

The Scents of Larsa: A Study of the Aromatics Industry in an Old Babylonian Kingdom

Robert Middeke-Conlin
Université Paris Diderot

§1. Introduction¹

§1.1. Abstract

§1.1.1. The aromatics trade is a luxury trade with origins in distant antiquity. Ancient Mesopotamian and Egyptian techniques at perfume production are the roots of the Arabic perfume industry so famous in the Middle Ages (Levey 1959: 141). The south Arabian incense trade, so important to the Greeks and Romans, seemingly appears fully grown with the domestication of the camel (Groom 1981: 229). However, this trade and the production of perfumes arose from a much older tradition of which the sources are difficult to grasp. There are no texts which describe perfume production before the Middle Assyrian period, nor did the ancient Mesopotamians state where many of the raw materials they imported came from.

§1.1.2. This work will discuss the aromatics trade in the early Old Babylonian Kingdom of Larsa. It will be seen that at this time and place, a vibrant trade in fragrant products and raw materials existed which involved many sectors of the society and economy in the Kingdom of Larsa. In this section, section one, the groundwork for this discussion will be laid, starting with a history of aromatic scholarship, moving on to a textual discussion, and ending by stating both the modern and ancient terms

used to describe aromatics and perfumes, as well as defining the use and non use of the šim determinative. Section two will describe the manufacture of aromatic products; beginning with an examination of the materials used in production, moving on to an overview of the methods involved in perfume manufacture, then describing the perfumer, and finishing by exploring the places of aromatic production. Section three will discuss how aromatics and fragrances fit into the society and economy of the Kingdom of Larsa. This section will investigate the sources of aromatic raw materials, the people involved in the aromatics trade, and the availability and uses of aromatics in the Kingdom of Larsa's society.

§1.2. History of Scholarship

§1.2.1. Scholarship in aromatics in the early and middle 20th century took place in three often overlapping branches: investigating chemistry technology and production processes, identifying and defining the aromatics mentioned in texts, and examining their place in the economy and role of aromatics in society. The beginnings of the first branch of scholarship can perhaps be traced to several papers and books in the early 20th century, which dealt with "chemistry" in Assyria. Works, such as H. Zimmern's "Assyrische chemisch-technische Rezepte" in *ZA* 36 and Thompson's book on chemistry in the neo-Assyrian period, show the beginnings of scholarship on technical processes in Mesopotamia (Zimmern 1925 and Thompson 1925, respectively). These studies were important in that they brought about discussion of ancient Mesopotamian technology.

§1.2.2. However, it was not until Ebeling's *Parfümrezepte* and its precursors in *Orientalia NS* (E. Ebeling, 1950; 1948, 1949 and 1950a) that scholars began to discuss the technical knowledge held by ancient Assyrians in the field of perfume production. Not only did Ebeling pro-

¹ This is a revised version of my master's thesis presented to Yale in the spring semester of 2010. Thanks must be made outright to Benjamin Foster, whose kind instruction and keen eye were of significant help in translating the texts presented here and editing this work. Thanks also go to Karljürgen Feuerherm for allowing me to remark on and publish data found in YBC 3280, YBC 3287, YBC 5288, and YBC 5304, as well as for allowing me to look at his updated translations of YBC 5173, YBC 5274, and YBC 6817, previously published in his 2004 Dissertation. Additional thanks are given to Tina Breckwoldt for allowing me to remark on and publish here information from YBC 3365 and YBC 4402.

duce copies of Middle Assyrian chemical recipes, he also translated these recipes, in addition to providing a discussion and list of terms used in these recipes.²

§1.2.3. In 1955, Robert J. Forbes began his series *Studies in Ancient Technology* (Forbes 1965: vol. 3). This series, updated starting 1964, began to synthesize archeological materials and the written sources concerning chemistry. However, as the title implies, this series was devoted to technologies all over the ancient and classical world and the section dealing with Mesopotamian chemistry and in particular the aromatics industry are therefore very limited in scope and length.³

§1.2.4 It is not until 1959 with Martin Levey's book, *Chemistry and Chemical Technology in Ancient Mesopotamia*, that we see a discussion of the technology involved in aromatic preparation (Levey 1959: chapter 10).⁴ In addition to a chapter describing the "perfumery," there is a chapter on chemical apparatuses, furnaces, chemical extraction techniques, and oils, fats, and waxes (Levey 1959: chapters 2, 3, 4, and 6, respectively). Beyond Levey's book little discussion has appeared on chemistry technology, especially technology surrounding the aromatics industry.⁵

§1.2.5. There are two works in particular which deal with the second branch introduced above, identifying and defining the aromatics mentioned in texts: R. Campbell Thompson's *Dictionary of Assyrian Botany*, published in 1949, and Charles F. Myers' 1975 PhD thesis, *The Use of Aromatics in Ancient Mesopotamia* (Thompson 1949 and Myers 1975, respectively). These two resources offer in depth encyclopedic entries on many raw materials used in aromatic production, their uses, and their appearances

in literature. However, the latter of the two mentioned above is limited mainly to items referred to by the *šim* determinative in lexical lists (Myers 1975: 21) and relies heavily on the former for definitions (ibid. 21, n. 1) and the *CAD* and *AHw* for textual references (ibid. 24-25). It is therefore limited, leaving much out that could be mentioned in such an investigation.⁶

§1.2.6. In addition to these two works, numerous discussions on individual ingredients or ingredient types have appeared in many journals and books (For instance Potts et al. 1996). The series *Bulletin on Sumerian Agriculture* has been particularly bountiful in this way, as it has produced several articles that mention and describe materials pertinent to the aromatics trade since first appearing in 1984 (see for instance Van de Mieroop 1992b and Kupper 1992). Reference must be made to John Halloran's 2006 *Sumerian Lexicon*, where definitions and descriptions of many terms discussed here appear (cf. especially 259-261) and which this author was unfortunately not aware of at the time of submission.

§1.2.7. Discussion and identification of the role of aromatics in Mesopotamian society and its place in the economy has its roots in the publication of many texts such as the medical texts published by Friedrich Kuchler or those by R. Campbell Thompson (Kuchler 1904, Thompson 1923, 1930 and 1937).⁷ These texts often show uses for aromatic products in ritual and medicinal settings and their publication show the importance of aromatics in Mesopotamian society. This importance was further underlined in the Myers dissertation mentioned above (Myers 1975). The true strength of the Myers dissertation lies in its easy to utilize description of the attested uses for each aromatic that Myers mentions.

§1.2.8. Examination of the place the aromatics industry held in the economy begins with Leemans' book on Old Babylonian foreign trade (Leemans 1960). In this book we see for the first time the merchant's role in procuring

² Several of these translations were challenged in Levey 1959 discussed below. See his translation on p. 37 and those in his chapter on the perfumery.

³ Only 13 pages in length.

⁴ A precursor to his chapter on the perfumery appeared as an article in 1956 (Levey 1956) which discussed Mesopotamian chemistry, in particular the 'perfumery,' as compared to medieval Arabic technology. Much of what he said in the 1956 article is summed up and developed further in his 1959 book.

⁵ Some investigations have taken place, in the *Bulletin of Sumerian Agriculture* in particular, on areas relevant to aromatic production, particularly in the areas of oil production. See in particular Stol (1985) and Postgate (1985). However, these, while useful, tend to be limited to broad studies on terms used or descriptions of modern techniques involved in extraction.

⁶ For an example, see the discussions of *šim* determinative below, where three ingredients, *šim*₇-*sig*₇, *el*^{šim}, and *šim*^l₃, are mentioned that are normally not used for their aromatic quality but nevertheless occur with the *šim* determinative. Myers (1975) lacks this possibility.

⁷ These works are, of course, in addition to the numerous letters, rituals, laments, etc. that offer glimpses of aromatics used in society.

⁸ See, for instance, *CT* 29, 13-14, two letters which involve a merchant requesting his agent procure for him several fragrant oils and Leemans' synthesis of these letters (1960: 92-96).

resources for aromatic production and hints at their destinations.⁸ For the first time the reader is shown the aromatics trade as part of a greater economic system. Since Leemans' book, archives have been published, like those presented in *YOS 14, Early Old Babylonian Documents*, by Stephen D. Simmons (Simmons 1978), and discussed by D. Charpin in *Bibliotheca Orientalis* (Charpin 1979), or the oil texts discussed by Charpin in *MARI 3* (Charpin 1984) and those discussed by D. Soubeyran in *ARM 23* (Soubeyran 1984), which offer glimpses of aromatics and perfume production within the greater palace or temple administrative and economic structures. Finally, Daniel Snell's monograph, *Ledgers and Prices*, has shown aromatics as part of a greater economic structure during the Ur III period (Snell 1982; see in particular pp. 156-168 and 213-215).

§1.2.9. In addition to the avenues of scholarship outlined above, there have been several articles which survey the aromatics industry, in particular at Mari. Charles F. Jean's article "Pharmacopée et Parfumerie dans Quelques Lettres de Mari," which appeared in the 1949 volume of *Archiv Orientalní*, is the first such attempt (Jean 1949). This work discusses several documents which involve aromatics in the Mari royal archives. Divided into two halves, it starts out discussing the various salves and aromatics mentioned in the documents and, in the second half of his work, the use of oils. He saw oils used in several ways: foods, medicines, perfumes, and religious or quasi religious usages (ibid. 325). Noteworthy is the use of *u₂* / *šammum* to represent drugs in particular (ibid. 320). What is particularly striking about Jean's article is that it showed aromatics being used by the royal household in the Kingdom of Upper Mesopotamia (see the letter published, ibid. 328, B 287). Of further note, he is the first to discuss aromatics in the Old Babylonian period.

§1.2.10. Particularly noteworthy for their synthesis of the aromatics industry as a whole are H. Limet's "Pharmacopée et Parfumerie Sumériennes" in *Revue de la Pharmacie* 25, Francis Joannès "La Culture Matérielle à Mari V: les Parfums" in *MARI 7*, and most recently Michael Jursa, "Die Krall des Meeres und andere Aromata," in the Alexander Sima Festschrift (Limet 1978, Joannès 1993, and Jursa 2009, respectively). In the first article, Limet's goal is to investigate the perfume and pharmacological industries in the Ur III period and discuss current knowledge of the industry based on a comparative study of a text, *TCL 5*, 6042, with other texts from the time, letters from

Larsa, royal inscriptions, Ebeling's *Parfümrezepte*, Assyrian medical texts, and later accounts of perfume production from Dioscorides and al-Kindi.⁹ Of particular note is his discussion of the processes evident at Ur found on pages 153-157. The second survey, Francis Joannès' discussion, has a similar goal as Limet's survey but limited to the perfumery of Mari in the Old Babylonian period. His work provides a more detailed picture of the perfume industry at Mari due to the relative abundance of texts.

§1.2.11. Jursa's work discusses several ingredient lists and perhaps recipes for incense in the Neo Babylonian period (Jursa 2009).¹⁰ Of particular interest in this work is that prices for particular raw materials are collected, though a thorough treatment of these prices is not attempted (ibid. 157-166). In the final section of this work Jursa discusses aromatics within Neo Babylonian trade and society directly (ibid. 166-171).

§1.2.12. The 10th volume of the *Reallexikon der Assyriologie* offers a short overview of the perfume and aromatics industry in the Ancient Near East by Michael Jursa (Jursa 2005). The title, "Parfüm (rezepte)" is somewhat misleading since it deals with more than perfumes and perfume recipes. This work, while very useful as a tool to understand the history of scholarship concerning aromatics, is limited to outlining past studies in the aromatics industry, where they have gone and where they are lacking, while adding little to the discussion.

§1.2.13. Finally, appearing around this article's submission and thus too late for incorporation here, was Hagan Brunke and Walther Sallaberger's 2010 discussion of the Ur III aromatics industry at Umma within an institutional context. Discussion centers around Lugalzagim, šabra, translated as "Hauschefmeister" by Brunke and Sallaberger, in the city of Umma's administration (Cf. especially 42-45). In this work we see the need for and use of aromatics in cultic festivals (45-47), a lexical discussion of aromatics (47-51) and oils (52-54), aromatic use in the production of scented oils (described by the authors as "Rezepte von Duftölen," 54-62), as well as an investigation of aromatic prices (62-72). Brunke and Sallaberger provide an invaluable study of the aromatics industry in the Ur III period, the period immediately prior to the early Old Babylonian period discussed her.

al-Kindi is also discussed in Levey (1956) and again in Levey (1959).

¹⁰ Particularly pp. 148-151 BM 54060 and pp. 151-153 BM 77429. Some connections between the two are also discussed on pp. 153-157.

§1.3. *Terms of the Trade: a Textual Discussion*

§1.3.1.1. The texts collected here have two things in common; each deals with the aromatic industry and, aside from two letters (*CT* 29, 13-14, that are believed to be from Sippar; see §3.3.2.), are limited to the territory occupied by the Kingdom of Larsa in the Old Babylonian period. The earliest, *YOS* 14, 212, an oil bureau text, was produced in the fifth year of Sumuel's reign. The latest, NBC 8584, a receipt of various products, was written down in the 22nd year of Samsu-iluna's reign. It is difficult, if not impossible, to know the origin of many texts in this collection. Therefore, an attempt at providing the provenance of the tablets compiled here is not made. A wide variety of text types are examined in this collection, from a building inscription, to three letters, to deliveries, receipts, and other administrative and economic transactions. Each text provides a glimpse into the economic, production, and social processes involved in the acquisition, production, and use of the various fragrant products.

§1.3.1.2. It is often difficult to establish exactly what type of text is being examined in this collection. For example, there is no set format to separate deliveries, internal transfers, and disbursements of finished products from each other. Further, names of Merchants can appear representing the palace (see below under *ba-zi*). This difficulty is perhaps derived from the nature of the administrative apparatuses: Merchants are directly involved in palace and temple administrations (this will be discussed more in §3.3.3). This is discussed by Yoffee: "One of the most striking results of this concatenation of documents was the finding that texts that would otherwise have been routinely adjudged private documents when analyzed in isolation could be ordered as elements in a complicated administrative procedure" (Yoffee 1977: 144-145).¹¹

§1.3.1.3. With this in mind, we may note three different verbs which often occur in nominal forms that do help to define a document within its administrative system: mu-

DU, *šu-ti-a*, and *ba-zi*. In addition, several other terms can be used in the text to help describe the circumstances surrounding a transaction and establish the text's purpose. This is not the place for a detailed discussion of each term. However, an understanding of each word or phrase can help define a text's position within the administrative and economic systems existent in the kingdom of Larsa. Therefore, what follows is a brief summary of how each is used in the texts.

§1.3.2. Product Descriptions¹²

§1.3.2.1 *ku₃-bi*: Its value. This term refers to the silver value of a commodity. Curtis and Hallo already note in 1959 that "The usual entry 'x amount of commodity y' is occasionally amplified by the specification 'its silver (-equivalent) is z.'" (Curtis and Hallo 1959: 105) This is the usual pattern for the texts under discussion here. However, there is also seen 'x amount of y commodity, *kar q, ku₃-bi z*,' that is, 'x amount of y commodity, market rate q, its silver z.' See §1.3.2.2., *kar*, for this clause.

§1.3.2.2. *kar*: Market rate. This term is used to describe the market value of a single unit of a commodity, as opposed to *ku₃-bi* where the value of the whole commodity is described. A typical accounting often reads: 'x amount of y commodity, *kar q, ku₃-bi z*,' where x is the item quantity, y is the commodity name, z is its silver equivalent, and q is the market rate (Breckwoldt 1994: part III 133). Thus, when the silver of z is divided by the market rate of q, one should arrive at the amount of x: $x = z / q$. Conversely, if we multiply the amount of a commodity x by the market rate q we should arrive at its silver equivalent z: $z = x \times q$ and so on. Occasionally an odd rate is given, as in *TCL* 10, 72: 10: '1(*ban₂*) *šim kar 3 sila₃ ku₃-bi 3 1/3 gin₂*, '1 seah perfumed oil, rate of 3 (shekel) its value 3 1/3 shekel.' In this example, 1 seah of *šim* is valued at the market rate of only 3 *qum* without giving what this rate is. This is understood as 3 *qum* per shekel. The market rate is 1 unit = 1/3 shekel. 1 seah, equal to 10 *qum*, when multiplied by 1/3 is 3 1/3, the silver value given in the text. Thus, the market rate can be described by a unit quantity, in *TCL* 10, 72: 10, that quantity is in *qum*, which is the value of 1 shekel silver.

§1.3.3. Descriptions of Use

§1.3.3.1. *a-na/še₃*: For, to. This term states to whom, to where, or for what use a commodity is disbursed. It occurs in such phrases as *a-na* place name (*YBC* 4451: 5 *a-na e₂ gu-la*, 'to the e-gula'), *a-na* PN. / WP. (*YBC* 4451: 7 *a-na ir₃ e₂-gal / ta-al-pu-ni šu-ku₆ sag*, 'to the palace servant Talpuni, head *bā'uru*'), *a-na* purpose (*TCL* 10, 56: 6-7 *a-na šī-ib-ḫi-ir-tum / ša-mi-im*, 'to buy a small scrap'). In

¹¹ This is in reference to the Old Babylonian economy and administration. However, as seen in Van de Mierop (1992a: 241-250), the origin of the system Yoffee is discussing can be traced to the reign of Rīm-Sîn if not earlier.

¹² The sampling here is not large enough to add any discussion, nor would such a discussion fit into the scope of this work. There are several places which discuss these terms, such as Snell (1982: 11-53) on Ur III silver accounts, Van de Mierop (1987: 9-21) on craft archives of Isin, Talon (1985: 226-231) on accounting terms at Mari, and Zeeb (2001: 126-157) on accounting in the Old Syrian palace. For Larsa, Breckwoldt (1994: part III 119-156) discusses silver accounts.

YBC 10512: 5, še₃ is used instead of *ana*.

§1.3.3.2. *i-nu-(u₂)-ma*: When. Inūma is used to describe the circumstances of a transaction which presumably bear on the transaction. The reason for this clause can be difficult to grasp, as in YBC 5151: 2, *i-nu-u₂-ma ku-lu-am tu-ki-il-lu*, ‘when you withheld the withholding.’ (See YBC 5151’s textual commentary and §3) In other instances it states the reason for a transaction, as in *YOS* 5, 172: 8-9, where the reason for a transaction is described as ‘when Awilum was delayed at the temple of Inanna in Uruk’ (*i-nu-u₂-ma a-wi-lim [a]-na e₂-dⁱinanna / ša₃ unu^{ki} ik-ka-lu-u₂*).

§1.3.3.3. *ki-bi-ra*: From it. This is seen in YBC 5151: 5, where it is used to describe a secondary transaction derived from the main transaction in the text. The use is then enumerated. Its appearance represents a second transaction in which there is a second, or multiple other receiving parties. Thus, in YBC 5151: 5-6, 1 mina of arganum is allotted for oil manufacture that a second PN receives.¹³

§1.3.3.4. *nig₂(-šu)*: Good(s). This term is understood as implying the good(s) preceding it is/are property of the name which follows (cf. Akk. *būšu*, which *nig₂-šu* is equated with, *CDA* 50, *CAD* B, 353ff.). This word appears without *-šu* in YBC 10759: 4 “*nig₂ i-din^dsuen*,” and with *-šu* in YBC 4402 and in YBC 10758: 4 “*nig₂-šu i-din^dsuen*.”

§1.3.4. Disbursements and Deliveries

§1.3.4.1. *mu-DU*: Delivery. Yoshikawa states concerning this word in similar circumstances: “*mu-TUM* in the context like this is apparently not the finite verbal form, but a nominal ...” (Yoshikawa 1992: 393 n. 2). It occurs as ‘*mu-DU* PN,’ ‘delivery of PN,’ often with *šu-ti-a*.

§1.3.4.2. *ki*: From. Used with or without *mu-DU* or *ba-zi*.

