processing

The topic of sacrificial meals has been treated in depth in scholarly literature and a few conclusive elements may be presented here. We can expect that every task in connection with the treatment and preparation of the meat served as an offering took place outside the holy part of the temple. Although sacrifices with blood inside the sanctuary were not unknown,[53] it is unlikely that sheep and cattle were regularly put to death within this holy area, except in the course of specific rituals, which are based on a principle of magical replacement,[54] rather than provision of a food offering.

During the Hellenistic period, in the Bīt Rēš of Uruk, we find mention of a place for the killing of animals, which is called *bīt maḫaṣṣāti*:[55] at least ten fat sheep were slaughtered there every day. In the preceding Neo-Babylonian period, the text YOS 6 156 (reign of Nabonidus), refers to a *bīt ṭābiḫi* in which sheep are put to death. These sacrificial victims are to be placed on the offering

[52] Waerzeggers 2010: 118. There should therefore also exist one or more rooms where the main meal, the *naptanu rabû* was prepared. In Urukean Eanna, according to SpTU 1, 136 (= George 1992, no. 25:3']), the building where the meal offerings were prepared may have been called é.sù.sù.gar.ra, "House where meals are set out" (George 1992: 473). It is also possible that in Babylon, the chapel dedicated to the god Mīna-ikûl-bēlī, the "cook-baker of the Esagil" (cf. above note 10) had been used for preparing some parts of the sacrificial meal, in addition to what was performed in the building restored by Neriglissar.

[53] Cf. Julia Krul's remarks on this subject (Krul 2018: 162–173). Animals characterized in the lists as *ḫitpu* thus suffered sacrificial killing, but such a practice remains difficult to contextualize. Cf. the instructive remark by Andrew R. George about the èš.bàn.da at the Ká.mah gate of the Esagil (George 1992: 281): "The theological image of Nanše's shrine as the place 'where the offerings of the gods are decreed' is nicely paralleled by *Tintir*'s cultic description of it as a place where sacrificial sheep are dealt with in some way."

[54] We know for example the ritual linked to the replacement of the *lilissu*'s drumhead edited in the *Rituels accadiens*. On the other hand, it has to be noted that the blood of the victims is part of the ritualized libations in an exceptional case such as the *namburbi* to protect the army against diseases, in the Assyrian tradition: cf. Caplice 1970: 118–122. The Neo-Babylonian prebend of butcher-*ṭābiḫu* remains poorly documented: cf. for Sippar the presentation of Bongenaar 1997: 294–295 and the observations of Jursa 1999: 65–68.

[55] The term has been studied by Linssen 2004: 182 and Waerzeggers 2010: 257, reprinting Farber 1987: 231 "Schlachthof" and Zadok 1982: 116: "a kind of gallery which is divided/set apart by a partition/compartment, appartment".

table of the gods, which are linked to an altar-like(?) structure called *šubtu* (^{d}ki.dúr).[56] Similarly, YOS 7, 8, dated at the beginning of the reign of Cyrus, speaks of "24 sheep (that) were killed at the Gates" (24 *immēri ina bābāni nukkusū*).

In Uruk too, we find the *rē'î bābi*, "shepherd of the gate", who was responsible for gathering and bringing the sheep up to the temple gate, that means outside the sanctuary, while the *rē'î sattukki* "the shepherd (of the sheep) of daily offerings" worked in the inner buildings of the temple precinct. This suggests the existence of an area dedicated to the slaughtering of animals, located outside the temple gates. The function of the butcher-*ṭābiḫu* was to kill the animals and to cut up standardized portions of meat,[57] some of which destined to be roasted and others to be boiled. The cooking of the meat then took place inside the temple precinct, in the kitchen (*bīt ḫurše*), but was no longer under the responsibility of the butcher-*ṭābiḫu*. The preparation of the meat, however, is rarely mentioned in texts that cite the *bīt ḫurše*.

This is the case in YOS 7, 149:13–14: (PN_1) [*iqb*]*i umma šēr'u ša ištēn alpu* (…) *ša ina bīt ḫurše šebri* PN_2 *ultu bīt hurše ittanna* "PN_1 said: 'regarding the meat of one beef (…) that was chopped into pieces in the kitchen, PN_2 gave it to me from the kitchen'."

2.1.2 Cereal processing and beer preparation

The other major activity of cultic food craftsmanship was the production of bread and its by-products by bakers-*nuḫatimmu*, and the preparation of beer by brewers-*sīrāšu*. During the Hellenistic period, the situation appears to be quite simple, since we find in Uruk a *bīt nuḫatimmi* where millers processed the grain then gave it to the bakers, and a *bīt sīrāši* where brewers operated. In Neo-Babylonian times however, the circuit of preparation seems more complex.[58]

The operation of grinding grain by hand on millstones is a "profane" activity, as it apparently made no differentiation between the various kinds of flours used for the cult and the flour distributed as food ration to the staff of the temple. This grinding takes place in the "room of the flour" *bīt qēme*[59] (but also *bīt qēmēti* for the women[60]), and in the *bīt kīli*, that is the temple prison for the men.[61] Flour is also produced incidentally in one or more warehouses

[56] According to Beaulieu 2003: 268, this term could designate the altars supporting the cultic symbols of Bēl and Nabû in the Eanna.

[57] Cf. MacEwan 1983, Joannès 2000, Waerzeggers 2010: 255–260.

[58] Cf. especially in Borsippa the very elaborate system of tasks division among the prebendaries who had to grind only a part of the total quantity of grain needed for the bread of offerings (Waerzeggers 2010: 226–227).

[59] Or é.zì.da. Cf. Camb 430:6; Cyr 61:1; Mich. Coll. 89:48; YOS 3, 66:5,8.

[60] AnOr 8, 21; AnOr 8, 22; AnOr 8, 24; VS 3, 143: 1,3; TCL 9, 121: 12; YOS 7, 107: 7.

[61] Cf. *infra* § 2.3.3.

(*bīt karê*). We are then in another area of the temple, outside the sacred area. But the process of bread preparation itself is done in a holy space: in Uruk, for example, the different varieties of bread are kneaded and baked in the *bīt kan*(*nā*)*ni*.[62]

This is also the case in the Ezida of Borsippa, for which we may refer to the analysis provided by Caroline Waerzeggers:[63] "The milling facilities of the Ezida temple were known by two names. The first of these is *bīt šibirri*, the 'place/house of crushing' (…). Besides the *bīt šibirri*, millers worked in a place known as the *bīt kunni* (é *ku-un-nu*). This word is attested only once so far (VS 6, 173: 4) but it must refer to the same place as the *bīt kan*(*nā*)*ni*, known from the Eanna temple archive of Uruk, where bakers prepared the sacrificial meals by baking (*apû*) and smearing (*ṭeḫû*)." Caroline Waerzeggers considers, however, that some of these preparations were done outside the temple, even though the places where the grain was ground belonged to the Ezida.[64]

As for beer, there existed a room or building in Sippar called the *bīt namzātu*,[65] which is translated by Arminius Bongenaar as "brewery",[66] according to the name of the jar for fermentation, the *namzītu*. On the other hand, relying on the prosopography of people who work there, Arminius Bongenaar considers that some *bīt qātē* ("shops") could also be a place where beer is prepared.

2.2 Jewellery and clothing crafts

2.2.1 The workshops

Is it possible to assume that the Neo-Babylonian temple was a place with collective workshops for the manufacture and repair of the cult statues' ornamental elements? Elizabeth E. Payne proposed the existence of such workshops (*bīt dulli*) in the Eanna of Uruk and especially of a *bīt kutimmi* where jewellery and sacred furniture are repaired, and a *bīt kabšarri* for jewellers. But she notes that there is no mention of a workshop devoted to bronze and iron metallurgy.[67] Moreover, the status of such *bīt dulli* remains rather undifferentiated according

[62] Beaulieu 2003: 170, 194 and 214: TCL, 13 221. In the beginning, *bīt kanni* is normally the reserve where food is stored and stocked; for the activities of bakers and pastry cooks, see also the analyses of Karlheinz Kessler (Kessler 1991: 82–83).

[63] Waerzeggers 2010: 213.

[64] Waerzeggers 2010: 234: "A sharp line can be drawn between auxiliary millers, who came from a varied social background, and deputy bakers, who were recruited from the members of the prebend-holding group only. The formers were hired to grind grain in Ezida's milling houses, the latter were hired to select portions of sacrificial flour, to turn them into traditional bread offerings, and to deliver the sacred products at the place of sacrifice."

[65] CT 56, 291 and CT 56, 327: é (dug) *nam-za-tu*$_4$.

[66] Bongenaar 1997: 216.

[67] For this craftsmanship, cf. Zawadzki 1985, and Kunert-Zanelli 2005.

to Elizabeth E. Payne.[68] A *bīt dulli* is also used for working gold in the Ebabbar of Sippar.[69] It too is within the temple precinct where the weavers' workshop, the *bīt miḫṣi*[70], could be located, which is to put in relation with the "weavers' room" (*bīt išpari*).[71] Finally, we find mention of a concierge for the *bīt ummâni*[72] in Uruk, which could be the room or building in which some specialized craftsmen carry out their activity.

According to the religious literature, the workshop *par excellence* for the manufacture and repair of sacred objects should be the *bīt mummi*. The craftsmen who worked in the *bīt mummi* were to be initiated, as Caroline Waerzeggers[73] referring to the work of Angelika Berlejung indicates. But this workshop also appears in Assyria at Kalḫu, as a place that can be ritualized, because the sacred marriage ceremony between Nabû and Tašmētum begins precisely there. In addition, the *bīt mummi* is also known in Babylonia as a place where writing activities take place.[74]

In fact, as mentioned in the famous "Artisans' Charter"[75] of Uruk and its parallel published by Elizabeth E. Payne, it seems that the craftsmen attached to the temple used to work in their own ateliers, even if precious metal and gemstones were provided by the sanctuary who checked the work done at the time of delivery of the finished product, following a circuit already well documented in the Palace of Mari at the beginning of the 18th century BCE.

2.2.2 Oil and perfumes: the bīt ḫilṣi

The *bīt ḫilṣi* is, according to its etymology, the place where sesame oil is processed,[76] and perfumes and pharmaceutical preparations made. It could also

[68] Payne 2007: 56–57: "Other texts, however, suggest that the goldsmiths' workshop was called the *bīt dulli* and one text records gold sequins given to the 'house of the craftsmen' (*bīt ummâni*) for repair (NCBT 1008). Both the *bīt kutimmi* and *bīt dulli* are also present in Sippar and according to Maria Kunert-Zanelli, each represents a separate workshop associated with one of the two main families of goldsmiths."

[69] Bongenaar 1997: 366, n. 322. Arminius Bongenaar notes (Bongenaar 1997: 294, n. 258) that the *bīt dulli* in Ebabbar is also used for butchery; cf. CT 55, 469: gír-lá-*ú-tu šá ina* é [dul?], and cf. Bertin 1485.

[70] Quillien 2021: 326, and 331.

[71] Payne 2007: 56; Quillien 2021: 326.

[72] YOS 6, 229: Innin-aḫḫē-iddin, *atû ša bīt ummân(i)*.

[73] Waerzeggers 2010: 49: "Artisans who fashioned the cult image in the controlled area of the *bīt mummi* (Berlejung 1998: 91–92) were subject to the ideal of purity."

[74] The *bīt mummi* has in fact long been a place for intellectual and cultural activities: cf. the case in Mari of the *bīt mummim* used by the king's musicians at the beginning of the second millennium (Ziegler 2007: 77–78; Charpin 2017: 176–177).

[75] Weisberg 1967, no. 1; Payne 2008.

[76] Charpin 2017: 186 notes that the "office for oil" (é.ì.du$_{10}$.ga) in Larsa at the beginning of the 2nd millennium functioned as a perfumery (é.ì.rá.rá = *bīt raqqîm*) and that the latter term was used to designate a religious building under Rīm-Sîn.

be considered as an "apothecary".[77] According to the textual sources, however, some religious ceremonies were performed there. The point which remains to be clarified is the group of criteria that determined the use of the *bīt ḫilṣi* for ceremonies pertaining to the cult.[78] The probable proximity of a garden with its medicinal and probably also ornamental plants, such as the famous "juniper park" of the Esagil attested during the Achaemenid and Hellenistic periods, certainly played a role for the ritualization of the *bīt ḫilṣi*, since the texts from the literary tradition insist on the passage by the garden during the ceremony of the sacred marriage.

2.3 Sacristy, *scriptorium*, *ergastulum*

2.3.1 The bīt šutummi

The buildings called *bīt šutummi* can be regarded, at least as regards their function, as the equivalent of the sacristies of the Christian religious buildings, some rooms housing the sacred furniture where objects or ornaments necessary for the cult are stored, and where the celebrants put on and take off liturgical garments. Buildings or simple rooms serving as stores or storerooms were thus placed at the disposal of the prebendaries and formed in the large temples a kind of quarter annexed to the main building, which was described in detail for the Ezida of Borsippa by Caroline Waerzeggers.[79] Some *bīt šutummi* of the prebendaries herdsmen in Borsippa could even accommodate animals.[80] At Uruk, texts document smaller *bīt šutummi*, of one single room. Among the individual *šutummu*, the royal *šutummu* (*šutummu ša sarri*) is an important complex where the products for offerings made in the name of the king are stored.

It is possible that the (*bīt*) *kuruppu* made of reed, which is mentioned in YOS 7, 58 and which is owned by a goldsmith and is guarded by a gatekeeper, should be added to this type of building. The term is mainly mentioned in the

[77] Joannès 2006.

[78] Cf. for Uruk: Kleber 2008: 287 and Beaulieu 2003: 252 concerning the *bīt hilṣi* of Uṣur-amāssu. One observes a curious spelling in YOS 21, 202: 42, é ^{d}*ḫi-il-ṣu*, which divinizes the building.

[79] Waerzeggers 2010: 11–12: "… the workshops are mentioned most frequently in the archives of the priests (*bīt šutummi* or *šutummu*). They were located in a peripheral area of the temple precinct of Ezida and formed a veritable quarter, traversed by narrow alleyways and main streets and interspersed with open areas and unbuilt plots."

[80] Waerzeggers 2010: 296, n. 1013: "According to BM 94789, no. 169 a cow and its calf were branded in the *bīt-šutummi*. The storerooms of the oxherds were located in a particular area of the Ezida temple known as the *bīt-šutummi ša rē'î-alpē*. The area consisted of several rooms or workplaces (*bīt-qātē*) that were owned by the Oxherd family but still considered property of Nabû "King of the Universe" (BM 94553 and duplicate BM 26562)."

context of private houses in the Seleucid Uruk.[81] The use of a measure called the *mašīḫu ša kuruppi*, that soon became a standard, seems to indicate that agricultural products were distributed here to individuals: see *infra* the *bīt asê*.

2.3.2 Writing and administration

Do we find what could be called a 'scribal space' in a Neo-Babylonian temple? A number of references to "libraries" at Uruk and Sippar exists,[82] which shows that collections of tablets may have been kept within the sanctuaries.[83] On this point, I would refer to the works of Paul-Alain Beaulieu and Philippe Clancier on the place of such "libraries" linked to the temples in the large cities of the Neo-Babylonian period.[84] Even if the "Library of Babylon" is attested mainly for the Hellenistic and Parthian periods, it seems reasonable to guess that its existence was established as early as the 7th century, and that the seizures made by scholars working for Aššurbanipal to enrich the library of Nineveh were made in the fund (or rather "the funds") built up around the Esagil. But it remains difficult, for the time being, to know if this "library" was located in a complex that belonged to the temple or in private buildings.[85]

It should also be possible to identify the place used for archiving administrative tablets: in the Eanna of Uruk some tablets were put together in thematic files, especially the judicial files during the reigns of Cyrus and Cambyses.[86] It is also possible to identify for their value of reference some old documents, which were used for the practical aspects of the cult or linked to the establishment of administrative norms and economic standards.[87] Finally, there were several copies of "model" texts, such as the contract between the Eanna and its first *fermier général* Šum-ukīn. All this corresponds more or less to what we would expect to find in an archival fund, and despite the reservations of Govert van Driel[88] and the fact that most of the Neo-Babylonian tablets of the Eanna of Uruk were found in a secondary context,[89] it can be assumed that

[81] Cf. Baker 2010. I thank Laura Cousin for this reference.

[82] See Al Jadir 1998: the library room that was discovered in the Ebabbar in 1986–1987 measured 4.40 m by 2.70 m. There was no explicit name for this type of room other than *girginakku*: cf. Charpin 2007.

[83] The case of Sippar remains however problematic since the tablets found there appear more like copies linked to the training of scribes rather than to parts of a reference library: cf. Charpin 2017: 125–127.

[84] Beaulieu 2006; Clancier 2009.

[85] Cf. for the location of the library of the Esagil in Babylon, the assessment given in Joannès 2017.

[86] See on this distribution of the "archives" of the Eanna, the seminal article of van Driel 1998.

[87] Frame 1991.

[88] van Driel 1998.

[89] Cf. the discussion by Kessler 2018.

there existed in the Eanna such an archival centre and thus a building dedicated to the written management of the administrative, legal and accounting affairs of the temple.

2.3.3 The prison

The archives of Uruk and Sippar attest to the existence of a prison in the temple, or more exactly a "place of detention" called the *bīt kīli*, that was placed under the authority of a *rab bīt kīli*.

There, people who had been sentenced by the temple court, often for economic reasons, were compelled to perform forced labour, such as grinding grain for the temple. They were often shackled in iron to prevent escapes, but this did not prevent sometimes spectacular attempts.[90] The whole system has been recently analysed by Arminius Bongenaar and Kristin Kleber.[91]

3. Granaries, Storerooms, and Stables

Like any large institutional organization, a Neo-Babylonian temple is a place where products necessary for cult and maintenance of staff are kept. The diversity of these products is wide, depending on whether it is a food product requiring a specific type of preservation, a rare substance, a precious metal, or a product stored in large volume such as wool. In each of these cases the buildings to use should not be the same. Furthermore, a distinction must be made between collective and individual management of the reserves. Caroline Waerzeggers, for example, establishes a hierarchy between the places of storage in relation to their level of use:[92] first a large external warehouse (*bīt karê*), then a "lower level store-room" (*bīt naptani*)[93] storing specific groups of products, and finally a store (*bīt asê*) for individual uses.[94] However, we note that, apart from the buildings dedicated to animals, and the rooms or complexes of rooms used for the keeping of cuneiform tablets as well as other types of

[90] The escape attempt reported in the text YOS 7, 97 shows that guards were housed in the immediate vicinity of *bīt kīli*. So, we are in a closed complex, inside the temple precinct, but outside its holy area.

[91] Cf. Bongenaar 1997: 113, Kleber 2008: 182–183, and for a more general approach, Reid 2016.

[92] Waerzeggers 2010: 60: "In Sippar, it was a large storeroom at, or close to, the temple proper whose main purpose was to supply for the cult."

[93] *Ibidem*: "The *bīt-naptani* specifically tended to the needs of the cult ('house of the meal(s)'). From this locality the large *maṣṣartu* accounts, both barley and dates, were diffused into smaller flows of commodities to be distributed among individual prebendaries."

[94] *Ibidem*: "The *bīt-asê* typically appears as locale where the performer received raw materials for the offerings and the prebendary reward (*pappasu*). There, the priest or his deputy weighed out the products himself."

documents written on stone, wax or scroll,[95] the other types of resources that the temple needed to house could be put in rooms without any specific equipment other than jars of various sizes, as the ones found in the storerooms of the Royal Palace of Babylon, and a locking system, and possibly of surveillance. Such structures were often close to or even linked to the outer and inner gates of the temples. On the other hand, we note the occasional use of the roofs to accommodate temporary constructions used for the drying of agricultural products.

3.1 Agricultural products and raw materials

3.1.1 Silos and granaries

Bulk grain was kept in silos (*kalakku*) or in closed storage jars. However, for the management of grain, the granary, according to its etymological sense of "room for grain", is often mentioned, as well as, to a lesser extent, the warehouse, *karû*, or *bīt karê*, with its sumerian equivalent (é.)gur$_7$. In fact, the uses of the *bīt karê* go far beyond the conservation of cereals, since it also stored dates, sesame, oil in *nesēpu*-vases, goats, ducks, salted meat (CT 55, 646), skins, cauldrons (Nbn 214), reed mats (Nbn 1036), *etc*.[96]

The *karam*, which may also be preceded by the determinative /é/ (*bīt karam*), is another storage place for barley and sometimes dates in Uruk. It is often located outside the town (thus YOS 6, 14:8 refers to *karammānu ša ṣēri*). It may be attached to a larger structure such as the *bīt karê*,[97] provided with a door[98] and under watch. The mention of GC 1, 241 (see footnote 97) shows that *bīt karam* and *bīt karê* are different structures, but their function and use appear to be almost identical, and it is possible that the first (*karam*) may well be an inner subdivision of the second (*karû*).

There were also lighter buildings, such as the *qarītu* mentioned in BRM 1, 23 (text from Uruk, according to the mention of the goddess Nanaya, l. 2) described as *bīt qarīti ša muḫḫī urī* "the reserve installed on the roof", in which dates are stored.

[95] Actually, this restriction applies only to rooms where "living archives" are kept, as seems to have been the case with the piece discovered at Sippar in 1986/1987 with its literary, religious and scientific tablets: see note 82 above. "Dead" or "declassified" archives could be stored in jars or baskets in any type of room. This seems too to have happened in Sippar's Ebabbar: cf. Jursa 2005: 117–118.

[96] For places and methods of food preservation, see also, for the second millennium, the methodological remarks of Julie Patrier (Patrier 2009).

[97] GC 1, 241: 1–2, *uṭṭatu ša ultu bīt karam ša bīt karê ana telittu têlû*; GC 2, 90:17, *ina karam ša bīt alpê*.

[98] VS 3, 191: 7, *uṭṭatu* (…) *ina bāb bīt karam inandinū*.

3.1.2 Other storage buildings

Finally, the Neo-Babylonian temple had a number of multipurpose rooms or buildings such as the *bīt qātē* which are the "reserves", "stores" or "warehouses" in which not only food products (cereals, dates) are kept, but also what is necessary for textile crafts (wool, linen, dyes, finished garments), metal crafts (silver, gold, bronze, tin), as well as reserves of weapons and tools.[99] Several of these *bīt qātē* were, for convenience and security reasons, parts of the architectural complexes of the gates. In some way, any building that could be closed off could be used as a store: it was essentially the ability to watch and control the movements of people, and the traffic of goods in the temple precinct that was the determining element for their affectation as reserves.

3.2 Barns, Stables, Farmyards

The maintenance of the temple's livestock is normally done in rural areas outside the city, or in the homes of staff members, especially oblates, who receive a few heads of cattle to feed. Structures for animals which pertains to the sanctuary obviously had some uses: first of all, the maintenance of animals used for farming like cattle, or used for transport in connection to the cult, especially horses.[100] It is uncertain whether the temple possessed stables housing pack animals like donkeys and mules. Rather, they too must have been distributed in the private houses of various administrators. And in the context of animals for sacrifices, which are fundamental for the temple, we find a stable called *bīt urê* where sheep and cattle were fattened, and which we know to have been managed by a specialist called *rē'î sattukki* or *rē'î gīnê*. In addition, there is the poultry yard where poultries for the gods' meals were fed.[101] Bojana Janković has drawn up an exhaustive inventory of the places where birds were kept.[102]

In the largest temples there is a complex for the fattening of cattle, another for sheep, a third for poultry, and stables for horses. All this does not need to be integrated into the sanctuary enclosure because these buildings, which

[99] CAD Q: 199b.

[100] Cf. Weszeli 2009.

[101] According to Bongenaar 1997: 299 the *bīt urê* of the Ebabbar had three departments: a cow house, a sheep house and a bird house where the animals were fattened Cf. also van Driel 1993: 226.

[102] Janković 2004: 37–41: a poultry yard for fattening, the *bīt iṣṣūri* inside the *bīt urê*, where ducks, geese and pigeons were fed; another farmyard near the gates for other poultry breeding, as well as spaces for farmyard birds in some warehouses (*bīt karê*) outside the temple, and finally, perhaps in the temple precinct, an "incubator" (*bīt ummāti* = é mušen.ama.meš), for breeding, attested in Uruk as é mušen-*ti*(?): see Janković 2004: 41, n. 129.

generated noise, comings and goings and a lot of dirt, were unlikely to be located in the temple itself. A text like CT 55, 609, however, shows that sheep were brought to the temple gate to be registered and then distributed in the sheepfolds.

4. Conclusion

Except for some appellations specific to a number of well-defined places of worship, the numerous rooms generally distributed around the large courtyards that constitute Neo-Babylonian temples did not have a predetermined function. They were given a name that reflected the main activity which took place there: storage of resources, preparation of cultic material, performance of rituals and daily or occasional ceremonies. The principles ruling their assignment were simple: securing precious materials, guaranteeing the purity of the areas which surrounded the *cella*s, regulating and watching the movements of objects and products and the passage of people.

It cannot be excluded that many buildings inside the Neo-Babylonian temple, which we would categorize as "utility structures" (ovens, wells, presses, silos, storerooms, *etc*.), were sometimes given a prestigious Sumerian name, sacralised by scholarly tradition, and are then difficult to identify since they are presented as the equivalent of chapels used for religious purposes.

The great Babylonian temples thus appear, through their spatial organization, to be organisms combining both a great complexity and a remarkable efficiency. The primary purpose, which was to provide the deities with a safe and prestigious place of residence as well as the maintenance of their cult statues in a perfectly regular manner, appears in general to be well fulfilled. It presupposes abundant resources, a large and competent staff, but also appropriate premises and a control of space, which allows the operating of numerous circuits of acquisition, manufacture and distribution of resources. Throughout the course of the day, or during certain ceremonies, the "holy space" of the temple could expand or contract, depending on the rules which were implemented by the staff of *ērib bīti*. The support of a centuries-old tradition, that was not very prone to changes, was also the guarantee of a successful day-to-day working of Babylonian temples. They were then finally able to resist many political ups and downs, from the period of Assyrian domination until its absorption in the Seleucid empire.

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CITY, TEMPLE AND PALACE GATES IN IRON AGE BABYLONIA

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Gates – city gates, palace gates and temple gates – structured urban space and separated it from what lay beyond the walls. Their quintessential liminality attracted a wide range of activities that needed a transitional and transactional space. This in turn led to the development of partly metaphorical expressions drawing on the ambiguous nature of the gate as potential conduit and potential barrier. Gates, therefore, featured as prominently in the erudite conception of (sacred) space as reflected in the 'topographic' literature as they did in the everyday experience of a Babylonian city. Since the former aspect has been investigated quite thoroughly,[1] this paper explores the pertinent evidence as reflected in the archival sources from first millennium BCE Babylonia. This focus of ours on the 'every-day experience' of navigating Babylonian city space through gates implies we are interested in the typical rather than in the particular. We will not study in depth individual gates, and we will not deal with the names given to particular gates, and their implications.[2] Where appropriate and feasible, we will contextualize textual data by reference to the archaeological record. References to studies of city gates in other periods of Ancient Near Eastern history, or in other regions, are mostly avoided, so as not to expand the bibliography excessively.[3]

A comment on terminology first: *abullu* is the common word for "city gate" in Late Babylonian texts just as in other periods, but also *bābu* is attested in this meaning,[4] even though it as often, or even more often, may mean "temple or palace gate" or "house entrance". Here we will translate *abullu* as "city

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[1] Foremost by the works of Andrew R. George (1992, 1995) and Heather D. Baker (2007), but see also Allinger-Csollich 1998.

[2] See May 2013: 80 for pertinent references.

[3] See, the convenient survey of May 2013 and Frese 2020.

[4] SAA 18, 153: *ina bāb āli ša sippir* "in the city gate of Sippar".

gate" and *bābu* as "gate", depending on context (as far as possible) for the distinction between city gates and temple/palace gates. Both terms need to be distinguished from the *bābu rabû* (usually written ká gal-*i*, but sometimes also simply ká gal, creating the possibility of confusion with *abullu*), the "Great Gate", which would seem to be the principal entrance to the sacred precinct, attested for Ebabbar, Eanna and Esangila.[5]

1. Construction and Decoration

For the location, physical shape and dimensions of city and temple gates, we must draw primarily on archaeological data and the 'topographical' corpus. The position of the gates mostly depends on topographic factors, which in the north of Mesopotamia can vary from city to city or even within the same city, as in the case of Aššur, resulting in several types of city gates being in use. On the other hand, in Southern Mesopotamia with its generally unarticulated urban topography, a standard type of city gate is characteristic for the entire region. Southern Babylonian cities generally belong to the "central(ized) city" type, according to Muayad S. Damerji's typology:[6] the city is usually located next to, or is divided by, a river; the administrative and the cultic areas are located in the centre and are surrounded by a temenos wall with gates. Examples include Babylon, Nippur, Kiš or Ur. This centre is accessible from all sides and the gates in the temenos wall are usually considered to have been connected by directly by streets and alleyways to the city gates.[7] In our period, these gates come in three different types:[8]

- gates which only consisted of one gate room which had to be passed in order to access the city, such as the Nabonidus and Nebuchadnezzar gate at Ur (Fig. 1a);
- gates with more than one gate room, such as the Ištar gate, which consisted of a broad room right after the first gate building, an open court and a second gate structure followed by a long room. The same type of gate was used in the South and East of the inner city wall of Babylon (Fig. 1b);[9]

[5] Ebabbar: BM 64411+; Eanna: BIN 2, 134; Esangila: ZA 66, 282f. NCBT 178 // NBC 4513. According to the latter text, there is a private house next to the "Great Gate of Esangila". This is not the "Great Gate (of the court of Bēl)" *within* the Esangila complex (George 1992: 87); it is the ká.sikil.la, the entry to the sacred precinct on the east (George 1992: 421–422). An astronomical diary provides the proof: *ina* ká.sikil.la ká gal-*i šá* é.sag.gíl (AD -187A, BM 34711), elsewhere in that corpus, the gate is the "outer gate (*bāb kamî*) of Esangila" (AD -330A r 8', collation George 1992: 421 BM 36761).

[6] Damerji 1973: 259–285.

[7] See below on the problem of reconstructing the street patterns in Babylonian cities of the first millennium BCE.

[8] Damerji 1973: 264.

[9] Koldewey 1918: 7.

– gates with a court in front of the actual gate, such as the gates in the temenos wall in Ur, or in Babylon along the southern side of the temenos wall of the Etemenanki as well as the Esangila (Fig. 1c). [10]

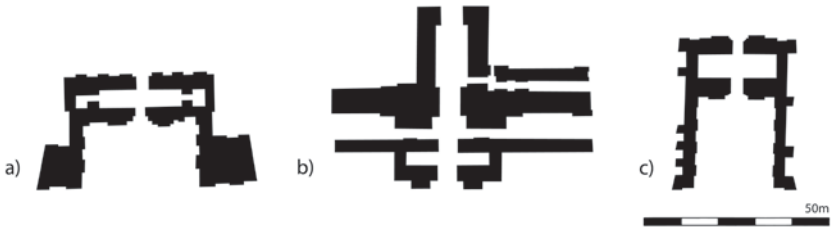

Fig. 1. Different type of gates during the Neo-Babylonian period
a) Ur: Nebuchadnezzar gate at the temenos wall after Damerji 1973: Abb. 100
b) Babylon: Gate on the east wall after Damerji 1973: Abb. 97
c) Babylon: Door VII of the Etemenanki after Damerji 1973: Abb. 99
(Illustration: D. Blattner).

The gates were often protected or simply 'introduced' by recesses that distanced them from the plane of the adjacent walls, and they were flanked by towers. These served defensive purposes but were probably also intended to emphasize the gate.

The most detailed description of the construction of a gate in our period comes from Nebuchadnezzar's East India House inscription, a building inscription referring to the North Palace and the city walls: [11]

> "Both entrances of (the city walls) Imgur-Enlil and Nēmetti-Enlil having become too low owing to the filling-in of the streets of Babylon, I had these gates removed and laid their foundation next to the water with baked bricks and bitumen. I had them built up artfully with shining blue-glazed baked bricks decorated with wild bulls and dragons. I had massive cedar trunks placed across them as roofing. In all their openings I attached doors made of cedar wood that were covered with bronze, thresholds and pivots cast of copper, and I placed fearsome wild bulls made of copper and fierce dragons in the doorways. For the amazement of all I filled these city gates with splendour."