§1.3.4.3. *ba-zi*: Disbursed. *ba-zi* is often used with *ki* and *šu-ti-a*. Transactions of this type are often single disbursements, or lists of a series of single disbursements (Breck-

woldt 1994, 125). The use here is limited to transfers within the administration and final products for consumption. However, the term *ba-zi* is a disbursement made by anyone acting for a palace or temple administration; as is seen by *TCL* 10, 54,¹⁴ where Itti-Sin-milki, Merchant overseer of Zarbilum, disburses 92 pigs for soldiers on the march to Ešnunna. This is understood as a disbursement for royal use, in this example for consumption by royal soldiers, made with a merchant as intermediary, the merchant overseer of Zarbilum in *TCL* 10, 54. Perhaps there is a similarity in use between this verb and ‘*zi-ga*’ at Mari.¹⁵

§1.3.4.4. *šu-ti-a*: Receipt. This, like *mu-DU*, is a nominal form. It is often, though not always, used with *mu-DU* or *ba-zi*. Van de Mieroop translates this phrase “receipt (by) PN” (Van de Mieroop 1994: 316) This term could also be translated as “revenue, income” (*šu-ti-a* = *melqētu*, *CAD* M, 13), as in *AUCT* 4, 87: 5-6, a text from Larsa: “*a-na šu-ti-a / 1 gin₂ ku₃-[babbar]*,” translated by Sigrist as “1 shekel of silver as salary.” *šu-ti-a* in *AUCT* 4, 87, can perhaps be understood as literally “for receipt of 1 shekel silver (as compensation).” The finite verb, *šu ba-an-ti*, occurs in NBC 8584: 8.

§1.3.5. Others Involved

§1.3.5.1. *giri₃*: Via. This word is used for all transfers and disbursements, usually within an administrative hierarchy. *giri₃*’s use implies that the ultimate recipient of a transaction, usually described by *šu-ti-a*, was not present during the transaction. At Mari, the *giri₃* official was often used with important transfers of valuable products and materials within an administrative apparatus (Talon 1985: 228-229).¹⁶ At Isin, this individual was used for all transfers, whether during deliveries, within a workshop, or in the movement of finished products (Van de Mieroop 1987: 9-18).

§1.3.5.2. *kišib₃*: Seal of. In MLC 1683 this word forms part of the verb *kišib₃-ra*. In the oil bureau texts, the noun is used most often with the *ša₃-tam* official. In all uses, it is a form of administrative oversight. An administrator is used to verify a transaction. I do not follow Snell’s understanding of this term for the Ur III texts, as the ultimate recipient in a transaction (Snell 1981: 29). *kišib*’s use follows Van de Mieroop’s description of use for the early OB city of Isin (Van de Mieroop 1987: 9-18, in particular 18).

¹³ Unfortunately, the text is broken. It is likely not the same person as the receiver of the main transaction, as this PN. is listed as the distributor of the secondary transaction.

¹⁴ Translated and commented on by Leemans (1960: 146 and 166-171) as well as by Breckwoldt (1994: part V 66-67 and part III 126-127).

¹⁵ Talon (1985: 231) understands this term as “sorties” of goods.

¹⁶ He is supervised by the *ebbūtum* official, who occasionally appears along with the *giri₃* official to oversee transfers of greater importance or value.

§1.3.5.3. *inim*: Order. It is suggested here that *inim* is used to state by whose authority a transaction is performed.

§1.3.6. Towards a Typology

§1.3.6.1. While it is often difficult to establish exactly what a text is, three general types of texts can be suggested based on the evidence available here: deliveries of raw materials and finished products into an institution, transfers within said institution, and disbursements of finished products for use by the institution. Not all texts fit neatly into this system, such as YBC 5151, where both a delivery and internal transfer are visible. Indeed, as stated above, there does not seem to be a standard format for any type of text. What can be surmised is tentatively proposed here.

§1.3.6.2. In the first type of transaction suggested, Van de Mieroop notes two possibilities at Isin which seem to be the case here: a delivery from the perspective of the deliverer and from the perspective of the administration (ibid. 9-11). The former, transactions from the viewpoint of the deliverer, often uses the term *mu-DU* followed by an individual who is usually a merchant.¹⁷ Often preceding the deliverer, but in one instance after, is *šu-ti-a* followed by one or several personal names, understood here as institutional administrators.¹⁸ Several groups of receivers can be enumerated on a text, which correspond to different transactions.¹⁹ In addition, the silver equivalent (*ku₃-bi*) of the items delivered, and more rarely the market rate (*kar*), can be enumerated in such transactions.²⁰

§1.3.6.3. The second type of delivery, from the institutional perspective, lacks *mu-DU* but often has the silver

equivalent enumerated. There are only two of these in this corpus: YBC 5232 and YBC 5765. In the former, there is a receiver, marked by *šu-ti-a* PN, and the deliverer is described by *ki* PN. The latter is broken and a full typology is thus impossible.

§1.3.6.4. MLC 1683 and YBC 5151 both seem to be deliveries, though they lack the product values. This understanding is based on circumstances described in each text. The former is understood as the separation and sealing of items owned by the administration and stored in a deceased official's household. As such, the executor of the estate sealed the royal property for delivery to the administration. The second, YBC 5151, where the phrase *i-nu-u₂-ma ku-lu-am tu-ki-il-lu*, 'when you withheld the withholding' is used. The deliverer in question, Watar-Šamaš, is perhaps the same individual as that treated by Feuerherm (Feuerherm 2004: vol. 1, 6-55, where he is a servant of Abu-waqar, a nagar, or both). I understand this text as a collection text from a private individual or member of a private household by a temple or palace administration.

§1.3.6.5. The latter two transaction types, internal transfers and disbursements of finished products, are typically designated by the verb (*ki* PN) *ba-zi* or just *ki* PN. The name of the person disbursing the item is not always given.²¹ Both usually have a receiver marked by *šu-ti-a*. Both can also make use of a conveyor, designated by *giri₃*, 'via.' It can be difficult to tell these two text types apart, especially when dealing with a raw material that can be used as a finished product (see §2 and §3.4). One text where an internal transfer is specifically mentioned is YBC 5151, a delivery already mentioned above. In this text one mina out of six delivered is separated by means of the term 'ki-bi-ta' for perfume production (*i₃-šeš_x*, lit. oil allotment). It is then transferred to a third party, possibly the perfumer, from the recipient of the initial delivery.

§1.3.6.6. A use is often mentioned in disbursements of finished products.²² Thus we see in *TCL* 10, 71, the term *ana* to state a destination, such as *a-na e₂-nin*, 'for the queen's house,' in column i l. 28. In addition, *šu-ti-a* without *ki* or *ba-zi* can appear. This occurs in *TCL* 10, 71-72, both receipts of finished products, and *TCL* 10, 81, understood as an internal transfer of products or a delivery of products from the administrative perspective.

¹⁷ Such as Itti-Sin-milki, the merchant overseer of Zarbilum, who appears in *TCL* 10, 56, 57, 61, and 72. This merchant appears in the most deliveries collected here. As overseer of merchants, he also would act in an official capacity. This will be discussed more in §3, 'The Merchant, the Administrator, and the Craftsman.' Two others also appear: Adallal-Ayya in YBC 7189 and Sin-bel-aplim in YBC 10512. The latter of the two is by far the earliest of this type of delivery, tentatively dated to the reign of Sinqišam. Its features do not follow those of the other texts.

¹⁸ Two occur repeatedly: Ikūn-pi-Adad and Ili-Idinnam in *TCL* 10, 56, 61, and 72, all of which correspond to deliveries of Itti-Sin-milki and range from Rīm-Sîn years 22-27.

¹⁹ As in *TCL* 10, 56, where four groups of receivers are listed.

²⁰ See *TCL* 10, 56, for the silver value and *TCL* 10, 72, and YBC 10512 for the silver value and market rate.

²¹ As in *YOS* 5, 171, 172, and 194, where *ba-zi* is used without a name, or *TCL* 10, 71 and 81, where a series of disbursements are described without *ki* PN or PN *ba-zi*.

²² Such as with the term *a-na, še₃*, or *i-nu-(u₂)-ma*.

§1.4. What Was an Aromatic?

§1.4.1. The definitions of some modern and ancient terms pertinent to this study will be established here in order to better understand the aromatics industry. In this section there are two parts: The first is a brief survey of modern definitions surrounding aromatics and their ancient counterparts. The second part is limited to describing the *šim* determinative as it was used in the kingdom of Larsa. The purpose of this section is not an in-depth discussion of each, but to state fundamental concepts which will be examined in more detail in the following sections.

§1.4.2. Definitions

§1.4.2.1. The transfer of definitions between the modern world and ancient Mesopotamia is not always one to one. Different understandings of the world around the ancient Mesopotamians and around us often lead to different or overlapping descriptions of items and concepts. This part of the section attempts to survey these items and concepts, starting with the modern and followed by the ancient Mesopotamian. Not all modern words or concepts enumerated or mentioned in the following pages have a direct ancient cognate. But these words or concepts could be understood as a constituent or sub-category of another term or phrase native to ancient Mesopotamian thought.

§1.4.2.2. We will start with the modern definitions found in Merriam-Webster. The word “aromatic,” as a noun, has two possible meanings: “1: an aromatic plant or plant part; *esp*: an aromatic herb or spice 2: an aromatic organic compound.” As an adjective, aromatic is anything “of, relating to, or having aroma: a: FRAGRANT b: having a strong smell c: having a distinctive quality.”

§1.4.2.3. In addition to the term “aromatic,” several words have been or will be used to describe aromatic products and raw materials: ‘perfume,’ “incense,” “condiment,” “resin,” “oleo-resin,” and “gum.” Perfume, as a noun, is described as: “1: the scent of something sweet-smelling 2: a substance that emits a pleasant odor; *esp*: a fluid preparation of natural essences (as from plants or animals) or synthetics and fixatives used for scenting.” As a verb, perfume means “to fill or imbue with odor.” Incense is defined as “1: material used to produce a fragrant odor when burned 2: the perfume exhaled from some spices and gums when burned; *broadly*: a pleasing scent.” A condiment is “something used to enhance the flavor of food; *esp*: a pungent seasoning.” Resin is understood as “1 a: any of various solid or semisolid amorphous fusible flammable natural organic substances that are usu. transparent or translucent and yellowish to brown, are formed *esp*. in plant secre-

tions, are soluble in organic solvents (as ether) but not in water, are electrical nonconductors, and are used chiefly in varnishes, printing inks, plastics, and sizes and in medicine... 2 b: any of various products made from a natural resin or natural polymer.” Oleo-resin is: “1: natural plant product (as copaiba) containing chiefly essential oil and resin; *esp*: TURPENTINE 1b 2: a preparation consisting essentially of oil holding resin in solution.” Finally, a gum is “1 a: any of numerous colloidal polysaccharide substances of plant origin that are gelatinous when moist but harden on drying and are salts of complex organic acids ... b: any of various plant exudates (as oleoresin or gum resin) 2: a substance or deposit resembling plant gum (as in sticky or adhesive quality).”

§1.4.2.4. Several of these terms have a rough equivalent in Akkadian and/or Sumerian (see §6.1 for more discussion of each term mentioned here). Thus we see Akkadian *rīqu*, Sumerian *šim*, translated variously as “Duftstoff, Würzholz,” an “aromatic plant,” and an “aromatic substance.” (*AHw* II 988, *CAD* R 368, and *CDA* 305, respectively) Akkadian *urū*, Sumerian *šim* *hi*-a is defined as “aromatics,” and “Bez. für Räucher-Kräuter” (*CDA* 427 and *AHw* III, 1436, respectively). *šim* *hi*-a is understood here as general term for a mixture of perfumed oils (see §1.4.3, §2.3, and §6.1 for more on this term). Akkadian *hīlu*, Sumerian *a*-kal, is described as an “exudation of plants, resins,” “exudation, resin,” “Harz,” and “gum” (*CAD* H 188, *CDA* 116, *AHw* I, 345, and Thompson 1949: 338, respectively). In addition, Limet points to the use of Sumerian *šim*-*du*₁₀ to describe resins and *šim*-*im* to describe gums (Limet 1978: 149). These understandings are followed here. Finally Akkadian *qutrīnu* is translated as “incense” (*CAD* Q 323, *CDA* 292) and “Weihrauch-(opfer)” (*AHw* II, 930).

§1.4.2.5. Other words, like “perfume,” “oleo-resin,” and perhaps “gum,” do not have a direct equivalent but were understood as sub-categories or types of other words. Thus, the term perfume, “a substance that emits a pleasant odor,” can be understood as part of Akkadian *rīqu* and Sumerian *šim*, which underlined an items fragrant quality (this will be further elaborated below, §1.4.3 and §2). As a manufactured product, perfumes were often described by their base, such as oil or more rarely water. Thus we see items like cedar oil or cypress oil, understood by the modern reader as a form of perfume, described by the ancient Mesopotamian living in Larsa as oil (§1.4.3 and §2). We also see the Sumerian word *i*₃-*du*₁₀-*ga*, literally ‘fine oil,’ used to describe any processed oil, including perfumes (see §2.2.3 and §6.1). Oleo-resins and gums were likely described by the word *hīlu*, ‘resin.’ Indeed, Thompson

understands *ḫīlu* as a gum while *rīqu* is the equivalent of resin or essence (Thompson 1949: 335-339; see also §2.2 and §6.1).

§1.4.2.6. What must be understood here is that the terms used by the ancient Mesopotamians often overlapped in their use. Therefore, we see the word for aromatics, *šim* or *rīqu*, also in use as a general term for perfumes and perfumed products, and as a determinative for anything having an aromatic quality, such as perfumed oils and incenses, both resinous and as wood shavings (for more on this see below, §1.4.3 and §2), while the word for resin, *ḫīlu*, was also used for oleo-resins and gums (Thompson 1949: 336-337). Thus, identifying an aromatic exactly can be difficult and is often impossible.

§1.4.3. *šim* Determinative

§1.4.3.1. This part's purpose is to outline the use and non-use of the *šim* determinative. As a determinative, *šim* is often given artificial values and limitations based on preconceived notions and opinions of what it should mean. Thus we read in Thompson concerning the determinative and *rīqu*:

Our Assyrian word rīqu is at once referable to the Arabic rawwaqa "to clarify", and its derivation rāwūq "filter" and raiq "the best part of a thing", so that if we pursue this meaning in the determinative ŠIM(rīq), we should get an indication of a fluid from another substance, which will admirably suit the gum-resins which it makes... Riquu (rīqu), then, represents the substance which have oozed or filtered forth from trees... The word, therefore, which would appear to cover rīquu (rīqu), the evacuations or filtering of trees, is, I suggest, "essence", with all its comprehensive English implications (ibid. 336-337).

§1.4.3.2. In the Old Babylonian period and earlier there is no cause for limiting either the term *rīqu* or its corresponding determinative to a resin or an "essence." Indeed, as Limet argues, there is no hint in the textual evidence for a process of extracting the "essence" as C. Thompson describes (see Limet, 1978: 154, contra Levey 1959:

²³ Levey notes on page 31 that the pottery needed for distillation existed dating back to 3500 BC. Limet, however, does not see evidence for this in the texts. It can be stated, then, that while ceramic technology may have existed which allowed for the production of aromatic essences, there are no textual evidence for this ceramic technology's application to such production.

²⁴ For instance, ERIN / *erēnu*, cedar, of which Myers even states in his dissertation "frequently the GIŠ determinative was used and sometimes both the GIŠ and the ŠIM determinatives were used with ERIN" (ibid. 21).

31).²³ Myers states describing the determinative: "šim became the determinative for all plants and substances which the Mesopotamians classified as aromatics" (Myers 1975: 21). This, however, ignores the fact that many materials, including some in his dissertation, can and often do occur with different determinatives²⁴ while other materials that do not normally receive this determinative appear on occasion with it.

§1.4.3.3. My definition of the *šim* determinative is: 'anything of which the primary, observed, or desired value is its aroma.' To examine this determinative, evidence will be brought from both within and without of the corpus presented here. Several aspects of the *šim* determinative are discussed: Its use was not limited to items generally recognized for their aromatic quality. Nor was it always used with items valued or known for such a quality; indeed, the use of another determinative could be used with an aromatic item to outline another quality it was to be used for. Further, some items need not have this determinative; in particular items of which its use would have been redundant. This also allowed an aromatic item to take a different determinative. The use or non use of the *šim* determinative tells us much about an item's qualities and purpose.

§1.4.3.4. The use of the *šim* determinative with some items in the texts is very unusual, for instance ^{šim}sig₇-sig₇, e^{šim}, and ^{šim}lal₃ in the primary corpus (MLC 1683: 2, NBC 8584: 3, and YBC 10758: 1, respectively). With each of these items, the use of the *šim* determinative helps to underline a specific quality of the items and perhaps helps enumerate their uses. The first listed, ^{šim}sig₇-sig₇, possibly Akkadian *guḫlu*, normally occurs with the *im* determinative which describes it as a paste. Here as well as in other Old Babylonian texts (see its entry in Appendix I below for other occurrences of this item in the OB period), the use of *šim* with this sig₇-sig₇ tells us that this

²⁵ I follow Feuerherm's designation of this item as Akkadian *guḫlu* (see his commentary to YBC 5274, Feuerherm 2004: vol. 2, 109), but its use with *šim* helps support its designation as bdellium, as suggested by Potts et al. 1996. Potts, et al states that this material was used "not only as incense but also as an aromatic ointment, which agrees with the use of *guḫlu* as a cosmetic in the Near East" (Potts et al. 1996: 300). Its use with *im* may serve to underline its function as an ointment or paste, while its use with *šim* may underscore sig₇-sig₇'s use as incense.

²⁶ In addition, see below, §2.2.3, where *šim* is used with i₃-du₁₀-ga geš-gal-gal to produce 'refined (aromatic) oils of large trees.' This, again, is an exceptional use of the determinative, though from the Ur III period.

item was also known and used for its aromatic quality.²⁵ $el^{šim}$, Akkadian *akkullaku*, normally takes the u_2 determinative before it. el 's use here with $šim$ in postposition is an exceptional occurrence, pointing to its aromatic quality. The same can be said about lal_3 , Akkadian *dišpu*, honey, which normally occurs without a determinative. Each of these items normally appears with a different determinative or without a determinative. Their occurrence with $šim$ both shows they held a recognized fragrant quality and shows that this quality was what each item was used for.²⁶

§1.4.3.5. The $šim$ determinative was not always used with materials that had or were used for their aromatic quality. The use of a determinative other than $šim$ with these items may point to a different use or form. Three examples will be used here to illustrate this point: the use of $geš$ with two different items in NCBT 1808 and *TCL* 10, 57, as well as the use of $geš$ in lines 134-135 of the Curse of Agade.

§1.4.3.6. Cypress, $šu-ur_2-min_3$, is written with the $geš$ determinative for wood in NCBT 1808: 5. However, its occurrence between $šimše-li$, juniper berries, and $šimše-gir_2$, an unidentified aromatic,²⁷ in this receipt attests to $šu-ur_2-min_3$'s use for its fragrance. Further, its appearance with $geš$, in addition to $šu-ur_2-min_3$'s measurement by weight (2 minas, 1 kg), marks it as a raw material. Before it, $šimše-li$ is measured by capacity which shows $še-li$ was possibly an oil or, more likely, a seed or berry. After it, in the same receipt, $šimše-gir$ and $šimaz$ are measured by weight as well (both 2 minas, 1 kg). I believe these later two as well as $geššu-ur_2-min_3$ are all condiments as they appear on a text with other condiments and are destined for a kitchen (line 9: *a-na gir_4-maḥ*, 'for the Girmaḥ'). The difference between these three items measured by weight here seems to be that $geš$ is used to differentiate a condiment derived from the tree's wood or foliage from two resinous condiments which are designated by $šim$.²⁸

§1.4.3.7. In *TCL* 10, 57: 7 cedar, Sumerian *eren*, occurs with $geš$ as its determinative and is measured at 11 minas, 5.5 kg. It occurs after $šim hi-a$, translated as mixed perfumes, in line 6 and i_3-sag , premium or virgin oil, in line 5, both finished products. These show us that $gešeren$ in this

occurrence is probably also a finished product, though it is in its raw form. Its destination is a royal sacrifice (10: " $geštag-ga lugal$ "). Thus, it is likely a form of wooden incense, as opposed to a resin which would have taken the $šim$ determinative (§2). The scribe in this text, as well as the previous, is trying to tell us exactly what the item in question is by means of the determinative.

§1.4.3.8. The third example comes from the Curse of Agade, where another determinative appears which underlines that the material was not supposed to be used for its fragrance. The lines in question are 134-135: " $gešeren geššu-ur_2-min_3 gešza-ba-lum geštaškarin/ geš gi-gun_4-nabe_2-eš_3 GUM ba-an-sur-sur$ " (transliteration from Cooper 1983: 56). I believe this passage refers to the grinding up of woods for their use in aromatic perfume production and translate them thus: "cedar, cypress, juniper, boxwood, woods for its *giguna* he ground up completely for (fragrant) oils" (for this understanding, see §2.3). The importance this text bears on our discussion here rides on the use of $geš$ as a determinative instead of $šim$. This work is describing an act performed by Naram-Sin which goes against what is normal and proper. The woods mentioned are supposed to remain as paneling and furniture in the *giguna*. The author underlines this by the use of $geš$ for wooden objects, not $šim$ for a fragrant material. The non-use of $šim$ helps to underline the author's point: these woods are to remain in the *giguna*, in their original state. It also points to a sin of Naram-Sin, in that he has these woods ground up for perfume production, an act which goes against the woods' purpose.

§1.4.3.9. Finally, $šim$ was not always necessary and its use would have been redundant in certain instances. Again, three examples will be given: *bibištum*, $šim hi-a$, and three perfumed oils, all of which occur without determinatives. *bibištum*, mentioned in NBC 8584: 1 is defined by the *CAD* as "(1) cuttings (of undefined nature), (2) cuttings of resinous and aromatic substances, (3) plants yielding aromatic substances, (4) fragrance; from OB on" (*CAD* H 180). This term, as described by Myers, "is an Akkadian word which was used generically to refer to cuttings and aromatic plants" (Myers 1975: 74).²⁹ As a generic term for aromatic cuttings and plants, its fragrant quality was understood. The use of $šim$ with this item was both unnecessary and redundant.

²⁷ Possibly myrtle seed, though this understanding is problematic. See its entry in §6.1.

²⁸ For more on this see §2, esp. §2.5.2, where the use of aromatics as a raw material in the kitchen is discussed. See also NCBT 1808's commentary for more on this document.

²⁹ This term is used in connection with perfume production in *OIP* 2, 116 viii: 71, though this is a later usage from the annals of Sennacherib. More will be said on this term in §2.2.2.

³⁰ More will be said on this term in §2.3 and §6.1.

§1.4.3.10. The same can be said for *šim hi-a*, which occurs in *TCL* 10, 57: 6, *TCL* 10, 71 iv: 56, *TCL* 10, 72: 16, and YBC 5169: 2. *šim hi-a* is, again, an item name, mixed perfumes. Thompson treats *šim hi-a* as a form of *riqqu*, which he sees as a generic term for aromatic resins (Thompson 1949: 337; for this term, see above, §1.4.2 and below, §6.1). The quantity of this item in YBC 5169 is curious and helps explain my translation, “mixed perfumes.” *hi-a* cannot refer to this item’s plurality as it is 1 seah, measured as a single item. However, *šim hi-a* can be explained if this is a mixture of various fragrant substances, in my opinion oils, which are measured as a unit of capacity.³⁰ The item in question, oil-based or not, as an aromatic substance is already recognized for its fragrance and again, the use of the *šim* determinative would have been both unnecessary and redundant as those reviewing the record would understand immediately its aromatic quality. Further, the non-use of *šim* again allowed for an additional determinative such as *geš* with *šim* in YBC 5257: 1.

§1.4.3.11. Finally, cypress oil, *i₃-šu-ur₂-min₂*, cedar oil, *i₃-geš-eren*, and myrtle oil, *i₃-a-su* all occur in two letters: *CT* 29, 13-14.³¹ In all instances there is no determinative.³² However, they are all forms of perfumed oil, their fragrance was understood. Indeed, Charpin translates each of these items respectively as: “huile parfumée au cyprès,” “huile parfumée au cèdre,” and “huile parfumée au myrte” (Charpin 1984: 112, 111-112, and 111, respectively). The use of the determinative with each of these oils was unnecessary as again they were finished products already known for a fragrant quality (for more on this see §2.3).

§1.4.3.12. What is to be taken from this part is that the determinative was used to describe the item it augmented; it gave the reader a better understanding of what was being dealt with. Another determinative could replace *šim* when appropriate. The use of one determinative over another can lead to a big difference in understanding and helps to define an item. Further, it was not necessary in

³¹ *i₃-šu-ur₂-min₃*: *CT* 29, 13: 13, 31, *CT* 29, 14: 7, 18; *i₃-geš-eren*: *CT* 29, 14: 20; *i₃-a-si*: *CT* 29, 13: 12, *i₃-a-su*: *CT* 29, 14: 19

³² I understand *i₃-geš* in *i₃-geš-eren* as the quality of oil, not a determinative for wood. One must be aware of the opposite possibility, however – that it is a determinative for *eren*.

³³ Jursa 2009 offers discussions of incense lists and perhaps recipes albeit from a much later date in the neo-Babylonian period.

some instances and could be redundant. This redundancy was solved by omitting *šim* or replacing it with another determinative to better qualify the item in question.

§2. Production and Aromatic Products

§2.1. Introduction

§2.1.1. In addition to a history of aromatics scholarship and a textual discussion, §1 described basic meanings in the study of aromatics, as well as how the *šim* determinative was used in the kingdom of Larsa. This section will investigate aromatic products and production. According to the texts, there were several aromatic products which required varying degrees of processing. Items used as condiments, such as those in NCBT 1808: 4-7 which were delivered to the *gir₄-maḥ* at Ur, or those used as incense, such as in *TCL* 10, 72: 11-14 which were delivered for a royal sacrifice, did not require much processing at all. They were consumed in their original form or perhaps mixed together and with oils to form more complex fragrances.³³ However, perfumes and fragrant waters required much skill and effort to produce the final product.

§2.1.2. YBC 5151 exemplifies this distinction of worked and un-worked products (this text is discussed in §1.3.6 and §3). It is a delivery of six minas of a fragrant substance, *arganum*, to an administrator. This administrator removes one mina of the delivery for oil production. In this example, the use of only one mina in oil production is important. This means five minas must have had different uses which did not require the perfumer.

§2.2. Raw Materials

§2.2.1. In the texts examined, there are two main types of aromatic raw materials: those derived from plants and trees, and those which are the plants or trees themselves. The former are seen in several forms, such as berries, resins, and gums.³⁴ The latter, as noted by Joannès concerning perfumes in the city of Mari, could take the form of twigs or pieces of wood.³⁵

§2.2.2. Evidence³⁶

³⁴ See for instance, juniper berries (*šimše-li*) in NCBT 1808: 4, cedar resin (*šimdu₁₀-eren*) in YBC 5765: 1, and bdellium (*šimsig₇-sig₇*) in MLC 1683: 2 respectively.

³⁵ Joannès 1993: 259; this is seen here, for instance, in YBC 10512: 2 where *geš-nig₂* is used to describe a chunk of wood delivered to the *e₂-i₃-ra₂-ra₂*, or with Akkadian *hibištum* discussed below.

³⁶ This section sums up key points already made in §1.4.

³⁷ Note that these terms do not appear together in the texts. When one occurs, the other is absent. This lends support to the understanding that both are terms for resin.

§2.2.2.1. There are several words which describe aromatic raw materials specifically: Akkadian *hibištum*, understood here as ‘aromatic cuttings’ as well as Akkadian *hīlu* and Sumerian *šim-du₁₀*, both understood as ‘resin’ and perhaps even ‘gum’ (see §1 and §6.1 for more on these terms). The first term, *hibištum* is used independently and may be understood as a general term for raw vegetable materials such as foliage, woods, bark, etc. As a general term, however, it does not state the material’s nature specifically. The former two, *hīlu* and *šim-du₁₀*, both appear most often as the head in a genitive chain.³⁷ Thus we see *šim hi-li hal* in YBC 4451: 3, *šim hi-il ba-lu-lu* in *TCL* 10, 71: 22, and *šim-du₁₀-eren* in YBC 5761: 1. Further evidence for an aromatic raw material’s form can occasionally be seen by the determinative it takes and the unit of measure it is described by. Therefore, an aromatic that takes the *šim* determinative and is measured by weight is likely a form of resin, especially when the *geš* determinative is used to describe another aromatic material measured by weight in the same text. The material described by *geš* would then be a wooden or vegetable product. The name of a material along with its context can also describe the form it took or its use as a raw material. Thus *šimše-li*, measured by capacity and surrounded by condiments in NCBT 1808, refers to its form as juniper berry or seed (for more on condiments, see §2.5.2 and §3.4), while the four woods mentioned together in *TCL* 10, 72, mentioned above, all measured by weight and occurring with other finished products destined for a royal sacrifice are all used as wooden incense.

§2.2.3. Aromatics and Oils

§2.2.3.1. As already mentioned (§1.4), oil was used as the vehicle for most perfumes in Mesopotamia during the first centuries of the 2nd millennium BC.³⁸ Thus, the qualities and grades of oils, and how these qualities affected perfume production, will be discussed here. There are three main designations for oil in the texts: *i₃-geš*, *i₃-du₁₀-ga*, and *i₃-sag* (see §6.2 for the distribution of each). Of all three types, *i₃-geš* appears the most often, and is the only one that can be directly related to perfume production.³⁹ It is perhaps to be translated as simply ‘vegetable oil,’ but implied sesame oil in the Kingdom of Larsa,⁴⁰ and, on occasion, is used as a general term for any oil product.

§2.2.3.2. The reasons to understand *i₃-geš* as sesame oil, as opposed to another oil type, such as linseed, almond, or olive, are manifold. First, as opposed to the almond or olive, the sesame plant can be locally grown.⁴¹ Both the olive tree and almond were limited to the Mediterranean basin.⁴² Further, as a summer crop, Sesame does not interfere with the barley cycle (Charles 1985: 49).⁴³ Indeed, it thrives with high heat and much sunlight (Renfrew 1985: 64). Second, as F. R. Krause showed in his 1968 article “Sesam im Alten Mesopotamien,” sesame was very likely cultivated in Mesopotamia during the Old Babylonian period.⁴⁴ Third, the nature of sesame oil is such that it is easily used as a vehicle for fragrances. Sesame oil, as well as safflower oil, yields the highest quality of fixed oil (Charles 1985: 50). In addition, it, unlike safflower but like olive and almond oils, is a non-drying oil, a term which “reflects the level of saturation and is mea-

³⁸ Limet (1978: 154), against Levey (1959: 38), explains there is no evidence in the Ur III period for the production of essential oils. This is followed by Joannès (1993: 253), who also cites a lack of evidence for essential oils at Mari. The same is understood here. Fixed oils, which are described by (Charles 1985: 50) as greasy, non-distillable, non volatile oils which are obtained from oil rich seeds of certain crops, are used as the vehicle for most perfumes in this period.

³⁹ *YOS* 14, 212, shows 131 1/2 liters disbursed by Irra-azu to the perfumer’s workshop. In addition, Soubeyran (1984: 419) notes the delivery of *i₃-geš* to the perfumer’s workshop at Mari as well.

⁴⁰ Jean (1949: 325) translates this term as “l’huile végétale,” and notes the possibility that olive oil was used at Mari as well.

⁴¹ Though as Renfrew (1985: 64) points out, there is no native wild sesame in Mesopotamia which makes it probable that cultivation originated somewhere else.

⁴² Rieger (2006, 38): “Almond and related species are native to the Mediterranean climate region of the Middle East.” P. 289 notes the Olive originated in the Mediterranean re-

gion and is today “largely confined to the Mediterranean countries of Europe, the Middle East, and North Africa, where it began thousands of years ago.”

⁴³ Charles further notes that of all crops mentioned, only sesame grows during the summer season.

⁴⁴ Krause (1968: 112ff.) shows, based on etymology (cf. esp. 114-115) and textual descriptions and references regarding its cultivation (pp. 115-119), that the Akkadian term *šamaššammū* and Sumerian *še-geš-i₃* are related to the modern word sesame and that sesame was cultivated and used in Mesopotamia prior to the Old Babylonian period.

⁴⁵ The heat removes poisonous hydrogen cyanide.

⁴⁶ Its use as rations for food is well attested. See, for instance, *YOS* 14, 182, dated to the 10th year of Abi-sare, where one *sil₃* is disbursed as a ration (*i₃-ba*). There seems to be a consensus concerning *i₃-geš* as unrefined oil. Joannès (1993: 253) sees three qualities of oil, of which *i₃-geš* is the lowest quality. Soubeyran (1984: 416) also describes it as an unfiltered variety of oil which is the most frequent oil found in the texts discussed by him.

sured by its potential for iodine uptake (which is equal to air uptake)” (ibid. 50). Non-drying oils are the oils most suitable as a medium for perfumes (ibid. 60). Sesame seed also yields from 45-65 percent oil and is very stable with little chance of rancidity, and, after oil is produced, the cake is a very valuable feed for oxen and is safe for human consumption (Renfrew 1985: 65). Thus, we can exclude outright the use of linseed oil, which is less suitable for perfume production (Charles 198: 60, table 3) and its cake is only safe for consumption after hot pressing or boiling (Renfrew 1985: 64).⁴⁵ Sesame oil is a very versatile variety of oil used as a raw material in perfume production, of which its by-products could be further used as animal feed or for human consumption, and the sesame from which it was derived was readily available to those residing in southern Mesopotamia in the early 2nd millennium BC.

§2.2.3.3. *i*₃-geš, as sesame oil, is, then, an oil used in production of oil-based products, in addition to a finished product doled out for other uses, such as food rations.⁴⁶ As is seen by the oil bureau texts, *i*₃-geš is also a generic term for oils, both processed and unprocessed (see Charpin 1979 for a discussion of these texts). It is used to describe all oils in these texts, whether received as taxes (YOS 14, 249), disbursed as rations (YOS 14, 182), in festivals (YOS 14, 238), in anointing,⁴⁷ or as an unguent during sickness (YOS 14, 187).

§2.2.3.4. Thus, *i*₃-geš is a general term for oils of all types,

⁴⁷ Such as the “palace chair” or “palace table” on the day of a boat festival in YOS 14, 268, or to anoint a door bolt, the god Nergal, and a standard in YOS 14, 247.

⁴⁸ Though each could in turn be further processed, see the example of *i*₃-sag du₁₀-ga below.

⁴⁹ According to Limet (1979: 152), “unguent” is a better translation of *i*₃-du₁₀-ga, as it often appears in the same context as šim hi-a. He is explaining in this instance both materials’ medicinal uses. Against this is Joannès (1993: 253), who sees in this a designation of quality. Joannès sees three qualities of oil, *i*₃-geš, *i*₃-du₁₀-ga, and *i*₃-sag. Accordingly, *i*₃-du₁₀-ga would be medium quality oil, though Joannès does not specifically state this. Soubeyran, on the other hand, believes *i*₃-du₁₀-ga and *i*₃-sag are the same quality of oil (1984: 419). This makes no sense, however: Why have two words for the same thing?

⁵⁰ This process of cold pressing is described in Charles 1985, 50-51. Levey (1959: 89) further notes that “best quality oil” and “oil of first pressing” are distinguished in Hh 24, 19-20 (*i*₃-gu-la vs. *i*₃-sag).

⁵¹ MSL 11, 78-79, understood here as ‘oil,’ ‘oil,’ ‘sesame oil,’ ‘filtered oil,’ ‘processed oil,’ ‘best quality oil,’ and ‘virgin oil,’ respectively.

both when used as a raw material and used as a finished product. This is not the case for *i*₃-du₁₀-ga or *i*₃-sag. Both refer explicitly to finished products.⁴⁸ Here, *i*₃-du₁₀-ga is understood as ‘processed oil’ and describes any processed oil-based or oily product, while *i*₃-sag is understood as ‘premium’ or ‘virgin’ oil.⁴⁹ As to *i*₃-sag, it is perhaps the virgin oil which, in cold oil production, is derived from the ground sesame meal before it is first pressed.⁵⁰

§2.2.3.5. Evidence that *i*₃-du₁₀-ga refers to processed oil is seen in several ways. First, in Hh xxiv 13-20, oils are listed: “u₂ ša-am-^Γnu^Γ / *i*₃ MIN / *i*₃-geš el-lu / [*i*₃]-geš bara₂-ak-a bal-šu / *i*₃-^Γgeš^Γ du₁₀-ga ta-a-bu / [*i*₃]-^Γgeš^Γ ku₇-ku₇ mat-qu / [*i*₃]-gu-la ŠU-u / [*i*₃]-sag re-eš-tu-u.”⁵¹ In this list, *i*₃-du₁₀-ga is clearly differentiated from sweetened oil, represented by *i*₃-geš ku₇-ku₇ (for *matqu* translated sweet, see CDA 204), “best quality oil,” which is understood as *i*₃-gu-la (Levey 1959, 89), and premium or virgin oil, known as *i*₃-sag. Further, its position after three generic terms for oil, u₂, *i*₃, and *i*₃-geš, and one term designating a specific oil process, *i*₃-geš bara₂-ak-a, ‘filtered oil,’ (Soubeyran 1984: 416-19),⁵² all generic words for oils used in oil product manufacture, reinforces the understanding of *i*₃-du₁₀-ga as ‘processed oil.’ It is listed after basic oils but before finished oil products which further underlines this meaning.⁵³

§2.2.3.6. In addition, the location of oil storage at Lar-sa during the reign of Sumuel is the e₂ *i*₃-du₁₀-ga. This is where all oils, designated by *i*₃-geš as seen above, were doled out. If understood correctly, it is the “house of processed oil” (for more on this see §2.5.1). The use of *i*₃-du₁₀-ga in the name of this workshop is perhaps similar to the use of *i*₃-ra₂-ra₂ in the name of the perfumer’s workshop (e₂ *i*₃-ra₂-ra₂), both refer to what is housed in the location, the former houses processed oils, the later

⁵² There is one example of this grade of oil collected here, TCL 10, 63: 2, where it occurs along with *i*₃-geš.

⁵³ Indeed, following this section in MSL 11, there are two fragmentary lines followed by fragrant oils and other processed oils (ll. 23-43). I would argue that all processed oils, as finished products, could still be used as an ingredient in other processes. This is perhaps seen in KAR 140, presented by Ebeling (1950: 138-141) and translated by Levey 1959 139 (quoted below under Perfume Production), where “10 qa samni harrāni” (transliteration by Ebeling 1950: 139), “10 qa commercial oil” (translation by Levey 1959: 139), is used to produce perfumed water.

⁵⁴ For the understanding of šim hi-a as a finished product, see §1.4, §2.3, §3.4, and its entry in §6.1.

⁵⁵ kušdur-gar ka-tab / dugku-kur-du₃ *i*₃-du₁₀-ga / e₂ *i*₃-ra₂-ra₂-še₃ / giri₃ PN1 *i*₃-ra₂-ra₂ / u₃ PN2 ša₃-tam.

houses the perfumer.

§2.2.3.7. Finally, the occurrence of i_3 - du_{10} - ga and šim hi-a together in YBC 5169 and other texts (as noted by Limet 1978, 152) makes sense if they are understood as generic terms for finished products.⁵⁴ In addition, i_3 - sag - du_{10} - ga in *TCL* 10, 81: 17, measured by quantity, makes more sense if i_3 - sag is viewed as a designation of oil quality, premium or virgin oil, and the use of $-du_{10}$ - ga refers to a process by which the oil is worked. Its measurement by quantity can be understood as a type of container this item was stored in, perhaps akin to one of the containers in *ARM* 23 discussed by Soubeyran (Soubeyran 1984: 417), or the ‘*ku-du*’ in YBC 4451.

§2.2.3.8. To support these points we may turn to *BIN* 9, 366: 1-5, a document from Isin where both a ša_3 - tam official and a perfumer carry leather lids for storage jars of i_3 - du_{10} - ga .⁵⁵ *YOS* 14, 212, clearly separates the e_2 i_3 - du_{10} - ga from the e_2 i_3 - ra_2 - ra_2 , albeit in the kingdom of Larsa. Yet lids for storage jars of processed oil are being delivered to the perfumer’s workshop at Isin. This only makes sense if i_3 - du_{10} - ga represents all processed oils, of which perfumed oils belong. Thus we see ‘processed oils,’ i_3 - du_{10} - ga , produced in the perfumer’s workshop.