[10] While many gates looked outwards towards a (somewhat) open space, the "garden at the gate of the Akītu temple" (AUWE 5, 114) will have been an exception owing to the particular character of the Akītu house.

[11] Langdon 1912: 132 Nr. 15; most recently, Da Riva 2013/4. *Ša imgur-enlil u nēmetti-enlil abullāti kilattān ina tamlê sulê bābili ištappilā nērebāšin abullāti šināti adkêma meḫrat mê išissin ina kupri u agurrī ušaršidma ina agurri uqnî elleti ša rīmū u mušḫuššû banû qerbušša nakliš ušēpiš erennī dannūti ana ṣulūlišina ušatriṣ dalāt erenni taḫlupti siparri aškuppu u nukuššê pitiq erê ēma bābātuša ertetti rīmē erî eqdūti u mušḫuššê šēzuzūti ina sippišina ušzīz abullāti šināti ana tabrât kiššat nišē lulê ušmalla* (Langdon 1912: 132, no. 15 V 57-VI 21. (Note that in general we will use here slightly normalizing transcriptions unless a full or partial edition of an unpublished text is given or a particular philological point needs to be made. In such cases, a conventional transliteration will be provided.)

The Ištar gate, the most famous of all Neo-Babylonian gates, was 25 metres in height from street level to the crown of its four towers,[12] and other gates, while smaller, were still very impressive. Unfortunately, the archival documentation does not throw these massive structures into sharp relief. Only few texts are indicative of the architectonic scale that can be deduced from the archaeological record. Especially in Sippar the (re)construction of the Great Gate of the Ebabbar precinct (*bābu rabû*) in the context of building work in Ebabbar in general has generated a modest paper trail. Thus, an unfortunately broken text, BM 64411+, which refers to building activities at several sites in Ebabbar and whose transliteration is known to me courtesy of Stefan Zawadzki, gives the following information about work on the *bābu rabû*:

1 [*a-mir*]-*tu* sig$_4$.ḫi.a *dul-lu ép-šu šid-du* [0]
ina é.babbar.ra *šá* ká gal-*i* 22 *lim* 3 *me* 84 si[g$_4$.ḫi.a]
ina 1-*en na-ad-ba-ku* pab 1 *lim* 1 *lim* 1 *me* 1 *lim* 19 *lim* 2 *me*
ul-tu muḫ-ḫi é *la-bi-ri a-di-muḫ-ḫi a-za-me-e*
5 im.si.sá sag.ki *šid-du šá* ká gal-*i*

(ruling, bricks for other parts of the construction site are discussed subsequently)

"(1)[Inspe]ction of the finished brick laying, a building sector in Ebabbar, for the Great Gate: 22.384 bricks for one layer, making a total of 1.119.200 bricks from the Old House until the corner: (5)(this is) the north side, the short side of the building sector of the Great Gate."

Assuming a brick of *ca.* 33 × 33 × 12 centimetres,[13] this envisages a building height of six metres – 50 layers of bricks –, and a brick structure covering (without enclosed spaces) some 2.487 square metres – a massive construction, whatever its ground plan. Fig. 2 gives an indication of the potential size of a structure of these dimensions in relation to what is known of Ebabbar's ground plan.[14]

Alternatively, if we were to superimpose our structure of 22.384 bricks over Wilfried Allinger-Csollich's 'brick plan' of Esangila, we see that what was envisaged in BM 64411+ would have yielded a structure whose dimensions exceeded those of the Eastern Gate of Esangila (Fig. 3).[15]

Unsurprisingly, the construction of such important buildings could not be initiated without ritual preparation: gates received foundation deposits. One administrative text records an inventory of the necessary materials: it mentions five? spades, ten carrying baskets, one bronze cup, one bowl of good oil, six

[12] The gate as reconstructed in the Vorderasiatisches Museum is of course of the most iconic testimonies of ancient Mesopotamian civilization anywhere. See George 2008: 54–59.

[13] That is, with a length of 2/3 cubits; George 1995: 177–178.

[14] We have chosen to represent the building as a wall rather than a complex gate structure, as the purpose of this image – given the lack of precise archaeological information to build on – is simply illustrative; this is not an attempt at an actual reconstruction of the building.

[15] Allinger-Csollich 1998: Beilage 2. For the Great Gate, see note 5 above.

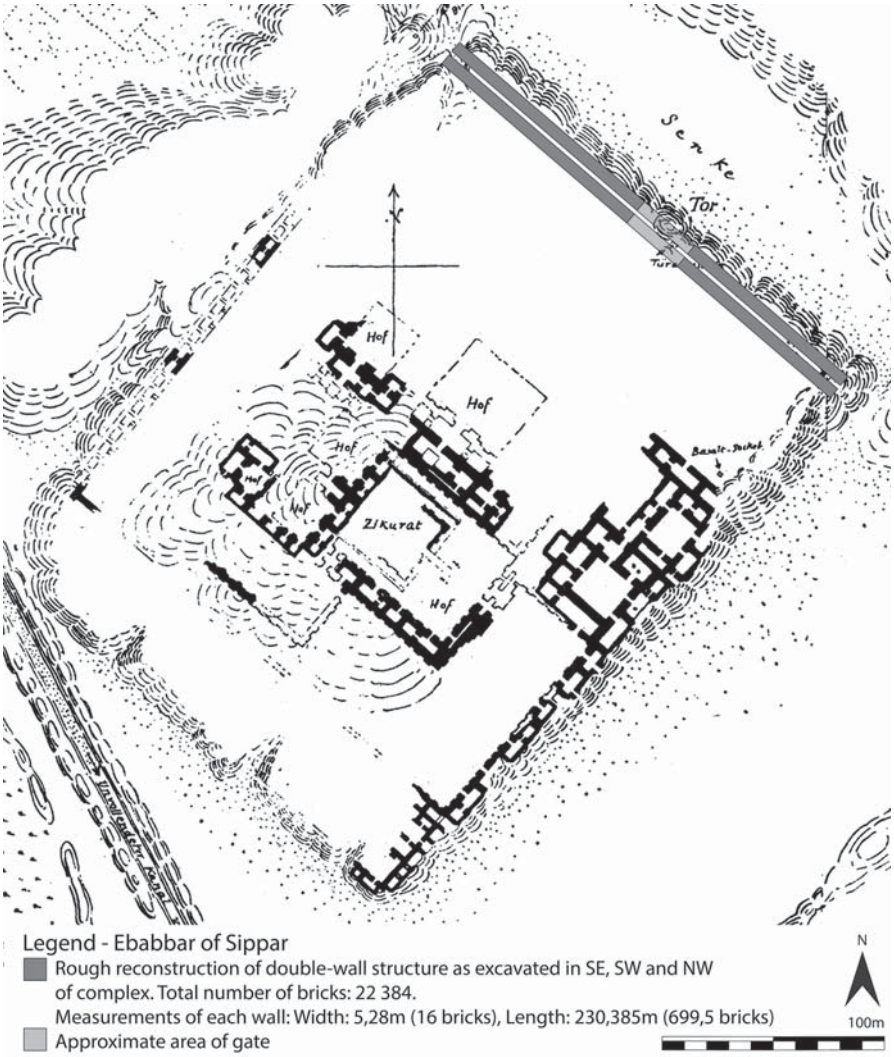

Fig. 2. Ebabbar plan from Andrae and Jordan 1944: 52 Abb. 1, with a hypothetical wall representing the bricks referred to in BM 64411+. (Illustration: D. Blattner).

litres of juniper resin, seventy-two litres of barley, wool dyed red and blue, "all that is needed for the laying of the foundation of the city gate".[16]

[16] VS 6, 68 from Sippar (4 Nbn): *ḫišiḫtu ša ana nadê ušši ša abulli nadnatu*(sum.na).

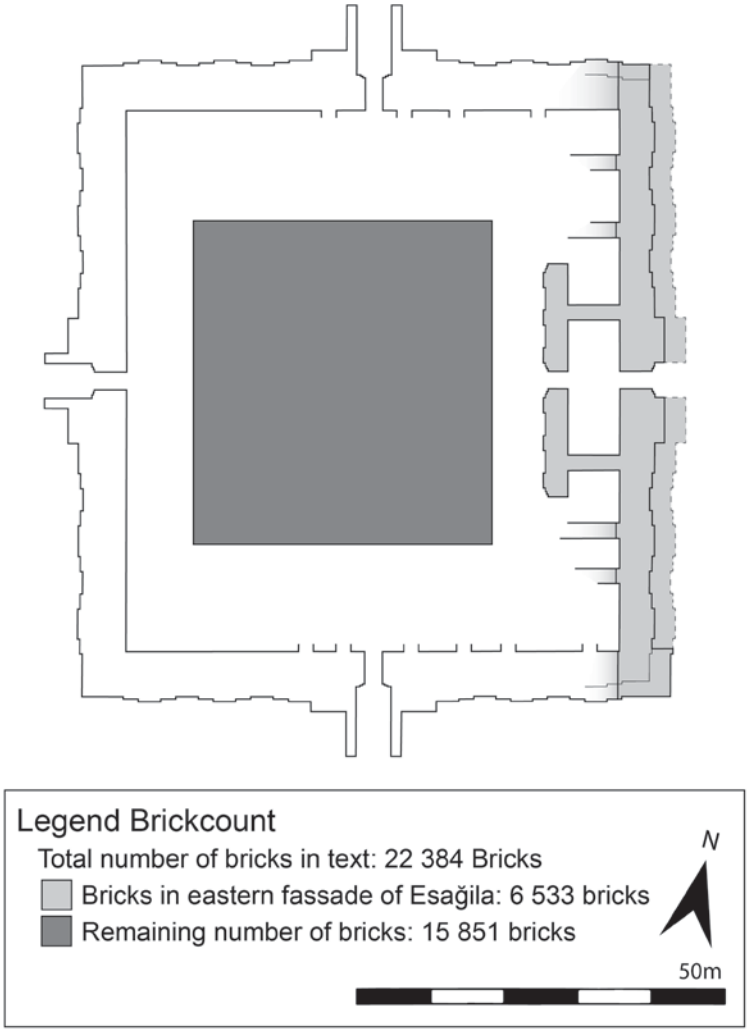

Fig. 3 : Esangila with an area of (roughly) 22.000 bricks marked.
(Illustration: D. Blattner).

The men in charge of construction were "master builders", *arad-ekalli*, who received silver salaries in return for their services.[17] They were seconded by

[17] CT 56, 372. The *arad-ekalli ša bābi* here is the same Bunene-ibni, son of Bānītu-ēreš, whose salary as a master-builder is also discussed in the letter CT 22, 126 (= Schmidl 2019, no. 201). Here he is said to be doing service at the gate (*ša ina bābi ušuzzu*).

itinnu, "builders" – probably best understood as "site managers,"[18] while the "heavy lifting" was – as usually in this period – sometimes sourced out to hired workers.[19] Also carpenters are attested; they were responsible for the roofing and the massive wooden doors that closed the gates.[20] Occasionally specialized "carpenters for doors" (*naggār dalāti*) occur.[21]

The doors these carpenters worked on were expensive: the Murašû text PBS 2/1, 173 tells us about the sale of wooden doors, perhaps for a private 'mansion', of 15 × 3.5 cubits (×2), so 7.5 by 3.5 metres in total, for five minas of silver: the price of 4 slaves at the time. The doors closing off the gates of public buildings obviously will have exceeded such dimensions and such costs by far: not for nothing do the royal inscriptions talk of "magnificent doors" that are being put up by the Neo-Babylonian kings.[22] As illustrated, among others, by the East India House inscription quoted above, the inscriptions refer to the "placing" (often *kunnu*) of the 'doorframes', *sippu*, executed as pilasters protruding into the gate's opening; in monumental gateways they often come in the form of a receding, stepped, sequence of such structures ('rabbeting'). To these, the doors were attached (*retû*, *ruttû*).[23]

Unfortunately, archaeological evidence for wooden doors is scarce given the rapid decay of organic materials in Iraqi soil: only from some findspots do we have traces of timber used for the constructions of doors or some parts of it.[24] One of the best-preserved examples is the door of room 150 in the Old Babylonian Palace at Mari. Even though the door was found carbonized it was possible to reconstruct its structure. The door was 1.80 m high and was made of seven vertical boards held together by four cross-beams.[25] From the first millennium BCE the remains of a wooden door, preserved by fire, were discovered in passage T23 of the south wing of Fort Shalmaneser at Nimrud. The door was approximately 1.30 m wide and about 3 m high.[26] Other indirecte proof for the existence of wooden doors are the attestations of the metal shoes used to cover the doorpost pivot. The latter, made of wood, needed to be protected from wear resulting from its movement in the stone socket. Different examples are attested from the third millennium to the Neo-Babylonian period, and include an

[18] CT 56, 553.

[19] Nbn 645 (19.9.12 Nbn), BM 62516 (30.9.12 Nbn), BM 55668 (9.11 Nbn): *agru*s working on the 'length' (*šiddu*, uš, probably a general work for 'building site/sector', as suggested by BM 64111+ above) of the Great Gate of Ebabbar. From Uruk, one might cite PTS 2195: *agru*s working on the "gate of judgement", *bāb dīni*.

[20] BM 63880.

[21] NYPL Eames P16; YBC 11085; YOS 19, 115; 143; 175; 183; 213; 230; *etc*.

[22] Da Riva 2013: 60/62 (*dalāti ṣīrāti*).

[23] On *sippu*, see George 1995: 182; CAD S: 301–302 for references from NB building inscriptions. See also Heinrich 1982: 200–201 for a discussion of Koldewey's pertinent terminology.

[24] For an overview, see Moorey 1999: 357–358, and Damerji 1973: 181.

[25] Damerji 1973: 181; Parrot 1958: 268ff. ; Margueron 2004: 519.

[26] Moorey 1999: 358.

example from the Ninmaḫ temple in Babylon.[27] However, it should be noted that it is possible that in the case of wide gate openings within palace complexes, such as Nebuchadnezzar's South Palace, wooden doors were at least occasionally dispensed with and substituted by human guards: many of the gates there seem manifestly to lack a stone socket for the door post to pivot in.[28]

Such massive doors were heavy, and thus it was possible to have them "set up" or "erected," *zaqāpu*, rather than just "put into place" or "made" (*šakānu*, *epēšu*, *retû*).[29] The manufacture of such doors was therefore an important and potentially also complicated or controversial affair. This at least can be assumed based on CT 22, 85. In this letter, a royal official informs the chief priest of Ebabbar about having sent him a smith. "Show him instantly the wooden doors for the Great Gate that are under the supervision of the judge, and let him take their measurements."[30] The smith would have been responsible for the doors' metal fittings. We hear of door hinges or bands of metal joining the door timber (*naṣbaru*) of bronze weighing from ca 5 to 30 kg;[31] the iron specimens that are attested are of somewhat lesser weight.[32] These are mentioned together with *agurru*, which is usually made of bronze, too,[33] and with "rings", *unqu*.[34] The rings are the door rings that were used to pull the doors open or shut. We know from YOS 7, 89, which reports the theft of such rings from a temple door, that they could be removed without too much difficulty. On the other hand, *naṣbaru* and *agurru* likely had a functional connection as they are manufactured and accounted for together,[35] and given the frequency with which they are

[27] For the different example of metal shoes see Damerji 1973: 232. For the specimen from the Ninmaḫ temple, see Koldewey 1990: 72 Abb. 39.

[28] Heinrich 1984: 201. But note, Koldewey 1990: 123 for a counterexample.

[29] SAA 17, 34.

[30] ^{giš}ig^{meš} *šá* ká gal-*ú*, *šá pa-ni*, di.kud *ina* šu^{II} [0], *ku-ul-li-in-ši-ma*, *mi-iš-ḫa-tu$_4$-si-na*, *liš-šá-am-ma*… (collated; readings partly against CAD S: 386b. It is not clear how the continuation ("and let him leave [*līzib*] the copper *su-né-e* [hapax] here [*akanna*]") is connected to the preceding statement.

[31] Nbn 545, Nbn 1046. Bronze *naṣbaru* for gates are also mentioned in CT 55, 208 and BM 61587 (for the doors of the "house of the bakers"). Etymologically, the word should denote a metal part that was twisted in some sort (*ṣabāru* B), hence door hinges fit better than "hasp" as proposed tentatively by the CAD. The latter is anyway improbable given what is known about the methods of bolting gates (Frahm in Magdalene *et al*. 2019: 342–343, citing further bibliography).

[32] BM 114849: *ca*. 1.7 kg; Nbn 432: *ca*. 3.7 kg. Iron *naṣbaru* are also attested at Uruk: NCBT 1130.

[33] BM 63371. The object is made of iron in Cyr 84, of bronze and tin according BM 79551 (courtesy Maria Kunert). Note that the iron *maǧattu* mentioned in connection with *agurru* in Nbn 530 (CAD A/1: 163) probably is a tool used for brick making (most recently, Tarasewicz 2018: 239 f.), so this refers to a different *agurru*. The reading of the metal *agurru* with *g* is conventional, it could also be *aqurru* (in fact, a derivation from (*w*)*aqāru* "to be heavy, to be valuable" seems likely).

[34] The three are mentioned together, in Cyr 84 and in BM 58908.

[35] BM 62429 (10 Nbn) is an account of over 180 kg of bronze used by bronze smiths of Ebabbar for the manufacture of *naṣbaru*, *agurru* and *unqu* for gates in the Bunene temple and

mentioned in the context of door manufacture, they were of structural importance. So probably we are dealing with the door hinge and its counterpart, a pin that was fixed to the gate or turning in the door socket, but this cannot as yet be established with certainty. One might also think of metal bands and nails or clamps that attach them to the door.[36] Gates were closed with metal bolts, *mēdelu*.[37] They could also be metal-plated (GC 1, 281); this could be done with precious metal, necessitating occasionally the presence of a special supervisor.[38] Metal band overlays for doors that were fixed to the wooden door leaves with nails are one of the better-know aspect of Assyrian metal-working thanks to the well-known set of bronze bands from the temple of Mamu in Imgur-Enlil (Balawat) built by Assurnasirpal II and Shalmaneser III.[39] Nothing comparable is known from the Neo-Babylonian period. We have however the part of a massive bronze door-sill with an inscription of Nebuchadnezzar (BM 90851). Found in Borsippa, it is adorned with fourteen rosettes.[40] Timber for the massive doors was certainly costly, too: one Uruk text, BM 114555, shows that cross beams employed for the *cella* of Nanaya were re-purposed for making doors for several temple gates.[41] Otherwise, timber is rarely mentioned (GC 2, 358), and references to less expensive material are even rarer: one text refers to the glue (made of flour) to join the timbers (GC 1, 300).

Within the temple, gates could be closed off, not by gates, but by curtains. The *cella* of Ištar of Uruk, for instance, was closed off by a curtain (*gid*(*i*)*lû* or *gadalû*) weighing 17.5 kg.[42] These were made out of strips of linen (*salḫu*),[43] but sometimes also flax was used.[44] Five such curtains were set as the yearly work-load for a group of five craftsmen who were not to be employed for other tasks: these were valuable objects.[45] According to the Hellenistic version of the New Year's Festival, these curtains play an important role in the ritual

apparently in or on the temple tower. The first entry is for 53 minas of bronze that correspond to 5 *naṣbaru*s and 9 *agurru*s "of the doors of the Bunene temple". In Nbn 555, we have 19 2/3 minas of bronze for one *na-aṣ-bar* (copy: BAD) and three *agurru*. (Note that these two equations allow computing the repective weights for *agurru* and *naṣbaru* if one assumes that the objects were of the same weight in both cases. Unfortunately, while this works out mathematically, it is useless in practice, as the calculated weight of *naṣbaru* would be negative, *ca*. -3. Hence the weights of these objects are not identical in these two texts.)

[36] Note that there is also evidence for a specific tool used for the manufacture of the heavy wooden doors: a "door chisel", *maqqaru ša dalāti*, CT 55, 214.

[37] GC 1, 281; OIP 122; 127; 128.

[38] CT 55, 442: Bēl-šimânni, a courtier (*ša rēši*) *ša ina muḫḫi mandīti ša dalāti*.

[39] For the Balawat door, see Curtis and Nigel 2008.

[40] Moorey 1999: 265; Da Riva 2008: 124, 2.18.

[41] Edited in Payne 2007: 147–149.

[42] PTS 2038, similarly PTS 2522 (for Uṣur-amāssu).

[43] PTS 3309.

[44] NBC 8350.

[45] YBC 3715, cf. PTS 3053 and GC 1, 412, all edited in Payne 2007: 101–105.

proceedings: when the chief priest draws them, Bēl is woken, and the day begins.[46] There is also some archaeological evidence for the use of curtains in front of doors. In the south corner of the central court of residence K in Khorsabad a couple of stone rings were found.[47] These stone rings have aligned holes through which a rod could pass to support the curtain (Fig. 4). The rings are placed at such an angle that a rod inserted in them would extend across the entire length of the door opening (Fig. 5).

Finally, we should mention the apotropaic figures – statues in the round or reliefs – that protected the city and temple gates. We have begun this section with Nebuchadnezzar's inscription detailing the decoration of the city gates of Babylon.[48] In Uruk, the administrative documentation contains evidence for the presence of *urdimmu* figures (in the round) that were present at the seven city gates, where they received regular offerings and were clad in precious garments, as other divine images, too.[49] An astronomical diary may mention repair work at images in a gate (AD -105A o A14'-15').

Almost all ancient Near Eastern gates had additional rooms added to the gateway. The number of these rooms could vary from one to six, and they come in different shapes, varying from long and narrow to wide and squarish. Unfortunately, extensive archaeological studies for the first millennium BCE on the structure and usage of the inner gate space and gates in general have been conducted mostly for the Levant only;[50] for Mesopotamia there is nothing comparable. The textual sources suggest the use of this space as guard rooms, for storage and as (temporary?) prison, and occasionally as workshop, as will be shown below. Here just some supporting evidence from the archaeological record at Ur shall be cited.

Thus, in some cases the rooms adjacent to a doorway were connected to additional intramural rooms and spaces and paved with mudbricks, the walls were plastered with lime. Clearly these spaces were used intensively, which fits their likely primary purpose as guard rooms.[51] Additionally, there is some

[46] Debourse 2020: 112.

[47] Loud and Altman 1938: 13.

[48] Note also the description given by Neriglissar of the copper *mušḫuššu* dragons and silver wild bulls at the gates of Esangila: Da Riva 2013: 123 1 I 21–124 1 I 32.

[49] *Urdimmu*s at the seven city gates of Uruk are mentioned in JANES 21, 63 no. 20; for *urdimmu* in Uruk in general, see Beaulieu 2003: 355–367. Note that in the back of the Nabonidus gate chamber at Ur, a headless statue of Entemena was found. It is of course uncertain that this ancient royal image served some purpose in the first millennium BCE gate, but it is not inconceivable, given the care that was given to old royal images encountered during building work (Beaulieu 1989: 133–137). See also note 63 below.

[50] See most recently Frese 2020 and 2015.

[51] At Ur a guard chamber with a small opening in the back was paved with mudbricks. A kiln for preparing lime for coloring the wall was found in the intramural chamber from the eastern corner from the Cyrus gate. In the same room burnt wood, lime and goat dung for fuel were found; see Woolley 1962: 9. Additionally, several artifacts recovered from different gatehouses

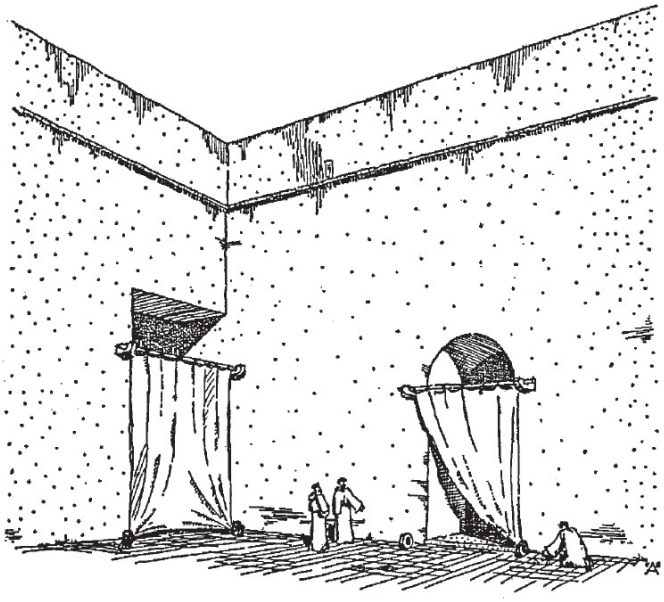

Fig. 4. Reconstruction of possible use of stone rings
to hold curtains; residence K at Khorsabad.
From Loud and Altman 1938: 13, fig. 1.

Fig. 5. Stone rings on each side of the remains
of the threshold in the central portal; from forecourt
to room 12 of residence K at Khorsabad.
From Loud and Altman 1938: Pl. 30 E.

evidence for the use of these spaces as storage rooms and workshops. In the Cyrus gate's fourth chamber in the south-east wall at Ur, remains of a piece of textile (probably a sack) mixed with a quantity of barley and millet were found on the floor.[52] In the north west of the temenos wall of Ur, a latrine was found in one of the rooms of a poorly constructed building situated against the door of the third intramural chamber which was connected with the wall. Inside the building a stair case leading probably to the top of the temenos wall was found.[53] In the west corner of the temenos wall inside the second chamber of the gate, a large basin for mixing bitumen could be identified.

The walls adjacent to the gates feature relatively rarely in the texts. Sometimes mention is made of ramps or ramparts (*kamaru*) – earth works that were not, or not universally, fortified by bricks and could be damaged by the agency of individuals, as in the case of a derelict house from which wooden beams were removed which activity resulted in a 'breaching' of the adjacent *kamaru* (Dar 129). Other houses in gate areas are said to be adjacent to the city wall, as expected (OECT 10, 262).

2. The City Gate Structuring Urban Space

Urban connectivity was mediated through city gates; this is a given. Still, archaeological data from Babylonia on the details are unfortunately quite scarce,[54] owing to the primary focus of excavations on the central monumental parts of cities, while on the other side, much less attention was given to the street network of the cities.[55] In Babylon for instance, few streets have been excavated, the only important exception being the main processional way that starts from the Ištar Gate and leads to the city centre.[56] Otherwise, our knowledge of the street network is mostly based on textual references. From *Tintir* IV it is clear that the road Marduk-rē'i-mātīšu went from the Marduk city gate to the city centre on its way towards the south-west. Otherwise, conjectural reconstruction of streets leading from the city gates to the city centre were made

in the Levantine area give additional insights into the use of these rooms. Ovens for cooking, ceramic scoops, storage vessels, anthropomorphic and zoomorphic figurines, a woven floor mat and military artifacts have been found in the inner chamber of gatehouses. See Frese 2015: 88. In two other gate houses boardgames incised on stone slabs were discovered. See Chadwick *et al*. 2000: 263, and Ussishkin 2004: 640.

[52] Woolley 1962: 9.

[53] Woolley 1962: 10.

[54] See in general Unger 1931, George 1992, and Van de Mieroop 1999. Baker 2007 gives a good overview on the urban layout of Babylonian cities in the first millennium BCE.

[55] George 1992: 26.

[56] For a good representation of the position of the gates in Babylon and the reconstruction of the procession way, see Cousin 2020: 130. Other small streets at the Merkes quarter were excavated but they do not seem to follow a grid pattern: see Baker 2007: 68.

originally by Eckhard Unger in 1931. He also named the streets after the gate name that is know from textual sources. Following Eckhard Unger, other scholars such as Donald J. Wiseman (1985) and more recently Marc Van de Mieroop (1999) and Charles Gates (2003) have said that the Neo-Babylonian street network of cities like Babylon and Borsippa had a grid pattern.[57] However, Heather D. Baker (2007) pointed out that this is based almost entirely on hypotheses and not on archaeological evidence.

The pivotal role of gates in creating divisions and interconnections between sectors of urban space is undeniably evident from the textual record, but these sources cannot make up for the lack of detail in our archaeological knowledge of Neo-Babylonian cities. The location of houses within the urban space is routinely specified by reference to the nearest city gate, which thus define neighbourhoods: for example "house outside the Zababa (city) gate (*abul zababa*) in the district of (*pīḫāt*) Babylon" (Baker 2004, no. 92).[58] Occasionally temple gates serve as points of reference, too: "his house next to the house of … and bordering on the wide street running towards the southern gate of the Eturkalama temple" (Camb 431).

As topographical markers city gates certainly had administrative relevance for the definition of "city quarters" or "districts", but it is important to note that where the (not particularly frequent) term *bābtu* is attested it is not routinely associated with gates.[59] The closest we can get to administrative 'addresses' in Late Babylonian texts, specifically, to indications of locality and tax-related affiliation, in contrast to more or less elaborate descriptions of locations, is the *ašābu* file from the Egibi archive. These are notes drafted within the Egibi archive detailing the whereabouts, temporary or permanent, of the Egibis' clients, renters and family members (Wunsch forthcoming). This information was apparently prepared for the purpose of taxmen and recruiters of the local militia for which the registered men could be called up. A typical entry runs like this: "PN_1, fit for service, head of the unit of archers, (and) his replacements, who dwell in the Zababa (city) gate in the house of PN_2, the Babylonian, in the city quarter of PN_3."[60] Topographical information is given primarily by the reference to the city gate, while the city quarter, which is decisive for the affiliation to tax- and militia-units, is only identified by the name of the official in question.

[57] Baker 2007: 68.

[58] Even in cases like the following: "[… the Ar]abs broke a hole into the wall of Babylon in the … house next? to the gate of Zababa…" (AD -124A r 5').

[59] *Bābtu* "city quarter" is of relevance in the texts because tax- and corvée-duties were assessed on its base: in Borsippa, contracts occasionally stipulate where the responsibility for the "levy of the city quarter" (*dīku ša bābti*) lay with respect to a certain house (VS 4, 150; BM 21999; BM 26653; *etc*.).

[60] PN_1 *itbaru rēš qašti ṭīpānišu ša ina abul zababa ina bīt* PN_2 *mār bābili ina bābti ša* PN_3 *ašbū*; BM 31466 // 31482 (= Wunsch forthcoming, no. 10: 4–7).

3. Religion

Gates, owing to their liminality, were highly charged with meaning, and hence ritual protection was sought to safeguard them against supernatural evil.[61] In our period, this is best expressed by the ceremonial gate names, most of which are religious in content, or at least are subjected to erudite analysis in a religious key,[62] and by the apotropaic bas-reliefs and sculptures set up in gateways (see above),[63] and the general point needs no further elaboration. According to the administrative documentation, various rituals took place in the area of temple gates, as in the case of an apotropaic ritual involving the setting-up of a drum in a gate.[64] Most often, we hear of offerings at the gates; here, the documentation from Hellenistic Babylon is the most abundant.[65] The offerings were presented on a dais, *parakku*, that was set up (permanently, presumably) in the gate area (AD -209D, AD -126A[66]), and there were braziers for fumigation (AD -105A).[67] One text documents an audit of the offering ceremonies (*nindabû* in this case) performed at the gates of Esangila leading to the conclusion that one of the officiants had misappropriated material provided for the purpose (Jursa 2002, no. 5). The privilege to participate in offerings at the gates was jealously guarded, and disputes could lead to violence (AD -105A). Still, such offerings were not always performed by priestly personnel: we also find royal officials (AD -144, AD -124B) who are sometimes explicitly provided with the necessary materials by the temple (AD -178C) and even the king himself (AD -187A). Administrative documentation gives some additional details on the timing of such offerings, for example on the first day of the year.[68] In this late period, identifying gates by their role in processions becomes increasingly common; this is not regularly done in earlier centuries.[69]

[61] Comparative evidence is offered by May 2013: 80–86.

[62] See, the Gate Lists of Esangila, George 1992, no. 6–8.

[63] See also AD -200A: a reference (to a fire in) a store room belonging the "guards of images (*nāṣirū ša ṣalmāni*)" "opposite (Esangila's) Lamassu-rabi-gate" – the store room was opposite the gate, but the images in question were in all likelihood those of/in the gate.

[64] YOS 7, 71.

[65] For sixth-century Sippar and Uruk, see CT 55, 616 (sheep offerings "at the doors", *ina pān dalāti*, of shrines); CT 56, 565 (rev. 12: at the doors of the *bābu rabû*); YOS 7, 8 (line 20: sheep "slaughtered at the gates"); 143 (idem, line 4).