§2.2.3.9. This understanding can be applied outside of Larsa as well, as in *TCL* 5, 6042, dated to the Ur III period. In column i, lines 1-2, where we read “0.0.1.6 $\frac{2}{3}$ sila₃ gin₂ i_3 - du_{10} - ga geš-gal-gal,” (transliteration by Limet 1978: 158) translated by Limet as “16 sila $\frac{2}{3}$ et 1 sicle d’onguent de grands arbres,” (ibid. 158) and in column ii, line 9, where we read “šim i_3 . du_{10} - ga geš.gal.gal,” (transliteration by ibid. 159) translated as “onguent parfumé de grands arbres” (ibid. 159). I do not agree with the translation as “onguent.” In the first occurrence, i_3 - du_{10} - ga is followed immediately by various aromatic products measured first by weight (ll. 3-14), then by capacity (ll. 15-18). The second occurrence is preceded by various products such as excellent beer (ii 2: $kaš$ $saga$) and dates (ii 6: zu_2 - lum). As the term i_3 - du_{10} - ga is followed by $geš$ - gal - gal in both occurrences, I understand this phrase as “processed oil of large trees.” I would argue that this text refers to a series of products, all to be used in the states described by the text: processed oil of large trees, resins,

woods, gums, perfumed oils, beer, dates, etc. Column ii line 9 is telling. The word šim precedes i_3 - du_{10} - ga . It may be better understood as a determinative, used to underline the fact that this is a variety of perfumed oil. This line would then be translated: ‘(fragrant) processed oil of large trees,’ or even ‘perfumed oil of large trees’ if šim refers to the process by which these trees were worked. The difference between ‘processed oils of large trees’ and ‘perfumed oil(s),’ written i_3 - du_{10} - ga $geš$ - gal - gal and šim respectively, is perhaps a difference between two manufacture processes (for which see §2.3).⁵⁶ i_3 - du_{10} - ga simply makes more sense when understood as processed oils. In this instance it is perhaps similar to šim hi-a discussed below (§2.3).

§2.2.3.10. We then see three designations of oil in the texts at Larsa: i_3 - $geš$, the basic term for oil, both unrefined oil used in perfume production and as any type of oil to be distributed; i_3 - sag , a grade of high quality oil, possibly the virgin oil retrieved from the sesame meal before it is pressed in cold oil production; and i_3 - du_{10} - ga , a term used to represent a variety of processed oil, occasionally perfumed but not necessarily. All three were perhaps used in perfume production.

§2.3. Perfume Production

§2.3.1. There are no texts from this period, outside of Mari,⁵⁷ that make specific mention of the perfumer’s process. Thus, an understanding of the processes involved in perfume manufacture must come from ancillary sources. Therefore, evidence of the means of production used in the Kingdom of Larsa is derived from the Middle Assyrian perfume recipes, the Mari corpus, and the Curse of Agade, in addition to the items and products specifically mentioned in the documents from the kingdom of Larsa.

⁵⁶ The ‘processed oils of large trees’ were perhaps obtained via cold production, while the perfumes designated by šim used heated maceration.’

⁵⁷ See for instance Jean (1949: 328, letter B 287), where a certain El-Asum writes Zimri-lim concerning aromatic production.

⁵⁸ Evidence for oil is cited in §1. NBC 8584: 4 lists 3 sila₃ perfumed water.

⁵⁹ See §6.2 for the distribution of these items. It must be noted that not all measurements by capacity refer to an aromatic perfume, only some. The item še-li is usually measured by capacity due to its nature. It was a seed or berry which required a container to transport and was thus measured by capacity. Measurement by weight would have been difficult to accomplish with this materiel.

⁶⁰ A similar phenomenon perhaps occur at Mari as well, where, as Joannès notes (1993, p. 260), oils designated by the word *diqârum* probably involved a different production process than those designated by i_3 and the main ingredient. Joannès understands this as a difference between cold steeping (i_3 + ingredient) and warm or hot steeping (*diqârum*) (ibid. 259-261).

§2.3.2. First we will look at items seen in the documentation. At the outset, we may note two types of perfumed items which required skilled manufacturing techniques: water and oil.⁵⁸ In addition, there seems to be a distinction in the texts between oils known by the name of their main ingredient, such as $i_3(-geš)-eren$ or $i_3-šu-ur_2-min_3$ as well as in certain instances when an aromatic ingredient is measured by capacity and not by weight,⁵⁹ and those designated by *šim*, a vague word that does nothing to describe what was in the perfume. It is held here that such a vague reference, as opposed to perfumes known by a specific ingredient, usually represents a different, more complex production process.⁶⁰ Those perfumes known by i_3 plus an ingredient may have occasionally used hot steeping but more often than not involved cold maceration while those termed simply *šim* more often than not used heated steeping. *šim hi-a* is understood as a mixture of cold steeped perfumed oils.

§2.3.3. Two production types are then seen for oiled perfume production: cold steeping and warm or hot steeping. Evidence of the first, grinding up and steeping aromatic ingredients in cold to room temperature oil for perfume production, is seen already in the Curse of Agade, lines 134-135: “ $gešeren\ geššu-ur_2-min_3\ gešza-ba-lum\ geštaškarin/\ geš\ gi-gun_4-na-be_2-eš_2\ GUM\ ba-an-sur-sur$.”⁶¹ I believe this passage refers to the grinding up of woods for their use in aromatic perfume production and translate them thus: “cedar, cypress, juniper, boxwood, woods for its *giguna* he ground up completely for fragrant oil production.” My translation relies on the use of ‘GUM’ and ‘sur’ together. *Sur*, as proposed by M. Civil, means “to perform an action from which a liquid product re-

sults” without indicating concretely the action by means of which the liquid is obtained” (Civil 1964: 81).⁶² GUM must refer to the action and can be normalized as *kum*, Akkadian *bašālu*, “to grind.” (CAD H, 137) This phrase would then mean ‘to grind up for liquid fragrance extraction,’ and, if my understanding is correct, refers to the cold extraction process discussed below. The woods mentioned here are perhaps the ‘large trees’ seen in TCL 5, 6042 (see §2.2.3 for a discussion of this text). Cedar and cypress as well as myrtle and *kanaktum* all appear as oils preceded by i_3 in the texts collected here.⁶³ In addition, cedar, cypress, and juniper, as well as myrtle, are also singled out by Joannès as woods used in cold maceration at Mari (Joannès 1993: 260). Therefore, a Sumerian word for cold perfumed oil production may be found in *kum ... sur*. The technical term for this process in Akkadian was the D stem verb *rummukum* at Mari and is perhaps alluded to in ARM 18, 14.⁶⁴

§2.3.4. The process of cold steeping involved the maceration of raw materials by steeping them in cold or room temperature oil. This often entailed the crushing or grinding of said product and placing it in oil for several days. The aromatic substances were dissolved by this steeping and infused the oil with their fragrance. At the end of the process, the oil was filtered to remove impurities (for this process, see Joannès 1993: 259-260). The benefit of this manner of production was the ease in which it created fragrant oil in large quantities. One need only soak an ingredient in oil to infuse the oil with the desired fragrance. The downside was it took a very long time (ibid. 260). These perfumed oils could then be mixed together

⁶¹ Transliteration from Cooper 1983, 56. For the bearing these lines have on the *šim* and *geš* determinatives, see §1.4.3.

⁶² In addition, Civil provides several examples of this, all of which involve some qualifier: *ga ... sur*, $i_3 ... sur$, *geštin ... sur*, and most important for his purpose, *kaš ... sur* (1964: 81-82).

⁶³ See §6.1 and §6.2 for these items. Of all four, cedar occurs the most. The other three only occur in CT 29, 13-14. In addition, note juniper, terebinthe, applewood, saganpanum, and other, unidentified items which occur with the *šim* determinative and are measured by capacity. These may also have used the process of cold maceration described below.

⁶⁴ *ibid.* 259-60, discusses both ARM XVIII 14 and *rummuqum* as they deal with cold maceration. Cold maceration is not discussed by Levey, but he does make note of the use of cold steeping as part of a greater process of perfumed oil production (Levey 1959 137).

⁶⁵ For *šim hi-a*, its price in TCL 10, 72, 60:1 *qum* per shekel, makes it doubtful that this would have been produced via warm maceration. This low price could possibly be due to the expense of raw materials, the ease in which it was manufactured, or both. For more on this term, see §1.4., §3.4., and §6.1.

⁶⁶ The Akkadian term for ‘perfumer,’ *raqqu* is related to this verb according to CAD R, 173. CAD R, 420 notes only attestations of this verb in MA, SB, and at Nuzi, making the connection to the OB period and earlier tenuous.

⁶⁷ Levey 1959: 139 notes in particular that much expertise was required for a limited output. On p. 141 he points out that the chemistry techniques could require a considerable amount of time and steps to produce a perfume.

⁶⁸ Levey specifically notes the following introduction to a text as typical of the perfume recipes: “When you wish to prepare oil of *asaniatu*, one needs 10 *qa* oil, 1 talent *asaniatu*, 1 talent myrrh, 1 mina calamus, 1 mina ..., 1 *qa* honey ...” Note the use of three different aromatic raw materials for this recipe.

to form more complex fragrances. It is proposed here that such a mixture was described by the word *šim hi-a*.⁶⁵

§2.3.5. Production of oil using heat is outlined in several of the *Parfümrezepte*'s published by Ebeling and discussed by Levey in more detail (Ebeling 1950 and Levey 1959: 136-139). It may be described by the word *ruqqû*.⁶⁶ These texts describe the repeated soaking or steeping of raw materials in water and oil which was heated over a fire in order to soften the raw material and extract its fragrances. In such a way the oil or water was progressively charged with the desired fragrances. This process was much more elaborate and required greater labor to produce smaller quantities,⁶⁷ but provided a better, purer product than cold maceration.

§2.3.6. The process of maceration and enflourage by heated water and oil typically used a mixture of aromatic ingredients (ibid. 140 citing Ebeling 1950, 47),⁶⁸ which is why it is singled out as the production process used for perfumes described by *šim* alone. It allowed for the skilled production of compound fragrances which cold steeping was ill suited for.⁶⁹ On the other hand, cold maceration allowed for mass production of single ingredient perfumes, and these mass produced perfumes could be mixed together to form more complex fragrances, though of lesser quality.

§2.3.7. In addition to perfumed oils, there is mention in one text, NBC 8584: 4, of perfumed water (*šim*_a). The process of impregnating water with a desired fragrance took much more time due to the "slight solubility of most essential oils in water." (Levey 1959: 140) A process involved in perfumed water production reads:

Following is the method of preparation of 10 qa of commercial oil production for balsam odor. In a fine sieve, clarify it and pour into a flask. Let it remain still for a month. After a full month, you will decant it into a diqaru pot. You will produce it by 40 washings with balsam. Wash water for the king is the name of this (ibid. 139 translating Ebeling 1950: 40-41).⁷⁰

Note in particular the length of time one step took, one

⁶⁹ Further, compare the price of this item in Appendix III, a rate of 3:1 liters to silver, with *šim hi-a* in the same document, 60:1, and *i₃-sag*, 1: 5 1/18, again in the same document. The cost seems to reflect the oil quality and skill required in production.

⁷⁰ Note *CAD* E 49 translates *egubbû* "holy water," *CDA* 6 (*agubbû*) as "holy water vessel," *AHw* I 17 as "Weihwassergefäß."

⁷¹ The only direct, unambiguous reference to the perfumer

month, and the number of 'washings' required to produce this product, forty. The production of perfumed water was no small feat, requiring much time and skill to produce a small amount.

§2.3.8. We see in this section the amount of skill and time required to produce perfumed oils and water. In cold maceration, much time but little skill was required to produce large quantities of a single ingredient perfume. In heated oil production, much skill was required, though less time, to produce a high quality mixed product. In perfumed water production, much time and skill went into production. Repeated steeping of raw materials was the common characteristic of all three production process. Two general terms are seen for more complex fragrances: *šim hi-a*, which describes a mixture of lower quality perfumed oils produced via cold maceration, and *šim*, which describes perfumed oils produced through warm maceration.

§2.4. The Perfumer: *i₃-ra₂-ra₂*⁷¹

§2.4.1. The person involved in perfume production in the Kingdom of Larsa was called the *i₃-ra₂-ra₂* in Sumerian and the *ruqqû* in Akkadian. The latter is derived from the verb *ruqqû*, understood here as 'to process oil by the addition of aromatics' (see also §2.3 for the verb *ruqqû*). The term *ruqqû* has been variously translated as: "oil presser, perfume maker," "oil-perfumer," and "Ölkelterer" (*CAD* R, 173, *CDA* 299, and *AHw* II 958, respectively). Confusion of the perfumer with the oil presser is seen with the *CAD* and *AHw* entries and has made its way into literature concerning this subject.⁷² This confusion is understandable due to the nature of the perfumer, who worked primarily with oils as a medium for fragrances, and the ambiguity of the ancient terms.

§2.4.2. This ambiguity is seen in the Canonical Series *lu₂* = *ša*, no. 257-261 (*MSL* 12, 137; VAT 09558, 34-39; VAT 09717 23-26 (omitting no. 258), VAT 10386, 13-17), which reads: "*ŠIM.SAR = raq-qu-u / ša₃-tam = ki-min / i₃-^rra^rra₂-^rra₂ = ki.min*" (no. 257-259) This is followed after a ruling by two more entries: "*i₃-sur = sa-hi-tu*

himself in the Larsa texts is *YOS* 14, 212, where 131.5 liters of oil are delivered to Irra-azu at the perfumer workshop (written [*e₂*] *i₃-ra₂-ra₂*).

⁷² Thus we see Van de Mierop 1987, 141 translate *i₃-ra₂-ra₂* as "oilpresser" following *AHw* and Gallery 1980: 9, who translates *i₃-ra₂-ra₂* as oil pressers (though she seems to misinterpret the text in question, see *YOS* 14, 212's textual commentary).

⁷³ *CAD* A II, 431, "exorcist," *CDA* 43, "sorcerer, magician, incantation priest, exorcist."

/ lu₂ geštin-sur-ra = MIN *ka-ra-ni*.” (no. 260-261) The first on the list, šim-sar, better understood as šim-mu₂, is discussed by Pomponio and Visicato (1994: 62-63 n. 15):

Among the archaic professional lists, the Prof.N šim-mú recurs only in a Fara tablet (SF 70 r. iii 1). Later it recurs in OB lexical tablets and in a LB bilingual text as the translation of the Akkadian (w)āšipu(m), “exorcist”, raqqû(m), “oil presser,” (cf. AHw s.v., lex.) and ša’ilu(m), “dream interpreter” (cf. AHw, s.v., 2). This Prof.N should be compared with the much more frequent munu₄-mú, but seems to have a more specific employment in rituals.

The šim-mu₂ was a profession name that both invoked the use of rituals, as it could be translated into Akkadian as (w)āšipu(m),⁷³ and could also be described as a raqqû in Akkadian, as its appearance in the Canonical Series lu₂ = ša indicates. šim-mu₂'s location with medical personnel in “Nintinugga’s Dog,” a dedicatory text (discussion, copy, transliteration, and translation in Ali 1966), shows us that this term also represented a type of medical professional. The line in question, line 9, reads: “a-zu sa₆-ge šim-mu₂ tu-ra-ta ša₃ lu₂-ulu₃ igi-du₈” (ibid. 290), and is translated here as “the good physician, herbalist of the sick, psychologist of man-kind.” The term ‘herbalist’⁷⁴ is admirably suited to describe a medical professional who employed both pungent ingredients and rituals or prayer to cure disease.⁷⁵ As a mixer of pungent materials, the connection between the herbalist and the perfumer is quite reasonable.

⁷⁴ Merriam-Webster defines this as “1: a person who practices healing by the use of herbs, 2: a person who collects or grows herbs.”

⁷⁵ For a typical medical prescription, see K 2488, translated in Thompson (1937: 1-2 no. 221), where an incantation and a prayer/charm along with various herbs are to be employed by an un-named professional in order to cure head maladies.

⁷⁶ Unfortunately the sealing official on YOS 14, 212, is broken, thus rendering impossible which official sealed this tablet.

⁷⁷ Perhaps see also Jursa (2009: 148), where BM 54060, an ingredient list (and perhaps an incense recipe) for a specific type of incense used in the Esagila during the Neo Babylonian period (ibid. 150), is translated. Of interest is the colophon, where Jursa translates: “(Kolophon) [Abschrift] einer Alabastertafel von Marduk-ēreš, Sohn des Kidin-Marduk, Bischof (lu₂-ša₃-tam) von Zabban, Nachkomme von Eu-ušullim aus der Familie Šumu-libši: Aromata (für) das Feinöl (und/für) den Räucherständer von Nabû-aplu-iddin ...” (148). Of interest here is the direct tie between the ša₃-tam official and perfume and incense production for the temple, though at a much later date.

§2.4.3. The second profession on the list, ša₃-tam, is treated by M. Gallery. Gallery explains concerning this official: “A survey of all the occurrences of the š. official with certain standard administrative formulas has shown that they served in almost every department of the palace economy, in the capacity of inventory controllers, recording and authorization clerk” (Gallery 1980: 12). She further notes two temple servants and the ša₃-tam officials “are responsible for sesame given to the oil presser for the work force of the Šamaš temple” of Sippar during the reign of Abi-ešuh (ibid. 22, citing Harris 1975:163). This is supported by a survey of the Larsa oil bureau from Gungunum to Sumuel (see Charpin 1979), where the ša₃-tam official’s seal is on most disbursements of oil.⁷⁶ Moreover, BIN 9, 366: 3, mentioned above shows a ša₃-tam official and a perfumer, written i₃-ra₂-ra₂, as conveyors of lids for jars of processed oils to the perfume workshop (for this line of text, see also §2.2.3). Thus, a connection may be made between the ša₃-tam official and the raqqû. The former would have been charged with controlling the inventory of the latter, as well as the latter’s supply of raw materials.⁷⁷

§2.4.4. We now turn to the fourth and fifth professions mentioned, the i₃-sur or *šabitū* and the lu₂ geštin-sur-ra or *šabitū karani*. Postgate discusses these terms and their Akkadian verbal roots: “for *šabātum* a meaning for “press (to extract liquid)” is favored both by its use for wine from grapes, and by the meaning of cognate verbs in other semitic languages.” And “*šabātum* is the process which results in the extraction of oil: the *šabītum* is a lú ìsur, a term meaning literally “oil-presser.” (Postgate 1985: 146) As to the term i₃-sur, one can look at the two constituents: i₃ + sur. Already noted above, sur, as proposed by M. Civil, means “to perform an action from which a liquid product results” without indicating concretely the action by means of which the liquid is obtained.” (Civil 1964: 81; see above §2.3) In addition to this, Civil provides several examples of this, all of which involve some qualifier. Pertinent to our discussion are i₃-sur, and geštin-sur (ibid. 81-82). Both describe liquid extraction processes, the former oil, the latter wine. The officials mentioned in this latter part are to be understood then as ‘oil presser’ and ‘wine presser.’ What is important for our purposes is that both work in liquid extraction processes.

⁷⁸ Lipit-Irra appears in texts as the oil disbursement official from year five of Abi-sare to year one of Sumuel, but is replaced by Irra-Azu, whom he receives oil from as the perfumer in YOS 14, 212, by year five of Sumuel when this text is dated.

§2.4.5. The i_3 - ra_2 - ra_2 , as a profession on the Canonical Series $lu_2 = \text{ša}$, is clearly separated from those involved in liquid extraction; a ruling separates them. It is connected to two professions, the šim-mu_2 and ša_3 - tam professions. The first involved rituals and the mixing of aromatic materials and may be understood as an herbalist. The second profession involved inventory and oversight and specifically performed administrative oversight in the Larsa oil bureau, and perhaps the office of the perfumer as well.

§2.4.6. However, the i_3 - ra_2 - ra_2 is still connected with the oil presser. As seen above, the vehicle of most perfumes was oil. In *YOS* 14, 212, the perfumer receives oil from an official of the processed oil storage depot who is clearly in charge of oil disbursements. In addition, the perfumer in *YOS* 14, 212, was previously this oil bureau official.⁷⁸ Further, at Mari, the e_2 (lu_2) *raqqî*, where perfumes are produced, both received oils from the oil storage depot and supplied perfumed oils as finished products to this depot (Soubeyran 1984: 419). This workshop is clearly differentiated from the oil press in the Mari archive (ibid. 419). At Larsa, like at Mari, there is a clear difference between the oil presser and the perfumer.