[66] Line r3 is probably to be read *ana*ʳ*tar-ṣi*ˡká.sikil.la.

[67] van der Spek 1998, no. 13: charcoal for (the braziers at) several gates.

[68] van der Spek 1998, no. 23 (among others, at the *bābu rabû*).

[69] BRM 1, 99 (= van der Spek 1998, no. 18): *bāb erēb*(ku_4) *bēltia*.

4. The Gate as Access Point for People

The daily opening and closing of the city and temple gates structured time: watches, for one, changed at the opening or closing,[70] and ritual time began daily with the *pīt bābi*.[71] Gatekeepers in the temple were charged with safeguarding the correct regime of the gates' opening and closing "lest the gate is opened before the Lady of Uruk at the wrong time (*ina lā simānišu*)" which would count as an offence against the king.[72] The merism "from the opening … to the closing…" stood for "the entire day, all the time".[73] Metaphorically, the opening and closing of gates also was an image of 'life as normal', in as much as its rhythm could be only interrupted by extreme events, such as war and siege. As a Babylonian supporter of Assyrian rule complains in the seventh century: "the king knows that all the lands hate us because of Assyria. We do not have safe passage in any of the lands. Wherever we go, we get killed with the words: 'Why did you grasp the feet of Assyria?' Now we have blocked off the city gates (*abullāti nuptaḫḫi*); we do not go out to the open country" (SAA 18, 70); closing the gate was thus not only an acknowledgement of a threat,[74] it could also be sign of defiance, then, or even a proactive sign of aggression on part of the party holding the city. The latter evinces from a seventh century letter from Uruk, in which a plot for conspiracy is related: "they said: we are with you; kill the palace overseer, and we will give you two minas of gold, we will look the gate and turn again to Assyria."[75] The closed gate is the setting before which negotiations in times of open war, or the threat of open war, take place.[76] In a time of crisis, therefore, a payment

[70] VS 6, 247 (= Baker 2004, no. 46).

[71] Linssen 2004: 36–39. A separate matter is *pīt bābi* (and *edēl bābi*) referring to the opening of a gate after the lifting of a siege or the passing of a crisis, or to the locking of a gate for the duration of the crisis, respectively. These could be important chronological anchors in local memory. This is shown, among others, by BIN 1, 23 (= Levavi 2018, no. 31), a letter written at the earliest in the eleventh year of Nabopolassar but referring to the occupation of a house outside the city of Uruk "when the gate of Uruk was opened" (*ina petê bābi ša uruk*), that is, after the end of the crisis between 3 and 5 Npl that had brought about also the brief occupation of Uruk by the Assyrians.

[72] NBC 4778 (= MC 23, no. 1).

[73] SAA 17, 34, "daily, from the opening of the door socket until the closing of the gate…" (*ūmussu ina patê up*[*pi ad*]*ī turru bābi*).

[74] AD -122D r 10': "Many? days, the ga[tes?] of Babylon were not opened (because of?) fighting."

[75] ABL 1387: *umma annīni ittika ša-pān-ekalli dūk šina mana ḫurāṣu niddakka bābu nīdil-ma akī ša maḫrîmme pānīni ana māt-aššūr niškun*.

[76] Best illustrated by the Neo-Assyrian letter SAA 19, 98, which shows us Assyrian emissaries standing before the closed city gates of Babylon, trying to negotiate their way in. Note also Assurbanipal writing to and about the Babylonians: "If Marduk wants to keep them alive, let them open [the city gate] in friendly terms (*ina pî ṭābi* [*abullu*] *liptû*); if n[ot], I have prayed to Aššur and Marduk, my gods, and [my] gods […]" (SAA 21, 4). Note also SAA 18, 164: "The Babylonians have several times done some work (*dullu*) on [the city gate, and on the xth day

might be referred until such a time as the gates would be opened again (*ina patê bābi*; TMH 2/3, 42).

The very nature of gates, the coming and going of people, the encounters of parties of different status in a 'liminal space', the business conducted by these people, the means employed to control them, entailed occasional, or perhaps not so occasional, outbursts of violence. In one Eanna text, three men, including a gate keeper of a royal storehouse and a gatekeeper of a temple gate, the *bāb šulmi*, report the flight of a prisoner from the royal storehouse; the fugitive, when cornered at the *bāb šulmi* after a pursuit (*lasāmu*), had pulled a knife against his adversaries but had been overpowered (YOS 7, 88). In another case, it may have been a gatekeeper himself who drew his weapon in the gate against a high temple official when accused of a crime.[77] In yet another case, a temple official enjoins a *širku* in strong words from brawling (one assumes, from brawling again) in the area of a temple gate in front of a divine *urdimmu* guardian.[78]

5. The Gate as Access Point for Goods

A contract for brick-making related to Eanna's contribution to Nebuchadnezzar's building programme in Babylon calls for the delivery of the required bricks – originating in the town of Šallat – "at the storehouse of Eanna which is situated at the 'ramp' (*nabalkattu*) of the Enlil gate (of Babylon)".[79] From Nebuchadnezzar's palace archive we know that a part of the huge quantities of staples that the palace institution had to be provided with to be able to function were delivered by water to a "storage place (*karmu*) left of the Ištar gate",

th]ey [have finally lo]cked it. And [Šam]aš-šumu-ukīn has spoken to them as [follows] …". We take *dullu* in the usual meaning of "work", rather than "ritual", as suggested by SAA 18.

[77] TCL 12, 117. This happened in the Great Gate (*bābu rabû*) of Eanna. The culprit Ibni-Ištar, son of Amīl-Nanaya, a *širku* (JCS 28, no. 42), was accused of having been in cahoots with a group of other *širku*s for staging a break-in into a notable's house, during which a goat and a duck were killed (one of the hunger crimes that occasionally crop up in the archive; YOS 6, 108, written one day after TCL 12, 117: the precise translation of the passage is discussed by Magdalene *et al*. 2019: 491 but remains difficult). As a gatekeeper Ibni-Ištar would have been in a perfect position to facilitate a crime of this nature. The fact that the encounter with Eanna's *bēl piqitti* occurred in the gate and Ibni-Ištar was armed makes it more probable that Ibni-Ištar was on service there when the official arrived to arrest him. The alternative scenario, that Ibni-Ištar tried to pass through the gate when he was apprehended by the *bēl piqitti* who had waited for him there is less probable given the difference of rank between the two. The altercation certainly did not occur during a formal hearing of the case in the gate, as then the accused Ibni-Ištar would not have been allowed to be armed.

[78] TCL 13, 167: see Beaulieu 2003: 362.

[79] AUWE 5, 130. See Koldewey 1918: 50, and 52 for the presence of a ramp close to the wall.

"between the inner and the outer walls".[80] These are typical instances: storage facilities at gates are abundantly attested.[81]

Consequently, city, palace and temple gates were preferred settings for administrative deliveries and disbursements as well as commercial transactions. For the city gates, the references to "market gates" (*bāb maḫīri*) and prices quoted as being valid "at the city gate" may suffice for documenting commerce.[82] Administrative transactions conducted by a large institutional household at a city gate are documented by the small administrative archive (fragment) found by Robert Koldewey in the Ištar gate, mostly in its eastern tower. These texts mostly deal with the receipt of barley for the palace establishment, there is a clear connection to the storage areas in the gate's vicinity.[83] However, many dues to the king were sent directly to the palace gate, of course.[84] From Nebuchadnezzar's Südburg we have a small group of archival texts that were found in the rooms adjacent to the entry gate to the palace's first (outer-most) courtyard, the *Osthof*. These notes of disbursements and ration payments document the kind of small-scale administrative affairs one would expect at a palace gate and strongly suggest that a storage area for staples was in the vicinity of the gate.[85] Unsurprisingly, the open spaces before gates and the presence of storage facilities and workshops, in combination with easy access, made them an ideal place for manufacturing bulky goods like bricks. Thus, we hear of hired workers employed for construction work in the Urukean *akītu* temple "make bricks in the gate of the *akītu* temple" (*libnāti ina bāb bīt akīti ilabbinū*: GC 2, 393), and the Urukean Adad gate was provided with kilns for brick making (YOS 17, 274).[86]

City gates were also obvious check-points for taxation, as shown, by the Hellenistic text CT 49, 41 that mentions exit dues levied at the Adad gate of Borsippa, or by the Eanna document YOS 19, 222 that lists expenses incurred for moving a flock of sheep from the trans-Tigridian grazing grounds to Uruk: travel provisions for the shepherds, wages for hired helpers, the cost of the river crossings, and the dues at the city gates.

[80] Jursa 2010b: 77. See Fig. 6 *infra* for a plan of the gate area and the possible location of this storage facility.

[81] BM 26873, at the *abul tâmti* of Borsippa.

[82] See the evidence collected in Jursa 2010a: 502[2716] and 643. Note that some measuring instruments were found in some gates of the Levant. For example, at Ashdod, in the storerooms adjacent to the gates some stone and bronze weights were found together with a pair of scales, suggesting the possible use of weighing goods at the gates. See Frese 2020: 170.

[83] Pedersén 2005: 128–129.

[84] YOS 3, 46.

[85] Pedersén 2005: 111 (map) and 130–132.

[86] It is not always clear in brick texts whether the bricks supposed to be handed over at a gate were brought there or actually manufactured there (YOS 6, 236).

Fig. 6. Plan of the Ištar gate area (not in scale).
The possible location of a storage facility (after Koldewey 1918: Taf. 2) is shaded.

Gates of houses of officials – presumably minor 'private' palaces – appear likewise as places of delivery for goods required by the state, as in the case of a quantity of bricks intended for work in Babylon that are to be delivered to the "gate of the house of Zēria", Zēria being a high royal functionary.[87] Similarly, for the gate of a workshop: "… which (PN) got from the gate of the house of the bakers".[88]

Temple gates were frequently used as clearing points for incoming or outgoing goods, too. Wool was delivered, and animals given to the temple were mustered there.[89] While this is expected for payments to outsiders, we find also temple-internal personnel receiving their payments there.[90] It is therefore not surprising that temple gates were often provided with storage facilities.[91] Offerings designated as *erbu* "income" made by occasional worshippers were

[87] He is to be identified as the governor of the Bīt AD, see Jursa 2010b: 74f., with note 47.

[88] … *ša ultu bāb bīt nuḫatimmī* PN *iššû*, TMH 2/3, 233.

[89] RA 96, 152–153 = BM 75594; CT 57, 576 (*bābu rabû* of Ebabbar); SAA 10, 353 (where a complaint about animals being refused at the gate is made).

[90] AUWE 8, 73.

[91] *bīt qāti ša bābi* (BM 62830). A difficult case is Waerzeggers 2014, no. 163. We consider reading *ši-tam*$^{\text{¬am}}$*-ma šá* ká ^{d}*a-a* in this text as "storage shed at the Aya gate", in other words, we suggest an unorthographical spelling of *šutummu*. The word occurs twice in the text, always in a slightly damaged context. Waerzeggers reads *ši-pir-am-ma* and translates "work" – but as she herself notes, linking this to *šipru* leaves *-amma* unexplained.

deposited at the gates, in the "cashbox" (*quppu*, see CAD Q: 307–310) "of the gate". From this point of departure, *quppu* came to be used a general term for certain temple funds, and *erbu* a general word for "income", from any source, but the occasional specification "income from the general public", *erbu ša nišē*,[92] as distinguished for example from "income from the king"[93] does show that the gifts made by occasional visitors upon entering the gate did remain a source of temple wealth. Even the king himself had to respect the liminality of the gate and to gain access rights by making gifts there.[94]

6. Personnel: Guards, Gatekeepers and Jailers

The gatekeepers (*atû*) of temple gates were normally priests of minor rank. They were remunerated by the contributions of the temple and the major priestly professions, especially those involved in the preparation of the food offerings, who had to have their handiwork pass through the scrutiny of the gatekeepers.[95] In temple contexts, the *atû* gatekeepers are to be distinguished from the non-priestly *maṣṣār bābi*, the "doormen", as we will translate the title here.[96] These men were normally *širku*, as we know from guard rosters that assign doormen to specific gates.[97] Note that in texts from the Hellenistic period, *maṣṣār bābi* is replaced by the participle, *nāṣir bābi*.[98] One Eanna text is particularly informative about the organization of the night watch in the temple: the chief officials of the temple appoint a chief watchman (*ana maṣṣarti ša ayakki ipqidū*). This man, a certain Nūrēa, apparently a bow-maker by profession, was to choose four men from the duty shift of workmen of Eanna (*ultu ummâni ša ayakki ša ūmi*) who were to sleep (or just: "spend the night", *bâtu* Š) on the roof of two gates, whereas the other workmen on duty were to sleep/spend the night in their respective workshops (*ina bīt qātēšunu*). Five men, including the head of the watch, were to patrol the courtyards (*kisallu*) and the adjacent storage sheds (*šutummu*).[99]

[92] YBC 9235; YOS 19, 249.

[93] *Erbu ša šarri*, YOS 6, 121.

[94] Nbn 2: Nabonidus presents a tithe in the Great Gate of Ebabbar.

[95] See Waerzeggers 2010: 331 for the Ezida temple of Borsippa, whose system is best understood in this respect. For the gatekeepers in Eanna and the *atû* archive, see Adelhofer 2017. In a few cases, it is not clear whether an *atû* should be considered priestly or not, in TCL 12, 80, where the *bēl piqitti* of Eanna installs a gatekeeper for the cow house of Eanna, enjoining him from misappropriating even a minimum quantity of fodder (barley and straw).

[96] TCL 9, 138, BM 114659 (Eanna archive), BM 21927 (Ezida).

[97] NBC 4598 (5 Cyr, Eanna archive): two to three men for several *cellae* (*bāb papāḫi*), four men for an "entry gate", *bāb erbi*.

[98] AD -105A r A24'.

[99] YOS 7, 5. The final sentence runs as follows: (five names) 5 *ṣābū ša našparti ina libbi* ^{é}*kisalli u* ^{é}*šutummī* ˹*šá* ^{lú}*da-a-a-lu inanṣarū*, "… five men on duty will keep watch in the courtyard

The necessity to have such guards evinces clearly from a *mašʾaltu* (interrogation) text. A certain Šamaš-iqīša claims to have been encouraged by a gatekeeper to steal precious coloured wool from a shrine, the gatekeeper promising that "I will open the iron peg (securing the lock) of the *šulmu* gate by night and let you out."[100] Put on the spot, the gatekeeper confirms Šamaš-iqīša's claim (*ina muḫḫi ramnišu ukīn*). Another gatekeeper was guilty of having deserted his post so that a temple gate was left without guard, which resulted in the theft of the bronze door rings from the *cellae*' gates.[101]

City gates were normally guarded by a militia that was recruited from the cities' population. Occasionally we find references to "guards of the city gate", *maṣṣār abulli*.[102] The *ašābu* dossier from the Egibi archive (Wunsch forthcoming, see above at note 61) shows some aspects of this organization: the Egibis were required to keep track of their clients, renters and dependents living in their property, listing them with their place of residence (including the city quarter and its responsible recruitment officer) and often with the indication of a gate at which these men "stayed" (*ašābu*). While this may in some cases refer to residence, in other cases the gate is the place where these men were stationed while serving, most clearly in the following letter order: "release to his own home Arad-Bāba who is stationed at the Adad (city) gate, together with the other soldiers (there)."[103] Sometimes also elderly men were drafted into the militia,[104] and it would probably be misleading to assume a consistent 'professional' level of efficiency in terms of equipment and training of these men. A Urukean ad-hoc guard detachment of fifteen men, put together to guard and probably repair a stretch of wall that had collapsed, may well be typical rather than exceptional: it contained one 'master-builder', *arad-ekalli*, four 'builders', *itinnu*, and one smith; and they were issued with "ten arrows, three bows, and three daggers" – three armed men (archers with 3–4 arrows and a dagger) and twelve workers?[105]

and the storage sheds in need of a night watchman." The reading of the beginning of line 14, here in transliteration, is based on the copied traces; it is a plausible reconstruction, but not certain.

[100] *šikkat parzilli ša bāb šulmi ina mūši luptēma lušēṣīka*: YOS 7, 78. This text belongs together with BM 114647 which refers to the handing-over of the accused gatekeeper, who is to be handcuffed, by a guarantor.

[101] YOS 7, 89. Note that below, in YOS 21, 119, we will encounter yet another corrupt gatekeeper.

[102] CT 22, 74 (= *SbB* 1, no. 61).

[103] *arad-bāba ša abul-adad ašbu* (written *áš-ša-bi*) *ina bīti ša ramanišu itti ṣābī mušširā*, TCL 13, 215.

[104] Jursa 1999: 104 on Šamaš-nāṣir.

[105] PTS 3129: (fifteen names), *napḫaru* 15 *ṣābē ina muḫḫi maṣṣarti igāri ša inqutu* (Date: 19.9.41 Nbk); 10 *šiltāḫī* 3 *qašāti* 3 *patar parzilli ina pānišunu*. A comparable text from Sippar documents another ad-hoc guard: ten men and an overseer supervise (*inaṣṣarū*) a delivery of bitumen at a city gate of Sippar (BM 75648).

By way of illustration of the functioning of the security system at the city gates, we will cite here the Urukean letter YOS 21, 119. This is a letter sent by an officer (*rab ḫanšê* or possibly *rab ešerti*) in the Eanna's militia, Nanaya-iddin, to the *šatammu*; the letter is to be dated to the late reign of Nabonidus or to the reign of Cyrus.[106] Nanaya-iddin informs the *šatammu* that a certain man, as it happened a name-sake of his, Nanāya-iddin son of the woman Attar-ramât, certainly a *širku*, had deserted from his work on the fifth of Abu. On that occasion he had received some silver, a sheep and a travel garment from a certain slave, as well as more silver from several other men, whose names and professions are scrupulously listed (a gatekeeper, *atû*, had been complicit in the act), and he had attempted to take all these things out of the city. When the sender had checked him at the city gate, only a part of the missing silver could be found; this was placed under seal and entrusted to a messenger, and the culprit was thrown into fetters and likewise handed over to the temple authorities.[107]

The presence of storerooms – that necessarily could be locked – and of guards allowed gates into to function also as a location for securing prisoners, even though temples had specialized 'prisons' (*bīt kīli*). Probably gates doubled as prisons in particular in the context of the hearing of court cases which took place there. We know this best of palace gates,[108] where the 'public' nature of the gate played an additional role: some prisoners were not simply locked up, but also displayed. Darius narrates in his Bisotun inscription about the capture and execution of Phraortes: "Then I cut off his nose, his two ears, his tongue (and) blinded one of his eyes. He was held captive at my gate (*šū ṣabtu kullu ina bābia*). All the people could see him. Then I impaled him at Ecbatana."[109] As is also documented for the Neo-Assyrian period, this is a reference to the use of gates for the demonstrative punishment of the king's enemies.

According to the letter BIN 1, 24 from Uruk, a man is to be sent in chains to the hearing of his case (*dīnu*) to the "gate of the palace". Nbk 134 from

[106] For Nanāya-iddin see Schmidl 2019: 133.

[107] The crucial passage (26–34) runs as follows: *ina abulli rēš kaspišu ā* 13 *šiqil kī aššû alla* 8 *šiqil kaspu ina libbi ul akšud aštakas aktanak ana* PN *apteqid u ana šâšu iṣ-qāt kī addû attannaššunūtu*. A full edition will be included in a forthcoming volume of Spätbabylonische Briefe. Arrests at city gates feature also elsewhere; for example, in the seventh century letter SAA 18, 153: "Ammīni-ilu, a merch[a]nt from Tēma, [wa]s going from here to the king of Babylon. [He was arr]ested at the city gate of Sippar (*ina bāb āli ša sippir* [*ṣa*]*bta*), and is in fetters in Dūr-Šarrukku," and possibly also in SAA 18, 203: "[Wh]en [Nab]û-šuma-ereš, the *ša*[*ndabakku*, …] (pleadingly) lifted [his hands towards the dele]gate at the (city) gate of D[N], th[ey] arres[ted him] ([*qāssu ana q*]*īpi ina abul* [… *k*]*ī idkû ikt*[*elûšu*])."

[108] Some evidence for men "held in gates" come from the context of Persian-period notables: Jursa and Stolper 2007: 261–262: "release into our guarantorship … the servant of …, who is kept under restraint in the gate in your presence (*ša bābu kilûme ina pānika*)." For a man imprisoned in a temple gate, see Waerzeggers 2016: 75, line 20.

[109] Bae 2001: 145–146.

Babylon contains two lists of witnesses: one, consisting of seven men, for the fact that two men undertook to guard a third until the closing of the gate, and a second, consisting of two men, who confirm to have told these two guards after the closing of the gate: "the gate is closed, you can go."[110] Significantly, the two final witnesses are officials: a courtier, *ša rēši*, and a *rab sikkāti* (here written ^{lú}gal gag^{meš}[111]). The latter functionary, according to the CAD, "serves chiefly in military capacities" in the third and second millennium, while "[l]ater texts give no indication of his official functions."[112] It is clear, however, in particular from our text, that the *rab sikkāti* is the "lock master", the functionary in charge of the bolting of the gate, in Late Babylonian sources, as in Neo-Assyrian,[113] he should be counted among the 'regulars' in the gate areas. One Eanna text details the duties that came with the office (even though it does not mention the title explicitly): "You shall guard the pegs (of the locks) of Eanna (*ina muḫḫi sikkāti* [*ša ay*]*akki maṣṣartu tanaṣṣarā*). [No ga]te will be opened at an inappropriate time [be]fore the Lady-of-Uruk. [If] the sanctuary is opened [at an] inappropriate time, they will bear [the guilt of (an offence against)] the king."[114] The physical setting of BIN 1, 24 may well have been the entrance to Nebuchadnezzar's South Palace, the gate leading to the first courtyard, the *Osthof*. It has massive walls and two flanking rooms on either side of the entrance that likely were guard chambers.[115]

Finally, mention should be made of the "chief of the gate", *rab bābi*. The lack of further specifications identifies him a high-ranking royal official with responsibilities for the provisioning of royal personnel in the palace and possibly for the maintenance of the defensive structures at Babylon.[116] This official is to be distinguished from the "chiefs of the gate" of specific gates who turn up very occasionally in the record.[117]

[110] The precise wording is: *bābu turru bēl*(*ū*) *lillik*(*ū*) (ká *tur-ru* en *lil-lik*). Probably a plural is intended. Note the polite indirect address in this direct quote.

[111] Reading ^{lú}gal-dù^{meš} for *rab-banê* is excluded by context; a prebendary gardener has no business in a palace gate after the gate's locking (and the meš sign would be unexpected, too).

[112] CAD S: 254. See also Bongenaar 1997: 134.

[113] Gross 2020: 182–183 for the Neo-Assyrian evidence. In Late Babylonian, the *rab sikkāti* is most often attested in temple archives (Bongenaar 1997: 134: "function … unknown"; AUWE 5, 109; PTS 2271; NCBT 950), generally as the recipient of rations in kind.

[114] Frahm in Magdalene *et al*. 2019, no. 1 (NBC 4778).

[115] Heinrich 1984: 203–205.

[116] Jursa 2005b: 232.

[117] *Ibid*.: 232, note 50 on a *rab bābi ša Bāb-Martu*. Note also the "man in charge of the gate", *ša muḫḫi bābi* in ABL 277 (a letter from Uruk to Assurbanipal).

7. Palace and Temple Gates as Centres of Administrative Communication and Juridiction

The entrance gate of palaces and temples was a liminal space beyond which many outsiders could not proceed (obviously, given the multi-courtyard structure of the palaces and temples of first millennium Babylonia, there was a hierarchy in access rights, and privileged visitors would have reached inner gates that were inaccessible to others). Of necessity much business was conducted in gate areas, and the gates feature in the texts frequently as default port-of-call for whoever had to turn to the institution in question. Thus, a Babylonian writes to Esarhaddon: "Their people, which in an ea[rlier] crime (committed) at the court of your grandfather were given to the […, have banded] together and taken up position at the gate of the king's palace (*ina bāb ekalli ša šarri ittašizzū*). They [are protes]ting against me in the city […]" (SAA 18, 101). This is certainly typical: who was not summoned into the presence of the powerful will have had to wait in their gates for an opportunity to state their business. Conversely, who was summoned passed through the gate, or had their business settled there: for example, two leatherworkers indebted to the crown prince were to be brought to the "gate of the crown prince's palace" for a settlement of accounts (Ner 55). Taking the "presence in the gate" of an official or of an institution synecdochally as a stand-in for "being under the responsibility/supervision" of this official or institution was indeed so rooted in the conceptual world of Late Babylonians that it can produce slightly counter-intuitive imagery: "should the royal resident enjoy the votive offering while we are eating the leftovers in the gate of our prison?"[118]

The gate being the archetypical part of a residence where business was conducted, the phrase "being at the gate of…" could acquire the nuance of "serving…," "being a client of…" or "being dependent on…" So, in seventh-century letters, *amīlu ša bābia* "the man of my gate" is "my client/dependent" (ABL 1222) and Bēl-ibni writes to Assurbanipal: "while Umḫulumā was alive, Nabû-bēl-šumāti stayed in his gate and became his friend/client…"[119] In the sixth century, institutional personnel for instance be listed as assigned to "archer service in the gate of the king or in the gate of the governor (of the Sealand)".[120] "Being in the gate of" was used essentially in the same way as "to serve" (*maṣṣartu naṣāru*), as a letter of the *qīpu* of Eanna Anu-[šarru-uṣur]

[118] *Qīpu ikribu līkul u šittu* [*mim*]*ma ina bāb bīt kīlini nīkul*; BIN 1, 70 (= Levavi 2018, no. 4). Surely prisoners are not expected actually to sit "in the gate of their prison".

[119] ABL 281: *ultu umhulumā balṭu nabû-bēl-šumāti bābšu kī iṣbatu ana bēl-ṭābtūtišu ittūr*.

[120] BM 114633 (= Kleber 2008, no. 22): *ina* ^{lú}*qašti ša bābi ša šarri u bābi ša šakin māti … ul šaṭrū*. Similarly, YOS 17, 318 and GC 2, 383 (*širkū/ṣābū ša* (*ina*) *bābi ša šakin māti*). YBC 9213: ^{lú}*qaštu ša ultu bābi ša šakin māti šutaḫḫusūnu* "archers who have been withdrawn from the gate = released from service of the *šakin māti*", see Janković 2013: 122–123.

shows: "Arad-Innin is my slave, he serves me and does not leave my gate" (PN *ardā šū u maṣṣartā inanṣar u bābā ul umaššar*).[121] This usage of the word is attested also into the very late period: a text from the Parthian period has a man serve and receive payment "at the gate of the king".[122]

Palace gates, the gates of the residences of officials, and certain temple gates were also the setting of jurisdictional and other legal activity. The atypical text Sandowicz 2019, no. 34 is particularly illuminating. It begins with a list of men who are designated as *šībūtu āšib bābātišu*, which we would understand as "the elders who sit in the gate for him".[123] These men are then said to have taken an oath and confirmed a certain statement that the unfished text does not relate.[124] The suffix in *bābātišu* must refer to the person who was the subject of the statement to be recorded. The phrasing shows that gates were the default meeting place for bodies of men deliberating on judicial matters, be they formal bodies or groups that were assembled ad-hoc, as in the present case. Similarly, in Sandowicz 2019, no. 44, a judgement (*dīnu*) is envisaged to be passed by *bītu*(é) *āšib bābi*, which Sandowicz translates as "*legal body* (lit. house) sitting at the gate".

Such a function is attested even for the 'gate' of officials that are not particularly high in the administrative hierarchy: in Nbk 183, a witness is to be brought to the "gate of Bēl-iddin, the *gugallu*", for the legal settlement of a dispute over the ownership of certain garments. But of course, the majority of the attestations concern judgments made in temple and palace gates. For Nebuchadnezzar's *Südpalast*, the excavator speculated that the gate connecting the *Osthof* and the *Mittelhof*, with its adjacent secondary rooms and the gateways leading to 'private' houses, certainly of officials, may plausibly have had the role of 'gate of judgement'.[125] In the Ebabbar, formal cases could be heard by an assembly (*puḫru*) in the Great Gate, where also other legal business was conducted. In BM 62587, for instance, a group of men is called upon to confirm the content of a document written and deposited in the Great Gate by temple officials.[126] The same is true for Eanna, but there is the complication that also

[121] YOS 21, 4 (assigned erroneously to the *šākin ṭēmi* Anu-šarru-uṣur rather than to the *qīpu* of that name in Jursa and Stolper 2007: 262 n. 62). Note that the context – the letter is about dates levied from Arad-Innin's date garden – shows that the phrase "he does not leave my gate" is not to be understood verbatim; the point is stability of service, not *stabilitas loci*.

[122] BOR 4, 132 (= van der Spek 1985: 549–550).

[123] *Āšib bābāti* is spelled *a-šib* ká^{meš}-*šú*, namely, with a pluralization of the nomen rectum to express the plurality of the nomen regens.

[124] *Ina puḫri nīš šamaš izkurūma annīti ukinnū* (written *ú-kin*^{in}; still, the form must be plural).

[125] Koldewey 1990: 99, Heinrich 1982: 209–211.

[126] The clause we are interested in runs as follows: *šaṭāru ša ana muḫḫi* PN [*rab šir*]*ki šaṭruma ina bābi rabî šaknu* [*at*]*tūnu ša ašṭuru kinnāma* … "regarding the document that was drafted with respect to PN, the chief of temple serfs, and was deposited in the Great Gate: you

a *bāb dīni* and possibly an *abul dīni*, a "city gate of judgement", exist.[127] Murašû texts in the fifth century mention numerous "judges of gates", in some cases explicitly of the 'gates' of high-ranking members of the Persian aristocracy.[128]

8. Conclusion

The administrative documentation from first millennium BCE Babylonia, supplemented by the unfortunately sketchy archaeological record, allows drawing a fairly nuanced picture of the role of gates – city gates, temple gates, palace gates – in Babylonian every-day life. While royal inscriptions and topographical texts emphasize certain features of spectacular constructions highly charged with (religious) meaning generally without going into too much overall detail, the documentary record gives snapshots highlighting aspects of the building process and the fitting-out of the gates, from the manufacture of the bricks to the attachment of the hinges, locks and, in the case of temple gates, curtains.

City gates, and to a lesser degree temple gates, are crucial orientation points in urban topography even though the definition of city quarters (*bābtu*), with its implications for service and tax obligations, does not seem to be based on them. The role of gates as conduits for people and goods is equally clear, with city gates clearly serving as hubs for storing and redistributing goods on a large scale and palace and temple gates as spaces for the micro-management of the institutional economy. The religious charge borne by gates, as liminal space, is most clearly reflected in the documentary record in the references to offerings made at temple gates. The city gates play no discernible role in this respect. This is also true for the role of gates as focal points for various administrative procedures, including that of serving as assembly points for courts of law: in part owing to a bias in the sources, in which temple archives loom large, temple gates are prominent here, but we also see the role of the palace gate. 'The (institutional) gate' is that prominent in the conceptual world of first millennium BCE Babylonia that it comes to designate the institution or household in question in general, and the idea of being 'present in the gate' expresses the nuance of 'serving' the household (especially in the fifth century, this usage is increasingly found also for the 'gates' of notables – powerful men in the world of Achaemenid Babylonia). This usage of *bābu* is employed in particular when the focus is on the outside connections of the household for which 'gate' is

should confirm what I wrote and…" Note that also BM 40788+ (= Sandowicz 2019, no. 4 (Dilbat) probably refers to an oath in the Great Gate of a temple (reading line 10: ká gal-˹*i*˺[…])).

[127] Sandowicz 2019, no. 30; see her comments on p. 109–110, with note 250.

[128] See Stolper 1985: 63, with note 54. For additional 'late period' references to 'judges' associated with 'gates', see BM 33339 (Babylon, reign of an Artaxerxes).

a synecdochal stand-in. Thus, a sixth century letter's *banī ša ina bāb nakri ša ašbāk* may be rendered as "Is it fitting that I should have to deal with someone who is hostile all the time?"[129]

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[129] See Jursa and Stolper 2007: 262, with note 63 on YOS 3, 164. The letter is now in Schmidl 2019, no. 62.

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CRIMINAL GEOGRAPHY IN URUK'S TEMPLES DURING THE LONG SIXTH CENTURY BCE

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The criminal acts that took place in Babylonia, especially in Uruk during "the long sixth century BCE",[1] have been studied in various ways by many researchers.[2] Crimes, and the legal decisions related to them, were examined and analysed in a paper by Joachim Oeslner, Cornelia Wunsch, and Bruce Wells.[3] Legal documents that addressed various offences were gathered and presented by Francis Joannès[4] and, more recently, by Shalom E. Holtz.[5] From among the range of crimes committed, physical violence was analysed by Michael Jursa.[6] Theft and offences associated with theft were examined in my article 'The theft in Babylonia during the first millennium B.C.'.[7] Also on this list are to be mentioned studies dedicated to cuneiform tablets recently published that partially inform us about the range of people involved in offences during the long sixth century BCE. An article written by Kristin Kleber and Eckart Frahm presents PTS 2185, a cuneiform tablet that records the theft of a sacred meal and a murder committed in prison, along with other offences associated with that case.[8] Martha T. Roth studied three cuneiform tablets from the archives of Marduk-rēmanni related to a mutilation penalty and associated offences.[9] Cornelia Wunsch edited BM 46660, a tablet that testifies to the murder of a young child, and presents similar types of offences in her discussion.[10] F. Rachel Magdalene and Cornelia Wunsch also edited the tablet Camb. 321[11] that reports a dress code violation committed by a slave. Karlheinz Kessler published two

* I wish to express my sincere gratitude to my professor, Francis Joannès who read this paper with care and provided me with precious suggestions.

1 This expression was coined by Michael Jursa (Jursa 2010: 5).

2 This topic began to be studied at the end of the 19th century CE. First, Josef Kohler and Felix Ernst Peiser worked on the judicial documents in the Neo-Babylonian Period (Kohler and Peiser 1890/98). After them, Mariano San Nicolò produced many valuable works in this subject alone (San Nicolò 1932a, 1932b, 1932c, 1933a, 1933b, 1939, 1945, 1951) and with Herbert Petschow (San Nicolò and Petschow 1960).

3 Oelsner, Wells and Wunsch 2003: 911–974.

4 Joannès 2000: 201–239.

5 Holtz 2014.

6 Jursa 2014.

7 Kim 2017: 39–80.

8 Kleber and Frahm 2006: 109–122.

9 Roth 2004: 207–218.

10 Wunsch 2002: 355–364.

11 Wunsch and Magdalene 2012: 99–120.

judicial documents (BM 114524, YOS 7, 107) associated with bad treatment against dogs,[12] several texts connected with thefts committed in a storeroom (*bīt šutummu*),[13] and a judicial document (BM 114528) that records an offense against public decency perpetrated in the house of a cabaret's tenant.[14] Though many studies were conducted on the criminal acts that occurred in several Babylonian cities during the long sixth century BCE, the literature contains no specific research devoted to what we could call a "criminal geography" that would show the relationship between offences and their locations. Thus, in the hope of beginning to fill a gap in the literature, this study will examine the relationship between offences and their geography. This examination will be limited to cases in Uruk's temples, because the number of legal documents available from other cities in the same period is insufficient to inform such an investigation. I will first present the legal documentation related to offences committed in Uruk's temples[15] and analyse the relationship between the offences and the place in which they occur. I will then look closer into the identity of the criminals. Finally, I will discuss how the temple authorities tried to control offences, based on the criminal geography of Uruk's temples.

1. Criminal Geography: the Cases

Babylonian temples are known to have been important centres of religious and economic life. A temple was composed of a complex of several buildings enclosed by walls. A number of legal documents testify to criminal activities committed in these areas. As seen in these documents, crimes occurred in different parts of the temples such as the *bīt papāḫu*, the *bīt akītu*, the *kisallu* which was the border between sacred and profane areas, the prison, the storerooms (*bīt šutummu*), a specific place called *kiz(a)lāqu*, the stable (*bīt urî*) and the gates of Eanna. The following section presents a detailed account of the crimes perpetrated in these areas.

1.1 The *bīt papāhu*

The *bīt papāḫu* was a place where the statue of a god or goddess resided. Although these temple areas were accessible only to select priests (*ērib bīti*), offences could still be committed there. Two legal documents testify to thefts perpetrated in the *cella* of the goddess Gula: YOS 7, 170, and YOS 15, 10.

[12] Kessler 2006: 239–247.
[13] Kessler 1999: 245–257.
[14] Kessler 2005: 269–287.
[15] For more information about the temple complex and their inner structure in detail, see Francis Joannès' paper in this volume.

Gula was one of the goddesses venerated in the Eanna temple. She was often mentioned with ^{d}IGI.DU[16], but whether or not she formed a couple with this god is uncertain.[17] According to YBC 3715,[18] a door curtain (*gidlû*) hung at the gate of the inner *cella* of the goddess Gula. Vessels and various tools were kept in this location also.[19] The legal document YOS 7, 170 records the theft of a silver bowl on a stand (*šappu karû* kù.babbar) placed in the goddess Gula's *cella*. More detailed information about this theft is not available because YOS 7, 170 is the only source that documents this incident. According to the text, the temple authorities were unable to identify the thief or thieves, but it seems they may have suspected Nabû-zēr-līšir, son of Nabû-mukīn-apli, descendant of Sîn-lēqe-unninni, and Anu-pir'u-uṣur, son of Šamaš-šum-iddin, descendant of Sîn-lēqe-unninni, for reasons that remain unknown. Four persons – Mušallim-Marduk, son of Arad-Nabû, descendant of the Priest of Nabû, Banīya, son of Nabû-nāṣir, descendant of Nabû-šarḫi-ilī, Bēl-šum-[…], son of Nergal-iddin, descendant of Pappaia and Innin-šum-uṣur, son of Gimillu, descendant of Kurī – had to give their personal guaranty that they would bring Nabû-zēr-līšir and Anu-pir$^{?}$u-uṣur when the *bēl piqitti*, Nabû-aḫ-iddin, had returned to Uruk. These guarantors appear to be people related to cultic matters. Nabû-zēr-līšir is mentioned in another document, YOS 7, 71, where he is referred to as a *kalû*-priest, attached to ^{d}Bēlti-ša-Uruk. Anu-pir'u-uṣur had the same ancestor as Nabû-zēr-līšir, which means he may also have been a priest.[20]

The legal document YOS 15, 10 records a similar case: a silver water bowl for hands (*kallu* kù.babbar *ša* a.meš šu^{II}) and a silver water sprinkler (*ša salāme* kù.babbar) disappeared from the *cella* of the goddess Gula. Temple authorities tried to find the thief by questioning temple-enterers (*ērib bīti*), religious personnel (*kiniṣtu*), gatekeepers (*atû*), and staff officials. This interrogation led to the identification of a suspect. According to a denunciation, the thief was Iddin-aḫi. Just before the disappearance of the cultic vessels, he had been appointed to a position, the name of which remains unknown. After the

[16] Another logogram for this word is ^{d}Palil. According to Manfred Krebernik, these logograms were used for Igišta or Nergal (Krebernik 2003: 281).

[17] Beaulieu 2003: 275.

[18] Beaulieu 2003: 139, 275–276, 283.

[19] Beaulieu 2003: 275–276. According to Paul-Alain Beaulieu, five texts testify to the presence of vessels and various tools in this place: YBC 9237 (copper allotted for the water basin "^{giš}bán zabar *ša ana mê* šu.min"); YOS 19, 266 (silver vat "*dannu* kù.babbar", pot stand "*kankannu*", golden bowl "*malītu* kù.gi", golden heart-shaped vessel "*libbê* kù.gi", golden blades$^{?}$ "*šulāpu* kù.gi"); YBC 9434 (silver vat "*dannu* kù.babbar"); YOS 7, 170 (silver bowl on a stand "*šappu karû* kù.babbar"); YOS 15, 10 (silver bowl "*kallu* kù.babbar", *silver water sprinkler* "*ša salāme* kù.babbar").

[20] The Sîn-lēqe-unninni family was well known in Uruk's society. During the long sixth century BCE, this family was divided into two branches. The first branch worked mainly in the field of livestock husbandry. The second branch was bigger than the first branch and their members worked mostly as *kalû*-priests and scribes: Beaulieu 2000: 5.

disappearance of the cultic objects, he escaped from the temple. Later, two temple-enterers found Iddin-aḫi in the city Kār-Nanaya and they brought him back to the temple, along with the missing objects.

In the Ancient Near East, cultic vessels were highly valued because objects belonging to a god or a goddess were often made of precious material.[21] That is probably also why Nebuchadnezzar II brought the cultic vessels of Yahwe with Yahoakin, King of Juda with him after his first conquest of Jerusalem (Chronicles 2, 36:10).[22]

1.2 The *bīt akītu*

Two tablets document thefts committed in the *bīt akītu* temple: PTS 2185 and YOS 7, 89. This temple was not located in the Eanna complex, it was located outside of Uruk[23]. This kind of temple was found in the most important Babylonian cities, such as Babylon, Borsippa, Dēr, and Uruk.[24] In Babylon, the *bīt akītu* temple was important for the celebration of the New Year festival, but its role is otherwise not well known. This makes PTS 2185[25] an important document as it informs us that, even though it took place outside the New Year festival period, a sacred meal was offered there to the Lady of Uruk. According to this document, a theft was committed during the sacred service for the Lady of Uruk on the 4th of the month of Addaru, probably during the 33rd year of Nebuchadnezzar II (571 BCE).[26] A man named Nādin-aḫi entered the *bīt akītu* and stole a duck prepared for the Lady of Uruk's meal. Thus, he committed two offences: first, an intrusion into a sacred place; second, the theft of the goddess' property. The man was put in the jail of the Eanna temple for those offences.

Another document, YOS 7, 89, reports the abandonment of a post in the *bīt akītu* and the resulting theft that was committed later. According to this tablet, a gatekeeper abandoned his post and ran away. After his disappearance, a theft was committed in the temple. A bronze ring (*unqu* zabar) from the door and

[21] Michael Guichard published a monograph about Mari's palace lavish vessel (Guichard 2005). For the first millennium BCE, Francis Joannès published a study concerning cultic vessel (Joannès 2007/08). He also researched liquid offerings published in this volume. The philological discussions in Paul-Alain Beaulieu's book give useful information about cultic vessels (Beaulieu 2003: 379–390).

[22] Kalimi and Purvis 1994: 453.

[23] The procession to the *akītu*-temple was particularly important (Linssen 2004: 10).

[24] Bidmead 2002: 142.

[25] Kleber and Frahm 2006.

[26] This document does not give the exact date when the offence was committed, but it was written in the 34th year of Nebuchadnezzar II (571–570 BCE). It is probable that the offence was perpetrated a little earlier, during the year that preceded the year of the document's redaction.

the bronze attachments (*mandītu* zabar) from the wood support of the Lady of Uruk's *harû*-vat were stolen. The temple authorities could not identify the thief.

1.3 The courtyard (*kisallu*)

The *kisallu* was an inner courtyard where priests took sacred meals to the gods and goddesses. Two documents provide evidence of incidents that occurred in the courtyard: YOS 6, 222, and YNER 1, 2. The first incident results from a professional mistake committed by a priest named Anum-šum-līšir, in his duty of a *rab bānî*-prebend holder. He had to bring dates and pomegranates with him to the courtyard for the sacred meal to be offered to the Lady of Uruk, but the dates and pomegranates he delivered were of poor quality. The rite was stopped because of it. Eanna's *šatammu* and scribes then brought dates and pomegranates from the temple of Eanna to offer to the Lady of Uruk in place of the bad dates and pomegranates offered by Anum-šum-līšir. He was arrested for offering poor quality items to the Lady-of-Uruk. According to YNER 1, 3, the day after his arrest, Anum-šum-līšir was freed thanks to the guaranty given by two people. Even though the two documents referenced in this section do not indicate the exact place where the offences were committed, it is probable that they happened in the *kisallu* because it was there that priests had to deliver their offerings.[27]

1.4 An unidentified sacred area

The legal document YOS 7, 20 reports a transgression perpetrated in an unidentified holy place. According to this document, an oblate named Nāṣiru, who had participated in the procession of the goddess Urkayītu, entered the part of the temple where the statues (*ṣalmu*) or emblems (*kakku*) of the gods of Esagil and Ezida were temporarily kept. According to Paul-Alain Beaulieu, these sacred objects were kept there because of a royal order that aimed to establish the supremacy of Babylon and Borsippa over Uruk.[28] The action of Nāṣiru were perhaps considered an actual sacrilege because only the temple-enterer (*ērib bīti*) could have access to and stand before the statues of the gods and goddesses. Therefore, Nāṣiru committed the transgression of a religious taboo in this case. The specific location of this offence is not indicated in the related legal document but it could be another *cella* of the temple. The ritual document LKU 51[29] sheds some light on the situation: according to it, a ritual connected with the goddesses Uṣur-amāssu and Urkayītu was performed during the first

[27] For an explanation of this function, see Francis Joannès' paper in this volume.
[28] Beaulieu 2003: 78.
[29] Beaulieu 2003: 373–377.

double hour (*bēru*) of daytime on the 9th of the month of Simanu during Cyrus' second year, a date verified in YOS 7, 20. At that time, statues of goddesses had to go from the *bīt hilṣi* toward another part of the temple in order to receive offerings. As Nāṣiru participated in the procession of goddess Urkayītu, it is possible that his offence was committed in the *bīt hilṣi* or near this temple area.

1.5 The prison (*bīt kīli*)

In Babylonia's long sixth century BCE, many prisons existed and they were controlled by different authorities, including temples, which is why we find a prison in the Eanna temple complex. Criminals were locked up in this prison, but even offences could be committed there. Three legal documents are associated with offences perpetrated inside the prison: YOS 7, 137; YOS 7, 97; and PTS 2185. The first document, YOS 7, 137, provides evidence of an offence of *lèse-majesté*, contempt for the king. According to YOS 7, 137, Dummuqu, son of Balṭiya (a man from the city of Šadmu[30] who was detained in Eanna's prison because he had sold his own son) was accused of *lèse-majesté* by his co-prisoners. His co-prisoners testified that Dummuqu had spoken badly against the king in prison. Because of this denunciation, five prisoners, including Dummuqu, were shackled and transferred to Babylon before Nabugu, son of Gobryas.[31]

The second document, YOS 7, 97, cites an attempt to escape from prison and an offence of physical violence committed during this event. Two prisoners, Nargiya, son of Ilī-gabarî, and Šamaš-bēl-kullati, son of Lābāši, were the main protagonists in this story. They tried to escape from Eanna's prison, where they were held, by making a hole in the wall of the prison with an iron chisel (*sirpu* an.bar). During their attempted escape, they strangled Damqiya, the guard who was assigned to the prison, with the string that he wore around the neck.

The third document, PTS 2185, informs us about another attempt to escape from prison during which a murder was committed. As previously described, Nādin-ahi had entered the holy area of the *bīt akītu*, and had stolen a duck offered to the Lady of Uruk. He was captured because of this sacrilegious action and held in prison. After two months of detention, he attempted unsuccessfully to escape and murdered the prison chief, Taklak-ana-Innin, during his attempt.

[30] Šadmu is an alternative reading of Ālu-ša-Admu. This village was not far from Uruk (Zadok 1985: 7).

[31] Nabugu was the eldest son of Gobryas, governor of Babylon and Ebir-Nāri. He worked actively as an administrator with his father: cf. Dandamaev 1992: 103–104, and Tolini 2011: 29.

1.6 The storeroom (*bīt šutummu*)

The *bīt šutummu* served as storeroom in almost every great temple: Eanna of Uruk, Ebabbar of Sippar, Esagil of Babylon, and Ezida of Borsippa. These storerooms were of different types: there was a royal *šutummu*, used by the royal administration, and also storerooms for prebenders or other important people. According to documents from the Ezida temple, these rooms were located inside the temple walls and their complex formed a district that contained small and big alleys (*mūṣu qatnu u sūqu rapšu*), empty lots (*pitru*), and waste building-plots (*kišubbu*).[32] It is possible that the district for the *bīt šutummu* in Uruk's temple had the same architectural design. Six texts mention offences committed in this district at Uruk: PTS 3853[33]; YOS 7, 10; YOS 7, 42; YOS 7, 78; YOS 7, 88; and TCL 13, 142.

According to YOS 7, 88, Basīya, son of Nabû-kēšir, the Lady of Uruk's oblate, ran away from a royal storeroom (*bīt šutummu šarri*) where he had been kept in shackles. He was taken in pursuit by two gatekeepers and by a basket maker from the Eanna temple. During this pursuit, Basīya raised an iron sword (*patru* an.bar) against these three persons, but he was caught at the gate called the *Bāb Šulmim*.

PTS 3853 reports a theft perpetrated by two persons, Anu-zēr-ibni, son of Šamaš-iddin, and Ardiya, son of Nanaya-karābi, in the storeroom of Mušēzib-Marduk, son of Kabtiya. The stolen items range from dates ready to be offered to the gods to a simple cloth (*ṣibtu*). Another document, YOS 7, 10, records a theft committed by Iddinaia, son of Lābāši-Marduk, descendant of Dabibi, who had stolen a cumin millstone (na_4 ḫar, *ḫašimur*) during the night, in the *bīt šutummu* of Ištar-aḫ-iddin, son of Innin-šum-uṣur.[34]

In the case of document YOS 7, 42, Šamaš-iqīšanni, son of Ea-nādin-šumi, repeatedly stole objects in the *bīt šutummu* of the gatekeeper Rēmūt. Although Šamaš-iqīšanni was arrested a first time during the fifth year of Cyrus, he did not stop his tortuous activities. According to YOS 7, 78, he committed another theft in the same *bīt šutummu*, and he was caught on the 16th of the month of Nisannu. From the confession given by Šamaš-iqīšanni, we learn that Rēmūt, the gatekeeper of the *Bāb Šulmim*, had suggested to him they should steal together some wool stored in a nearby location.

Document TCL 13, 142 informs us of an interdiction to take away objects that were probably used as material evidence of a theft in the *bīt šutummu* of

[32] Waerzeggers 2010: 11–12.
[33] Kessler 1999.
[34] The word "*šutummu*" is broken on this clay tablet, but according to the situation described in this document, it is a highly probable restoration.

Bazuzu. It seems likely that they had been stolen by Tabnēa, son of Innina-zēr-iqīša, because the document indicates that Tabnēa confessed something (*ša eli ramānišu ukinnu*) in connection with these objects.

1.7 Eanna's Gate

The gates of Eanna were also a place where offences were committed, as shown in two documents: Spar 1979, no. 3, and TCL 12, 117. These texts provide information on two different offences. Spar 1979, no. 3 talks about the looting of an offering box (*quppu*) located at the gate of Eanna, which was used to collect silver-*irbu*. The temple authorities sent temple-enterers to investigate against Banīya and Eanna-līpi-uṣur, who had used an iron knife against the box and were arrested because of this.[35] The authorities established that they probably stole the silver placed in the *irbu* box, but during their investigation, the temple-enterers could not find any silver taken from the *irbu* box in the possession of Banīya and Eanna-līpi-uṣur. The second document, TCL 12, 117, relates to an offence of physical violence. A man named Ibni-Ištar, son of Amēl-Nanaya, trying to escape, took out his iron knife against Ilī-rēmanni, a royal officer and chief of Eanna's administration, at the Great Gate of Eanna.

1.8 The *kiz(a)lāqu*

The room called *kiz(a)lāqu* is rarely mentioned in documents. According to CAD K,[36] this word comes from the Sumerian ki.zalág.ga "the place of the (cultic) lamp".[37] Regarding YOS 6, 235, Itti-Šamaš-balāṭu, a thief, confessed that he had stolen silver from a box located in the *kizalāqa* of the goddess Uṣur-amāssu's chapel.[38] In Francis Joannès' opinion, this legal document was written at the end of the investigation conducted by the temple authorities in order to reveal a traffic of precious metal stolen from the temple.[39] When they

[35] During the Neo-Babylonian period, due to the economic development, sacrifice could be replaced by payment in silver. The box for collecting this type of silver was located at the door of Eanna: cf. Kleber 2010: 544–545.

[36] CAD K: 477.

[37] According to the CAD, this word is found in only three Neo-Babylonian documents: YOS 7, 167; YOS 6, 235; GCCI 2, 324. The translation "storeroom" is proposed by the CAD. According to YOS 7, 167, there was a register tablet for products that entered this place, and YOS 6, 235 tells us that there was *irbu*-silver in (*ultu muhhi*) this place. GCCI 2, 324 is a register tablet of diverse clothes, one of them is a cloth that belonged to this place or came from this place. According to theses testimonies, it is difficult to determine the function of this location. However, I think that "storeroom" as proposed by CAD is suitable because there were stored objects and a register tablet for them. The Sumerian word, ki-zalág-ga, can be translated as "the place of the lamp" (like CAD) or "the place of the light".

[38] Beaulieu 2016a: 511.

[39] Joannès 2000: 214–215.

traced the traffic, they found two individuals, Kalbi-Baba and Itti-Šamaš-balāṭu. Kalbi-Baba was a goldsmith, but we do not know the profession of Itti-Šamaš-balāṭu, the thief of YOS 6, 235. In this document, Itti-Šamaš-balāṭu says that at the very moment he was stealing the silver, Lumur-dumqi-Ištar, a *bēl piqitti* saw him and ordered him to return the silver to its original location. However, the testimony of Lumur-dumqi-Ištar was unclear and undecisive. As this document ends after the provision of the testimony, it is difficult to determine which statement was considered the more convincing. It seems that the theft was committed and recognized but then covered up.[40]

1.9 The stables (*bīt urî*)

YOS 6, 77 reports a theft committed by a man named Kīnaia, son of Kalbaia, gatekeeper of the *Bāb Šulmim* in Eanna. Kīnaia stole five lambs and one ewe from Eanna during the night. Among the stolen animals, four belonged to the temple because they were marked with a star. The document does not give the exact location from which the stolen animals were taken, but it is probably a stable (*bīt urî*), since this building was the one where the animals were gathered by the Eanna's shepherds.

1.10 Summary

According to the information thus far presented and summarized in Table 1, various offences were committed in Uruk's temples, ranging from simple theft to sacrilege. Among these offences, sacrilege was associated with the specificity of a place, as it could only be perpetrated in a holy area.

The temple complex can be divided in three parts, according to rights of accessibility. The first category includes holy places, like the *cella* of gods and goddesses. Only temple-enterers (*ērib bīti*) were permitted to enter this place. The second category was the *kisallu*s, the temple's courtyards. There, prebend holders could perform their cultic obligations, such as bringing offerings.[41]

[40] Joannès 2000: 214.
[41] Waerzeggers 2008: 15–16.

Table 1: Overview of offences committed in Uruk's temples

Place	Offences	Documents
Cella	Theft (2)	YOS 15, 10 (theft of Gula's cultic object) YOS 7, 170 (theft of Gula's cultic object)
Bīt akītu	Theft (2) Sacrilege (1)	PTS 2185 (theft of a duck offered to the Lady of Uruk, in the holy area of the building) YOS 7, 89 (a gatekeeper ran away from his post; then, bronze elements were stolen)
Sacred area unidentified	Sacrilege (1)	YOS 7, 20 + LKU 51 (standing illegally before gods and goddesses)
Courtyard	Professional fault (1)	YOS 6, 222 + YNER 1, 3 (offering of dates and pomegranates of bad quality)
Gate of Eanna	Theft (2) Physical violence (2)	Spar 1979, no. 3 (theft of silver in the *irbu*-box) TCL 12, 117 (physical violence during an escape)
Prison	*Lèse-majesté* (1), Escape attempt (2), Physical violence (1), Murder (1)	YOS 7, 137 (*lèse-majesté*) YOS 7, 97 (escape from prison, physical violence against a prison guard) PTS 2185 (escape from prison, murder of the prison chief)
Storeroom	Escape (1) Theft (5)	YOS 7, 88 (escape and physical violence during escape) PTS 3853 (theft from Mušēzib-Marduk's storeroom) YOS 7, 10 (theft of precious stone from a storeroom located at the gate of Eanna) YOS 7, 78 (theft committed in the gatekeeper Rēmūt's storeroom) YOS 7, 42 (theft committed in gatekeeper Rēmūt's storeroom, concealment of stolen object in the storeroom of the criminal's uncle) TCL 13, 142 (theft perpetrated in Bazuzu's storeroom)
Kizalāqu	Theft (1)	YOS 6, 235 (Itti-Šamaš-balāṭu confesses that he tried to steal silver in the *kizalaqu of the goddess Uṣur-amassu*)
Bīt urî stable	Theft (1)	YOS 6, 77 (theft of 5 lambs and 1 ewe from Eanna)

The third category includes the remaining space between the *kisallu* and the temple precinct. This last space was accessible by many people, from temple-enterers to simple workers. Several storerooms and offices were located there.[42]

[42] Waerzeggers 2011: 65.

As noted previously, the sacrilege of entering the sacred area could only be committed by people who were not authorized to have such access. However, thefts were committed in all kinds of places inside the temple, including *cella*s as well as temple gates. Most of the thefts seem to have been committed in storerooms. Six documents testify to the occurrence of offences in storerooms. Among them, five were thefts. At that time, it seems to have been easy to commit theft in these locations as they housed a lot of materials. Physical violence was rarely exercised and the majority of such offences were committed in two places: the temple gates and the prison.[43] The reason why such offences were more often committed in the gates' area is related to the specificity of the Ancient Near Eastern temple architecture. Temples were entirely surrounded by walls, so the only way to escape was through the gates. However, each of them was watched by one or several gatekeeper(s). If a criminal tried to escape through the gate of the temple, he would be blocked by the gatekeeper, thus resulting in incidents of physical violence. Additionally, an offering box could be found at the gate, watched by a special guard (*amēlu ša ina muhhi quppi*, *maṣṣar quppi*).[44] The location of the cashbox made it easy for criminals to try to seize it. It also seems that, according to the number of criminal activities reported, prison was a most dangerous place. In YOS 7, 97, the prison guard was a victim both of verbal and physical violence, and according to PTS 2185, the prison chief was killed by a prisoner who tried to escape. In Ancient Near Eastern society, prison was not only a place to keep prisoners under arrest but also a workplace. Prisoners had to grind grains in prison. Even if they were shackled (iron shackle, *semeru* an.bar),[45] the prisoners probably had to be able to move a little in order to grind the grains. Hence, it is likely that physical violence occurred, despite the prisoners being fettered.

2. Criminal Geography: the Identity of Criminals

In this section, I will examine the relationship between the geography of the crimes and the identity of criminals. The table below lists 19 cases found in the documentation about offences that occurred in Uruk's temples, with the geography and the identity of the criminals. The criminals are not named in cases described in YOS 7, 170 and YOS 7, 89, therefore, I am unable to identify them.

[43] We can find an occurrence of physical violence in a storeroom, but it happened during the escape, so it does not show the particularity of space.

[44] Joannès 2005: 39. We can find the same situation in Israel: cf. Oppenheim 1947: 117–118.

[45] According to CT 55, 254, the shackles weighed 4.5 kg: cf. Bongenaar 1997: 118–119.

Table 2: Place of offence and identity of criminals

Document	Place of offence	Identity of criminals
YOS 15, 10	*Cella* of Gula	Temple staff
YOS 7, 170	*Cella* of Gula	Unidentified
PTS 2185	*bīt akītu*	Man of West-Semitic origin
YOS 7, 89	*bīt akītu*	Unidentified
YOS 7, 20 + LKU 51	Unidentified sacred place (*bīt hilṣi*?)	Temple oblate
YOS 6, 222 + YNER 1, 3	Courtyard	Priest, temple-enterer
Spar 1979, no. 3	Eanna's gate	Banīya and Eanna-līpi-uṣur (social status unknown)
TCL 12, 117	Eanna's gate	Temple oblate
YOS 7, 137	Prison	Prisoner from Šadmu
YOS 7, 97	Prison	Prisoner, oblate
PTS 2185	Prison	Prisoner, man of West-Semitic origin
YOS 7, 88	Royal storeroom	Temple oblate
PTS 3853	Mušēzib-Marduk's storeroom	Two persons from Uruk
YOS 7, 10	Ištar-aḫ-iddin's storeroom	Iddinaia, son of Lābāši-Marduk, descendant of Egibi, son of the chief baker
YOS 7, 78	Gatekeeper Rēmūt's storeroom	Šamaš-iqīšanni
YOS 7, 42	Gatekeeper Rēmūt's storeroom	Šamaš-iqīšanni, whose uncle had a storeroom in Eanna
TCL 13, 142	Bazuzu's storeroom	Tabnēa, son of Innina-zēr-iqīša
YOS 6, 235	Kizalāqu	Itti-Šamaš-balāṭu, profession unknown
YOS 6, 77	Stable (*bīt urî*)	Kīnaia, son of Kalbaia, gatekeeper

2.1 Oblates and outsiders

Four documents inform us of cases in which the criminals were oblates: YOS 7, 20, TCL 12, 117, YOS 7, 97, and YOS 7, 88. Staff members of the temple were the criminals in two cases: YOS 6, 77 (gatekeeper), and YOS 15, 10 (the title of the man is unknown). In three documents, YOS 7, 10, YOS 7, 78, and YOS 7, 42, the criminals seem to have a family connection with people working for the temple. In the case of YOS 7, 10, the criminal was Iddinaia, son of Lābāši-Marduk, descendant of Dabibi. His father, Lābāši-Marduk, was

the chief baker (*šāpir nuhatimmi*) of Eanna. In YOS 7, 78, and YOS 7, 42, thefts were perpetrated by Šamaš-iqīšanni. Later, he concealed the stolen objects in the storeroom of his uncle. As this latter individual occupied a storeroom in the Eanna temple, he was probably working for the temple.

Several of the offences seem to have been committed by outsiders or persons of unidentifiable social status: PTS 2185; Spar 1979, no. 3; PTS 3853; YOS 7, 137; TCL 13, 142; and YOS 6, 235. In the case of PTS 2185, the criminal seems to have been of West-Semitic origin because his father's name is West-Semitic and one of the criminal's guarantors has a West-Semitic name too. Besides this, I can find no information about his social status connected with the temple, and he may have been an outsider.

2.2 Uncertainties due to scribal habits

Spar 1979, no. 3 records that two people tried to break an offering box. Their names are given in the document, but their fathers' names are not included. We do not know whether this is due to their lower social status or simply to the practice of the scribe. In the case reported in PTS 3853, the offence was committed by two persons whose ancestors' names are not mentioned in the text. However, the case of the victim of this theft, Mušēzib-Marduk, is different. Although only his name and his father's name were written in this document, his affiliation is clear as it is known from another document. He was a descendant of Šigûa, a well-known and prestigious family of Uruk.[46] This means that, if the scribe omitted to give someone's affiliation, this had no social meaning. Thus, we cannot exclude the possibility that thieves could be the descendants of high social status families or could be related to members of the temple staff.

In YOS 7, 137, the criminal was a prisoner coming from the city of Šadmu. He was seized because he had sold his son. In Babylonia, selling one's own child happened only in extreme situations, but it was allowed principally in Babylonian law.[47] The fact that this individual was imprisoned for having sold his son means he probably was the dependent of a great organization or of an important person. In this period, dependent persons could not dispose of their daughters or sons at will. Such an action was considered a violation of property rights because these children were considered to be the property of the great organization or important individual to whom they belonged.[48]

[46] Kümmel 1979: 118, 152.

[47] Oppenheim 1955: 69–89.

[48] In AnOr 8, 74, for example, an oblate blacksmith, property of Ištar, sold his daughter to an Arab man in Babylon where nobody knew him, but the civil authority (the *sartennu* and the *ḫazannu*) recognized the situation and sent his daughter, Nuptaia, back to Eanna's administrators. We do not know the punishment inflicted upon this oblate, but it is clear that his action was problematic.

In TCL 13, 142, the thief was identified as Innina-zēr-iqīša, son of Tabnēa. According to the text, he was originally from a family of lower social status, but the name of the *šutummu*'s owner was not accompanied by the father's name or his ancestor's name, which means the scribe could just have omitted the affiliation of the thief also. No affiliation is given for Itti-Šamaš-balāṭu, the thief cited in YOS 6, 235. However, it appears that at least one member of the temple administration knew him. This means that Itti-Šamaš-balāṭu was, sometimes at least, in relation with the temple.