§2.5. Places of Aromatic Processing

§2.5.1. The Perfumer's workshop

§2.5.1.1. This brings us now to the perfumer's workshop. This workshop was known in Sumerian as the e_2 i_3 - ra_2 - ra_2 , in Akkadian as the *bīt raqqî* (*CAD* R 174). This is where

⁷⁹ As is evident at least from, *YOS* 14, 212, *BIN* 9, 366, and the oil bureau texts discussed by Soubeyran (1984).

⁸⁰ At Mari there are three locales where oils are worked and stored, the e_2 *kuprim*, e_2 i_3 -*sag*, and the e_2 i_3 - du_{10} -*ga* (Soubeyran 1984: 418). The latter two were likely the same place (418). All three stored unprocessed oils to be distributed for further manufacture, the difference was the latter two stored and disbursed processed oils as well (418). The e_2 i_3 -*sag* and e_2 *kuprim* are both considered a candidate for oil production (419). I believe at Larsa the oil production facility, storehouse of unprocessed oils, and storehouse of processed oils were all one and the same. They were administered by one individual throughout the reigns of Abi-sare and Sumuel; first Lipit-Irra then Irra-azu (see Charpin 1979: 192-193).

⁸¹ Storage and distribution of perfumed oils is not explicitly documented in the Larsa texts of the period. The Larsa disbursement texts only note that oils were disbursed and the reason for the disbursement.

⁸² This is seen at Ur, where early in the reign of Rīm-Sîn private entrepreneurs are contracted to provide the temple with needed items such as beer and are directly involved in resource and tax collections for the temple. See Van de Mieroop (1992a: 239-250) for a summary of this process.

the perfumer produced worked aromatic products.⁷⁹ As seen above there was a close connection between the perfumer's workshop, both in the kingdom of Larsa and at Mari. Soubeyran, in discussing the Mari oil storehouse, even compares it to that seen in the Larsa oil bureau texts. This is especially evident in the movement of oil between the oil bureau, literally 'the processed oil house,' and the perfumer's workshop (Soubeyran 1984: 419, citing Charpin 1979: 188-200). At Mari, and very likely at Larsa, unprocessed oils were stored at the oil storehouse or at their place of manufacture.⁸⁰ From there, unprocessed oils were delivered to the perfumer's workshop, where they were processed into perfumed oils. After processing, they were returned to the oil bureau for storage and eventual distribution.⁸¹ This situation possibly changed by the reign of Rīm-Sîn, as is seen by both *TCL* 10, 56-57. In these two tablets oils are delivered which are given a market rate. It seems from these texts that at least some oils were procured by entrepreneurs separate from the temple or palace workshops.⁸²

§2.5.1.2. In addition to oil, aromatic raw materials were delivered to the perfumer's workshop for production, as is seen in *YBC* 5151 mentioned above and *YBC* 10512, where a chunk of wood weighing 20 shekels according to the market rate, was delivered to the perfumers workshop. Interestingly, whereas oils were delivered by a palace agency in the Oil bureau texts, which range in date from Gungunum to Sumuel, raw materials, a chunk of *marguṣum* wood in *YBC* 10512 and 6 mina's *arganum* in *YBC* 5151, were delivered by what I take to be private entrepreneurs during the reigns of Sîn-iqīšam and Rīm-Sîn. This will be developed further below (§3.3).

§2.5.1.3. Suffice it to say for now the perfumer's workshop received raw materials in the form of vegetable products, such as woods, gums, etc. (see §2.2), from either an institution or a private entrepreneur by perhaps the reign of Sîn-iqīšam and certainly during the reign of Rīm-Sîn. Oil was received from an oil bureau, to which the perfumer's workshop was closely aligned until at least the reign of Sumuel, and perhaps from a private entrepreneur also by the reign of Rīm-Sîn. At the perfumer's workshop, oil and water was fortified with aromatic fragrances by the perfumer, to be delivered to a storage facility and distributed as need demanded from there. That water was perfumed at this workshop seems only logical, as many skills needed to perfume oils were also required to aromatize water. As will be seen below, there is evidence for private

⁸³ According to *CDA* 299. *CAD* R, 179, understands this term (*raqūtu*) as "a vegetable foodstuff."

perfumers during the reign of Rīm-Sin (§3.3).

§2.5.2. The Kitchen

§2.5.2.1. A further location where aromatic items were processed into finished products is seen also in the kitchen. We may note the delivery of aromatic products, likely condiments, delivered to the gir₄-mah at Ur for food preparation in NCBT 1808. As stated in the text's commentary, this was a workshop in the Nanna temple complex, of which the role was meal production: it was the temple kitchen. What is seen here is the use of aromatic products, resins, oils, and seeds or berries, delivered in the raw along with other condiments for use in this facility. Indeed, by the neo-Assyrian period a term for spice is *raqqūtu*, derived from *ruqqū*.⁸³ Further, Bottéro informs us of the use of tree sap in the production of meals (Bottéro 1985: 37; this will be discussed more in section §3.4).

§3. Aromatics and Society

§3.1. We may now turn to the role aromatics played in society: their sources, the figures involved in the aromatic trade and industry, as well as how and by whom the various aromatic products were used.

§3.2. Sources of Aromatic Raw Materials

§3.2.1. It is clear from the sources that there was a wide variety of aromatic raw materials. These materials came from both sources within Mesopotamia and from without. This section will give a brief overview of the sources of some aromatic raw materials in the texts. Unfortunately,

ly, there is much debate as to the nature of many raw materials mentioned. Further, in some cases, such as Mukal Myrrh discussed below, the location of cultivation is very broad, leaving multiple possibilities to a commodity's origin. Thus a thorough attempt at identifying the origin of all products would require a work unto itself. In this brief discussion, however, it will be seen that the aromatics trade was an international exchange, stretching from perhaps India in the east to the Levant in the west, and south to the southern Arabian Peninsula.

§3.2.2. ^{šim}šeš, Akkadian *murru*, is seen in YBC 7189: 5. Its suggested translation is 'myrrh,' more specifically '*Balsamodendron* or *Commiphora Myrrh*.'⁸⁴ Groom states concerning the location of this commodity in the ancient world: "Frankincense and myrrh grew only in southern Arabia, Somalia and parts of Ethiopia, and the trade to Europe and Mesopotamia was controlled by south Arabians" (Groom 1981: 229).⁸⁵ He further notes: "Myrrh is found growing to this day all over south and south-west Arabia, including 'Asir, as well as in Somalia and Ethiopia. It comes from a number of different species of the genus *Commiphora*, but principally *Commiphora myrrha*." (Groom 1981, 232) The occurrence of myrrh here is not definitive evidence of south Arabian incense trade; it occurs in only one text. However, it does attest to some contact and occasional trade with south Arabia's incense bearing region, perhaps using Dilmun as an intermediary.

§3.2.3. Another item, ^{šim}sig₇-sig₇, understood here as Akkadian *gublu*, is perhaps evidence for further contact with south Arabia or even India.⁸⁶ It is understood here as *Commiphora mukul*, also known as Mukal Myrrh and Bdellium, following Potts, et al (Potts et al. 1996: 291-305). Potts also states concerning this item: "*Commiphora mukul* has a wide distribution, extending from Dhofar in the southeastern part of the Arabian Peninsula to India." (Potts 2007: 135) The ultimate origin of this material is thus difficult to trace but does allude to distance trade. This trade would have connected these areas to Mesopotamia through Dilmun in the Persian Gulf as well (ibid. 135). Thus evidence for contact and even trade with south Arabia and perhaps even India is established with the use of both Myrrh and Mukal Myrrh.

⁸⁴ See ^{šim}šeš in §6.1. *Balsamodendron* is an older name for this plant. *Commiphora Myrrh* is more accepted today.

⁸⁵ However, Groom is skeptical of the use of Myrrh or Frankincense in Mesopotamia at this time, and would rather see galbanum or another form of wood instead (33 and 230). He believes the growth of the south Arabian incense trade coincided with the use and domestication of the camel. The use of galbanum instead of Myrrh, at least, is unlikely. First, it is already suggested that galbanum was connected with Sum. ^{šim}hal, Akk. *balubbu* (see Appendix 1). Why two Sumerian and two Akkadian names for it? Second, the use of Myrrh in texts from Larsa is very rare, only one attestation. This can be explained if the product in question is rare and difficult to procure. Third, while noted in Groom 1981, 33, "the use of incense in Mesopotamia, Palestine and Syria in these early years cannot therefore be held as evidence for the existence of the incense trade with south Arabia," it certainly does not preclude contact with south Arabia. And finally, links with the south, via Dilmun are attested already in the third Millennium. For Dilmun as an emporium of trade in the OB period, see Oppenheim (1954: particularly p. 7) and most recently Potts (2007: 135) for aromatics in particular.

⁸⁶ This identification is very tentative. See §1.4.3 and §6.1 for a discussion of this material.

⁸⁷ Understood here as west of the Euphrates, specifically Syria and the Levant.

⁸⁸ Note the presence of cedar, ^{šim}/^{geš}eren and *erēnu*, cypress, ^{šim}šu-ur₂-min₃ and *šurmēnu*, juniper, ^{šim}li and *burāšu*, as

§3.2.4. While there is evidence for southern trade in the texts, via Dilmun, far more items are imported from the west.⁸⁷ In *CT* 29, 13, we see oil of Uršum, perhaps located in Syria or southern Anatolia (Groneberg 1980: 250), explicitly stated. In addition, the ‘west’ seems to have been the source for many aromatic woods mentioned in the texts. Thus, Rowton (1967: 271) states concerning this region:

*Very tentatively one can suggest the following “phytogeographical” pattern for the region west of the Euphrates. The great stand of mixed coniferous timbers in the Maraş region, both north and south of the Maraş gap, was known as the Cedar Forest, later Cedar Mountain, a term ultimately extended to the whole of the Amanus. The mountainous country between the Cedar Forest and the Euphrates was known as the oak and terebinthe region. From the Lebanon, a cypress mountain, all the way up into the southern Amanus, the coastal mountains constituted the cypress and boxwood region. The utilitarian element is conspicuous. It can be seen in the emphasis on boxwood which was in great demand but was nowhere a dominant tree, and it shows also in the designation of the Lebanon as a cypress mountain, certainly never a dominant tree there. The great stand of cedar in the Lebanon were of no particular interest since cedar was available much closer, in the Maraş region.*⁸⁸

The most prevalent item likely imported from this region is Sumerian *eren*, Akkadian *erēnu*, which is often translated cedar.⁸⁹ *Eren* appears in the texts in three states: wood, resin, and perfumed oils (see §6.2 under *šim*/^{geš}*eren* and

well as *duprānu*, another variety of juniper, myrtle, ^{šim}*az*, ^{šim}*gir*₂, and *asu*, and terebinthe, ^{šim}*gam-gam-ma* and *kuk-ru*, all seen in the texts listed as derived from the west.

⁸⁹ However, Moorey (1994: 350) notes concerning this wood: “written sources indicate only that it yielded timber suitable for roofing beams, that it had a pleasant aroma, and that it was a source of incense.” Van de Mieroop (1992:158) notes this tree was likely imported.

⁹⁰ Leemans (1960: 89) sees Ešnunna as an intermediary in trade to many states in this period.

⁹¹ Joannès (1993: 258) notes that Mari was an entry point for many raw materials from the west and a storage depot for these materials at least during its occupation by the Kingdom of Upper Mesopotamia. On p. 259 he even sees a route where these materials travelled: “La fourniture des bois odorants apparaît finalement parallèle au commerce du bois en general et suit les même circuits, à partir de Qaṭna, d’Alep, ou de Karkamiš, en passant par les emporia du Moyen-Euphrate.”

⁹² Indeed, the ups and downs of the reign of Rīm-Sîn are an attestation to the volatility of the time. For a synopsis of Rīm-Sîn’s reign see Van de Mieroop 1993.

⁹³ Comparison is made by Powell between ancient cultivation of apples with modern cultivation of citruses such as

*i*₃-(*geš*-)*eren*). The appearance of this item alone, if from the region west of the Euphrates, points to considerable trade between Larsa and the West. These items were acquired via trading agents stationed abroad, who use cities such as Ešnunna⁹⁰ or even Susa despite its location east of Larsa (*YOS* 2, 112) as trade emporiums, though it seems Mari or the Middle Euphrates region was at least one entry point for many aromatic raw materials from the West into Mesopotamia and the East.⁹¹ Since this period was a very volatile one politically, these emporiums would have changed with the political atmosphere.⁹²

§3.2.5. In addition to those aromatic materials which came from abroad, a number of items were produced in Mesopotamia itself. Sumerian *ḥašhur*, apple, is mentioned as an aromatic item in *TCL* 10, 71: 15 and *YBC* 1928: 1. This item was grown in orchards around the city of Larsa and other southern Mesopotamian cities (Van de Mieroop 1992b: 156-57, 159). Powell states concerning the apple in Mesopotamia: “The apple was the preferred species among the *Rosaceae* in the 3rd mill. precisely because it had been domesticated and filled an important niche in the available domesticates” (Powell 2003-2005: 16).⁹³ *šim*la₃ also appears in one text (*YBC* 10758: 1), while *la*₃ alone appears on several occasions (*TCL* 10, 57: 4, *TCL* 10, 71 iv: 47, 50, 62). This sweet product was likely derived from the locally grown fig tree.⁹⁴ Further, in later Babylonian and Assyrian royal gardens and in orchards, aromatic trees and shrubs were planted to support the perfume industry (Wiseman 1983: 142). This can perhaps be surmised for the Old Babylonian period as well. Thus, locally produced items could and did occur in the aromatics trade.

§3.2.6. The aromatics trade involved a wide geographic area. Merchants brought goods from the south Arabian Peninsula or India, likely through the emporium of Dilmun. Other materials were derived from the west, including many of the woods mentioned in the texts, from cedar to terebinthe, to myrtle, and to the juniper. Finally, sev-

orange, where trees that are “too sensitive to stand the climate of S. Iraq when grown in the open, oranges (*Citrus sinensis*) can produce enormous harvests in properly spaced date groves” (ibid. 16).

⁹⁴ Powell (2003-2005: 17), though there are four foreign varieties attested as well according to Powell: Marian, Subarian, Elamite, and Gutian. Another variety of *la*₃, derived from grapes, is also discussed (ibid. 17).

⁹⁵ Feuerherm 2004: vol. 1, 6-55 lists this individual as either a servant of Abu-waqar, a nagar, or both.

⁹⁶ The text does not exactly state his position, nor does the

eral ingredients could be derived from locally produced goods, such as the apple or fig. We can surmise three groups involved in the procurement and production of aromatic materials: the local cultivator, as in the case of apples and figs, the merchant, who acquired aromatic materials both locally and abroad, and the administrator, who received these materials for an administration and disbursed them for consumption in the production of perfumed oils, as a condiment for food, or as a finished product such as incense. These last two individuals, the merchant and administrator as well as the perfumer, will be the subject of the next section.

§3.3. Merchant, Administrator, and Craftsman

§3.3.1. YBC 5151, seen already (§1.3, §2.5.1, and throughout this section), shows three different steps in the procurement and disbursement of raw materials. It is a delivery of six minas of an aromatic material, arganum, delivered to an administrator, who then detaches 1 mina of it for oil production. We see three individuals involved in this process: Watar-Šamaš, a servant who, representing a merchant, acts as the supplier,⁹⁵ Puzur-ilabi, who acts as both a receiving and a disbursement official for a temple or palace household,⁹⁶ and a third individual, whose name is broken but probably represents the perfumer's workshop.⁹⁷ This section will discuss the place of all three individuals in the administration.

§3.3.2. The Merchant and the Administration

§3.3.2.1. There are two types of merchants enumerated in the texts: the trading agent (Akkadian *šamallūm*) who, located abroad (relative to the local merchant), acquired goods for a local merchant (Akkadian *tamkārūm*) who directed the trading agent as to which goods were to be acquired and provided said goods to the administration (these two merchants are discussed in Leemans 1950: 22-35). Leemans (1950: 22) states this concerning the relationship of the merchant and the trading agent:

In a society whose commerce is little developed, trade is only carried out by merchants, who buy and sell. But when commerce increases, the business of a merchant assumes larger proportions and the merchant no longer makes journeys to buy and sell goods personally, but he has this done, either by subordinates or by agents whom he furnishes with money.

name occur anywhere else. His position as an administrator is only an assumption, though based on other instances, such as *TCL* 10, 56, 61, and 72, where a temple official receives commodities from a merchant.

⁹⁷ This individual receives the commodity for an oil allotment. This must mean that he is to infuse oil with the arganum.

Three letters, *YOS* 2, 112, from the Kingdom of Larsa, and *CT* 29, 13-14, possibly from Sippar (Leemans 1960: 94-95), will help to enumerate the relationship between both merchant types.

§3.3.2.2. In *YOS* 2, 112, a merchant, Šēp-Sîn, instructs two other merchants, Dadâ and Sîn-uselli, to procure several items, including aromatic oils and juniper, take on a citizen of Susa as a partner, and then to rendezvous in al-Aha-nûta with Šēp-Sîn and royal soldiers. In addition, Šēp-Sîn reprimands Dadâ and Sîn-uselli for previously writing that they would have the items sent; he wants to see them in person. Several aspects of this text must be noted. First, Dada and Sîn-uselli are merchants stationed abroad at Susa. Second, they acquire goods in Susa using a local citizen as a partner to help facilitate this trade. Third, an unexplained situation requires these merchants leave Susa and accompany their goods to al-Aha-nûta where Šēp-Sîn, a local merchant who seems to have authority over Dada and Sîn-uselli, is waiting for them with royal soldiers.

§3.3.2.3. *CT* 29, 13-14 are both addressed to Ilum-pî-Šamaš from Sîn-aḥam-idinnam and both deal with the same thing: the procurement of perfumed oils for sale by Sîn-aḥam-idinnam abroad.⁹⁸ Here, however, the roles seem to be reversed; the merchant abroad both requests items for trade from the trade agent and reprimands the trading agent for not fulfilling this request. In these texts the trading agent is located within the Kingdom of Babylon. In the first text, Sîn-aḥam-idinnam, who according to Leemans operated east of the Tigris, writes to Ilum-pî-Šamaš requesting several oils because his stocks are low. The second, more urgent letter reproaches Ilum-pî-Šamaš for not doing this, but sending a servant empty handed. Interestingly in *CT* 29, 13: 16, Sîn-aḥam-idinnam asks “*u₂-ul ti-di*,” “Don’t you understand?” after listing oils he should purchase and in *CT* 29, 14: 14-22, it states: *i-na ku₃-babbar / ša u₂-ša-bi-la-ak-ku-u₂ / ¹ki-ib-ra-ab-ba pe-ni-ka / li-iš-ba-at-ma i₃-da-am-qa-am / ša 10 gin₂ ku₃-babbar i₃ šu-ur₂-min₃ / ša 3 gin₂ ku₃-babbar i₃ a-su / u₃ 5 gin₂ i₃-^{ge}eren / ša-ma-am-ma li-qi-a / i₃ ma-ši*, “Kibrabba should guide you in the silver which I sent you so that you buy for me good quality oil and take possession (of it): cypress-oil worth 10 shekels silver, myrtle-oil worth 3 shekels silver, and cedar-oil worth 5 shekels. The oil is available.” It seems Ilum-pî-Šamaš was not familiar with the various qualities and types of oil products; he requires

⁹⁸ This follows Leemans understanding of these texts (Leemans 1960: 95-96), which I see no reason to argue with here.

additional aid from Kibrabba to perform his duties.

§3.3.2.4. In all texts, there is an agent or two. In *YOS 2*, 112, they work abroad in Susa in order to acquire raw materials for the local merchant in the Kingdom of Larsa. In *CT 29*, 13-14, he works locally, that is, within the Kingdom of Babylon to acquire finished products for sale abroad. What we see is a semi-subordinate status in both cases. Leemans notes a certain amount of freedom given to the trading agent in the Hammurapi code (Leemans 1950: 22-29). He sees this as the norm for the trading agent in the Old Babylonian period. The merchants in the examples given here need to write twice and reprimand the trading agents to get them to do their bidding.

§3.3.2.5. The true subordinate of both the merchant and trading agent was the *subarum*, the servant, who is mentioned specifically in *CT 29*, 14: 9, and alluded to in *YOS 2*, 112: 23. This individual was likely the intermediary between the merchant and the trading agent, either a servant given a wage or as a slave (Leemans 1950: 34-35). The need to specifically request the agents appear in person in *YOS 2*, 112, would show that the physical presence of the trading agent was out of the ordinary. It seems that the norm was to send a servant to deliver goods and letters (as stated by Leemans 1950: 34). This is likely the case in *YBC 5151* discussed above where Watar-Šamaš, likely a servant of Abu-waqar's, acts on Abu-waqar's behalf to deliver goods to an administrative household.

§3.3.2.6. The trading agent in both sets of letters needs additional help in providing the required commodities. In *YOS 2*, 112, a local resident needed to be taken as a partner to help facilitate trade. In *CT 29*, 14, a knowledgeable individual is sent to assist in the acquisition of the commodities in question. This leads to an important point: the trading agent was not an expert in everything, only a representative of the merchant abroad. He needed a local citizen to enhance his abilities to procure items in Susa and an expert in oil products to acquire good quality oils for sale abroad.

§3.3.2.7. In addition to the relationship between the merchant and trading agent, these letters also help show the role of the merchant in society and in relationship to the aromatics industry. First, we will note that the merchant could be located outside of Babylonia proper. This is seen in *CT 29*, 13-14. The merchant requests finished products in the form of perfumes be delivered to him. As noted

⁹⁹ Van de Mierop 1992a: 243-44, sees this form of economy begin to appear in the reign of Warad-Sîn, and grow

the trading agent may have resided in Sippar while the merchant worked abroad, possibly east of the Tigris as Leemans states. In this case the merchant is an exporter of perfumes manufactured in Babylonia. He is also very likely independent of the administration in Babylon, as is seen by the need to purchase items on the market. He certainly lacks the clout shown by Šēp-Sîn in *YOS 2*, 112, who has royal soldiers at his disposal. Indeed, Sîn-aḥamidinnam seems to beg his associate in Sippar to send him ingredients whereas Šēp-Sîn takes a commanding tone when demanding his associates meet him in person at al-Aha-nūta.

§3.3.2.8. The appearance of soldiers in *YOS 2*, 112, as just stated, shows that: "Šēp-Sîn apparently had the assistance of the king at his disposal" (Leemans 1960: 81). This support by the king is due to the merchant's role in the royal and temple administrations. As described by Renger in 1979 and again in 2004, institutional households, specifically the palace and temple households, handed over both resource gathering in kind and in silver, as well as certain administrative operations, to entrepreneurs as franchised individuals (Renger 1979: 254 and 2004: 145, respectively).⁹⁹ Under this system, the merchant acted in an administrative capacity to procure raw materials and silver for an administrative government. Thus Šēp-Sîn, in so far as he is acting on the government's behalf, had access to government resources, such as soldiers in this example, to assist in resource gathering when necessary.

§3.3.2.9. Another merchant, Itti-Sîn-milki the merchant overseer of Zambilum, appears several times in the texts (*TCL 10*, 56, 57, 61, and 72)¹⁰⁰ delivering items to a temple administration. In three out of the four texts (*TCL 10*, 56, 61, and 72), one of the receiving individuals is Ikūn-pî-Adad, perhaps the same individual as the disbursement official in *YBC 5169*, the sanga of Ninurta. The first delivery, *TCL 10*, 56, is for a caravan or journey to Dēr. In the second and fourth texts, *TCL 10*, 57, and

under Rīm-Sîn.

¹⁰⁰ These texts range in date from Rīm-Sîn 22 (*TCL 10*, 56, 57) to 27 (*TCL 10*, 72).

¹⁰¹ In addition, note his involvement in procuring 92 pigs for soldiers on the march for Ešnunna. See §1.3.6. We may note also that an official named za-a-lam receives silver in *TCL 10*, 56: 5, to purchase a garment. This is perhaps the same za-a-lam as the chair-bearer of *YBC 5274* published in Feuerherm 2004: vol. 2, 109, who receives red paste and bdellium.

¹⁰² Unfortunately the date-formula is broken in this text, thus rendering its date very uncertain.

72 respectively, he makes a delivery for a royal sacrifice. The third, *TCL* 10, 61, does not enumerate the purpose of the delivery but it is received by Ikūn-pî-Adad. In each text Itti-Sîn-milki serves in an administrative capacity, he provides materials, including aromatics, for temple consumption. In addition, *TCL* 10, 57 and 72, both show him performing this function on behalf of the king for a royal sacrifice.¹⁰¹

§3.3.2.10. The merchant was perhaps used to procure some aromatic items already during the reign of Sîn-iqīšam. This is seen in several aspects of YBC 10512. Whatever the date of this text,¹⁰² it describes the process of procuring a commodity by a palace or temple agency from the market. First, kar-ra and ku₃-bi appear in YBC 10512: 2-3 and are described in §1.3 as ‘market rate’ and ‘its value’ respectively. Their appearance in YBC 10512 implies the existence of a market independent of the administration used by the administration to value a commodity. In addition, the appearance of kar and ku₃-bi here shows that the commodity here, *margušum*, was traded on this market. Next we see ‘na₄ dutu’ ‘standard of Šamaš.’ This phrase shows a standard weight, verified by the temple of Šamaš, used to measure the commodity and its silver equivalent.¹⁰³ Further, the phrase ‘dub šu-bala’ ‘tablet of the exchange’ describes what the transaction in question was, an exchange of silver for goods. Finally, line five enumerates the reason for this transaction: the perfumer’s workshop. We may therefore understand the transaction as a delivery of a commodity, procured on the market in exchange for its silver equivalent using a specific standard, in this case that of Šamaš, to an institution and ultimately destined for the perfumer’s workshop.

§3.3.3. Craftsman, Merchant, and Administration

§3.3.3.1. The perfumer’s involvement with the administration varied considerably from the beginning of the reign of Sumuel to the middle of the reign of Rīm-Sîn. *YOS* 14, 212, dated to Sumuel year five shows that the perfumer’s workshop formed part of the administration and was intimately linked to the oil bureau at Larsa. Indeed, the head of the oil bureau during much of the reign

of Abi-sare, Lipit-Irra, was promoted to the head of the perfumer’s workshop by Sumuel’s fifth year as king. Perhaps during the reign of Sîn-iqīšam, if the dating of YBC 10512 is correct, and certainly by the reign of Rīm-Sîn, a merchant provides aromatic items to an administration to be distributed to the perfumer’s workshop. A perfumer’s workshop is still, however, part of an administrative apparatus at this time as well. This is evident by the building inscription Rīm-Sîn 17, dated by Frayne to around Rīm-Sîn year eight (*RIME* 4, p. 280),¹⁰⁴ which commemorates the (re)building of the perfumer’s workshop at Ur. Indeed, there was a perfumer’s workshop connected to an administration up through at least Rīm-Sîn year 54, as is evident by YBC 5151 discussed above.

§3.3.3.2. We may also suggest the existence of private perfumers, operating independently of the temples or palace at this time. In *TCL* 10, 56 and 57, Itti-Sîn-milki, the merchant overseer of Zarbilum, delivers perfumed oils to temple administrators. In *CT* 29, 14: 22-25, we read: *šum-ma i₃ / ša i-ba-tum la da-mi-iq / šu-ḫu-ur-ma i₃-da-am-qa-am / ša-ma-am-ma li-qi-a*, “If the oil of Ibatum is not good quality, search. Buy me good quality oil and take possession (of it)!” The author of this text expects there to be more than one source for his trading agent to purchase perfumed oils. His trading agent has the luxury of shopping around for the best quality of perfumed oil. Thus, there is not only one independent perfumer or perfume shop in Sippar; there are several offering different qualities of fragrant oils. I see no reason for the situation to be different at Larsa. In addition, Šēp-Sîn in *YOS* 2, 112, requests the delivery of perfumed oils from Susa, and in *CT* 29, 13, ‘oil of Uršum’ is mentioned, which would have been an import into Babylonia. Not only were perfumes produced in the temple and palace households themselves, they were also produced by local independent craftsmen in the Kingdom of Larsa and produced abroad.

§3.4. *The Place of Aromatics in the Economy and Society of Larsa*

§3.4.1. It is clear perfumes only made up a small portion of fragrant products in the Kingdom of Larsa. YBC 5151 is representative of this point. Of the aromatic commodity delivered, only one mina out of six was destined for perfumed oil production. The rest must have had another use, some possibilities of which can be seen in the texts collected here.

§3.4.2. We have already seen aromatic items and products traded on the market in the kingdom of Larsa. Itti-Sîn-milki delivers both aromatic incense as well as perfumed oils for a royal sacrifice in *TCL* 10, 72. These are each

¹⁰³ According to Powell 1973, 242-43: “to the term “stone” could be added qualifying adjectives such as si-šá (Akkadian *išaru?*) “standard,” gi-na (Akkadian *kittu*) “true,” and mah (Akkadian *kabtu?*) “heavy.” Weights were also qualified according to the objects they were intended to weigh, e.g. wool, according to their geographical origin, and according to the divine or human being whose standard was thus incorporated.”

¹⁰⁴ This is based on its titular, which is similar to *RIME* 4.2.14.6’s titular.

given their silver equivalent and the market rate they were procured at. Also, in *CT* 29, 13-14, we see the shipment of perfumes produced in the Kingdom of Babylon out of foreign raw materials for sale by a merchant working abroad. This shows that perfumes were an export of Babylonia and that they were purchased by a private individual for sale abroad. The ability to purchase and trade in aromatics and aromatic products by private individuals both on behalf of local administrative apparatuses and for private gain is therefore attested by at least the middle of Rīm-Sîn of Larsa's reign.

§3.4.3. Private possession of aromatic items is even more explicitly stated in *YBC* 10758 and 10759. In the former, Iddin-Sîn owns 1 mina of scented honey, which Sîn-išmeanni receives. In the latter text, Iddin-Sîn possesses a quantity (two is written without a unit of measurement) of *baluḫḫu* resin which Unahḫid-Ištar receives. In both texts, *nig₂* or *nig₂-šu*, 'goods,' is used followed by Iddin-Sîn. Unfortunately neither the reason for these transactions nor their dates are stated in the documents.

§3.4.4. Further evidence for private ownership is perhaps seen in the prices given for these items as well. High quality aromatic oils, such as *šim* in *TCL* 10, 72: 10, were expensive, we see a rate of three *qûm* oil per shekel silver. In the same document, *i₃-sag* has the ratio of 1:5 $\frac{1}{18}$ *qûm* per shekel. These two oils would have been inaccessible to most people. However, a lower quality of oil, *šim ḫi-a*, the mixed perfumes discussed in chapters one and two, receives a ratio of 60 *qûm* to one shekel in the same document. Its price is much more accessible to the population. For comparison, note that *i₃-geš* in the same tablet, well known for cooking oil and distributed as rations (see §2.2.3), is given the ratio of 18 *qûm* per shekel. *Kukru*, perhaps terebinthe-oil which would have been manufactured using cold maceration as seen in chapter two, is ordered by Sîn-aḫam-idinnam in *CT* 29, 13: 21, at a rate of 28 *qûm* per shekel silver. Again, below the cost of common oil as seen in *TCL* 10, 72.

§3.4.5. In addition, prices tell us that resins, possibly used as condiments in cooking, and incense were relatively inexpensive as well. Prices are very low for these. For instance, note *šim^{sim}az*, perhaps myrtle resin, is given the rate of 600 shekels per shekel silver in *YBC* 3365. *geš^za-ba*l, juniper wood used as incense in the royal sacrifice of

TCL 10, 72, is given the rate of 720 shekels per one shekel silver. And *šim^{sim}du₁₀-eren*, cedar resin, is sold at the rate of 1200:1 in *YBC* 5765. These are all very inexpensive items. While it is nowhere explicitly stated that the average person bought or used oils, resins, and incense, they were by no means out of the reach of much of the population. This is not to say that people bought large amounts of aromatic items on a regular basis. But, if these prices are typical, this would back up Bottéro's assertion that the average household cook in Mesopotamia could "turn out dishes which were just as tasty and imaginative as those which the *nuḫatimmu* of the palace created" (Bottéro 1985: 46). Some spices for cooking were definitely within reach of much of the society (for a list of aromatic commodities used as condiments, see §2 and *NCBT* 1808).

§3.4.6. This brings us to the palace administration and royal use of aromatics. Bottéro quoted above also notes the use of aromatics as spices in the preparation of elite and royal meals as well (Bottéro 1985: 46). This also is not documented in the texts but can be assumed.¹⁰⁵ However, there is documentation for royal consumption of aromatics and aromatic products in the texts. First, we will note the royal sacrifices seen in *TCL* 10, 57 and 72, and mentioned above. The sacrifices are made on behalf of the king and are thus a royal use of incense and oils. In addition, *TCL* 10, 71 i: 15-26 represents a receipt of aromatic oils and resins for the *e₂-nin*, understood here as the queen's house. The same text, lines 27-29 lists a receipt of one seah perfumed oil "for the princes," "*a-na dumu-meš lugal*." We see here elite consumption of aromatic products. We can also surmise the use of aromatics as medicines based on later medicine recipes. Indeed for

¹⁰⁶ *i₃-geš*, *i₃-geš-eren*. In several instances it is difficult to tell which type of oil is received. Indeed, *i₃-geš* in these tablets seems to generally refer to oils of all types, including perfumed oils.

¹⁰⁷ These texts note several individuals, mostly ladies, who presumably receive oils. The word *ab-ra-ma* or *ik-ka-lu-u₂* are used in *YOS* 5, 171: 10-11, 28, 32; *YOS* 5, 172: 9, and 5, 194: 6, when a person is delayed at some GN. or temple. Two allotments for journeys are mentioned in *YOS* 5, 172: 10 and 12. In addition we see allotments for a diviner, *YOS* 5, 171: 17 and 26, and a builder in *YOS* 5, 172: 14, as well as numerous distributions to estates. These are perhaps similar to those disbursements and gifts made by the royal household of Mari to favored functionaries, dignitaries, and kings discussed by Joannès 1993: 263.

¹⁰⁵ The use of aromatic items in temple food preparation is seen in *NCBT* 1808. It is not too much of a stretch to extend this use to the royal and elite cuisines, especially when prices for some spices are so low.

¹⁰⁸ Four are mentioned in which aromatics or aromatic products are received: *u₄ bara₂-ma* in *TCL* 10, 71 iv 49, *ezen ma-ka-tum* in l. 53, *ezen^{iti}ne-ne-gar* in l. 57, and *ezen^dne₃-eri₁₁-gal* in l. 69.

all the aromatic items mentioned in the documents R. Campbell-Thompson mentions a medicinal use (see §6.1 for the location of each entry within Thompson 1949).

§3.4.7. More often mentioned are temple uses of aromatic items. As seen above, Ikūn-pî-Adad, the sanga of Ninurta, receives three deliveries from Itti-Sîn-milki on behalf of the temple administration for a journey or caravan to Dēr and a royal sacrifice. *YOS* 5, 171, 172, and 194, are especially fruitful in enumerating temple uses of oils. We may note the disbursement of oils and perfumed oils both¹⁰⁶ distributed for several temple uses, including the e₂-^dinanna u₃ ^dna-na-a (*YOS* 5, 171: 1, 172: 1 and 194: 1), the e₂-a-ab-ba-a (*YOS* 5, 171: 10), and the e₂-^ges^sgu-za en ^den-ki (*YOS* 5, 194: 11), for the door-bolt of a temple to the deified Sîn-idinnam (*YOS* 5, 171: 7 and 194: 10), to polish a door bolt (*YOS* 5, 171: 8-9), to anoint the copper lion of the e₂-^dinanna (*YOS* 5, 171: 16), to anoint the temple of Šamaš (*YOS* 5, 171: 18), for the deaths of two individuals (*YOS* 5, 171: 11-13), for a supplication (*YOS* 5, 172: 11), and for various individuals who presumably were affiliated with the temple (*YOS* 5, 171: 2-6, 172: 2-6, and 194: 2-5).¹⁰⁷ *TCL* 10, 71, lists several receipts of aromatics for festivals.¹⁰⁸ In addition, we may again note the delivery of aromatics for food preparation in NCBT 1808 already mentioned (see §2.5.2 and NCBT 1808's textual discussion).

§3.4.8. We can say from this that aromatics were present in all sectors of the economy and society of the Kingdom of Larsa. They were both an import in the form of raw materials and occasionally perfumed oils as well as an export in the form of fragrant oils. Lower qualities of perfumed oil and basic resins and incense were both available and were accessible to the average person, while higher qualities of perfumed oils were certainly used by the wealthier strata of society, the temples, and the palace. They were used in food preparation, medicine, incense, and perfumes for conspicuous consumption by the elites and, at a lower quality, perhaps by the average individual. In the temple aromatics were used as incense and perfumed oils to anoint individuals and things, in sacrifices, libations, and on various feast days. Gifts or disbursements of perfumed oils were made by the temple and perhaps the palace to favored functionaries and visiting dignitaries.

§4. Conclusion

§4.1. What we see in the aromatic texts from the Kingdom of Larsa is a significant international trade and industry that touched many strata of this kingdom's society. Fragrant products arrived in the land ruled by Larsa from all over. Incense came in from the gulf via Dilmun.

Woods arrived from the west through the middle Euphrates region and possibly the upper Euphrates as well. Due to the instability of the period, merchants from the Kingdom of Larsa acquired goods arriving from the west through several different emporiums, such as Ešnunna or even Susa, in spite of Susa's location east of Larsa, when conditions required. Other materials were produced locally in gardens and orchards.

§4.2. Once in the cities of Larsa, raw materials were traded on the market, perhaps by the reign of Sîn-iqīšam and certainly by the reign of Rīm-Sîn. Merchants during this period acted in a semi-administrative capacity as suppliers to the temples and palace households. They acted as middlemen, collecting and purchasing from the local craftsmen and farmers for the temple and palace administrations the raw materials and finished products necessary for the upkeep of these estates. We therefore see the merchants purchasing these raw materials on the market or supplying them at the market rate to such administrations. Raw materials could have also been procured by the local populace for household use or for perfume production by local perfumers who were independent from the palace and temple estates and administrations. Perfumed oils produced by the perfumers were also sold to the local populace and merchants for sale abroad or to supply the various administrative apparatuses.

§4.3. Once delivered to the palace or temple households, administrators divided up the raw materials for different uses. Most raw materials would have remained in the state they arrived in. These were used as condiments for food, such as the items delivered to the gir₄-mah in NCBT 1808, or as incense in sacrifices, or in the royal household, as the receipt of incense for the queen's house in *TCL* 10, 71, would show. Some items were held in the households of individual officials, as is seen by MLC 1683. Other fragrant materials were dispatched to the perfumer's workshop for processing into perfumed oils or water.

§4.4. Two processes of perfume production are alluded to in the texts: cold maceration and heated maceration. Cold maceration produced a lower quality product and required much time for production. The benefits of this production process were that it required little skill and allowed for mass production. Heated maceration was also used. This process took much less time to produce perfumed oils, allowed the mixing of fragrances, and produced a higher quality. Its downside was the amount of skill it required and the low quantities it produced. Perfumed water was also produced, which required the same skills needed in heated maceration and the time required

for cold maceration. Its value is reflected in that it only appears once in the texts. All three processes required repeated soakings of aromatic materials to produce a finished product.

§4.5. The perfumer's workshop, at least during the reign of Sumuel, was closely connected with the oil storage bureau. The perfumer's workshop received oil, probably sesame oil, from this bureau to be processed into perfumes and likely stored its finished products in the oil storage bureau, literally the 'processed oil house.' Moreover, the person who headed this storage house during the majority of the reign of Abi-sare was promoted to the perfumer's workshop by the fifth year of Sumuel. It seems skill with oil was a prerequisite to work in the perfumer's workshop.

§4.6. Once finished, these oils were distributed to the temple for sacrifices, feast days, and to anoint individuals and temple objects, such as the copper lion of the Inanna temple in *YOS* 5, 171, or the door bolt of the temple of Sin-Idinnam in the same text. Oils were also distributed to important individuals, such as those seen in *YOS* 5, 171, 172, and 194, to visiting dignitaries, and to various royal or merchant households, such as the queen's house in *TCL* 10, 71, or the estate of Abu-waqar in *YOS* 5, 194.