2.3 Staff members, the first to be suspected

From these legal documents, it appears that offences committed in Uruk's temples were perpetrated by people of various origins and status, from temple-enterers to oblates, from men of high social status to foreigners. In general, access to holy areas, such as the *cella*s and the *bīt akītu*, was strictly controlled. However, according to these documents, persons from vastly different social conditions but always attached to the temple committed offences in these places. It seems more prudent not to consider this fact as a permanent tangible reality: in the court records, when offences were committed, the temple authorities investigated first and foremost the staff who worked in these specific areas. It would seem that at the time, the authorities assumed that offences could be committed above all by people directly associated with this location. As for prisons, of course offences were mostly perpetrated by prisoners, whose social status was generally particularly low.

3. The Control of Offences by the Temple

The previous sections described an investigation of criminal geography and of the identity of criminals. In this part, the manner in which the temple authority prevented and controlled these offences will be examined.

3.1 Control of access: the gate

Uruk's temples were controlled by their own authorities and gates were a crucial point of these controls. Gatekeepers were assigned to all types of gates, from the gate of the *cellas* of gods and goddesses, until the great gate(s) of the temple itself. Gatekeepers not only controlled access but also acted like police officers when necessary.[49] For example, according to YOS 7, 88, when Basīya, an oblate, escaped from the royal *bīt šutummu*, the gatekeeper of the *Bāb*

[49] Pirngruber 2013: 69–87.

Šulmim and the gatekeeper of the *bīt šutummu* pursued him with Laqep, a basket maker (*atkuppu*).

According to YOS 7, 78, Šamaš-iqīšanni committed thefts from the guard Rēmūt's storeroom, apparently with the complicity of Rēmūt himself. Rēmūt promised to open the door to Šamaš-iqīšanni in order to steal the wool stored in a nearby room.

In the first case (YOS 7, 88), after the guard had escaped, the temple authorities assigned an oblate to be the guardian. If the fleeing guard were captured, he could be punished by the temple authorities. In the second case, the temple authority would probably immediately punish the guardian who cooperated in the robbery as a thief. We do not have texts that record such cases, but there are documents that consider the possibility of temple guards committing an offence against other types of property.

For example, NCBT 209[50] records the case of a temple pond in the *binâtu* district that is under the surveillance of a guard. Eanna had property rights over the fish in this pond. The guard had to guarantee his own duty, and the document stipulates that if the guard sold or hid fish, he would be punished and would have to return thirty times the price of the stolen fish.

At that time, the theft of temple property was punished by an ordinary penalty of thirty times the price of the stolen object. This meant that a thief and his associates were punished in the same way.[51]

3.2 Watching the temple

The inner and outer parts of the Uruk temples were guarded. It seems that the guards had to watch these areas as part of their regular duties. This is what made it possible to stop the attempted escape reported in YOS 7, 79. The prisoners who threatened the jailor were caught because people entered the prison to save him. These guards were circulating around the prison, which was located in the temple complex when they heard strange noises coming from there. In addition to a circulating watch, some guards were assigned specific duty positions. According to YOS 19, 115, the temple authority even stationed their watchers on the roof of Eanna.

We do not know how these watchers were selected, but we have detailed testimonies about the supervisors of the outer parts of the temple. Two texts document the nomination of chief supervisors: GC 2, 103, and BIN 1, 169. In GC 2, 103, Pir'u, son of Eanna-šum-ibni, Balāṭu, son of Innin-zēr-iddin, and Arad-Innin, son of Bēl-aḫḫē-iddin, guarantee that they will ensure the

[50] Kleber 2004: 151–153.
[51] Kim 2017: 39–80.

surveillance of Eanna's surroundings (*maṣṣartu ša limīti Eanna*). The first two of them were scribes.[52] The function of the third man is not known.

Eanna's authorities had also given the right to summon oblates who lived in the city to carry out surveillance jobs. In BIN 1, 169, the temple authorities proposed the post of chief supervisor of the oblates to Šamaš-aḫ-iddin, son of Šamaš-nadin-šumi, descendant of Rīm-Anu and to Ea-Kurbanni, son of Nabû-ēṭir-napšāti, descendant of Ea-kurbanni, two policemen-*paqūdu*[53] of Uruk. But they did not agree to ensure the watch of the temple with the oblates, and refused the proposition. As a result, the temple authority stated that they should not summon the oblates. These two documents inform us about how temple authorities tried to recruit non-staff members for their own needs as, for example, scribes and *paqūdu*, in order to keep a watch on areas around the temples. Oblates could thus be summoned despite not being really familiar with this kind of duty. For example, according to YOS 19, 115, a number of different artisans[54] – all of them oblates – were summoned and assigned to surveillance duties. This type of surveillance must have played an important role in preventing offences.

In some key points, the temple authorities appointed special supervisors to protect the temple's property. We may recall the offering box located at the gate of the temple. In order to protect this property, the temple authority appointed someone to take care of the box (*maṣṣar quppi*).

3.3 Control of the temple's dependents

Offences committed in Uruk's temples were sometimes perpetrated by temple dependents. Some documents show us how temple authorities used different methods to control these dependents, who could be suspected of committing offences in the future, such as with oaths and family relationships.

TCL 13, 167 provides an example of using oaths in order to control an oblate. In this document, the temple authority made an oblate take an oath not to act "like an *urdimmu*" at the gate of Eanna.[55] An *urdimmu* was a mythical creature created by the goddess Tiamat.[56] This figure was often placed at the entrance of important buildings. According to Benjamin Dromard, it seems that this oblate had been summoned in order to watch a gate of Eanna, but that he

[52] Pirʾu, son of Eanna-šum-ibni, is attested as a scribe in YOS 17, 302; AnOr 8, 45; TCL 13, 142; YOS 7, 69; YOS 7, 125; and Stigers 1976, no. 32. Balāṭu, son of Innin-zēr-iddin, was also a scribe according to GC 2, 103, and YOS 7, 162.

[53] The *paqūdu* was a policer officer in this period: cf. Pirngruber 2013: 69–87.

[54] *Išpar birmi*, weaver of multicolored clothes; *nappāh siparri*, bronzesmith; *nappāh parzilli*, ironsmith; *pūṣāya*, launderer; and *nagāru*, carpenter.

[55] Cf. Beaulieu 1990.

[56] Beaulieu 2016b: 414.

behaved "like an *urdimmu*" by acting in an inappropriate and crude manner with people passing by. Here, the temple authority tried to use an oath in order to prevent bad behaviour on the part of this oblate, who was causing a public disturbance.[57]

In YOS 7, 77, the temple authority used family relationships in order to control an oblate who had exhibited bad behaviour. According to this document, Šamaš-bēl-kullati, an oblate, son of Lābāši, was shackled and put under the responsibility of his brother, Anu-zēr-ušabši, for the sake of cutting straw in the royal stable. It was officially stated that if he continued to be seen too frequently in cabarets,[58] it would be his brother, Anu-zēr-ušabši, who would receive the punishment instead of him. In this document, the temple authority placed the responsibility for Šamaš-bēl-kullati's behaviour on his brother's shoulders. This is an example of the use of family relationships to try to undo the bad behaviour of a person who was not easy to control.[59]

4. Conclusion

According to the documentation that records offences and their locations, offences committed in Uruk's temples were perpetrated in various places. In cases of sacrilege, more precisely of illegal intrusion into a holy place, the offence is tied to the specificity of the location, it could only be perpetrated in the sacred area. However, theft was committed in a variety of locations in the temple precinct, from *cella*s and chapels to stables. Among these different locations, the storerooms and reserves were the places where theft was the most frequent. Physical assaults were also sometimes committed in the temple, mainly in two places: the prison and the gates.

The offences committed in the temple complex were perpetrated by persons of various statuses ranging from the *ērib bīti* to the oblates, from members of the Urukean nobility to foreigners. Despite strict controls on access, offences could be committed in the *cella*s of gods and goddesses by oblates or outsiders. However, due to the difficulty of knowing the affiliation of each criminal in the documents, the proportion of offences committed by insiders compared to those committed by outsiders cannot be determined.

[57] Dromard 2017: 456–457.

[58] A cabaret was considered a dangerous place. A legal document reports that the temple authority started their investigation to identify who was drinking in the cabaret when an offence was perpetrated in the *cella*s of goddesses (YOS 15, 10); the temple authority thought that visiting the cabaret was bad behavior.

[59] Despite this attempt, the temple authority could not control Šamaš-bēl-kullati. In fact, this man was present in the prison in the document YOS 7, 97 according to which he tried to escape the prison, and committed physical violence against a guard during his attempted escape.

The temple authorities used several methods to prevent offences that might be committed in the temple complex. They tried to strictly control the entrances and exits by appointing guards at each gate of the temple, from the great entrance gate of Eanna to the different *cella*s. In addition, the temple authorities appointed supervisors who controlled the security of the inner and outer areas of the temples. In particular, the temple authorities appointed people to watch significant places where offences could be committed, such as the offering boxes. Furthermore, temple authorities used all kind of legal and family means to control dependents who had behaved badly in order to prevent them from committing further offences.

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PART 4

INSCRIBED ARTEFACTS AS MATERIAL CULTURE

OF TEXTS AND ARTEFACTS: SOME OBSERVATIONS ON NEO-ASSYRIAN TABLETS

BABETTE SCHNITZLEIN*

The focus of this paper is on the material features of Neo-Assyrian cuneiform tablets and how these serve as a source for the study of written culture.[1] So far, the outer appearance of cuneiform tablets has not been analysed systematically, and a general overview of material features and different format types does not exist.[2] A clay tablet was formed, then inscribed while still moist.[3] There was no commercial trade of cuneiform tablets. Hence, there is a close connection between the production of clay tablets, the writing process and the further use of the respective texts.[4] Texts are not simply scribbled down but have a distinctive appearance, content and function.[5] In other words, texts are artefacts.

For the Neo-Assyrian period of the 7th century BCE Karen Radner outlines characteristic types of archival texts – legal documents, letters and scientific

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In the following, reference is made to photographs of the Cuneiform Digital Library Initiative (CDLI, https://cdli.ucla.edu/) whenever feasible.

[1] Approaches for studying the materiality of cuneiform artefacts differ depending on research questions and sources, cf. for example Cancik-Kirschbaum and Schnitzlein 2018.

[2] On clay tablets of different periods, cf. Walker 2014/16 with further references.

[3] On producing and inscribing clay tablets, cf. Taylor 2011.

[4] On reading and writing in Mesopotamia, cf. Charpin 2010a. See also Finkel and Taylor 2015 with many excellent photographs.

[5] See Cancik-Kirschbaum and Mahr 2005.

reports to the king – which are defined by their content, dimensions, shape, organisation and the way they are manufactured.[6] Therein a connection is drawn between tablet formats and Akkadian terms.[7] The first case study of this paper explores the connection of signifier and signified. As an example, the Akkadian term *u'iltu* ("one-columned tablet") will be discussed, which refers to certain archival texts as well as literary and scientific texts. Radner mentions that "Other text types such as administrative lists, literary and scientific works have a less standardized appearance."[8] Text compositions are often known from several manuscripts of different periods and places. Henceforth, the appearance of the respective tablets varies. However, often manuscripts stemming from the so-called library of Ashurbanipal can be recognized at the first glance. In the second case study some of the features of these artefacts will be described. Furthermore, it will be explored how these observations can be brought in connection with the editing process that took place in Nineveh/Kuyunjik.

1. Terms and Objects

No attempt has been made so far to collect and analyse systematically all words belonging to the semantic field of written culture. Going through dictionaries of Akkadian, I assembled a preliminary list of almost 300 terms, which can be attributed to this semantic field. Most probably there are more terms. Around 220 of the words were used in first millennium B.C. Mesopotamia, of which around 35 terms refer to concrete written artefacts. Sometimes the inscription of an object denominates the respective written artefact, for example it is called therein *ṭ/tuppu* ("clay tablet").[9]

While tracking down these objects, I noticed that in many cases, modern drawings of tablets only remotely represent the original. It is not even uncommon to depict a portrait format tablet in landscape format. With hand copies of tablets focusing on an inscription, the depicted format of the hand copy does not necessarily reflect the actual format of the tablets.[10] If measurements of tablets are given, it is sometimes hard to decide which number refers to which side. For this reason, looking at original tablets and photographs is the best way forward.

[6] Radner 1995.
[7] Radner 1995: 71f.
[8] Radner 1995: 65.
[9] Terms for inscribed artefacts used in first millennium BCE Mesopotamia have been discussed in Schnitzlein 2015.
[10] See, for example, on the style of Wilfred G. Lambert's autographs, George 2015: 338–339.

One example of a term for an inscribed artefact is *u'iltu*. In the Neo-Assyrian period, the word is attested in the realm of scholarship. It is used to refer to scientific reports.[11] They were sent to the Neo-Assyrian king and mention outstanding events and cite text series, mainly the astrological series *Enūma Anu Enlil* (Fig. 1).[12]

Fig. 1. K.725
2.7 cm × 5.8 cm × 1.7 cm.
After Thompson 1900, no. 205.

The tablets themselves are landscape-shaped. Sizes and proportions can vary up to a certain degree. K.15 (SAA 8, 140; CDLI P334901) for example measures 2.8 cm in height, 3.7 cm in width, and 1.3 cm in thickness. K.750 (SAA 8, 4; CDLI P336570) is slightly bigger with a height of 4.1 cm, a width of 8.25 cm, and a thickness of 2 cm. Hence, it is roughly twice as wide as it is long. Generally, an astrological report neatly fits into the palm of a hand.[13] The section perpendicular to the principal face is not rectangular but an elongated oval. The left and right edges of the tablets are rather flat, see for example K.121 (SAA 8, 175; CDLI P336509). Depending on the scribe, Babylonian or Assyrian sign forms were used. The height of the signs varies, with K.15 it is around 0.4 cm and with K.121 0.25 cm. Sometimes the reverse is not inscribed as is the case with K.1407 (SAA 8, 358; CDLI P238070).

In the colophons of some scientific and literary texts, one can find the denomination *u'iltu*.[14] The respective tablets stem from Neo-Assyrian sites,

[11] Oppenheim 1969: 127f., n. 8.
[12] For the edition of the reports and further information, see Hunger 1992.
[13] Hunger 1992: xv. See also Radner 1995: 72f.
[14] For the colophons and references to the respective texts, compare Hunger 1968: 180 and the colophons Hunger 1968, no. 198 C and no. 203 G and I.

predominately the so-called *Haus des Beschwörungspriesters* in Assur.[15] Their textual content is rather varied, for example incantations and commentaries. Generally, *u'iltu*-tablets are one-columned. However, there is one counter-example, a tablet from Assur VAT 10162 (HES 2, 92), which contains two-columns of text on each side. About half of the Assur tablets with the denomination *u'iltu* are portrait-shaped, for example VAT 8271 (KAR, 63; cf. Fig. 2) or VAT 13787 (BAM 3, 201; CDLI P285292).

The measurements which I took of artefacts stored in the Vorderasiatisches Museum, Berlin, are slightly larger than the ones of the astrological reports. Their height is 9.1 to 13.5 centimetres, the width 5.1 to 7.2 centimetres and their depth is between 1.7 to 2.3 centimetres.[16] Hence, they are nearly twice as long as they are wide. Landscape-shaped *u'iltu*-tablets were found not only in Assur, for example VAT 8275 (KAR, 44; cf. Fig. 3), but also in Nineveh and Sultantepe.[17] One of these, Rm-II.126 (ACh. suppl., 52; CDLI P424953) even has an Ashurbanipal colophon (Hunger 1968, no. 333).

In Neo-Babylonian texts, *u'iltu* is the most common term for a written document, usually a promissory note or obligation, but sometimes it occurs in reference to other contracts as well. The respective tablets are rather small, pillow-shaped and inscribed parallel to the longer axis. This was the common format for unsealed documents.[18] An example of such a 6th century BCE tablet is depicted on Fig. 4 (VAT 2971; VS IV, 15). Beginning in the second quarter of the 5th century BCE, tablets start to become thicker. In the Hellenistic period,

[15] For a description of this library, cf. Maul 2010.

[16] VAT 8271 (KAR, 63), VAT 8254 (KAR, 230), VAT 8267 (KAR, 62), VAT 8622 (KAR, 33), VAT 13787 (BAM 3, 201), and VAT 13958 (LKA, 137). Their dimensions (height × width × thickness) are: VAT 8271 (10.6 cm [not complete] × 6.3 cm × 2.15 cm), VAT 8254 (9.5 cm × 5.2 cm × 1.8 cm), VAT 8267 (9.1 cm × 5.8 cm × 1.7 cm), VAT 8622 (11.1 cm × 6.5 cm × 2.2 cm), VAT 13787 (11.9 cm [almost complete] × 6 cm × 2.1 cm), and VAT 13958 (13.5 cm × 7.2 cm × 2.3 cm). The colophon of VAT 8622 is not preserved at the place where the term *u'iltu* was most probably written. According to a museum photograph, A 392 (BAM 3, 212) is also portrait-shaped.

[17] According to museum photographs A 259 (BAM 1, 33), A 226 (BAM 2, 191), VAT 8896 (KAR, 114), and A 53 (LKA, 93) are landscape-shaped tablets. The part of the colophon where *u'iltu* must have stood is not preserved with A 259. Images of other landscape-shaped Assur tablets have been published: O. 192 (BAM 3, 199), see Eilers 1933, fig. 9 and 10; VAT 8275 (KAR, 44), see Geller 2000, fig. 8; VAT 8611 (KAR, 150), see Heeßel 2011, fig. 1. The latter has the outer appearance of an Old Babylonian tablet but uses Assyrian palaeography, cf. Heeßel 2011: 376f. A landscape-shaped tablet has been found in Sultantepe (STT, 237). Three landscape-shape tablets have been excavated in Nineveh/Kuyunjik: K.872 (AAT, 58; CDLI P393842), K.8510 (ACh. 2. suppl., 33; CDLI P397660) and Rm-II.126 (ACh. suppl., 52; CDLI P424953). The landscape-shaped tablets are rather small. K.872 measures 4.6 cm × 6.3 cm (incomplete) × 1.8 cm, and Rm-II.126 6 cm × 8.3 cm (incomplete) × 2.4 cm.

[18] Baker 2003: 244 and 255f. For her study Heather D. Baker examined private archival texts from the Neo-Babylonian to the early Achaemenid period, see Baker 2003: 241f.

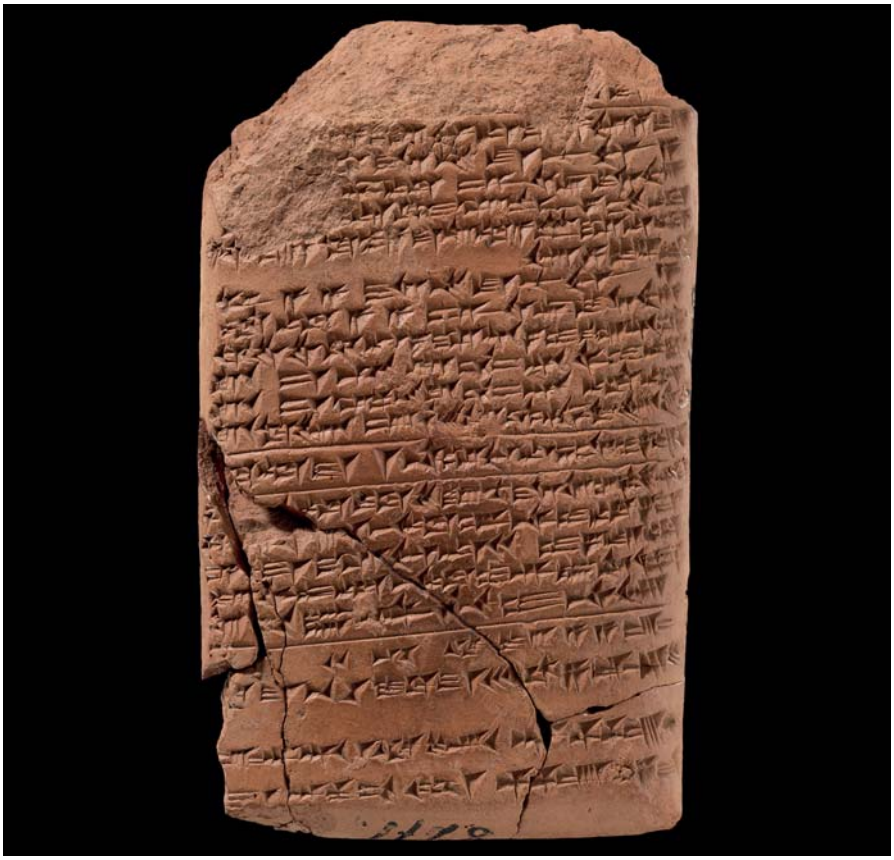

Fig. 2. VAT 8271
10.6 cm [not complete] × 6.3 cm × 2.15 cm.
© Staatliche Museen zu Berlin – Vorderasiatisches Museum Berlin
Photography: Olaf M. Teßmer.

all contract-type tablets were sealed.[19] This change in outer appearance might be the reason that the term falls out of use.

One term can refer to different inscribed artefacts and an artefact can be referred to by different terms. Furthermore, the terminology for written objects is not to be mistaken for a systematic nomenclature of tablet types. In general, *u'iltu* refers to small one-column landscape or portrait-shaped tablets. That said, the content and shape of the tablets can differ considerably. The scientific reports do not have strictly fixed dimensions and proportions but fall into a certain range of sizes. The similar appearance is also a result of the specific

[19] *Ziegelformat*-tablets were used instead of the pillow-shaped ones: cf. Jursa 2005: 4f.

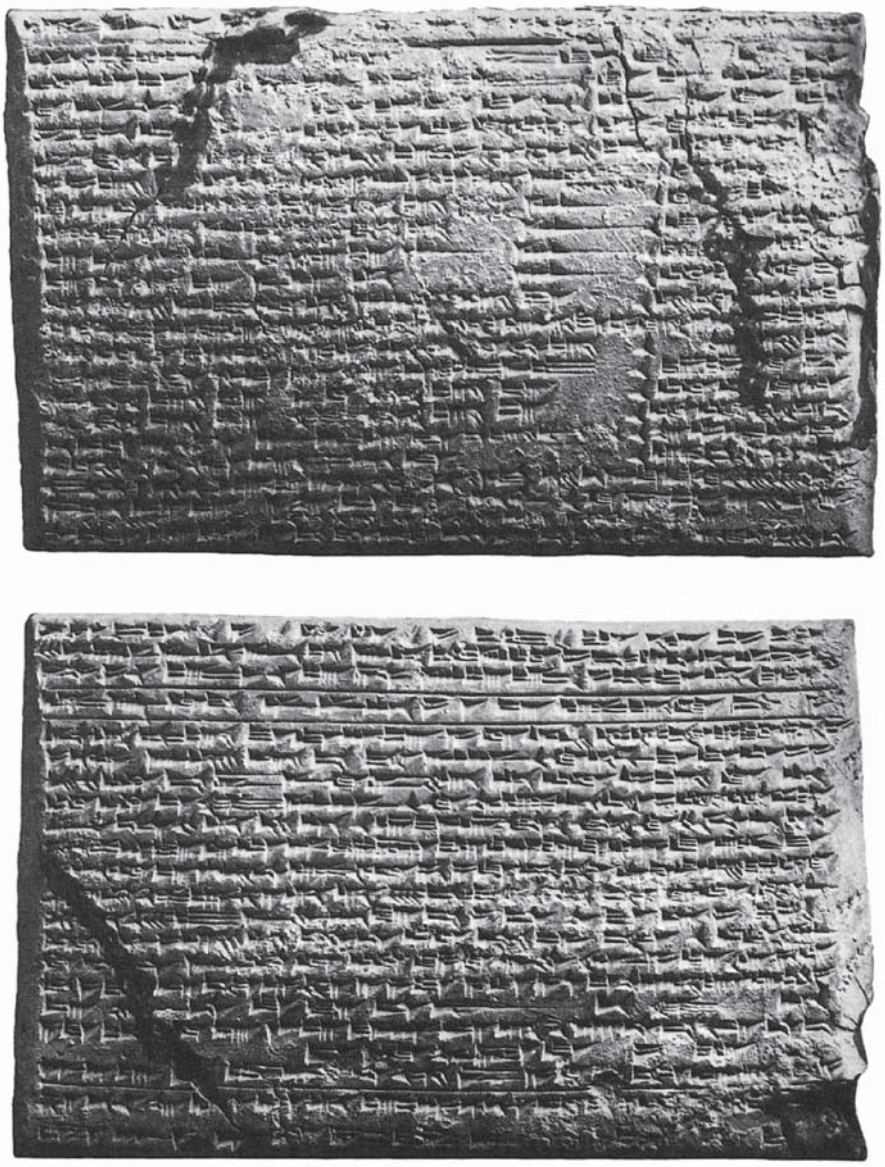

Fig. 3. VAT 8275.
After Geller 2000, fig. 8.

shape of the three-dimensional artefacts. This is also the case with the above-mentioned pillow-shaped tablets. Identifying text types by their specific outer appearance and content is a way to classify inscribed artefacts. With documents being very much standardized, it has been useful to apply the principles of

Fig. 4. VAT 2971
4 cm × 4.95 × 2 cm.
© Staatliche Museen zu Berlin – Vorderasiatisches Museum Berlin.
Photography: Olaf M. Teßmer.

diplomatics – the analysis of the outer and inner characteristics of documents – in Assyriology.[20] The outer appearance does not only play a role in the research on archival texts but also in the study of certain other text groups, for example school tablets[21] and text commentaries.[22]

2. Ashurbanipal's Library Tablets

Sometimes the term "library tablet" is used to refer to often rather big tablets of literary and scientific content which are carefully finished, even though the existence of libraries in the Ancient Near East is very much contested.[23] The single probably most famous collection of literary and scientific texts is the so-called library of Ashurbanipal, which was unearthed in Nineveh/Kuyunjik.[24] It consists of tablets inscribed in both a Babylonian and Assyrian ductus. Many of the latter have a colophon mentioning Ashurbanipal, like the above-mentioned *u'iltu*-tablet Rm-II.126. These tablets are also known for their characteristic outer appearance. This implies distinctive design guidelines which go hand in hand with the fashioning of the tablets. Even though the collection has so far not been studied as an entity, some preliminary remarks about the outer appearance of Ashurbanipal's library tablets are possible.

[20] Charpin 2010b: 25–42.
[21] Gesche 2001: 43–57.
[22] Frahm 2011: 28–37.
[23] See for example Hilgert 2013.
[24] For the library compare Fincke 2003/04, and Frame and George 2005.

Firstly, the tablets use a fine clay with inclusions of up to one millimetre, but large stone inclusions are not rare.[25] The clay was beaten, spread out thinly and then folded. There is an inner core out of folded layers of clay around which another layer of clay was attached.[26] The surfaces were carefully finished. Sometimes traces of tools used are still visible, as is the case with the left, right, upper and lower edges of K.61 (BAM 6, 578; CDLI P393735). This kind of treatment is not restricted to Assyrian tablets with Ashurbanipal colophons but can be noticed for example, with the Babylonian tablet K.45 (CT 40, pl. 1–4; CDLI P237769; see Fig. 5).[27]

Fig. 5. Upper edge of K.45.
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The obverse surface of tablets in Ashurbanipal's style is nearly flat and the reverse curves slightly outwards. The longer edges of the tablets do not form straight lines but bend towards the middle of the tablets. One example of such a tablet is the portrait-shaped tablet K.59 (Koch 2005, no. 65; CDLI P393734), which measures 21.5 cm × 10.2 cm × 2.5 cm. This is also the case with smaller tablets, like the landscape-shaped tablet K.116 (CT 39, pl. 22; CDLI P366123). It has a height of 4.8 cm, a width of 8.9 cm, and a thickness of 1.3 cm. Hence it is not even half of the size of K.59. Regardless of being inscribed in landscape or portrait format, the shorter edges of a tablet have a characteristic design. They bulk outwards. The transition between edge and surface seems to be angular and forms a bent line between one corner to the other, as can be observed, for example, with K.71b (BAM 6, 575; see Fig. 6). By the way, K.71b is a large tablet with two columns on each side; its height is 29 cm, width 17.5 cm, and thickness 3.4 cm.

The library tablets can be hand-sized or bigger than an A4 sheet of paper. Bigger multi-columned texts are usually written on portrait-shaped tablets. Yet,

[25] As Jon Taylor pointed out in an email, received 2 December 2020.
[26] On how to manufacture a clay tablet, see Taylor 2011: 11f.
[27] As Jon Taylor states in an email, received 2 December 2020, this kind of tool marks are a wider phenomenon, for example they can be observed with the UET 6 texts.

there are exceptions to this rule, like K.2252 (George 2003, pl. 118–123; CDLI P273204) which is landscape-shaped and has three columns of text on each side. Small one-columned tablets can be landscape as well as portrait-shaped. The thickness depends on its dimensions. Nevertheless, there are certain tendencies. Generally, the thickness is between 2–3.5 cm. The depth of portrait-shaped tablets with a height between 20 to 30 cm is between 2.5 cm and 3.5 cm. Smaller tablets tend to be less thick.

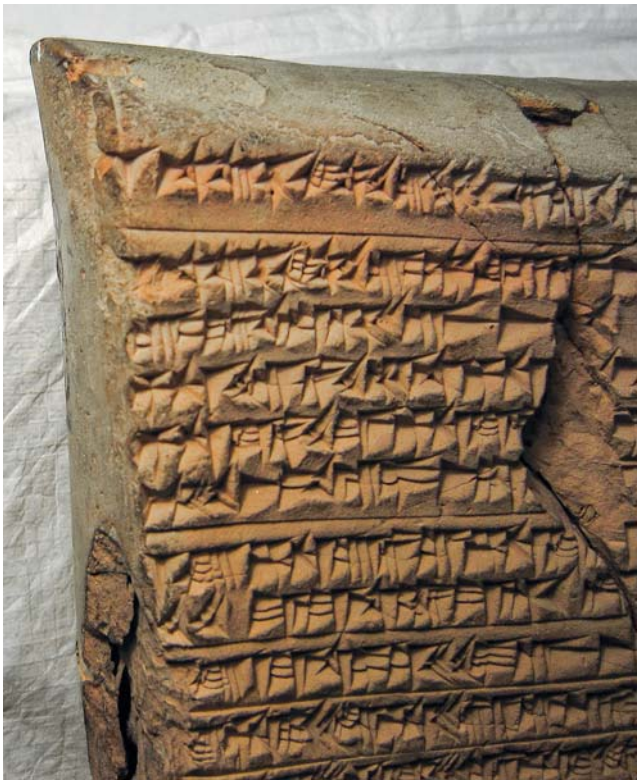

Fig. 6. K.71b.
© The Trustees of the British Museum.

One well-known tablet type is also attested in the Library of Ashurbanipal, the so-called "im.gíd.da-tablet" or "long tablet". These are one-columned portrait-shaped tablets, often used for incantations and laments. In Nineveh, their length is over 20 cm and their width about 10 cm. An example is K.43 (Schwemer 2017, pl. 1–5; CDLI P393726) with the dimensions 28 cm × 10.4 cm × 3.4 cm.

Then again, it is assumed that there are in general no standardized tablet sizes. A tablet was formed to contain a specific text. I wonder if the Ashurbanipal aesthetics do not demand specific proportions, or to be more precise,

a specific ratio between the long and the short side. Portrait-shaped tablets often have a ratio of length to width between 1.54 to 1.66. This is, for example, the case with the already mentioned two-columned tablets K.61 and K.71b, which do have similar dimensions, or the one-columned tablet DT.1 (BWL, pl. 31–32) with the dimensions 15.2 cm × 9.5 cm × 2.8 cm. The ratio corresponds roughly to the so-called golden ratio, which is approximately 1,618. Expressed algebraically $(a+b):a=a:b$, in our case a is the height and b the width of the tablet, approximately 8:5.

On some library tablets there are barely recognizable horizontal and vertical lines, with which the tablets were lined before impressing the signs. These should not be confused with column or paragraph lines. On Fig. 7, a detailed photograph of K.4386 (CT 19, pl. 17–19; CDLI P365399), one can notice some of the still visible vertical lines which were impressed with a string.

Fig. 7. K.4386.
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The use of a string for setting vertical lines is common with tablets inscribed in the Assyrian type of cuneiform.[28] The vertical help lines indicated the place

[28] The use of string by Assyrian scribes has been noted by a number of Assyriologists, see for example Bezold 1904: 267, Taylor 2011: 15, and Fincke 2014: 275–277. As is to be expected within a manuscript culture there are some exceptions to this rule, compare for example George 2003: 383.

of certain sign groups. On Fig. 8, a detailed photograph of K.61, there are still barely visible horizontal lines, which determined the exact place of the colophon lines and the space in between. The visual organisation of the text implies a conception of the layout in advance. To argue anachronistically, there must have been a typography of cuneiform script, even though no antique handbooks have been found. The layout was clearly an important issue for the Assyrian scribes, as was the appearance of the whole tablet. The clearly structured layout of the library tablets allows users to navigate the text without reading it as a whole. This leads to the assumption that silent reading might have been practiced.[29]

Fig. 8. K.61.

Generally, the obverse and reverse of the tablets of Ashurbanipal's library are completely inscribed. The edges are usually left blank. Horizontal and vertical lines serve to further structure the content. The tablets use the Neo-Assyrian script. The Mesopotamian wedge order which was established by the mid second millennium BCE is also followed by Neo-Assyrian cuneiform.[30]

The Neo-Assyrian ductus of Ashurbanipal's tablets has a very distinctive appearance (K.65; cf. Fig. 9). The signs in one line do not overlap. Their length is generally between 2 to 3 mm. Individual scribal hands are hard to differentiate.[31] The inscription looks "printed". Hence there is an Ashurbanipal ductus or in other

[29] On reading silently and out loud, cf. Charpin 2010a: 41f.

[30] Taylor 2015. Conducting research on originals Jon Taylor found out that the order of how wedges of a sign were impressed was fixed in the Neo-Assyrian Period. Comparing this wedge order to the one found in cuneiform tablets of other periods, he suggests that a Mesopotamian wedge order was established by the mid second millennium and lasted until the end of the use of cuneiform.

[31] Even though, a "fine-tuning" might be possible, see for example Bezold 1904: 272f., George 2003: 382–384, Lambert 2007: 10f., Jiménez 2014: 105, and Schwemer 2017: 43–50.

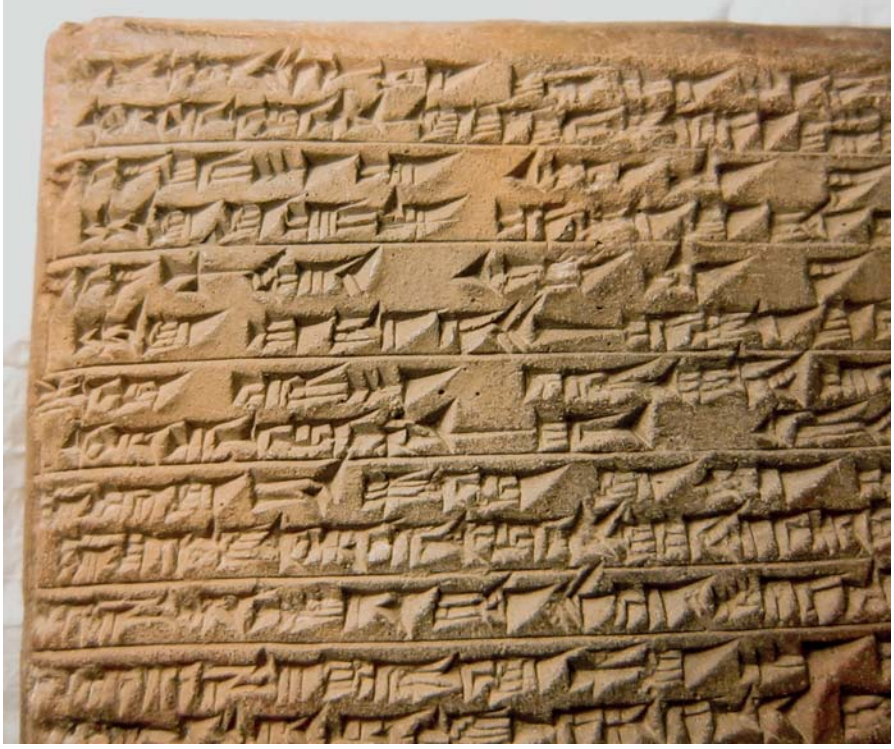

Fig. 9. K.65.
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words "font", which was introduced exactly for writing down scholarly tablets for his libraries.[32]

Ashurbanipal's library tablets follow certain design guidelines. These are based on the knowledge of how to fashion and inscribe clay tablets or, to put it in other words, on the technology of cuneiform writing. The tablets were the result of the Ashurbanipal's editing project. From different parts of his empire, tablets and wax boards were collected. Based on these, new editions of the scholarly texts were issued.[33] Not only the outer appearance of the tablets but the text compositions themselves give ample evidence of the editing process. Colophons serve as additional sources, like Ashurbanipal-colophon q (Hunger 1968, no. 329):[34]

[32] Enrique Jiménez was very kind to let me know that there are some Assur tablets displaying a very similar ductus, for example VAT 10148, personal communication 29 October 2020. Two letters from Assur, SAA 10, 101 and SAA 10, 102, imply that tablets for Ashurbanipal's library were written in Assur.

[33] Fincke 2003/04, and Frame and George 2005 with further references.

[34] On this colophon Geller 2018: 49f.

1. é.gal ^{m}an.sár-dù-a man šú man ^{kur}an.šár^{ki} *ša* ^{d}ag *u* ^{d}*taš-me-tu$_4$* geštu.min *ra-pa-áš-tu$_4$ iš-ru-ku-uš*
2. *e-ḫu-uz-zu* igi.min *na-mir-tu$_4$ ni-siq ṭup-šar-ru-ti*
3. *ša ina* lugal.meš-*ni a-lik maḫ-ri-ia mám-ma šip-ru šu-a-tu la e-ḫu-uz-zu*
4. *bul-ṭi* ta *muḫ-ḫi* en umbin *liq-ti* bar.meš *ta-ḫi-zu nak-la*
5. *a-zu-gal-lu-tú* ^{d}*nin-urta u* ^{d}*gu-la ma-la ba-áš-mu*
6. *ina ṭup-pa-a-ni áš-ṭur as-niq* igi.kár-*ma*
7. *a-na ta-mar-ti ši-ta-si-ia qé-reb* é.gal *ú-kin*

"Palace of Ashurbanipal, king of the world, king of Assyria, to whom Nabû and Tašmetu gifted broad understanding, (who) acquired clear vision (and) the apex of scribal art, work which none of the kings who walked before me learnt. Recipes from head to the (toe-)nail, non-standardised selections, elaborate teaching, healing art of Ninurta and Gula, as much as there is I wrote on tablets, checked and collated and placed in my palace for reading and my lecturing."

This colophon type appears on manuscripts of the Nineveh Medical Compendium which display a similar outer appearance, which has been interpreted as a sign for the standardisation of this composition.[35] Two examples have already been discussed, tablets K.61 and K.71b. The colophon can be spread out in 6 to 8 lines. After a single ruling, the catchline and the rubric are usually noted before the colophon. Rarely is the rubric missing, as is the case with K.61. Further references to the scribal process which can appear in other Ashurbanipal's library tablets are not attested. The use of signs between the different manifestations of this colophon type is very much consistent. Minor deviations can be explained with it being a manuscript culture.[36]

To this date only the Babylonian manuscripts found in Kuyunjik have been subject to a systematic study conducted by Jeanette C. Fincke.[37] The preserved colophons rarely mention the name of the scribe: often only information about the scribal process or the title of the composition are given. Different handwritings can be noticed, even though there is a ductus which most of the Babylonian tablets Nineveh observe.[38] K.45 (CT 40, pl. 1–4; CDLI P237769), for example, uses this typical ductus and has the note *ki-ma* sumun-*šú* sar-*ma ba-rù* "written and collated according to its original". It is a one-column portrait-shaped tablet with the dimensions 20.7 cm × 11.4 cm × 3.4 cm. With a few Babylonian tablets displaying an Ashurbanipal colophon, a connection between Babylonian tablets and Ashurbanipal's library tablets has been established.[39]

[35] Panayotov 2018: 109f., with a list of the published manuscripts. Compare Panayotov 2018 for a presentation of this compendium.

[36] The use of logograms is very consistent. Sometimes the sign used for a syllable can vary.

[37] Finke 2003/04 and Finke 2014.

[38] Fincke 2014.

[39] Fincke 2003/04: 124, n. 112. The mentioned tablets are K.2880 (Koch 2005, no. 34A [Ms A]), K.2912 (Koch 2005, no. 115), K.16799 (Koch 2005, no. 34A [Ms B]), Rm.231, and K.9118. Another example is Rm.227 (Koch 2005, no. 55).

Apart from the tablets in Ashurbanipal's style and the above-mentioned Babylonian texts, a number of other Assyrian manuscripts were unearthed in Nineveh/Kuyunjik. Around 100 tablets belonged originally to the scholar Nabû-zukup-kēnu and were written in Kalḫu/Nimrud in the period between 716–683 BCE, hence well before the reign of Ashurbanipal.[40] A thorough analysis of all colophons attested might help to further shed light on how the tablets were assembled and edited.

3. Conclusions

For the study of material culture, realia are very much important. However, one should be cautious to confound terms with categories. One term can refer to different artefacts and the other way around. There may well be disparities in the use of words depending on the period and region. Text types are defined by their outer appearance and content. When discussing the tablets referred to by the term *u'iltu*, it became obvious that mentioning the specific dimensions of a tablet, and noting if it is inscribed parallel to the longer or shorter axis, does not suffice to describe its shape. Often a text type falls in a certain range of sizes. Tablets do not have completely flat surfaces and edges. Hence, their three-dimensionality should be considered as well when describing their outer appearance. With the library tablets of Ashurbanipal certain similarities in shape can be noticed even so the specific sizes of the tablet differ considerably. Furthermore, it has been suggested that the ratio of height and width plays a role in fashioning these tablets. Taking a closer look one finds traces of the production and writing process. That said, one should not dismiss the literary and scientific texts and their colophons as sources. The library of Ashurbanipal is the "black box" of Assyriology. Because of its early discovery and the amount and variety of literary and scientific texts found, it is central in the discourse about knowledge and its transfer. With a systematic study of this collection one might be able to find out more about the editing process that took place in Nineveh, and shed light on the function and purpose of this manuscript collection.

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[40] For a discussion of this collection compare Frahm 2011: 265–267 and May 2018.

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NEO-ASSYRIAN AND NEO-BABYLONIAN INSCRIBED CYLINDER SEALS: TWO PRAYERS

ZOLTÁN NIEDERREITER*

This paper focuses on seal texts dealing with prayers, known from Neo-Assyrian and Neo-Babylonian cylinder seals and from their sealings. There is no comprehensive study on the corpus of seal legends dated to these periods, which cover roughly the first half of the first millennium BCE (*circa* 1000–500 BCE).[1] Compared to the great number and diversity of prayers on inscribed Kassite seals, these cylinder seals provide only a few examples of prayers. In the framework of the Austrian-French project (2019–2022) "The Material Culture of Babylonia during the First Millennium BC", we intend to collect the Neo-Assyrian and Neo-Babylonian seal legends in a catalogue and classify them into genres, types, variants, etc. In the followings, we present the preliminary results, representing two prayers.

* Zoltán Niederreiter <zniederreiter@gmail.com>; MTA-ELTE Lendület Neo-Assyrian and Neo-Babylonian Cylinder Seals and Divine World Research Group. The present paper was given at the Second MCB Workshop *Material Culture, Religion and Daily Life in the First Millennium BCE Babylonia* (December 16–17, 2019) in the Musée d'Archéologie Nationale, Saint-Germain-en-Laye. "The Material Culture of Babylonia during the 1st millennium B.C." research project funded my research on the present manuscript. As for the seal images studied here, we describe them as they appear on the seal impressions. Regarding the seal legends, we note that they are engraved in positive on the cylinder seal and therefore come out reversed in impression, where they can be read from right to left. In this paper, the images presented of and related to the seal legends are mirror images, flipped in order to facilitate their reading. For the cylinder seals studied here, all the significant data (i.e., provenance, collection, material, dimensions, inscription, and bibliographical references) are presented. The images (figs. 1–14) were either collected from publications and museum archives, or the present author made the drawings and the photographs. I was able to examine five cylinder seals (1.4, 1.5, 2.1, 2.5, 2.6), three modern seal impressions (2.4, 2.7, 2.8), and two sealings (1.2.a and 1.2.c) directly. I have also corrected the previously published information when necessary. I am very grateful to the Institute of Near Eastern Archaeology of the Freie Universität Berlin (2.4), Sidney Babcock (Morgan Library & Museum: 2.7), Amy Landau (The Walters Art Museum, Baltimore: 1.4, 2.1, 2.6), Agnete W. Lassen (Yale Babylonian Collection: 2.8), and Jonathan Taylor (the British Museum: 1.2.a, 1.2.c, 1.5, 2.6), who allowed me to study the objects. I am indebted to Francis Joannès and the editors of the present volume for their helpful comments and stylistic suggestions. All textual and philological errors are mine.

[1] Watanabe 1993a provides the Neo-Assyrian seal legends, along with further published or recently discovered objects in later papers (Watanabe 1993b, 1994a, 1994b, 1995a). Among the newly identified objects, the present author published some of the cylinder seals (Niederreiter 2015 and 2016). For the Neo-Babylonian legends known from the cylinder seals and their sealings, we can note the following papers: Wittmann 1992 and 1993; Watanabe 1995b; Reiche and Sandowicz 2009.

1. "I Have Trusted in You, May I Not Be Put to Shame, O God!" (*Atkalka Ayy-Abâš* Dn)

In her paper "An Old Neo-Babylonian Seal with Cock", Michaela Weszeli (2018) made the first edition of the inscription[2] engraved on a Neo-Babylonian cylinder seal (1.1) published by Otto Weber in 1920. As for the seal text, Weszeli mentions the AO 2273[3] Kassite cylinder seal from Nippur and concludes that "It is the only seal inscription comparable to Weber's we have." (Weszeli 2018: 256). The present section reveals that the publication by Weszeli is not the only example of this prayer from the first half of the first millennium BCE seal corpus; as far as we know, there are further four seal legends (1.2–1.5) which consist of this prayer, mentioning different deities: Marduk (1.4), Nabû (1.2, 1.5), and Nanaya (1.3). One of them is a well-known Neo-Assyrian example (1.2); two others are Neo-Babylonian (1.3 and 1.4), and one is Assyro-Babylonian (1.5). Among them, the seal texts of two objects, known since 1888 (1.3) and 1939 (1.4), are presented here for the first time.

1.1 Cylinder seal

This cultic scene represents a priest standing before a cock on a cult dais. The shaven-headed, beardless figure is depicted with an upraised right hand, whose open palm is held in front of his mouth. He wears a long, belted robe whose lower part terminates in a long fringed hem, while an almost vertical line running from the belt to the lower hem marks the pleat of the robe. The cock is depicted on the cult dais (*parakku*), which has an upper and a lower rectangular element with vertical lines depicted between them. On this Neo-Babylonian, modelled-style image, the cultic scene takes two-thirds of the available field, while there is a narrow empty band and the seal legend behind the figures. The two-line inscription is divided by a ruled line, and another ruled line closes the inscription.

Provenance	unknown
Collection	present whereabouts unknown, formerly kept in the Collection of Prof. Dr. Sarre in Berlin (Slg. Sarre I 2–3)
Material	"Calcedon"
Dimensions	height: 17 mm; diameter: unknown

[2] "I trust in you, o Ninurta, may I not come to shame." (reading of Weszeli).
[3] Delaporte 1923: 157–158 no. A.605 and pl. 85: 6; Limet 1971: 111 no. 9.6.

Fig. 1. Cylinder seal 1.1.
Based on Weber 1920: 93 fig. 463a.

Inscription

1.	*at-kal-ka*	I have trusted in you,
2.	^{d}maš *a-a-ba-áš*	o Ninurta, may I not be put to shame!

Bibliography Weber 1920: 93 fig. 463a; Steymans 2014: 77, 97 no. 211, and 560 fig. 11; Weszeli 2018: 256 (fig. 1).

1.2 Three seal impressions (a–c)

This Neo-Assyrian seal text is known due to three seal impressions (1.2.a–c) discovered during the excavations of Kalḫu, in Room K (1.2.a and 1.2.b) and

Fig. 2. Seal impression 1.2.a.
Photograph of the author with the permission of the Trustees of the British Museum.

Room K/M (1.2.c) of the Governor's Palace. The cylinder seal was the property of Bēl-tarṣi-ilumma, the eunuch of Adad-nērārī III (810–783 BCE).[4] It is of large size (estimated height *ca.* 50 mm; preserved height 35.5 mm with the impressed border; height of the upper metal mount 4.1 mm, height of the lower metal mount 4.4 mm). The seal image, insofar as it is possible to reconstruct it based on its impression, depicts a cultic scene in which a beardless worshipper, the seal-bearer, appears in front of Ninurta mounted on his mythical creature.

The seven-line inscription is divided by ruled lines; there is also a ruled line before the first line of the inscription, and another closes the inscription. Besides the high quality of the object and its well-detailed iconography, we can remark that its seal legend is the longest among the texts engraved on Neo-Assyrian official seals. This example, dated to the reign of Adad-nērārī III (810–783 BCE), provides the earliest example of the prayer, studied here, from the first millennium BCE seals.

Provenance	Kalḫu, Governor's Palace: Room K (the archive room) (1.2.a–b) and Room K/M (1.2.c)
Collection	1.2.a: the British Museum: ND 476 (2005-5-27, 78), 1.2.b: the Iraq Museum: ND 252k, 1.2.c: the British Museum: ND 240b

[4] Brinkman 1999: 332–333, Bēl-tarṣi-ilumma 1. For a recent study on him, see Fales 2012: 119–128, 2; Niederreiter 2015: 130, 126–127, 134–137 no. 1.a–c; Niederreiter 2016.

Dimensions height: 35.5 mm; estimated circumference *ca*. 50 mm (the height is given at the impressed borders of the mounts; height of the upper metal mount: 4.1 mm, height of the lower metal mount: 4.4 mm)

Inscription

1.	[k]išib ^{m}en–lal–diĝir-*ma*	(Cylinder) seal of Bēl-tarṣi-ilumma,
2.	*šá* saĝ *šá* ^{m}10–érin.táḫ	the eunuch of Adad-nērārī (III),
3.	man šár *šá-kìn* uru.*kal-ḫi*	king of the Universe, governor of the city Kalḫu,
4.	kur.[*ḫa-me-d*]*i*? kur.*te-me-ni*	the lands [Ḫamed]i, Temenu
5.	[kur.*i*]*a-lu-na*	(and) Ialuna.
6.	*at-kal-ka*	I have trusted in you,
7.	*a*-[*a-ba*]?-*áš* ^{d}muati	may I not be put to shame, o Nabû!

Bibliography Wiseman and Kinnier Wilson 1951: 114, ND 476; Parker 1955: 110–111, ND 476 and pl. XXI, 1; Postgate 1973: 8–10, (a): 101–102, 248 no. 66 (ND 476), pls. 35: 66 and 95d, (b): 176–177, 249–250 no. 170 (ND 252k), pls. 62: 170 and 95c, (c): 177–178, 250 no. 171 (ND 240b), pls. 62: 171 and 95a–b; Watanabe 1993a: 112–113 no. 5.2 and 133 pl. 3; Niederreiter 2015: 136 no. 1.a–c (with mention of further bibliographical references).

1.3 Cylinder seal

In the previous research, the only known mention of this cylinder seal, present whereabouts unknown, is in the catalogue of the De Clercq Collection. According to the description of Louis De Clercq and Joachim Menant, the object is made of "améthyste claire", and its dimensions are height: 20 mm; diameter: 11 mm. On the cultic scene, the bearded worshipper raises both hands, with his open right palm turned upwards. He has a brimmed, rounded headdress under which two holes mark the shoulder-length hair. He is dressed in a long robe with a fringe running along it. In front of him, the stylus (symbol of Nabû) and the spade (symbol of Marduk) are on the same stand. Above the divine symbols, the crescent moon appears at the height of the worshipper's head. The divine stand is disposed slightly higher than the worshipper's foot level. The seal legend is engraved behind the worshipper.

The three-line inscription is divided by ruled lines, and another ruled line closes the inscription. On the seal legend, De Clercq and Menant 1888: 200 no. 371 notes "La transcription des deux premières lignes et leur traduction sont très incertaines ; on peut supposer que la dernière renferme le nom du dieu

Fig. 3. Cylinder seal 1.3.
The images are based on De Clercq and Menant 1888:
pl. XXXIV: 371 and 200 no. 371.

Nebo écrit Na-bi-uw." The catalogue also provides a copy of the legend (the cuneiform signs are arranged as they appear on the impression). It is notable that this drawing shows the text in a damaged state, unlike how it appears on the image made of the seal impression. The seal text provides the first attestation of Nanaya in seal legends from the first half of the first millennium BCE.[5]

[5] For seal legends dated to previous periods and mentioning Nanaya, see Stol 1998: 149 § 6.1.

Provenance unknown
Collection present whereabouts unknown, formerly kept in the De Clercq Collection
Material "améthyste claire"
Dimensions height: 20 mm, diameter: 11 mm
Inscription

1.	*at-kal-ka*	I have trusted in you,
2.	*a-a-ba-áš*	may I not be put to shame,
3.	^{d}*na-na-a*	o Nanaya!

Bibliography De Clercq and Menant 1888: 199–200 no. 371 and pl. XXXIV.

1.4. Cylinder seal

Provenance unknown
Collection The Walters Art Museum, Baltimore[6]: WAG 42.791, acquired by Sadie Jones (Mrs. Henry Walters) through sale by Joseph Brummer (New York) in 1931
Material "chalcedony"
Dimensions height: 37.4 mm, diameter: 17.6 mm
Inscription

1.	*at-kal-ka a-a-ba-áš*$^{!}$	I have trusted in you, may I not be put to shame,
2.	^{d}amar.utu arḫuš tuku.a	o Marduk, have mercy!

Bibliography Gordon 1939: 30 no. 101 and pl. XII.

The upper and lower chipped edges and the two extra-large chips above could have occurred when the metal mounts were removed. In this contest scene, the bearded man wearing a tiara is dressed in a belted long robe with two rows of fringes and terminating in a fringed hem. The barefoot figure holds a mace in his lowered right hand and grasps the right foreleg of the rampant bull, whose head is turned backwards. The two figures' proportions and detailing attest the Neo-Babylonian modelled styl.e. The contest scene takes less than two-third of the available field, while there is a narrow empty band behind the bull, and the seal legend is behind the hero.

[6] Gordon studied only the "plaster impression of cylinder (WAG C29) (Gordon 1939: 30 no. 101), since his paper does not provide the material or the dimensions of the object. However, cylinder seal WAG 42.791, which the present author was able to study (05/2016), is kept in the collection.

Fig. 4. Cylinder seal 1.4. Based on Gordon 1939: pl. XII: 101.

The two-line inscription is divided by a ruled line and there is another ruled line before the first line of the inscription while a third one closes the inscription. The last sign of each line of text overruns the three ruled lines. Between the bull and the seal text, the field is left empty. As for the seal legend, Cyrus H. Gordon (1939: 30 no. 101), who labelled the object "suspect", notes "The inscription, which is to be read directly from the seal, is problematic and suspect. The first line reads *AD ??? A A A BA B*[*A*]; the second begins with *DINGIR* and ends with *ZA*." Based on the only image made of the seal, the following notes are needed: the last sign, transliterated as *áš*[1], in line 1 consists of three horizontals of different lengths, with damaged ends, and the hardly visible vertical sign dividing them is heavily damaged by a chip; in line 2: sign DINGIR inscribed in sign ARḪUŠ is simplified, and sign TUKU is shaped without the second Winkelhaken.

1.5 Cylinder seal

Provenance	unknown
Collection	British Museum: BM WA 89145 – 1856-5-2, 26; acquired by J. K. Lynch
Material	"quartz carnelian: dark orange-pink"
Dimensions	height: 17 mm, 36.5 mm; diameter: 17 mm
Inscription[7]	

1.	nir-*ka* nu téš ^{d}muati	I have trusted in you, may I not be put to shame, o Nabû!
2.	du.du-*ka* egir-*ka*	Let me follow you.
3.	tuku *maš*(text: *ni*)-*re*	Make (me) enjoy wealth,
4.	meš (*me* in line 4, *eš* in line 5)	increase
5.	ti	(my) life.

Bibliography Collon 2001: 187–188 no. 381 and pls. XXXII and XXXVIII (with mention of further bibliographical references).

This cylinder seal shows an antithetical contest scene depicting a four-winged hero between two rearing winged bulls. The bearded hero wears a headband and a belted long robe whose opening at the front reveals his tunic. The upper part of his dress is decorated with a hexagon-and-dot pattern, while the open long robe, similarly to the tunic below the belt, consists of a diagonal quadrate net- or square-patterned decoration. The decoration of the inner side of the robe between the legs and the lower part of the tunic consists of a band of dotted squares. The hero grasps one of the forelegs of each winged bull. Dominique Collon mentions this very-high quality modelled-style contest scene along with other Assyro-Babylonian seals as the artefact of a late-eight century royal workshop, probably from the reign of Sargon II (721–705 BCE).[8] The seal legend appears behind the two winged bulls.

Concerning the five-line inscription, lines 1–3 of the inscription are divided by ruled lines, and another ruled line is before the first line of the text. In line 1, the studied prayer, written in Sumerian, includes the phonetic complement (*-ka*) in *atkalka*. Wilfred G. Lambert transcribed the line as *takilka la ibāš Nabû* with the following translation: "Let him who trusts in you not be put to shame, O Nabû." Based on the previous examples, we suggest the transcription *atkalka ayy-abâš Nabû*; taking into account the use of Sing. 1 instead of Sing. 3 concerning the subject, we modified Lambert's translation. It is probable that the

[7] Transliteration and translation are partly based on Wilfred G. Lambert (Collon 2001: 187 no. 381). For another reading of the text, see Watanabe 1993a: 127 no. 10.2 and 138: pl. 8.

[8] Collon 2001: 4–5, I.4.2.5.

Fig. 5a. Cylinder seal 1.5. Mirror images made of the legend of cylinder seal BM WA 89145 – 1856-5-2, 26.
Photograph of the author with the permission of the Trustees of the British Museum. Drawings © Zoltán Niederreiter.

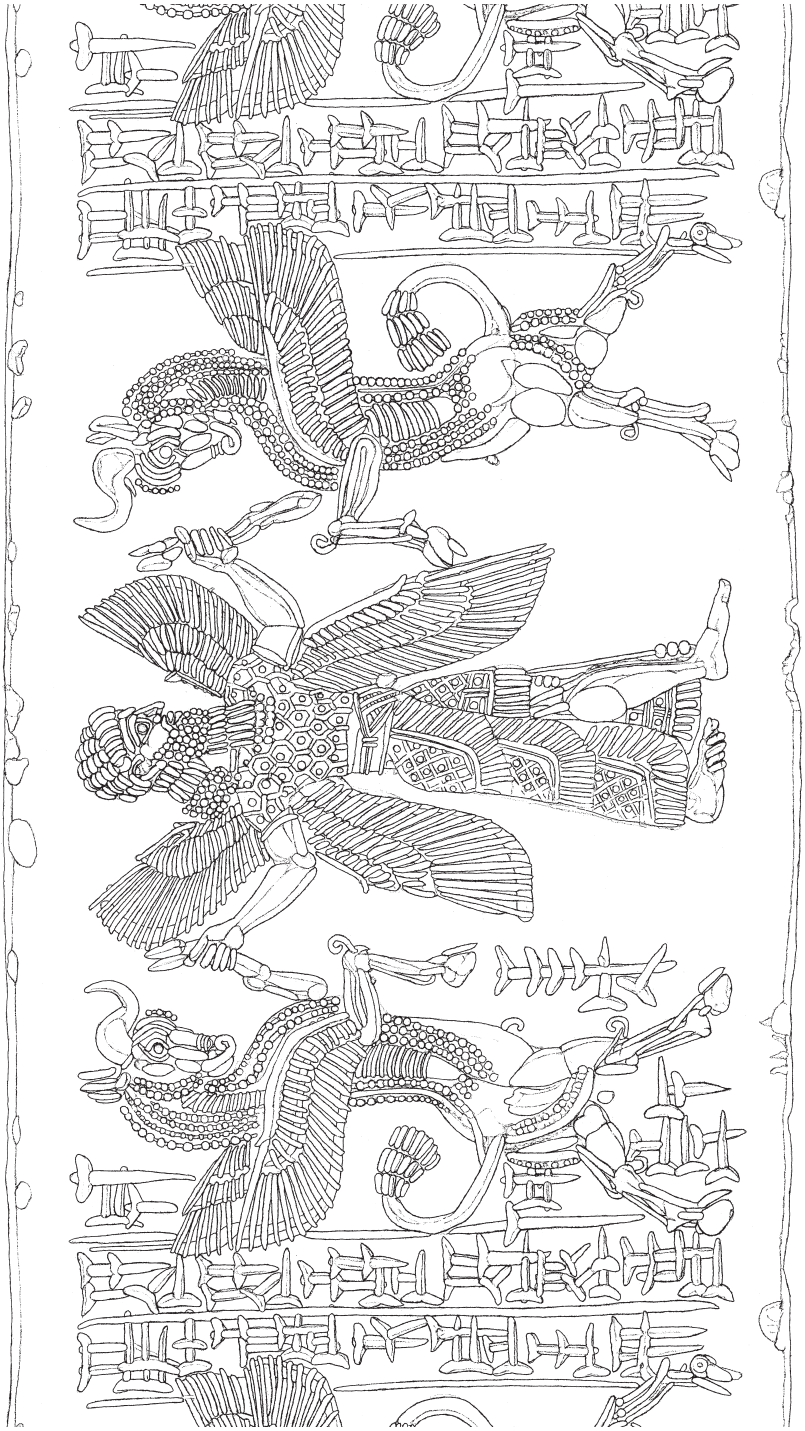

Fig. 5b. Cylinder seal 1.5.
Drawing © Zoltán Niederreiter.

small fragment of a cylinder seal BM WA 123329 – AOC 56[9] provides the same prayer, though only its beginning remains to us:

1.	nir.ĝ[al$_2$-*ka* […]	]	I have trus[ted in you], …

1.6 Appendix: ND 4304 pebble mentioning the prayer "*atkalka ayy-abâš* DN"

Finally, it is worth mentioning the rough brown or red pebble, discovered in Kalḫu, which provides the studied prayer in Sumerian. Besides the engraved prayer, the depiction is important for us since it shows a close connection to the glyptics. In the cultic scene, depicted with a borderline at the bottom, the bearded worshipper, facing right, is standing in front of the spade (symbol of Marduk) and the stylus (symbol of Nabû). Next to this image, the three-line inscription takes up *circa* 40 percent of the field. The cultic scene is framed by ruled lines, similarly to the inscription, and there are further ruled lines between the three lines of text. This framed inscription panel is lower than the depicted scene, and a narrow rectangular field is left empty above the inscription. Other than this empty space, we can conclude that the structural arrangement and proportions of the scene and the inscription, orientation, and ruled lines of the inscription show close similarities to the inscribed seal images depicting cultic scenes. The disposition of the worshipper with the divine symbols confirms the similarities between the pebble and certain cylinder seals.[10] The inscription engraved on the pebble, is in positive, similar to the legends of these cylinder seals. This is not surprising, since this text was read directly from the object; however, the shaping of the worshipper reveals to us that the engraver(s) used a sample destined for cylinder seal making. Based on the Neo-Assyrian glyptics, we know that the worshippers were shaped according to well-established iconographical conventions. The orientation (*i.e.*, facing left or facing right) and whether they are bearded or beardless can change, similarly to their clothes and simple equipment such as a sword at the waist, a hanging tassel below their shoulder-length hair, *etc.*, but the worshipper is depicted in the so-called devotional pose (*ubāna tarāṣu*), which means that he raises his right hand and points forwards with his index finger, while his extended left hand, at waist height, is depicted with an upturned open palm. In the case of the depiction on the pebble,

[9] Collon 2001: 187 no. 380 (material: "glass: turquoise, opaque"; provenance: from Layard's excavations) and pl. XXXII.

[10] Among the objects studied here, see 1.2, 2.1, 2.2, 2.5–2.8, and for closer similarities in terms of the worshipper and the divine symbols, see Collon 2001: 133–134 no. 253 (BM WA 89810), pls. 20 and 41.