§4.7. That aromatics were available to the local populace is clear from the prices of the raw materials and even some perfumed oils seen in the texts. However, this was also a prestige industry. Certain oils were priced so high that only the very wealthy could afford them. Perfumed oils were both an import and an export of the Old Babylonian Kingdom of Larsa. This was a vibrant industry that involved all strata of the society and the economy of this kingdom.

§5. Texts

§5.1. Texts are divided between a primary corpus, made up of administrative and economic documents which appear here for the first time, a secondary corpus of texts, also of administrative and economic documents, which have appeared in copy in other works, three letters, and one royal inscription. Texts in the secondary corpus are from *TCL* 10, *YOS* 5, and *YOS* 14. Three letters, *CT* 29, 13-14, and *YOS* 2, 112, appear after the economic documents and one royal inscription, *Rim-Sin* 17 is translated last. Each has a publication history when available which states where copies, transliterations and translations, and discussions or commentaries appear. Additional commentary appears for each text when appropriate and when such commentary does not repeat already stated

material in the discussion above.

§5.2. Primary Corpus

§5.2.1. MLC 1683 SE 27

Obverse

- | | |
|---|--|
| 1) 3 ^{ges} qu ₂ -ta-«hi»-
nu-um ^{bi-a} | 3 pieces of thin wood ² , |
| 2 ma-na ^{sim} sig ₇ -sig ₇
šu-ti-a
^d suen-še-mi | 2 mina bdellium,
receipt of
Sin-šemi; |
| 5) kaskal egir lugal

iri ^{ki} sa-bu-um-še ₃ | caravan after (the departure of)
the king
to al-Sabum, |

Reverse

- | | |
|--|--|
| ša ₃ e ₂ -du ₆ -la ₂
lu ₂ -ga-a-a
kišib ₃ mu-ub-ra | inside the 'house in probate'
the executor
sealed. |
| 4) ^{iti} ne-ne-gar
mu us ₂ -sa 5-kam
en- ^d šeš ba-hun-ga ₂ | m 5
SE 27 |

¹⁰⁹ For iri^{ki} Sa-bu-um see Groneberg (1980: 198) and Stol (2006-2008). Stol notes in particular the yearname Sumuel 10, where this town is mentioned as "on the bank of the Euphrates" (ibid. 479) and two letters, HMA 9-1847 and 1849, where Sabum is mentioned as near Maškan-šapir (ibid. 479).

¹¹⁰ Heimpel (1997: 82) states: "An é du₆-la would be a household which has come to an end." This is in response to Maekawa (1996), who believes this term refers to the confiscation of property in the Ur III period. Maekawa (1996: 105) states: "as suggested by Jacobsen, dul-lá, é-dul-lá, and lú é-dul-lá are possibly related to the third millennium Sumerian é-dul-la, but Akk. *redû* in those lexical traditions could mean "to confiscate", rather than "to follow" or "to inherit". However, see also Van de Mieroop (1987: 137), where it is understood as "storage house or workshop" in the early OB city of Isin.

¹¹¹ On page 75 Heimpel states: "The process of transfer of belongings to the crown was expressed in the Mari letters as "bringing into the palace" (*ana ekallim šurubum*). In the Ur III documentation the exact Sumerian semantic equivalent...is attested once." For our purposes, what is being underlined is the items described by the term e₂-du₆-la₂ are royal property to be returned to the palace.

¹¹² lu₂-ga(-a) appears in the Death of Gilgamesh (n4 rev. 9, m 109, 199, 208 following Cavigneaux's designation in Cavigneaux and al-Rawi 2000: 25) and is likely a type of familial relationship in that contexts. However see Hübner and Reizammer (1985: 626): 'einwilligen; zustimmen.' In particular see Cavigneaux and al Rawi (2000: 32) lines m2 198-200: ki a-a-zu pa₄-bi₂-ga-a-zu / ama-zu nin₉-zu lu₂-ga-a-zu / ku-li kal-la-zu tu-us₂-sa-a-zu (Cavigneaux's transliteration) which I tentatively translate "where your father, your grandfather / your mother, your sister, your executor/ your valued friend, your companion (are)." The

§5.2.1.1. MLC 1683 is a record of the separating and sealing off of royal property from private property in a household of an official which has come to an end through said official's death. There are several reasons to describe it thus. First, it is a receipt of goods which I understand as designated for a caravan after the king's departure to the city of Sabum, near Maškan-šapir and on the Euphrates.¹⁰⁹ More important for this synopsis are lines R. 7-9: ša₃ e₂-du₆-la₂/ lu₂-ga-a-a/ kišib₃ mu-ub-ra, "the executor sealed inside the 'house in probate.'" I follow Heimpel's understanding of the term e₂-du₆-la₂, 'ceased house,' found in *ASJ* 19, 63-82.¹¹⁰ Heimpel, comparing Maekawa's Ur III evidence to Old Babylonian Mari evidence, comes to the conclusion that this word is used when sealing estates in order to take possession of royal property which had been held by an official in the Ur III period, even a minor one according to the Mari evidence, and also the property of criminals or enemies of the state in the Mari evidence (Heimpel 1997: 72-73, 75).¹¹¹ The process involved the sealing of property after the official's death, retirement, etc (ibid. 76-77); hence the use of 'kišib... ra.' Heimpel also notes that the deceased/retiree's holdings may have been a mixture of public and private property and thus involved the separating of royal from private belongings in the inheritance (ibid. 77-78). lu₂-ga is understood here as some type of familial relationship to the deceased who had charge of his estate after death; either the estate's heir or more likely the executor.¹¹² Thus we may say that the items in the house are royal property, mixed in with the estate of a deceased royal official, which is set aside at his next of kin's or executor's residence or in the deceased's residence now under the authority of his executor. The items are sealed after this official's death, to be sent out in the next caravan after the king's departure.

§5.2.2. NBC 8584 SI 22

Obverse

- | | | |
|----|---|-------------------------------|
| 1) | 4(ban ₂) <i>bi-bi-iš-ti</i> x | 4 Seah x aromatic cuttings, |
| | 4(ban ₂) <i>ba-ba-za-am</i> | 4 Seah <i>pappāsu</i> -meal, |
| | 1(ban ₂) 2/3 e ^{šim} | 1 2/3 Seah <i>akkullaku</i> , |
| | 3 (sil ₃) ^{šim} a | 3 <i>qūm</i> fragrant water, |
| 5) | ki da-da-a | from Dadā, |
| | ^{di} ₃ -li ₂ -na-ap-še-ra-am | Ili-napšeram |

Reverse

- | | | |
|----|---|-----------|
| | šu ba-an-ti | received; |
| | ^{iti} še-sag ₁₁ -ku ₅ u ₄ | m12, d12 |
| | 12-kam | |
| 3) | mu sa-am-su-i-lu-na | SI 22 |
| | u ₆ [?] -nir [?] za-ba ₄ -ba ₄ | |
| | ^d [inanna [?]] šu-gibil [?] -ak [?] | |

§5.2.3. NCBT 1808 RS 25

translation is based on lu₂-ga's position in the Death of Gilgameš at the end of lines involving familial relationships, but before those involving his close friends and its occurrence in MLC 1683 in reference to the estate of the deceased party.

Obverse

- | | | |
|-----|---|-------------------------------|
| 1) | 1(ban ₂) <i>kar₃-šum^{sar}</i> | 1 Seah leeks, |
| | 1(ban ₂) <i>ba-za-nu-um^{sar}</i> | 1 Seah garlic, |
| | 4 sil ₃ <i>an-da-aḥ-šum^{sar}</i> | 4 <i>qūm andahšum</i> -plant, |
| | 2 sil ₃ ^{šim} še-li | 2 <i>qūm</i> juniper berries, |
| 5) | 2 ma-na ^{geš} šu-ur ₂ -min ₃ | 2 mina cypress, |
| | 2 ma-na ^{šim} še-gir ₂ | 2 mina myrtle seed, |
| | 2 ma-na ^{šim} az | 2 mina myrtle, |
| | 4 gazi ₂ ^{sar} | 4 mustard, |
| | a-na gir ₄ -maḥ | for the Girmaḥ, |
| 10) | [šu]-ti-a i ₃ -li ₂ -ma-a-bi | [rec]eipt of Ilima-abi; |
| | [...] x a tum [(...)] | ... |

Reverse

- | | | |
|-----|---|----------------|
| | [ki ...] ta-x | [from ...] ... |
| | [ba]-zi | disbursed; |
| | ^{iti} ab-e ₃ u ₄ 5 kam | m 10 d 5 |
| 15) | mu a ₂ maḥ an ^d en-lil ₂ | RS 25 |
| | en-ki-ga-ta iri ^{ki} dam- | |
| | qi ₂ -i ₃ -li ₂ -šu an-dib | |

§5.2.3.1. NCBT 1808 appears to be a receipt by one Ilima-abi of food and spices for the Girmaḥ. I understand Girmaḥ here as the building which housed the "great oven" that was restored by Nur-Adad for the Nanna-temple of Ur, as stated in *UET* 8, 67, specifically ll. 37-48: "u₄-bi-a / gir₄-maḥ / u₂-su₃-su₃ ^dsuen-na-ka / ninda il₂-e / kilib₃ dingir-re-e-ne-er / du₈-maḥ / unu₂-gal-ba / mi₂-zi-de₃-eš du₁₁-ga / kin-sig kin-nim-ma / ka-nun-bi di-dam / nam-ti-la-ni-še₃ / mu-na-du₃."¹¹³ This passage is translated in *RIME* 4.2.8.3 as:

*37-41) at that time, a great oven for the meals of the god Suen which provides bread for all the gods
42-45) (and) a great cauldron cared for in the (dining) hall, roaring loudly at the morning and evening meals,
47-48) he made for him (the god Nanna) and for his own life.*

The translation of gir₄-maḥ here is seen in the *AHW* entry, "ein großer *kiru*-Ofen." (*AHW* I 284, as opposed to *CAD* K, 408,

¹¹³ Note also RBC 2000: 3, transliterated and translated by Hallo (1985, 58-59), where another gir₄-maḥ appears. According to Hallo, RBC 2000 likely originated in Old Akkadian or neo-Sumerian Lagaš (57-58).

¹¹⁴ Woolley states concerning this text in particular that: "in the thickness of the wall of the room at its west corner, there was sunk in the mud-brick foundation which alone remained ... a box of burnt bricks ... a similar box was found in the thickness of the walls in the south corner of the room. In each box there were two copper cylinders of solid metal,...three of them bore inscriptions of Nur-Adad and one apparently of Marduk-nadin-aḥe;...we thus have proof that from 1970 BC to c. 1065 BC the place was used as a kitchen in which was prepared food for Nannar and the other gods worshipped with him in the Ziggurat Temple" (*UE* 5, 38).

¹¹⁵ gir₄-maḥ udun[?] gu₄ udu nu-ag-e ir nu-mu-un-e₁₁-e (transliteration from Gadd, p. 62)

where it is translated as a “large crucible.” Falkenstein, followed by Salonen (Falkenstein 1960: 148-149, and Salonen 1964: 121, respectively), sees this oven as part of the “kitchen building” (*UE* 5, 38) described by Wooley in *UE* 5, 37-38,¹¹⁴ and connected to the gir₄-mah mentioned in “the Second Lamentation of Ur,” l. 18 (Gadd 1963: 62-63),¹¹⁵ and the e₂ gir₄-mah mentioned in *CT* 42, BM 16919: rev. 12 (e₂-gir₄-mah₂-ni he₂-gal₂-la bi₂-DU). Bottéro further makes mention of this building and oven in his *RLA* entry under “Küche” (Bottéro 1980-1983: 281).

§5.2.3.2. Based on the evidence presented by *UET* 8, 67, “the Second Lamentation of Ur,” and *CT* 42, 40, it may be surmised that NCBT 1808 is a text pertaining to the delivery of condiments, to be used for the preparation of meals at the e₂ gir₄-mah for the God Nanna or another divinity worshipped at the temple complex of Ur. One sees this text as somewhat reminiscent of those presented by Lafont on pp. 292-294 of *ARM* 23 which were “sans doute principalement destinée au “travail des intendants” ou des cuisiniers chargés de la préparation des repas du roi” (Lafont 1984: 293). Here, however, the ingredients are in all likelihood intended for the craftsmen or cooks serving the god.

§5.2.3.3. What can be said concerning the Girmah in NCBT 1808 is that it was a building proper, not simply a big oven, evidenced by its appearance as a destination in this tablet, and that it was still in use during the reign of Rim-Sin as a food preparation facility, as is clear from the year date. Of more interest for our purposes is the use of aromatics in this text with other condiments. We see juniper berries, myrtle seeds², myrtle, and cypress measured by capacity or weight depending on the condiment, delivered with possibly leeks, garlic, lentils, and mustard, measured by capacity and quantity. In particular, myrtle, delivered by weight, was likely the hardened sap used as a sweetener for foods.¹¹⁶

§5.2.4. YBC 1928 RS 52

Obverse

- | | |
|--|---|
| 1) 5 sila ₃ ^{sim} hašhur-ra
šu-ti-a
¹ ib-bi- ^d utu
ki ¹ ib-bi- ^d suen
<i>seal impression</i> | 5 qūm apple,
receipt of
Ibbi-Šamaš,
from Ibbi-Sîn; |
|--|---|

Reverse

- | | |
|--|----------------------------|
| 5) ^{iti} udru ^{duru} Sealing
mu ki 23-kam | m 11
RS 52 ² |
|--|----------------------------|

¹¹⁶ Bottéro (1985: 37) notes the use of tree sap as a form of sweetener in Mesopotamian cuisine.

¹¹⁷ Entries 224, 226, and 227 occur too late to be considered. Entry 430 occurs in the Ur III period and is thus too early a reference. Entry 428 is mentioned once as part of a divine name in a god list. Entry 429 is a town name which occurs with ki. Entry 431, as a sanctuary in Babylon, seems unlikely.

§5.2.5. YBC 4451

Obverse

- | | |
|--|--|
| 1) 1/2 ma<-na> ^{sim} eren
1 ma<-na> ^{sim} hal
1/2 ma<-na> ^{sim} hi-li
hal
1/2 ma<-na> ^{sim} hi-li
sikal | 1/2 mina cedar,
1 mina <i>galbanum</i> ,
1/2 mina <i>galbanum</i> resin,
1/2 mina <i>sikillu</i> resin, |
|--|--|

- | | |
|-------------------------------|----------------|
| 5) a-na e ₂ -gu-la | to the E-gula; |
|-------------------------------|----------------|

Reverse

- | | |
|--|---|
| 1 ku-du ² 2 sila ₃ i ₃ -geš
a-na ir ₃ -e ₂ -gal
ta-al-pu-ni šu-ku ₆ sag
^{iti} [sig ₄ -a ²] ki 5 u ₄ 16-
kam | 1 kudu ² , 2 qūm sesame oil,
to the palace servant,
Talpuni, head <i>bā'uru</i> ;
5 th intercalary month ² d 16 |
|--|---|

5) George's *House Most High* lists, as 424-431, eight separate entries for e₂-gu-la. The entry which strikes me as the more likely choice for the e₂-gu-la of YBC 4451: 5 is entry 425, “a shrine of Ninlil in the é-kur at Nippur” (George 1993: 96).¹¹⁷ e₂-gu-la possibly appears in *CT* 42, 40: 15. It is first described by F. R. Kraus as a chapel where Ninlil was honored in the Ekur complex of Nippur (Kraus 1963: 154). Reference is also seen in the Nippur Lament, l. 32, translated by Tinney as “the great temple whose noise (of activity) was famous” (Tinney 1996: 99).¹¹⁸ That the e₂-gu-la was a place of offerings is seen in both this document (YBC 4451: 5) and in UM 29-13-357 + N 915 + N 1911: rev. v 35, vi 23-24, where it is directly connected to Ninlil (published by Heimerdinger 1976: 228).

However, in the Nungal Hymn, e₂-gu-la is described as a “prison, «house of misdeed», where the sinful man is under heavy sentence, house which selects the righteous and evil man ...” (translation from Sjöberg, 1973: p. 30, l. 10).¹¹⁹ Indeed, as Civil notes, e₂-kur-ra is also equated with prison (*sibittu*) and therefore the Nungal hymn need not, and probably should not, reference a shrine in the Ekur at Nippur (Civil 1993: 75). That offerings would take place in a prison seems odd. However, if we follow Civil's understanding of Nungal's role as a warden, we see two things: First, Nungal is compassionate, and “from the perspective of the author of the text, a prison sentence is a compassionate alternative to the death penalty, and compassion in Mesopotamia is mainly a female attribute” (ibid. 78). In addition, the prison is both a source of light and a place of rebirth, where the guilty are reborn honest (ibid. 78). If the prison is both a place of passion and rebirth, it only makes sense that it would be a place of offerings as well, especially offerings made by those seeking compassion in a court case where they

¹¹⁸ The term e₂-gu-la is translated as “great temple.”

¹¹⁹ Hallo (1979: 163) believes e₂-gu-la in this passage is a version of e₂-gal, which is used for a prison in that instance, and can be translated as the “big house,” a colloquial equivalent of “prison” in contemporary American English.” Civil (1993: 72 ff.) further supports this understanding of prison.

want to be found innocent and honest or desire leniency. Leniency, after all, is proposed by Civil as the motive of the author of the Nungal Hymn (ibid. 72).

6) The reading of *ku-du* is enigmatic. It is understood here as a type of container, perhaps the *kd* jars which were used to store oil rations, among other items at Ugarit. This is seen in a rations list, *CTC* 136 (*UT* 84) in which, as noted by Heltzer; “eleven persons are listed who received from 1-3 *kd*—“jars”—of oil (*šmn*) each.” (Heltzer 1976: 27) Comparison of this jar is made to the DUG sign in Akkadian texts (ibid.27, note 51). Another possible explanation is the *kuddu* described in *CAD* K, 493: “On the one hand (A, EA and Hh VI 47 and IX 381) the word seems to denote a piece of wood or reed, a log, on the other hand (Hh IV, 239 and IX, 218) it describes a container made of wood or reed.”

§5.2.6. YBC 5151 RS 54

Obverse

- 1) 6 ma-na^{šim} ar-ga-num 6 mina *arganum*,
i-nu-u₂-ma ku-lu-am when you withheld the
tu-ki-il-lu withholding,
 šu-ti-a puzur₄- receipt of Puzur-ilabi,
 dingir-a-ba₄
 ki wa-tar^dutu from Watar-Šamaš,
 5) ki-bi-ta 1 i₃-šeš_x from it 1 (is for an) oil allotment,

Reverse

- šu-ti-a[...] x [...] receipt of [...],
 ki puzur₄-dingir-a-ba₄ from Puzur-ilabi;
^{iti}sig₄-a u₄ 25-kam-ma m 3 d 25
 mu ki 25 i₃-si-in-na RS 54
 in-dab₃-ba

3) According to Roberts (1972: 34), Ilaba “plays a brief but important role before fading into obscurity at the end of the sargonic period.” This is, perhaps, corroborated by Richter 2004, where no mention of this deity is made. However, Bowes (1987: vol. 2, 954) notes two other occurrences of this divinity in personal names during the OB period: Nabi-Ilaba at Sippar and more importantly for this text, Šilli-Ilaba at Larsa.

5) the understanding of *še* is based on Poebel 1911, where it is argued that in the Old Babylonian period at Larsa and Babylon a phonetic spelling (for *šeš₂*) could be used for a Sumerian word.

§5.2.7. YBC 5169 RS 28

Obverse

- 1) 2 sila₃ i₃-du₁₀-ga 2 *qûm* worked oil,
 1(ban₂) šim hi-a 1 seah mixed perfumes,
 šu-ti-a^dgu-la-du-um-qi receipt of Gula-dumqi;
 inim ša i-ni-ia-tum order of Iniyatum
 5) giri₃^dnin-urta-us₂- via Ninurta-us-eden,
 eden
 ki i-ku-un-pi₄^diškur from Ikûn-pî-Adad,
 sanga^dnin-urta-kam the sanga of Ninurta[?];

Reverse

blank space

[^{iti}...]x ki 2 u₄ 13-kam intercalary month, d 13
 [...]du-un-nu-um^{ki} RS 28

10) [...]in-dab₃-ba

§5.2.8. YBC 5227

Obverse

- 1) 4 sila₃ geš^šim 4 *qûm* aromatic,
 šu-ti-a x x x-az receipt of ...-az,
 giri₃ x [...] -ab[?] via ...-ab[?]