Fig. 6. Pebble 1.6.
Based on Mallowan 1966: vol. 1, 270 fig. 252.

the hands are depicted in the contrary position. This disposition can be seen on the cylinder seals which provide the intaglio, contrary to the positive version as it appeared on the seal impressions, which reflect its real use (*i.e.*, its sphere of application) and the iconographical conventions.

Provenance	Kalḫu, temple of Nabû, "found in burnt debris on the floor of corridor NT3 opposite the entrance" (Mallowan 1966, vol. 1: 270 fig. 252)
Collection	Iraq Museum: ND 4304
Material	rough brown (or red) pebble
Dimensions	80 × 70 × 40 mm (perforated longitudinally)
Inscription	

1.	nir.ĝál.zu	I have trusted in you,
2.	nu téš	may I not be put to shame,
3.	^{d}ag	o Nabû!

Bibliography Mallowan 1966, vol. 1: 270 fig. 252; Livingstone 1989: 41 fig. 14; Oates and Oates 2001: 122 fig. 75 and 277 n. 14.

2. Eight Examples (2.1–2.8) of the Expression *Šākinšu* or *Šākin Kunukki Libūr* Versus *Lilbur* in Neo-Assyrian and Neo-Babylonian Seal Legends

The prayer *šākinšu* or *šākin kunukki libūr* or *lilbur* (see below) is attested already in the Kassite glyptics.[11] As for the expression, there are two introductory formulas: *šākinšu* and *šākin kunukki*. Based on the verbal forms, it is probable that we can discern two verbs: *labāru* (*lilbur*) and *bâru* III (*libūr*). However, Rykle Borger (1970)[12] argues that there is only one verb, that is, *bâru*: AHw 108: bâru(m) III; CAD B: *bâru* A 1a 3' meaning "to stay firm, stable, in good health". The following chart presents the Neo-Assyrian and Neo-Babylonian examples of the prayer, with mentioning of their present location, date of their first publication, and our knowledge of the seal texts of these objects.

[11] For different forms of the prayer in the seal texts; see e.g. Limet 1971: 93–94 nos. 7.1, 7.2, and 7.4, 99 no. 7.18, 109–110 no. 9.1.

[12] For the expressions mentioned by the inscriptions and the comparison of *bâru* (*libūr*) with *labāru* (*lilbur*) as well as the meaning of LIL-*bur*, see Borger 1971: 66, S. 126.

Table 1: Neo-Assyrian and Neo-Babylonian cylinder seals inscribed with the expression *šākinšu* or *šākin kunukki libūr* versus *lilbur*

Number	Present location	First publication	State of the seal text
2.1.	The Walters Art Museum, Baltimore	1929	unpublished
2.2.	Iraq Museum (Kalḫu)	1962	published
2.3.	Anavian Collection	1979	published
2.4.	present whereabouts unknown (formerly Erlenmeyer Collection)	1992 (Sotheby's)	English translation
2.5.	British Museum	1993	published
2.6.	The Walters Art Museum, Baltimore		unpublished
2.7.	present whereabouts unknown[13] (formerly Foroughi Collection)		unpublished
2.8.	present whereabouts unknown ("From Dr. Peters", also "In possession of Mrs. Williams [Wayland]") [14]		unpublished

Among the objects studied here, Cyrus H. Gordon's paper (1939) dealing with the glyptics kept in The Walters Art Museum, Baltimore provides the first one (2.1), but without deciphering its seal legend. This text was not mentioned in the research between Gordon's publication of it and now. Concerning the seal legends of the next two objects (2.2 and 2.3), previous research has already published them, but we present here the complete inscription of seal 2.3 for the first time. The following object (2.4), whose present whereabouts are unknown to us, appeared in the auction catalogue dealing with the Erlenmeyer Collection in 1992. The auction catalogue merely presented the English translation of the seal legend. In 1993, Kazuko Watanabe published the seal legend of the cylinder seal (2.5) acquired by Henry C. Rawlinson that had entered the British Museum in 1851. The last three objects (2.6–2.8) are newly identified and presented here for the first time. Among them, object 2.6 has been kept in The Walters Art Museum, Baltimore since 1942, while the present whereabouts of the objects formerly kept in the Foroughi Collection (2.7) and in a private collection (2.8), respectively, are unknown to us. I could only study their modern seal impressions, one in the Morgan Library & Museum (2.7) and the other in the Yale Babylonian Collection (2.8).

[13] Modern impression made of the cylinder seal is kept in the Morgan Library & Museum.

[14] Modern impression made of the cylinder seal is kept in the Yale Babylonian Collection (see footnote 32 below).

Fig. 7. Cylinder seal 2.1.
Photograph with the permission of The Walters Art Museum, Baltimore.

2.1 Cylinder seal[15]

Provenance	unknown
Collection	The Walters Art Museum, Baltimore: WAG 42.792, acquired by Sadie Jones (Mrs. Henry Walters) through sale by Joseph Brummer (New York) in 1931
Material	"chalcedony"
Dimensions	height: 32.2 mm, diameter: 16.8 mm
Inscription	
1. ĝar-*šú lil-bùr*	The man who bears this (seal), may he remain in good health.
Bibliography	Gordon 1939: 27 no. 81 and pl. X.

[15] Gordon studied only the "plaster impression of cylinder" (WAG C7 = C8) (Gordon 1939: 27 no. 81), since his paper does not provide the material or the dimensions of the object. However, cylinder seal WAG 42.792, which the present author was able to study (05/2016), is kept in the collection.

This cultic scene, depicted between two borderlines at top and bottom, represents a bearded worshipper in front of Gula sitting on her throne, which is in turn placed on her dog. Behind the worshipper, an armed god, probably Ninurta, is depicted on his mythical beast. A crescent moon, the Sibitti, and an eight-pointed star with a globe in the middle are in the upper field. The stylus (symbol of Nabû) and the spade (symbol of Marduk), placed on a stand, are in front of and behind the worshipper respectively. The bird, probably a cock, in front of the worshipper's upper body can probably be interpreted as a personal choice of the seal-bearer.

As for the seal legend engraved on the current object, Cyrus H. Gordon mentions the following: "In the field … some archaic-looking pseudo-cuneiform signs" (Gordon 1939: 27 no. 81). The four signs (ĝar-*šú lil-bùr*) are engraved in the narrow field between Ninurta mounted on his mythical beast and the spade (symbol of Marduk) below the eight-rayed star with a globe in the middle. The cuneiform signs reflect Neo-Assyrian script. As far as we know, *bùr*, the last sign, disposed in the limited space between the mythical beast's muzzle and foreleg, is a unique choice in writing this verb.

2.2 Seal impression

Provenance Kalḫu, temple of Nabû, Rm 19
Collection Iraq Museum: ND 5420
Dimensions 38 × 27 mm
Inscription

1.	na_4.kišib ^{m}gìr^{II}–man	Cylinder seal of Šēp-šarri.
2.	ĝar-*šú lil-bur*	The man who bears this (seal), may he remain in good health.

Bibliography Parker 1962: 29–30, ND 5420 and pl. 10: 3; Herbordt 1992: 196, Nimrūd 97 and pl. 21: 6; Watanabe 1993a: 120–121 no. 8.2 and pl. 6; Groß 2011: 1261, Šēp-šarri no. 6.

The excavations of Max E. L. Mallowan in Kalḫu provided cuneiform tablet ND 5420, which bears the impression of an inscribed cylinder seal. The tablet is dated to one of the eponym dates of Pān-Aššur-lāmur: 776 or 759 BCE, during the reign of Aššur-dān III (772–755 BCE). The upper and lower metal mounts of the cylinder seal are clearly visible on the seal impressions. This cultic scene, depicted between two borderlines at top and bottom, represents a bearded worshipper in front of Nabû mounted on a *mušḫuššu*-dragon. The two figures are framed by the six-curled *laḫmu* figures, who wear kilts, and have stars on the top of their heads.

The two-line inscription, divided by a ruled line, is situated behind the two *laḫmu* figures. Barbara Parker's paper provides the following transliteration

Fig. 8. Seal impression 2.2.
Based on Parker 1962: pl. 10: 3.

and translation of the seal legend: "(1) *kunukku* ^{m}*Šepa-šarri* (2) *bušu-šu lil-bur*; 'The seal of Šepa-Šarri, may his property grow old.'" (Parker 1962: 30 no. ND 5420). Instead of *būšu* (meaning property), Kazuko Watanabe corrected the Akkadian reading of GAR in line 2, translating it as "setzt" (which implies *šakānu*).[16]

2.3 Cylinder seal

This object from the Anavian collection represents a clash between a hero and a rampant bird-griffin. The hero wears a tiara as well as a tunic which covers his shoulders and leaves his arms uncovered. His long robe, decorated with zigzag patterning, is open, revealing his tunic and protruding left leg. In his lowered right hand, he holds a scimitar with its blade curving inwards, while his left hand grasps the right forepaw of the rearing griffin, whose feathers are

[16] Watanabe 1993a: 120–121 no. 8.2.

Fig. 9. Cylinder seal 2.3.
Based on Volk 1979: no. 224.

shaped by strokes arranged in parallel rows. In the sky, there is a crescent moon. The cactus-like plant between the two figures could symbolise the landscape of the contest scene. On stylistic grounds, the modelled style contest scene is clearly Neo-Babylonian. The two-line inscription is situated behind the two figures.

Joyce G. Volk (1979) suggests the following reading and translation, with a subsequent remark about the seal: "GAR NA_4.KIŠIB NE li-bur x-x – May the one equipped with this (seal) be in good health… The inscription is Kassite although the style of the engraving is Neo-Babylonian. … The last two signs cannot be read." (Volk 1979: no. 224). However, there are three signs instead

of two at the end of line 2, which can be read: LA DIN SI (in Akkadian *lale balāṭi lišbi*) meaning "to be sated with fullness of life".

Provenance	unknown	
Collection	Anavian Collection	
Material	"white chalcedony"	
Dimensions	height: 18 mm, diameter: 12 mm	
Inscription		
1.	ĝar na_4.kišib ne	May the man who bears this cylinder seal
2.	*li-bur* la din si	be established (and) be sated with fullness of life.
Bibliography	Volk 1979: no. 224.	

2.4 Cylinder seal

This contest scene depicts a bearded hero who grasps a bull by a hind leg and treads on its head, behind the horn. The half-naked hero, depicted without any headdress, is clothed in a kilt with a broad, striped belt. The lower edges of his kilt are decorated with a band of triangles, similarly to its fringed upright edge. In his lowered right hand, he holds a scimitar, with its blade curving inwards. This modelled-style seal is a Neo-Babylonian artefact.

The three-line inscription is divided by ruled lines, with additional ruled lines before the first line of text and closing the inscription.

Provenance	unknown	
Collection	present whereabouts unknown, formerly kept in the Erlenmeyer Collection[17]	
Material	"banded agate"	
Dimensions	height: 25 mm, diameter: 10 mm	
Inscription		
1.	ĝar na_4.kišib ne	May the man who bears this cylinder seal
2.	*li-bur liḫ-ḫiš*	be established, prosper and
3.	la din *liš-bi*	be sated with fullness of life.
Bibliography	Sotheby's (London): *Western Asiatic Cylinder Seals and Antiquities fom the Erlenmeyer Collection (Part I)* (09-07-1992), 120–121 no. 205.	

[17] The present author was able to study and photograph the seal impression in the Freie Universität Berlin (03/2020).

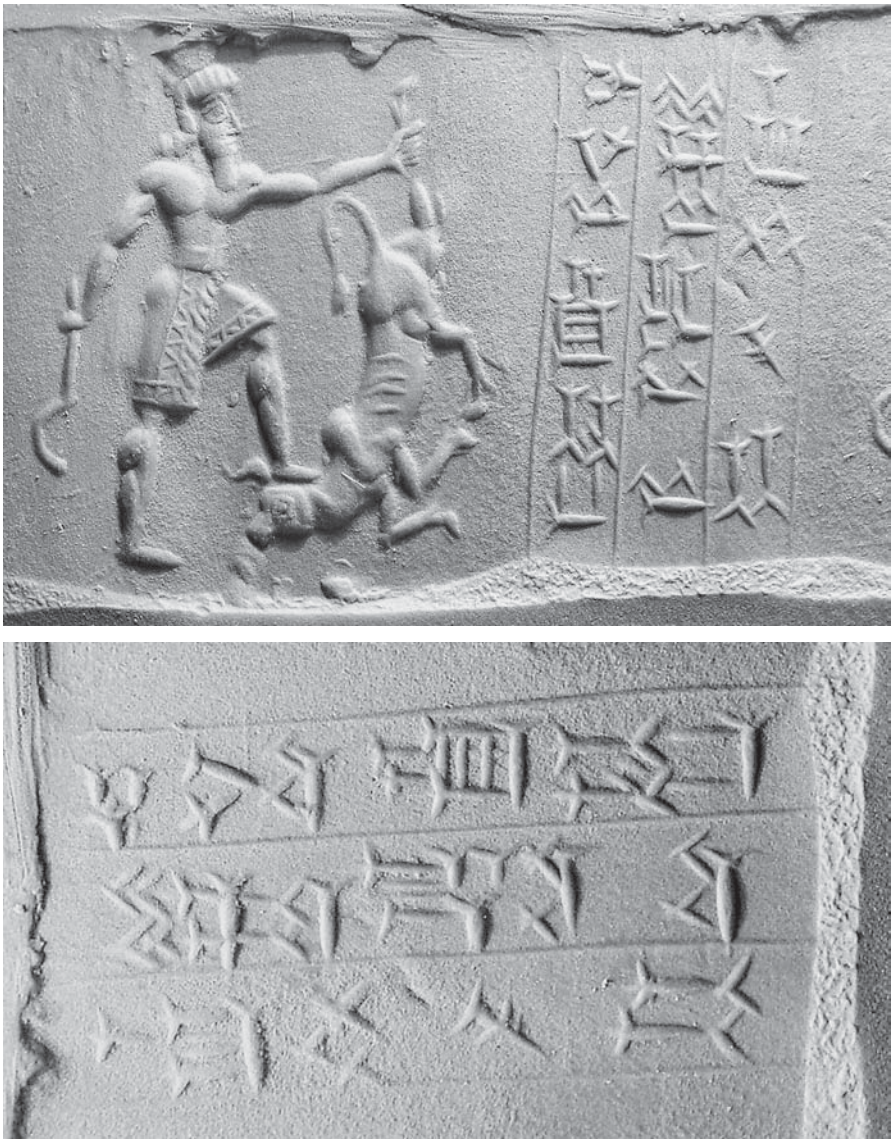

Fig. 10. Cylinder seal 2.4.
Photograph of the author with the permission of the Institute of Near Eastern Archaeology of the Freie Universität Berlin.

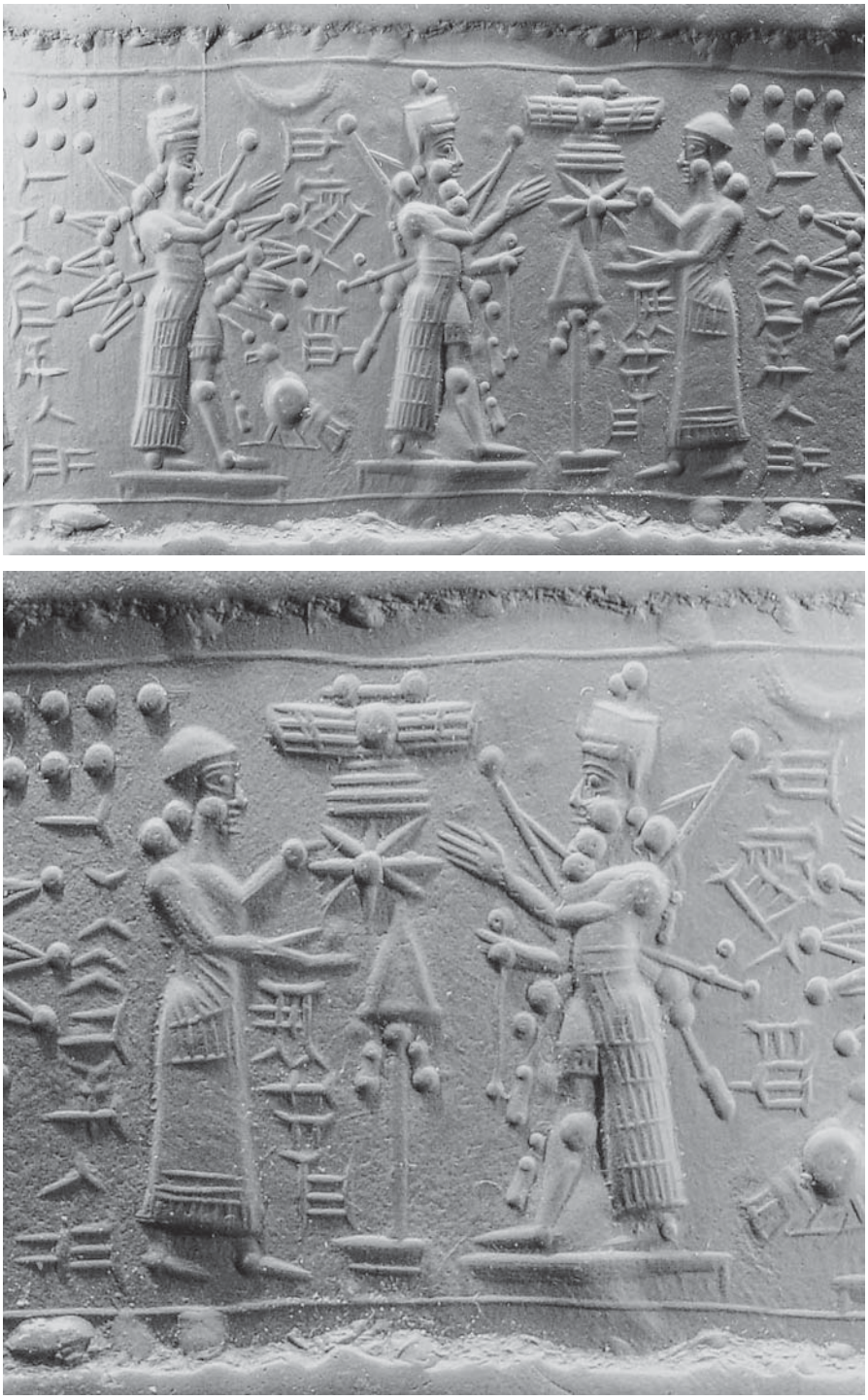

Fig. 11. Cylinder seal 2.5.
Photograph of the author with the permission of the Trustees of the British Museum.

2.5 Cylinder seal

The object was acquired by Henry C. Rawlinson and has been kept in the British Museum since 1851; however, the object and its seal legend were published only in 1993, by Kazuko Watanabe.[18] The cultic scene, depicted between two borderlines at the top and bottom, depicts a beardless worshipper in front of an armed god and Ištar. Both figures are standing on daises. The god holds a mace; a sword is at his waist, and two crossed quivers with bows terminating in single drill-holes above his shoulders. Ištar is encircled with a nimbus. Between the worshipper and the armed god, the winged sun-disc, an eight-pointed star with a globe in the middle, and the spade (symbol of Marduk) are depicted. Between the two divine figures, a crescent moon is in the sky and a bird is in the lower field. The Sibitti appear above the seal legend engraved behind the worshipper and Ištar.

The three-line inscription, beginning in front of the worshipper and below his lowered left hand, fills the available space between the figures and motifs in the depicted field. Tarība-Ištar is a well-attested name in the Neo-Assyrian period; there are 13 known individuals with the same name according to the PNA corpus.[19]

Provenance	unknown
Collection	British Museum: BM WA 89164 – 1851-10-9, 2, acquired from H. C. Rawlinson
Material	"quartz, chalcedony: grey-brown"
Dimensions	height: 40 mm, diameter: 19 mm

Inscription

1.	na_4.kišib	Cylinder seal
2.	^{m}su–^{d}15	of Tarība-Ištar.
3.	ĝar-*šú lil-bur*	The man who bears this (seal), may he remain in good health.

Bibliography	Watanabe 1993a: 119 no. 7.8 and pl. 5; Collon 2001: 133 no. 252, pls. XX, XLIII and XLVI; Vanderroost 2011: 1317, Tarība-Issār no. 13.[20]

2.6 Cylinder seal

WAM 42.1195 was purchased by Mrs. Henry Walters from antiquarian Joseph Brummer (New York) in 1941 and then entered The Walters Art Museum, Baltimore in 1942. In the museum documentation, its material is given as chalcedony. The object (height 44.1 mm and diameter 19.9 mm) is large compared to the Neo-Assyrian cylinder seals. The gold wire in the perforation with the

[18] Watanabe 1993a: 119 no. 7.8.
[19] Vanderroost 2011: 1317, Tarība-Issār.
[20] The museum number of the object is mistakenly designated as BM 175178.

Fig. 12a. Cylinder seal 2.6.
Photograph of the author with the permission of
Amy Landau (The Walters Art Museum Baltimore).
Drawings © Zoltán Niederreiter.

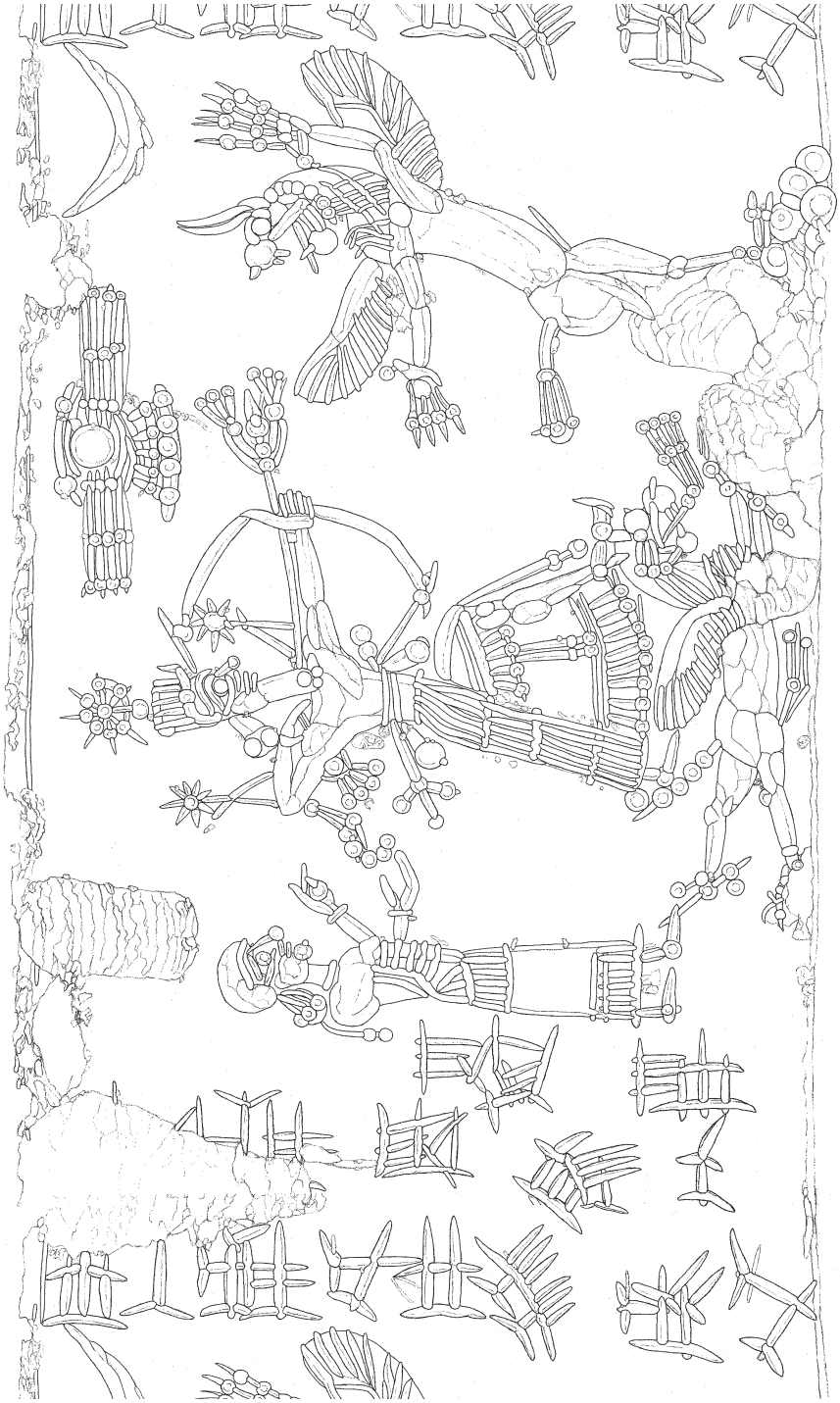

Fig. 12b. Cylinder seal 2.6.
Drawing © Z. Niederreiter.

small attachments at the upper and lower edges of the object is without doubt recently applied.

Provenance	unknown	
Collection	The Walters Art Museum, Baltimore: WAM 42.1195	
Material	chalcedony	
Dimensions	height: 44.1 mm, diameter: 19.9 mm	
Inscription		
1.	*šá* ^{m}*sag-gil*-en-pab	Property of Saggil-bēlu-uṣur,
2.	˹lú*.saĝ˺ *ša-kín-šú*	the eunuch. The man who bears this (seal),
3.	*lil-bur*	may he remain in good health.
Bibliography	unpublished.[21]	

The seal image depicts a mythological scene connected to the Anzû epic.[22] Ninurta, mounting Abūbu, the deluge monster, pursues Anzû, who is standing on a mountain formed with a scale pattern. Above the figures, a crescent moon and a winged sun-disc appear. Behind the pursuing scene, the beardless worshipper, the owner of the cylinder seal, is depicted in the so-called devotional pose (*ubāna tarāṣu*). He is dressed in a long, fringed robe, and a tassel hanging below his shoulder-length hair may indicate his high status. Based on the iconography, we cannot suggest a date more precise than the 8th century BCE. Regarding the condition of the object, the lower borderline, the lower part of the mountain, and the end of the last cuneiform sign in line 1 are missing, which allows us to conclude that the lower edge of the cylinder seal up to a maximum height of *circa* 3 mm has been broken off, and we assume that it has been broken off jaggedly. The entire length of the upper edge is chipped beyond the upper base line. There is a chip in the stone above the worshipper, and another chip distorts the forelegs of Ninurta's creature and one of the hind legs of Anzû. Behind the worshipper, there is a three-line inscription.

The seal legend consists of two parts: The first, introduced by *šá* indicating the owner ("property of…"), mentions the name of the eunuch seal-bearer, while the second provides a formula, a request for the well-being of the seal-bearer. There is no mention of the rank or function of Saggil-bēlu-uṣur, the eunuch. Moreover, Saggil-bēlu-uṣur (whose name means "O Saggil, protect the lord!") does not appear in the prosopographical corpus dated to the Neo-Assyrian period.[23] Saggil, the first element of the name, is a hypocorism of Esaggil[24] which may imply that the seal-bearer had a Babylonian connection,

[21] For the images made of the cylinder seal, see the museum website: https://art.thewalters.org/detail/34654/cylinder-seal-with-archer-and-winged-lion/ (accessed 10-11-2019).

[22] For similar pursuing scenes and the depicted figures, see Seidl 1998; Collon 2006.

[23] For the updated online version of Prosopography of the Neo-Assyrian Empire (PNA), see http://oracc.museum.upenn.edu/pnao/updatesbyletter/index.html (accessed 10-11-2019).

[24] For the variants of the complete and the diminutive forms of Esaggil in personal names, with further references, see for example Kessler 2002a: 1060, Saggilia; Nielsen 2015a: 322–323, Saggilaya. For the Neo-Babylonian examples, see Nielsen 2015b: 322–323, Saggilaya.

possibly a relationship with the main temple of Babylon. Similar name types which contains (E)saggil with the final formula *naṣāru* in the imperative are attested in the PNA corpus: Saggil-aplu-uṣur ("O Saggil, protect the heir!")[25] and Saggil-šarru-uṣur ("O Saggil, protect the king!").[26] This name type may reveal that these persons were eunuchs, like our seal-bearer.[27] In the Neo-Assyrian prosopographical corpus, a certain Bēl-Esaggil-bēlu-uṣur ("O Lord of Esaggil [= Marduk], protect the lord!"), who appears in a list of palace lackeys,[28] provides the nearest name form to that of Saggil-bēlu-uṣur, though there is no evidence to prove a connection between them.

In sum, we can conclude that this newly identified inscribed object belongs to the group of Neo-Assyrian eunuchs' cylinder seals. Our paper published in 2015 concerns eighteen Neo-Assyrian eunuchs' cylinder seals;[29] among them, sixteen were already well known in the scholarly literature, while two were previously only known in auction catalogues. Later on, our research at the Harvard Art Museums offered the opportunity to investigate and publish another one.[30]

2.7 Cylinder seal

This cylinder seal was formerly kept in the Foroughi Collection, during which period Edith Porada made an impression of the object whose present whereabouts are unknown. The seal impression that the present author was able to study is kept in the Morgan Library & Museum. The cultic scene, depicted between two borderlines at the top and bottom, depicts a worshipper in front of an armed god with a stylised tree below a winged sun-disc between them. The god, standing on a low stand, holds a mace, has a sword at his waist and quivers with bows crossed on his back; drill-holes mark a globe on top of each bow. The god's divine headdress has a horn, and another drill-hole marks a globe on top. In the upper field, a crescent moon, and an eight-pointed star with a globe in the middle appear on each side of the winged sun-disc while the Sibitti are behind the two figures and above the seal legend.

The two-line inscription is divided by ruled lines; one closes the inscription, which consists of the name of the seal owner introduced by *šá* ("property of …") and of the prayer mentioning a request for the well-being of the seal-bearer. Bēl-uballiṭ, written as ^{m}en-ti here, is a well-attested name in the

[25] Kessler 2002b: 1060, Saggil-aplu-uṣur.

[26] Kessler 2002c: 1060, Saggil-šarru-uṣur.

[27] Based on the names of Neo-Assyrian eunuchs, K. Deller concluded: "The most frequent type is GN-šarru-usur, 'god NN, protect the king!'. Safeguarding the king's life was their paramount duty." (Deller 1999: 306).

[28] Villard 1999: 296, Bēl-Esaggil-bēlu-uṣur.

[29] Niederreiter 2015.

[30] Niederreiter 2016.

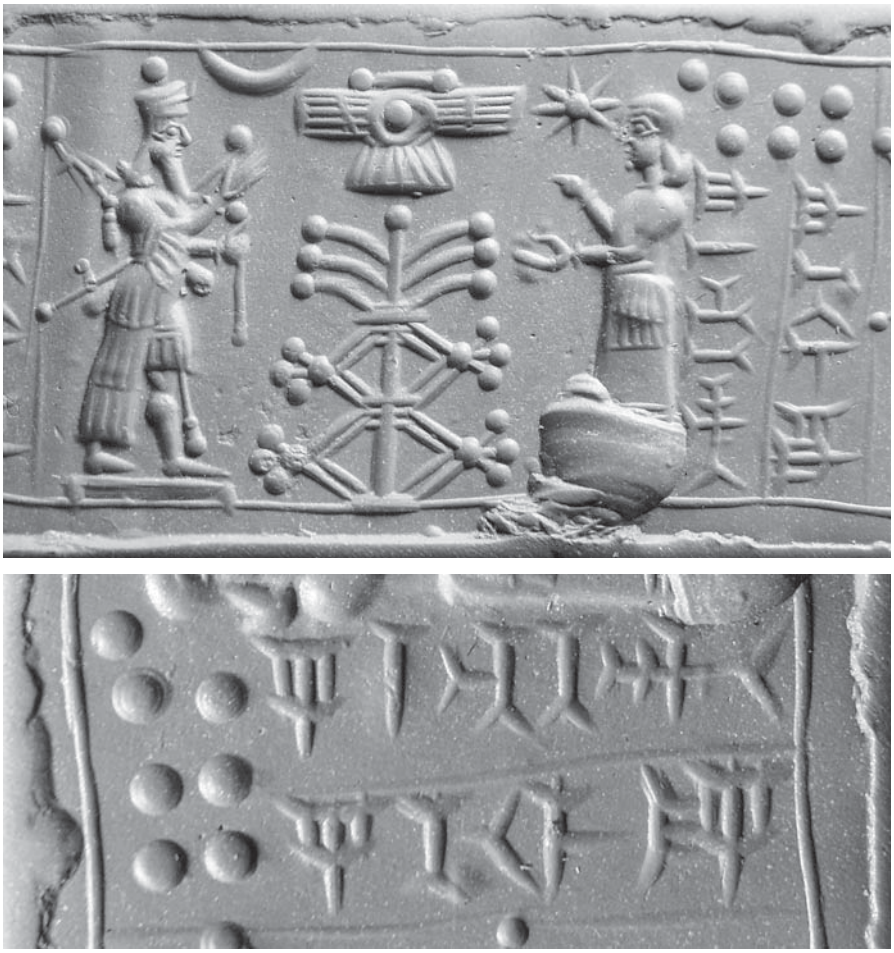

Fig. 13. Cylinder seal 2.7. Photograph of the author with the permission of Sidney Babcock (Morgan Library & Museum).

Neo-Assyrian period; there are 17 individuals with the same name according to the PNA corpus.[31] In writing the verb *bâru*, sign *lì* is a unique choice in the seal corpus.

Provenance	unknown
Collection	present whereabouts unknown, formerly kept in the Foroughi Collection, its modern impression (SISC 01283) is kept in the Morgan Library & Museum
Material	unknown

[31] Åkerman and Radner 1999: 334, Bēl-uballiṭ.

Dimensions height: 28 mm, diameter: unknown
Inscription

1.	*šá* ^{m}en–ti	Property of Bēl-uballiṭ.
2.	ĝar-*šú lì-bur*	The man who bears this (seal), may he remain in good health

Bibliography unpublished.

2.8 Cylinder seal[32]

The last object in our catalogue again attests particularities in terms of origin and localisation, since its present whereabouts are unknown; its modern seal impression, of very poor quality, is kept in the Yale Babylonian Collection. Based on this modern seal impression, we can provide the following description. The cultic scene, depicted between two borderlines at the top and bottom, depicts a worshipper in front of an armed god and a goddess. The god holds a mace in his lowered left hand, has a sword at the waist and wears crossed quivers with bows terminating in single drill-holes above his shoulders. The goddess holds a circle in her lowered left hand, a sword at the waist, and similar crossed quivers with bows terminating in single drill-holes. Drill-holes mark the globes on top of their bows and of their headdress. In front of the armed god, the spade (symbol of Marduk) appears below the eight-rayed star with a globe in the middle, while behind the same god is the stylus (symbol of Nabû), below the Sibitti. Behind the worshipper and the goddess is the seal legend.

The two-line inscription is divided by a ruled line, while another ruled line is before the first line of text, and a third one closes the inscription, which consists of the name of the seal owner introduced by *šá* indicating the owner ("property of…") and the prayer, mentioning a request for the well-being of the seal-bearer. Ubru-Aššur, written as ^{m}suḫuš-*aš*+*šur* here, is a well-attested name in the Neo-Assyrian period; there are 21 known individuals with the same name according to the PNA corpus.[33]

[32] Francis Darcy Bone, who catalogued the modern seal impressions collected by William Hayes Ward and kept in the Yale Babylonian Collection, noted about the provenance of this object: "From Dr. Peters", also "F. W. Williams, New Haven". Bone 1928, 424: YBC 1894 S. The seal impression provides the following data: "In possession of Mrs. Williams (Wayland)" written on its back and, on the front, it says: "From Dr. Peters", *i.e.*, John Punnet Peters, professor at Penn and excavator with Hilprecht in Nippur. William Hayes Ward's seal impressions were done *circa* 1880–1910 and acquired by Yale University in 1915 (I thank Agnete Lassen for this information). Except for a short description of the seal image, studied based on its modern impression, there are no further data about its material and dimensions. The present author was able to study and photograph the seal impression in the Yale Babylonian Collection (05/2018).

[33] Novotny 2011: 1360–1361, Ubru-Aššūr.

Fig. 14. Cylinder seal 2.8. Photograph of the author with the permission of Agnete W. Lassen (Yale Babylonian Collection).

Provenance	unknown	
Collection	present whereabouts unknown, its modern impression (YBC 1894 S) is kept in the Yale Babylonian Collection	
Material	unknown	
Dimensions	*ibid.*	
Inscription		
1.	na$_4$.kišib ^{m}suḫuš-*aš*+*šur*	Cylinder seal of Ubru-Aššur.
2.	*šá-kín-šú lil-ḫur*	The man who bears this (seal), may he remain in good health.
Bibliography	Bone 1928, 424: YBC 1894 S.	

2.9 Notes on the eight seal legends (2.1–2.8)

As far as we know, there are eight examples (2.1–2.8) of the prayer studied here from the Neo-Assyrian and Neo-Babylonian periods. We know of one

such Neo-Assyrian sealing (2.2) and seven cylinder seals (2.1, 2.3–2.8): six Neo-Assyrian (2.1, 2.2, 2.5–2.8) and two Neo-Babylonian (2.3, 2.4). The eight objects attest relatively high quality execution and iconography; they belong to both drilled and modelled styles. Regarding the depicted themes, we can discern the following subjects:

– contest scenes: 2.3, 2.4;
– cultic scenes: 2.1, 2.2, 2.5, 2.7, 2.8;
– pursuing scene: 2.6.

We can note that the contest scenes are Babylonian, while the pursuing scene and the five cultic scenes are Assyrian. Worshippers are depicted in the so-called devotional pose on the six Assyrian objects (2.1, 2.2, 2.5–2.8). According to their respective cultural spheres, the studied objects provide the following seal legends (Table 2):

Table 2: Neo-Assyrian and Neo-Babylonian seal legends mentioning the expression *šākinšu* or *šākin kunukki libūr* versus *lilbur*

Neo-Assyrians			
2.1		ĝar-*šú*	*lil-bùr*
2.2	na$_4$.kišib ^{m}gìr^{II}-man	ĝar-*šú*	*lil-bur*
2.5	na$_4$.kišib ^{m}su-^{d}15	ĝar-*šú*	*lil-bur*
2.6	*šá* ^{m}*sag-gil*-en-pab / ˹lú*.saĝ˺	*ša-kín-šú* /	*lil-bur*
2.7	*šá* ^{m}en-ti /	ĝar-*šú*	*lì-bur*
2.8	na$_4$.kišib ^{m}suḫuš-*aš*+*šur* /	*šá-kín-šú*	*lil-bur*
Neo-Babylonians			
2.3		ĝar na$_4$.kišib ne	*li-bur* la din si
2.4		ĝar na$_4$.kišib ne	*li-bur liḫ-ḫiš* la din *liš-bi*

As regards the disposition of the seal legends, we can note that the Neo-Assyrian objects (2.1, 2.2, 2.5–2.8) consist of border lines in which the seal legends appear next to the depicted scenes, except for objects 2.1 and 2.5, where the cuneiform signs fill the available space between the figures and motifs. Objects 2.2, 2.5, 2.7, and 2.8 provide ruled lines for the seal legend, while object 2.6 is without them. The Babylonian images are depicted without border lines, as usual, while their legends are shaped either without (2.3) or with (2.4) ruled lines.

As for the content of the text, among the six Assyrian objects, one provides only the prayer (2.1), while the other five attest the name of the seal-bearer: Šēp-šarri (2.2), Tarība-Ištar (2.5), Saggil-bēlu-uṣur, the eunuch (2.6), Bēl-uballiṭ (2.7), and Ubru-Aššur (2.8). Except for Saggil-bēlu-uṣur (2.6), the

personal names are known from the prosopographical corpus, but there is no argument to identify these persons with any individual mentioned by other texts. Among the studied Assyrian texts, we can discern two variants, well known among the seal legends: *kunuk* PN ("cylinder seal of…") (2.2, 2.5, 2.8) and *šá* PN indicating the owner ("property of…") (2.6, 2.7). As for the graphemes, *bùr* (2.1) and *lì* (2.7) seem to be unique choices in writing the verbs (*lil-bùr* and *lì-bur*). In sum, we can conclude that, like the style and subjects of the depicted scenes, the seal legends, in terms of their arrangement and content, attest the typical Assyrian features.

Compared to the Assyrian examples, the two Babylonian objects (2.3, 2.4) reflect different textual features. The Babylonian objects do not mention the name of the seal owner, while five among the six Assyrian examples do provide the name of the owner. The Babylonian examples are introduced by the formula *šākin kunukki annî* (ĝar na_4.kišib ne), well known from the Kassite glyptics, which expression differentiates them from the Assyrian examples. Furthermore, the Babylonian legends consist of the verbal formulae, also known in Kassite seal prayers, la din si (2.3) and *liḫ-ḫiš* la din *liš-bi* (2.4), respectively, after *libūr*. Compared to the Neo-Assyrian examples, the Babylonian ones consist of longer prayers which are more differentiated and reflect the keeping of the Middle Babylonian glyptic tradition. Concerning our key verbs: *lilbur* versus *libūr*, it is interesting to note that the two Babylonian examples mention *libūr*, while, among the six Assyrian examples, five provide *lilbur* (2.1: *lil-bùr*, 2.2, 2.5, 2.6, 2.8: *lil-bur*) and only object 2.7 provides *libūr* (written as 2.8: *lì-bur*).

In sum, the collected forms of the prayer show the different features of the Assyrian and the Babylonian seal legends. We show the relatively high occurrence of variations on this prayer from the first half of the 1st millennium BCE. These are the combination of the expression studied here with other formulae, varying graphemes used to write the prayer, and the different scenes depicted with this prayer. This collection of the identified versions of this prayer contributes to the state of glyptic research on the first half of the 1st millennium BCE by providing and analysing new examples of the prayer from the seal legends, which are hardly studied in the research.

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CONCLUDING REMARKS

Laura Cousin, Louise Quillien
& Manon Ramez

The purpose of this book was to present the proceedings of the two colloquia – presented in the introduction by Grégory Chambon, Francis Joannès and Michael Jursa –, held in July and December 2019 in the framework of the ANR-FWF project *Material Culture of Babylonia During the First Millennium BC* (MCB). Based on several case studies, showing different aspects of material culture in palatial, temple, and private contexts, the authors, mainly text specialists, also develop methodological reflections, proposing new approaches for a study of the material culture of the Ancient Near East from the cuneiform documentation.

The contributions in this volume take into consideration material culture in a broad sense, encompassing all the materials transformed and the objects made by human hands. This definition leads to the consideration of the material environment of the Babylonians, including not only the objects they used in their daily lives and in worship, but also the topographical and architectural organisation of built spaces, for example, to which one part of this volume is dedicated. The purpose of this collective work is to study material culture taking into account the historical context in which it takes place, in a cross-cutting approach between the history of techniques, economic history, social history, and even political and military history.

While most of the contributions deal with the material culture in the first millennium BCE Babylonia which is at the heart of the ANR-FWF project MCB, three papers bring comparative data as well as methodological reflexions from the study of earlier periods or different cultural areas. Grégory Chambon and Manon Ramez question the possibilities to study crafts productions from administrative sources, taking as a starting point the Mari archives. Damien Agut-Labordère, in his study of 'soap' in Demotic sources, shows how combining etymology to a technological approach helps to understand an ancient craft. Babette Schnitzlein argues that cuneiform tablets themselves can be considered as elements of material culture studying selected samples from the library of Ashurbanipal.

This plurality of approaches has led to the emergence of four main lines of research: the manufacturing processes involving craftsmen, techniques, and objects (1); the material culture in worship context (2); the link between material culture, sacred space, and topography (3); and finally, the objects inscribed

as material culture (4). The present synthesis provides the reader with the findings and notable results of the various contributions per chapter.

Manufacturing Processes: Craftsmen, Techniques and Objects

The first part of the book brings together five contributions, which focus on the manufacturing processes of artefacts and manufactured goods. Taking also into account craftsmen and their role in the society by a study of craftsmanship practices, all the articles bring to light several steps of the *chaîne opératoire* and the importance of dealing closely with terminology, numbers, and historical context in the study of ancient craft realities and objects.

Raw materials, craftsmanship, and manufactured goods

The five articles show that the question of terminology is fundamental for any study of objects and craft practices, whether from a technical, cultural, or social point of view. This is the prerequisite for a study of technical processes.

Grégory Chambon and Manon Ramez discuss the importance of analysing the *termini technici* in administrative texts. As these were written by accountants and officials, the importance of the author of the texts and their training – particularly from lexical lists, rich in technical or specific terms – has to be stressed. The difference in terminology between the rare letters, written by craftsmen, and accountants is highlighted, as the possibility of an adaptation of technical vocabulary to the recipient of the document. If the technical vocabulary may translate craftsmen's knowledge, this does not prevent the importance of the context in which the document was written, its function, its author, and its recipient, beyond the 'institutional' aspect.

This approach is taken into account in the three articles which present case studies of craft production in the Neo-Babylonian period. By providing a comprehensive survey of occurrences and conducting a philological analysis of the term *mušaḫḫinu*, Yuval Levavi shows that it was a bronze cooking pot used for cooking various substances (meat, herbs, oils). He also highlights the fundamental importance of contexts for identifying this significant piece of furniture attested in the *dowry-related* texts. Louise Quillien offers an overview of the Neo-Babylonian Akkadian terminology of the two terms for leather shoes ($^{(kuš)}$*šēnu* and $^{(kuš)}$*mešēnu*), demonstrating different writing practices between central and southern Babylonia. In addition, the author gives an analysis of the technical procedures for footwear manufacturing known through the texts. In a similar approach, Rosaura Cauchi proposes an extensive study of technical

processes from textual and archaeological sources, and highlights different kinds of bread attested in the administrative documentation: *kusīptu* (small), *urāku* (long), ninda.ḫi.a *ša miṣir* ('Egyptian bread'). She also pays particular attention to the terminology of the craftsmen's workplaces.

Damien Agut-Labordère also presents a reconstitution of the *chaîne opératoire* for making 'solid soap', according to ethnological and textual data. The author studies the etymology and the equivalents of the Demotic term *ꜣnḏyr* in the Theban Magical Papyrus of London and Leiden, showing the importance of an extensive philological study to understand this element of material culture according to known technical procedures.

Craftsmen and their socio-economic status

The study of craftsmen, such as the economic and social significations of craftsmanship, is also notable in various contributions.

Grégory Chambon and Manon Ramez propose to place the craftsmen at the heart of studies on material culture. The fact that an overwhelming majority of texts dealing with craftsmanship and, therefore, used to understand craft practices, were not written by craftsmen, implies several levels of reading of the texts. The authors present case studies highlighting the importance of observing individuals and job names, reflecting not only a complex local situation in the qualification of craftsmen, but also a certain collaboration between artisans. The recognition of their knowledge and know-how is also perceptible in certain texts, and the question of craftsmen's reputation in the palace is raised by the authors. They also show that the *chaîne opératoire* is more extensive than strict manufacturing processes, but also consider the ordering, distribution, and consumption of goods. Lastly, they emphasise that the history of crafts, artisans and material culture can only, with some exceptions, be done through the prism of those who are not the actors of production.

Louise Quillien provides a study of leather craftsmen (^{lú}ašgab, *aškāpu*) in Sippar and Uruk. These craftsmen were not only engaged in the production of footwear but also in other activities, and they were organized in teams. Her study of apprenticeship contracts leads her to conclude that, in addition to the leather craftsmen working for local temples, there were also craftsmen working in cities, some of whom were of foreign origin, involving possible transfers of know-how between specialists in urban areas.

Similarly, Rosaura Cauchi studies the bakers, the organisation of apprenticeship and the issue of foreign workers, especially from Egypt. Starting from the apprenticeship contracts and the house rental contracts, the author is able to bring to light different information: the bakers appear as slaves in the apprenticeship contracts, whereas they were in most cases free workers in the house

rental contracts. It seems that bakers had a high level of specialisation, which was reflected in the apprenticeship period of 1 to 2 years in Babylon and Sippar. Rosaura Cauchi shows also that master bakers were paid for investing a particular amount of time in the apprenticeship.

Value of artefacts and the importance of quantification

In addition to a qualitative evaluation of the data, various contributions highlight the importance of a quantitative approach.

In his article on the *mušaḫḫinu*, Yuval Levavi clearly shows, by noting the different occurrences, that the textual data do not describe the objects in detail, but nevertheless offer important information about the measurements, the value of the objects and their function. Indeed, the author analyses the prices of the *mušaḫḫinu* cooking pot, but also the measures of capacity and weight as recorded in the texts. It shows that there was no standardisation of this ware in a private context, and that measurements were not always present in contrast to texts emanating from institutions, underlining that accounting practices were clearly different from one context to another, translating again the importance of contexts for a study of material culture in the light of texts.

Grégory Chambon and Manon Ramez also highlight the issue of metrological data, 'norms', and 'value' of manufactured objects. They argueed that one can hesitate between effective or predictive figures depending on the case, even for texts dealing with crafts. Thanks to a case study, the authors are able to note that precious objects can be weighed by goldsmiths (kù.dím, *kuṭimmum*) on their own initiative, putting into perspective the idea of the trust or, on the contrary, the control that the palace of Mari could impose on the craftsmen. Similarly, the authors deal with the value by weight and the 'nominal value' of objects, showing that the price of a metal object in silver could be differentiated from the weight of the material.

By studying the prices of bread and linking this to the problem of the circulation of money, Rosaura Cauchi shows the possibility that bread could have been paid for in silver, but no small quantities of bread. The calculations provided by the author allow to approach the economics of bread producing: by examining rental contracts for workshop, she calculates an estimate of the number of litres of grain used per day by bakers to produce bread, and is able to derive an estimate of the working time per day of bakers. Through an analysis of the prices of shoes, Louise Quillien shows that they were accessible to the wealthy people. Nevertheless, the fact that they were given to workers and soldiers, but also that urban craftsmen practised in the capital, let think that they were also worn by a less well-off population.

Material Culture in Worship Context

The second part of the book focuses on aterial culture in worship context. The study of objects used during daily ceremonies and, more broadly, of all that composed the environment of Babylonian temples, allow the authors of the articles to develop an approach of the religious practices during the Neo-Babylonian period through their material expressions. The contributions are based in priority on textual sources, in particular on temple archive which provide the richest information on the preparation of offerings and the manufacture of objects of worship. Other types of texts such as rituals and royal inscriptions are also taken into account. The authors demonstrate the interest of confronting texts with archaeological and epigraphic data when it is possible.

The articles relate to objects used during daily worship and ceremonies, from vessels and utensils to the most sacred tiaras and crowns adorning divine statues. The first aim of these studies is to properly translate the Akkadian terms for *realias*, and to understand their nuances, thanks to the clues provided by their context of appearance in texts. Examples of this approach are the identification of the different sorts of beverages in each of the three main categories – beer, wine and milk – presented by Francis Joannès, and the classification of the terms for objects and for decorative elements in the more global category of divine headdresses proposed by Paul-Alain Beaulieu. Several contributions investigate the techniques of manufacturing used in temples workshops, which belonged to luxury crafts and often involved imported products, such as the preparation of perfumes studied by Laura Cousin. Bruno Gombert's article, in particular, traces the entire chain of manufacture of the divine weapons of the goddess Annunītu in Sippar. He shows the economy behind the making of these offerings of cult objects, with the mobilisation of resources, craftsmen and know-how that sometimes had to be sought in the capital, Babylon.

The manipulations of the objects of worship are also observed in the different papers. Their move and disposition in time and space were constrained by ritual practices. In his study of liquid offerings, Francis Joannès makes a distinction between static and dynamic rituals and shows, through an analysis of an Hellenistic ritual from Uruk, that the arrangement of the vessels on the table of the gods was dictated by strict rules following the mathematical notion of symmetry, as well as by the ranking hierarchy between the different deities.

Beyond the objects alone, the authors of this second chapter have also endeavoured to reconstruct the material environment that composed the atmosphere of the places of worship: the smells of perfumes, the drinks consumed together with the offered dishes, the radiance that came from the gods tiaras or the fear inspired by divine weapons. All these elements contributed to the polysensoriality of the ceremonies happening in Babylonian temples. Laura Cousin

explains how good smells were omnipresent in the sanctuaries, whether they emanated from the fragrant woods incorporated in the temple buildings, of weather they came from the smoke of prepared food or of perfume spread in ointments and fumigations during ceremonies. She also demonstrates how these pleasant smells, fleeting elements of expression of the divine power, were reflected in objects evoking them, like the flower and fruit ornaments that adorned the divine statues.

In the normalised and codified world of religious practices, material objects had of course meanings, such as the tiara which polarised divine powers. The contribution of Paul-Alain Beaulieu shows that the most precious materials were used to make the tiaras and crowns of the deities, which had to be visually very impressive. Their appearance and material form had a strong symbolic dimension and the ornaments chosen (such as the *ṣarīnu*) could refer to traditions.

Worship Places, Topography and Material Culture

The volume continues with a third part dedicated to architecture as a cultural and material experience. In particular, it explores the structure of temples, which were divided into sacred and secular spaces, focusing on certain objects or rituals associated with these spaces. It also highlights the role played by physically monumental and ideologically imposing structures such as gates, and finally it explores a developing trend in material culture to study the sensory dimensions of the built environment and the textual representations of these sensations.

The article by Francis Joannès discusses, thanks to the textual sources, the spaces of the sanctuaries bearing a name "*bītu* (é) + qualification", or bearing a particular name defining them (*bābu*). The article shows how the internal space of a temple was organised, with the presence of two types of space: sacred and secular. The sacred space was constituted by the *cella*s (*papāḫu*), as well as the buildings containing the sacred objects of the gods. The secular space consisted of the areas where people serving the gods prepare daily ceremonies related to food offerings (echoing his article on liquids), as well as jewellery, clothes, libraries. In addition, temple house utilitarian structures such as warehouses and granaries.

The subject of temple structure is also well addressed in Ari Kim's contribution on criminality in Uruk during the long 6th century. This subject has generated a large literature, and Ari Kim offers a synthesis of the cuneiform textual data referring to the city of Uruk, while proposing to treat them via the original concept of "criminal geography", that means by establishing a link between

the offences committed and their locations. Among the offences listed by Ari Kim in the temples of Uruk, one can find simple thefts as well as sacrileges perpetrated in the sacred space. While thefts occured edeverywhere, she is able to identify that assaults took place, for example, in the prison or at the doors. Ari Kim's article makes an interesting point about the prisons (*bīt kīli*) controlled by the temples. While the article provides information on the regularly stolen religious objects (especially worship vessels), it is taking the form of an embodied history, offering prosopographical elements on the identity of the criminals, whether oblates, staff members or people from outside the temple.

Finally, this chapter presents a common contribution by Rosaura Cauchi and Michael Jursa on gates as monumental institutions. This article deals with both the gate object and its concept, the institutional gate. It is a good example of the material experience induced by architecture, and allows us to reconsider the role of gates within the urban and cultic spaces. It discusses the construction and decoration of gates through a typology of these architectural objects. Gates convey the idea of magnificence, notably through the materials used to build them (woods, metals) as well as through the iconography that accompanied them. On the other hand, the authors show how gates structured the urban space: they were a point of access for goods, animals and people. They also played a predominant role in the cultic space, as liminalities, showing their importance within the rituals. Moreover, this article joins that of Ari Kim, as a proposal on embodied history, in establishing a number of propositions on the guards, the jailers, the chiefs of the gate.

Inscribed Artefacts as Material Culture

The last part of the volume deals with two studies of emblematic objects of the cuneiform culture: clay tablets and cylinder seals.

Babette Schnitzlein's paper proposes a study of cuneiform tablets and their insertion within the issues of material culture, due to their external appearance, their material characteristics and the different formats used to make them. The author focuses on the notion of *u'iltu*, in the corpus of Neo-Assyrian tablets, a term that she defines globally as a "one-columned tablet". This *u'iltu* tablet is mainly presented in landscape format. In the Neo-Assyrian corpus, colophons may mention the term *u'iltu*, particularly in scientific and literary texts. This type of tablet also appears in the library of Ashurbanipal at Nineveh, this time to designate the "long tablets", used to record incantations or lamentations. Finally, this paper offers a useful linguistic study, identifying some 35 terms specifically for inscribed objects.

Finally, Zoltan Niederreiter's article focuses on the prayers accompanying cylinder seals, dated between 1000 and 500 B.C. There was no systematic study

on this issue, so the author offers a useful catalogue through this case study, including unpublished objects. Zoltan Niederreiter studies two prayers, the first of which takes the form: "I have trusted in you, may I not be put to shame, o god", and may be dedicated to Marduk, Nabû or Nanaya. This prayer, being equally at home in the Assyrian and Babylonian corpus, is accompanied by engraved scenes, some of them with fantastic creatures, such as winged bulls. The other prayer studied takes the form of *šākinšu* (or *šākin*) *kunukki libūr* (or *lilbur*) and is related to depictions of contest, worship and pursuits, including a mythological scene connected to the *Epic of Anzu*, that especially stands out.

Research Perspectives

Methodological issues

From a methodological point of view, the authors, all epigraphists and text specialists in the first place, have endeavoured to reflect on and proposed a crossing of different types of sources when possible, whether they are of the same nature (textual, in their plurality) or of different nature (textual, archaeological, iconographic, and ethnographic).

The textual sources themselves are of different natures, which implies different methodological treatments when studying them together. Grégory Chambon and Manon Ramez propose a reflection on how to study craftsmen and craftsmanship through the administrative texts of Mari, written by accountants and officials, and that had a certain plurality of type and function, that historians must necessarily consider. According to the nature of administrative documentation, the authors showed that all the craftsmanship information is, indeed, an 'accounting unit', as administrative texts were written in the framework of accounting and bookkeeping practices. Highlighting the richness of these texts, the authors have also compared the data from accounting documents with others of different natures, such as letters and commemorative royal inscriptions, showing a necessarily cross-referencing of sources for a "total" and "embodied history" of craftsmen. Taking these methodological precautions into account, the studies in this volume show that the Neo-Babylonian documentation from institutional and private contexts can provide valuable information on the division of tasks between craft specialties, on the techniques employed, on the raw materials available, among other essential elements for the understanding of ancient crafts.

In order to interpret the terminology of the realia, the study of which is a prerequisite to the understanding of material culture through texts, it is also interesting to cross sources of different nature. By studying the *mušaḫḫinu*

cooking pot as one of the main elements of the furniture in private archives, Yuval Levavi highlighted the link between private and institutional archives, while noting that the domestic, worship, and commercial spheres are not always easy to distinguish as they may overlap. The author also showed the problem faced by Assyriologists and Archaeologists, namely the difficulty of being able to confront textual data with material data, especially on the question of capacity and weight measurements given in the texts and the ancient publication of archaeological data on ware.

Yuval Levavi thus showed the importance of interaction between specialists for effective cross-referencing of data from texts and archaeology, like Rosaura Cauchi in her article on bread production. By studying the production of bread in Babylonia in a private context, she focused not only on textual sources, but also on archaeological data in her search for Babylonian bakeries and bakers' workshops (architecture and tannurs). The articles by Francis Joannès, Michael Jursa and Rosaura Cauchi on the spaces and architecture of Babylonian temples and city gates take advantage of some of the achievements of archaeological excavations to better identify the location and appearance of the spaces and structures studied.

As the perishable materials being very little found by archaeologists, crossing textual data with iconography is useful. Without directly illustrating the texts, the iconography helps to propose hypotheses to interpret some textual data. By comparing administrative texts from Sippar and the depictions on the famous Sun-God Tablet, Paul-Alain Beaulieu identifies the meaning of the term *ṣarīnu*. Bruno Gombert makes hypotheses on the material aspect of the military equipment of the goddess Annunītu at Sippar thanks to an analysis of the form and decoration of weapons discovered in Neo-Babylonian tombs and of iconography of armed goddesses on the glyptic. Rosaura Cauchi noted examples of bread on Neo-Assyrian and Syro-Hittite stelae and reliefs and compared them with the textual descriptions. Seals, as Zoltan Niederreiter shows, are the object par excellence mixing iconographic scenes and written formulas.

The interest of comparing sources from different cultural areas to understand certain ancient techniques was also put into perspective: in his research on demotic soap, Damien Agut-Labordère compared demotic texts from Egypt and data on 'soap' in Akkadian texts of the first millennium BCE Babylonia. The author also studied the Coptic etymology and Greek equivalents of the Demotic term *ꜣnḏyr*, which allowed him to show that the word is a specific term for "soap", but that it had a metonymic meaning to designate a specific quality of natron, a mineral used in the saponification process. Rosaura Cauchi compared textual data with ethnography to understand bread production, for example the aspect and location of the tannurs in Babylonian cities. Future studies may go further in comparing sources and building the related methodology, without overlooking the problems and limitations of the approach.

Material culture in context

Several authors in this volume have put material culture into the perspective of economic and social, but also cultural and even political history. The study of material culture sheds light on certain aspects of daily life, for example the bread that is consumed every day or the use of kitchen utensils. Ari Kim's study is representative of this approach, as court texts are an infinitely valuable source of information on aspects of daily life that usually escape the written word. This is also one of the perspectives adopted by Rosaura Cauchi and Michael Jursa in their study of gates in Babylonian cities. It shows that all the daily interactions that take place at the gate had a crucial role in defining accessible and inaccessible spaces, in the circulation of the resources and manifestation of power and even in the gatherings of the population as a symbolically charged spatial landmark.

Yuval Levavi and Rosaura Cauchi have shown how the study of the material environment of the inhabitants of Babylonian cities could shed light on their economic and social organisation. Yuval Levavi reveals that the *mušaḫḫinu* cooking pot, appearing as a common object in the houses of Babylonian notables, was nevertheless an expensive artefact, an element of "basic prestige". He has thus demonstrated, through this case study, that it is possible to get an idea of the prosperity of the Babylonians of the first millennium BCE through the material culture present in the *dowry-related* texts. By studying bread production, Rosaura Cauchi was able to evaluate more generally that the degree of economic specialisation in this sector was significant. Her analysis of the organisation of bakery work enabled her to highlight that slave bakers worked for their masters, but that they could also sell their production on the markets for their own profit but also potentially to pay off their debts or those of their masters. The author also considered the production of bread from a commercial perspective, indicating however that the profession of baker was not really lucrative, and thus that this work was reserved for those who were not part of the elite, highlighting social history perspectives.

Other studies reflect on the social organization of production. Through his investigation of the demotic term *ꜣnḏyr* and the *chaîne opératoire* of soap production in Egypt, Damien Agut-Labordère concludes that "oil merchants" were responsible for the manufacturing of soap in the Theban region, in the 3rd–4th centuries AD. Grégory Chambon and Manon Ramez also proposed reflections on the link between artisans, clients/patrons and administrators in palace context, highlighting the question of production standards and protocols, and the involvement of patrons in the manufacturing process.

Sometimes, elements of evolution in material culture may be linked to political history. In addition of her study on leather shoe making, Louise Quillien has shown a certain continuity in the techniques used in the manufacture of

leather (at least since the third millennium BCE), but she has also noticed a type of high boots, the 'Hamban shoes', which are among the new leather objects attested in the texts of this period and that might be linked to contacts between Elam and Mesopotamia in the first millennium BCE. The contributions in this volume also show the political dimension that can influence religious practices presented as traditional and unchanging. An example highlighted by Paul-Alain Beaulieu is the creation of a new tiara for Samaš by king Nabonidus : the decision to make a horned tiara and not a feathered one, was a way to relate to the ancient religious tradition. Bruno Gombert demonstrates that this same king put forward the cult of Annunītu, a warrior goddess, by making new divine weapons for her, in order to promote both his religious policy of elevation of the god Sîn and the militarization of Babylonia to face the Persian power. Finally, Francis Joannès explains how the royal offerings to the sanctuaries, in order to please the deities, were also a demonstration of power. The variety of wines served at the table of the gods were, for instance, a visible sign of the expansion of the empire in the Neo-Babylonian period.

The study of the historical inscription of material culture should not make us forget the impact of the long term and the slowness of technical changes whose temporality defies historical periodisation. Zoltan Niederreiter thus reveals the continuities of the traditions of seal cutters from the Assyrian and Babylonian periods, and Laura Cousin places her study of perfumes in the long term, and numerous contributions have emphasised the continuities in terms of materials and techniques with previous periods.

Although working on different case studies, the contributions reveal common research themes and shared questions. The future activities of the ANR-FWF project will seek to enrich and develop the approaches outlined in this volume.

INDEX OF AKKADIAN, NEO-BABYLONIAN TERMS RELATED TO MATERIAL CULTURE

The index includes only the terms discussed in the book and related to material culture, crafts and architecture: materials and products (raw materials, food, liquids…), objects, professions, buildings and parts of buildings.

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