Reverse

blank space
 [^{iti}]du₆ u₄ 7-kam m 7 d 7

§5.2.9. YBC 5232 RS 39

Obverse

- 1) 1(ban₂) šim[...] 1 seah ...-aromatic,
 ku₃-bi 10 gin₂ [(...)] its value 10 shekels,
 ša a-na a-hi-na-x [...] which is for Ahina-...,
 lu₂^dnin-šubur- Lu-Ninšubur-tukul[ti]
 tu-kul₂-[ti]

Reverse

ki ša-ad-di-nu[(...)] from Šaddinnu,
 šu-ti-a tu[?]-[...] receipt of Tu-...];
^{iti}apin-du₈-a m 8
 mu ki 25 i₃-si-in-na[?] RS 39

§5.2.10. YBC 5765 RS 16

Obverse

- 1) 15 ma-na šimdu₁₀-eren 15 mina cedar-resin,
 ku₃-bi 2/3 gin₂ 15 še its value 2/3 shekel 15 grain,
 ša dⁱškur-ma-an-šum₂ which Adad-manšum

Reverse

break ...
^{iti}du₆-ku₃ u₄ 12-kam m 7 d 12 y
 5) mu i₇ eden-na i₇ he₂- RS 16
 gal₂-la mu-ba-al-la₂

§5.2.11. YBC 7189 RS 04

Obverse

- 1) 2 gu₂ 15 ma-na šimgeš- 2 talent 15 mina cedar-wood,
 eren
 1 gu₂ šim^xšu-ur₂-man₃ 1 talent cypress,
 1 gu₂ šim^ši-mi-iš-la₂ 1 talent box,
 1 gu₂ šim^dnin-urta 1 talent euphorbia,
 5) n gu₂ šim^ššeš n talent myrrh,
 1 gu₂ 15 ma-na šim^gi- 1 talent 15 mina sweet-reed,
 du₁₀-ga
 [n] gu₂ šim^{az} n talent myrtle,
 [n] šim^še-li n juniper berries,
 [n] šim^gig n *kanaktu*,
 10) mu-DU a-da-al- delivery of Adallal-Ayya;
 lal_x(LA)-a-a

Reverse

^{iti}du₆-ku₃ u₄ 15-kam m 7 d 15
 mu e₂^dinanna^dnanna RS 04
 u₃^den-lil ki Larsa^{ki}
 -ma mu-un-du₃-a

§5.2.12. YBC 10512 *Sîn-iqīšam* 5a

Obverse

- 1) 1 ^{sim}mar-gu-[*sum*] 1 *margušum*,
geš-nig₂ 1/2 10 kar-ra the chunk of wood (is) 1/2
(shekel) at 10 (shekels) on the
market,
ku₃-bi 2 gin₂ its value 2 shekels,
na₄^dutu standard of Šamaš,
5) e₂-i₃-ra₂-ra₂-še₃ for the perfumer workshop;
mu-DU^dsuen-be-el- delivery of *Sîn-bēl-aplim*,
ap-[*lim*]
dumu^den-lil₂-na-ši[?] son of Enlil-naši,

Reverse

- dub šu-bala[?] tablet of the exchange[?];
break ...
2) ^{iti}x-x [...] m n
mu ka [...] ugnim [...] *Sîn-iqīšam* 5a?
x-x [...]

§5.2.12.1. I understand this text as a delivery of a piece of wood valued at 2 shekels. Two additional quantities are given in line two: 1/2 and 10. The only standard measurements given are shekels in line 3 and na₄^dutu, lit. ‘weight of Šamaš,’ in line 4. I therefore understand both measurements in line two as weights. The first is that of *margušum*, the second of silver. The market rate, then, is 1/2 shekel *margušum* for every 10 shekels of silver, or a rate of 1:20 *margušum* / silver according to the market. The weight of this chunk of wood is thus 1/10 shekel, measured by the weight of Šamaš. l. 8 helps explain the transaction: it is an exchange of silver for its equivalent in the wood at the market. Unfortunately the rest of the line is broken.

§5.2.13. YBC 10758

- 1) 1 ma-na ^{sim}lal₃ 1 mina (scented) honey,
šu-ti-a receipt of
^dsuen-iš-me-a-ni *Sîn-išmeanni*,
nig₂-šu i-din-^dsuen goods of Iddin-*Sîn*.

1) This is understood here as a hardened sugary honey, measured by weight, rather than a syrup measured by capacity.

§5.2.14. YBC 10759

Obverse

- 1) 2 ^{sim}du₁₀-ḫal 2 *galbanum*-resin,
šu-ti-a receipt of
u-na-ḫi-id-eš₈-tar₃ Unahḫid-Ištar,

Reverse

- nig₂ i-din-^dsuen goods of Iddin-*Sîn*;
5) ^{iti}ab-bi-e₃-a m 10 d 2
u₄ 2 kam

§5.3. *Secondary Corpus*

§5.3.1. *TCL*

§5.3.1.1. *TCL* 10, 56, AO 8479 RS 22

Leemans states concerning this tablet: “In the text published in

TCL X, the fragment A is a piece of the tablet, projecting from the partly broken case; it is now entirely effaced. B is the text on the case. Copy and transliteration of the tablet are given here, the latter complemented by the fragmentary copy of A in *TCL* X” (Leemans 1960: 14).

§5.3.1.1.1. Tablet

Copies: *TCL* 10, 56 A, Leemans (1960: 147)

Transliteration, translation: Breckwoldt (1994: part 5 66-67), Leemans (1960: 148)

Discussion: Breckwoldt (1994: part 3, 108-109, part 5 68),

Kraus (1958: 15), Leemans (1960: 77, 146, 157, 174)

Obverse

- 1) [n] ma-na ku₃-babbar [n] mina silver,
šu-ti-a ^dnin-urta-mu- receipt of Ninurta-mupada, x,
pa₃-da x
kaskal BAD₃.AN^{ki} caravan of Dēr;
ša₃-ba 5/6 ma-na 4 out of this 5/6 mina 4 shekels
gin₂ ku₃-babbar silver,
5) šu-ti-a za-a-lim receipt of Zâlim,
a-na ši-ib-ḫi-ir-tum to buy
ša-mi-im a small scrap;
[1] ^{tu}g₂na-al-ba-šum [1] *nalbašum*-garment,

Reverse

- [...] n la₂[?] gin₂ [... its] n minus[?] the shekel,
[...] ku₃-bi 2/3 gin₂ [... its] value 2/3 shekel,
[...] ku₃-bi 2/3 gin₂ [... its] value 2/3 shekel,
[...] ku₃-bi 2/3 gin₂ [... its] value 2/3 shekel,
5) [...] x ku₃-bi 3 1/3 gin₂ [... its] value 3 1/3 shekels,
[šu-ti-a] a-ḫu-um- [receipt] or Aḫum-waqar, son of
wa-qar dumu Lu[?]-x,
lu₂[?]-x-ta
[kaskal] BAD₃.AN^{ki} [caravan] of Dēr;
[n 10] ma-na 7 1/3 gin₂ [n 10] mina 7 1/3 shekels,
šu-ti-a i-ku-um- receipt of Ikūn-pî-Adad
pi₄^diškur
10) u₃ i₃-li₂-i-din-nam and Ili-idinnam,
mu-DU it-ti-^dsuen- delivery of Itti-*Sîn*-milki;
mil-ki
^{iti}gan-gan-e₃ m 9
mu du₁₁-ga zi-da RS 22
^den-lil₂^den-ki-ga-ta
i₇ ul-li₂-ta mu-bi-na
[sa₄-a sipa] ri-im-suen
mu-ba-al

§5.3.1.1.2. Case

Copy: *TCL* 10, 56 B

Transliteration, translation: Breckwoldt (1994: part 5 67)

Discussion: Breckwoldt (1994: part 5 68), Kraus (1958: 15), Leemans (1960: 77, 146, 157, 174)

- 1) [n ma-na] ku₃-babbar [n mina] silver,
[šu-ti]-a ^dnin-urta- [recei]pt of Ninurta-mupada,
mu-pa₃-da
[kaskal] BAD₃.AN^{ki} [caravan] of Dēr;
[ša₃]-ba[!] 5/6 ma-na out of this 5/6 mina 4 shekels

- 4 gin₂ ku₃-babbar silver,
 5) šu-ti-a za-a-lim receipt of Zâlim,
a-na ši-iḥ-bi-ir-tum to buy
ša-mi-im a small scrap;
 1 ^{tu}g₂na-al-ba-šum 1 *nalbašum*-garment,
 [n] 1 gin₂ [n] 1 shekel,
 10) 2 sag² ir₃ ku₃-bi 2 heads² of slave, their value
 1 ²/₃ gin₂ 1 ²/₃ shekel,
 2 sila₃ i₃-sag ku₃<-bi> 2 *qûm* premium oil, its value
²/₃ gin₂ ²/₃ shekel,
 2 sila₃ i₃-geš^{es}eren 2 *qûm* cedar oil,
 ku₃-bi ²/₃ gin₂ its value ²/₃ shekel,
 5 sag gu₄ al-zu₂-a 5 head plow ox,
 15) ku₃-bi 3 ²/₃ gin₂ their value 3 ²/₃ shekels,
 kaskal BAD₃.AN^{ki} caravan of Dêr;
 10 ma-na 7 ²/₃ gin₂ 10 mina 7 ²/₃ shekels,
 šu-ti-a i-ku-un-pi₄- receipt of Ikûn-pî-Adad
^{di}škur
 u₃ i₃-li₂-i-din-nam and Ili-idinnam,
 20) mu-DU It-ti-^dsuen- delivery of Itti-Sîn-milki;
 mil-ki
 [iti^{ti}gan-gan]-e₃ m 9
 mu du₁₁-ga zi-da RS 22
^den-lil₂ ^den-ki-ga-ta
 i₇ ul-li₂-ta mu-bi-na
 [sa₄-a sipa ri-im-suen]
 mu-ba-al-la₂ [...] -kam₂?

4) ki on the tablet copy.

9) One expects ku₃-bi 1 gin₂, as Breckwoldt (1994) restores. However, Leemans' copy does not allow this reading.

10) The second sign on the case makes the restoration tentative; my reading of it is based on l. 14. Leemans (1960) restores "2 udu-nita₂ ku₃-bi ²/₃ gin₂" which is also a possibility. Breckwoldt's restoration "2 sila₃ šim' ku₃-bi ²/₃ gin₂" is unlikely though her statement that ²/₃ shekel is low is valid. The sign, according to the copy, is not šim, however, but ir₃.

§5.3.1.2. *TCL* 10, 57, AO 8469 RS 22

Copy: *TCL* 10, 57

Editions: Breckwoldt (1994: part 5 68), Leemans (1960: 148-149)

Discussion: Breckwoldt (1994: part 5 68-69), Leemans (1960: 157)

- 1) 1.58 udu-nita₂ 118 rams,
 2(ban₂) geš^{es}lam-tur 2 Seah šer'azu-nut,
 2(ban₂) geš^{es}lam-gal 2 Seah pistachios,
 2(ban₂) la₃ 2 Seah honey,
 5) 3(ban₂) 2 sila₃ i₃-sag 3 Seah 2 *qûm* premium oil,
 5(ban₂) šim ḥi-a 5 Seah mixed perfumes,
 11 ma-na geš^{es}eren 11 mina cedar,
 mu-DU it-ti-^dsuen- delivery of Itti-Sîn-milki
 <mil-ki>
 zar-bi₂-lum^{ki} of Zarbilum,
 10) geš-tag-ga lugal royal sacrifice,
 iti^{ti}du₆-ku₃ m 7

ša i-na kunⁱ⁷du-uš-šu when? into the outlet of the dušu-
 canal
il-la-[ak/ku] he? went/goes;
 iti^{ti}du₆-ku₃ u₄ 25-kam m 7 d 25

15) mu du₁₁-ga zi-da ^dsuen] RS 22

[^den-ki-ga-ta i⁷ul-ta
 mu-bi nu-sa₄[a]
 sipa-<zi> ^dri-im-
^dsuen ba-al-[la₂]
 iri^{ki} didli-be₂-eš₃ gan₂
 -[daga^l-la] bi₂-in-[daḥ-e]

8) Leemans notes the presence of 'mil-ki' on the tablet though it is absent from the copy. Since this makes sense, Itti-Sîn-milki was a merchant, the merchant overseer of Zarbilum in fact as seen in *TCL* 10, 61, below, I follow Leemans.

10) For the translation of geš-tag as 'to sacrifice,' see Thompson (1984: 318). Leemans (1960: 149), leaves this untranslated. Breckwoldt's understands this phrase as derived from "to offer." See Breckwoldt (1994: part 5 68 n. 10).

12) Leemans transliteration of this text shows a -šu at the end of this line. In addition, he notes the alternative reading of the sign preceding -šu as UŠ (Leemans 1960: 149 n. 2). The translation "when" for ša is tentative following Leemans and Breckwoldt.

§5.3.1.3. *TCL* 10, 61, AO 8497 RS 23

Copy: *TCL* 10, 61.

Transliteration, Translation: Breckwoldt (1994: part 5 69),

Jean (1931: no. 24), Leemans (1960: 149-150)

Discussions: Breckwoldt (1994: part 5 70); Leemans (1960: 157)

- 1) 21(gur) 3(barig) 21 kor 3 *pānû* 5 Seah, *qûm* oil,
 5(ban₂) sila₃ i₃-geš
 53(gur) 2(barig) 53 kor 2 *pānû* 2 Seah, kor sesame,
 2(ban₂) gur še-geš-i₃
 mu-DU it-ti-^dsuen- delivery of Itti-Sîn-milki,
 mil-ki
 ugula dam-qar merchant overseer of Zarbilum,
 zar-bi₂-lim^{ki}
 5) šu-ti-a i₃-li₂-i-din-nam receipt of Ili-idinnam
 u₃ i-ku-un-pi₄-^{di}škur and Ikûn-pî-Adad,
a-na amar-ne₂-ru-um for Bûr-nêrum;
 geš^{es}ba-an 10 nig₂-gi-na the normal Seah-measure of 10;
 iti^{ti}kin-^dinanna u₄ 5-kam m 6 d 5
 10) mu du₁₁ an ^den-lil₂ RS 23
^den-ki-ga-ta i₇ ud-
 kib-nun-na di₄-lim-
 da ku₃-ga nanna-ta
 nesag tum₃ e₂-kur-
 ad? nam-ti-la-še₃
 sipa-zi ^dri-im-^dsuen-e
 Larsa^{ki}-ta zag a-ab-
 ba-še₃ mu-ba-la₂

2) Leemans reading of 3(barig [pi]) must be a typo since he

translates it as 2.

7) I follow Jean (1931: 142) in restoring ZUR, understood here as amar and thus making this a personal name, against both Leemans (1960: 150) followed by Breckwoldt (1994: part 5 69-70), who both see this as a mistake for SIZKUR, a sacrifice.

8) Following Leemans (1960) for nig₂-gi-na. Breckwoldt translates “correct.”

§5.3.1.4. *TCL* 10, 63, AO 8510 RS 24

Copy: *TCL* 10, 63

Collation: Arnaud (1976: 86).

- | | | |
|-----|---|-----------------------------------|
| 1) | 8 sila ₃ i ₃ -geš bara ₂ -ga | 8 <i>qûm</i> filtered-sesame oil, |
| | 3 sila ₃ i ₃ -geš | 3 <i>qûm</i> oil, |
| | 1(ban ₂) <i>kar₃-šum^{sar}</i> | 1 seah leeks, |
| | šu-ti-a | receipt of |
| 5) | ^d ri-im- ^d suen-mu-ba- | Rîm-Sîn-muballiṭ |
| | li ₂ -iṭ | |
| | <i>u₃</i> kur-mar-da-maḥ-ni ₂ | and Kur-Marda-maḥni, |
| | ki ḥa-ba-an-nu-um | from Ḥabannum |
| | ba-zi | disbursed; |
| | ^{iti} geš ^s apin-du ₁₀ -a | m 8 |
| 10) | mu du ₁₁ -ga an ^d en-lil ₂ | RS 24 |
| | ^d en-ki-ga-ta ⁱ maš- | |
| | tab-ba a nag un dagal- | |
| | la ² gal ₂ ² -še ₃ gal ₂ -la gu ₂ | |
| | diri-a-bi he ₂ -gal ₂ ^d ašnan | |
| | gar-gar-ra sipa-zi ^d ri-im- | |
| | ^d suen-e lu ₂ igi-gal ₂ tuku | |
| | banda ₃ ^{da} -bi diri-bi zag | |
| | a-ab-ba-še ₃ mu-ba-al | |
| | a-gar ₃ didli-bi gan-zi- | |
| | še ₃ in-ku ₄ -re | |

3) Arnaud’s collation sees the beginning of this line as: ‘¹/₂ gu₂.’ The gu₂- is possibly a mistake for *kar₃*-, which look very similar in these texts. This understanding seems relatively certain as there is no gu₂-šum^{sar} I am aware of, but there is a *kar₃-šum^{sar}* (see appendix 1). As this material is routinely measured by capacity, it is likely that Arnaud’s ¹/₂ should be read as 1 ban₂.

§5.3.1.5. *TCL* 10, 71, AO 8453 RS 27

Copy: *TCL* 10, 71

Transliteration, translation: Jean (1931: 144-148 no 27)

Discussions: Leemans (1960: 16, 158)

Obverse i

- | | | |
|-----|--|---|
| 1) | 4 sila ₃ [...] | 4 <i>qûm</i> ... |
| | ur-mes a [...] | ..., |
| | <i>a-na</i> ^{gš} in- [...] | for x-..., |
| | giri ₃ SI-x-AB-x [...] | conveyor ... |
| 5) | <i>u₃</i> [e ₂ -a ²]-ra-bi [...] | and Ea-rabi ..., |
| | 16 <i>ba-ba-az</i> giri ₃ ² [...] | 16 <i>pappāsu</i> , via ² [...], |
| | šu-ti-a ša-li-mu-um | receipt of Šalimum, |
| | giri ₃ x-lim [...] | via ..., |
| | ⁱ a-li ₂ - ^d [...] | Ali-[...] |
| 10) | <i>u₃</i> e ₂ -a-ra-[bi ...] | and Ea-Rabi; |
| | 20 gu ₂ im-[babbar ...] | 20 talents gy[psum], |

- | | |
|--|--|
| 15 gur naga | 15 kor potash, |
| <i>a-na</i> ^{tuk} mu-sir ₂ -ra ša | for a <i>misarru</i> -garment of the |
| e ₂ -nin | queen’s house, |
| šu-ti-a i ₃ -li ₂ -inim-gi-na | receipt of Ili-inim-gina; |
| 15) 15 gur naga 1(ban ₂) | 15 kor potash, 1 seah apple, |
| ^{šim} ḥašḥur | |
| 1(ban ₂) ^{šim} <i>mar-gu-šum</i> | 1 seah <i>margušum</i> , |
| 1(ban ₂) ^{šim} <i>ba-ri-</i> | 1 seah <i>sagapanum</i> ² , |
| <ra>-a-tum | |
| 1(ban ₂) ^{šim} li | 1 seah juniper, |
| 1(ban ₂) ^{šim} <i>dup-ra-</i> | 1 seah juniper (drupacea), |
| [num] | |
| 20) 4 ma-na ^{šim} gir ₂ | 4 mina myrtle, |
| 4 ma-na ^{šim} ḥal | 4 mina <i>galbanum</i> , |
| 4 ma-na ^{šim} ḥi-il | 4 mina <i>galbanum</i> -resin, |
| ba-lu-ḥu | |
| 4 ma-na ^{im} ḥa-gir ₂ | 4 mina <i>puquṭtu</i> ² , |
| 2(ban ₂) za ₃ -ḥi-li-a | 2 seah cress, |
| 25) <i>a-na</i> e ₂ -nin šu-ti-a | for the queen’s house receipt of |
| mar-ra ¹ -bi | Marrabi ² |
| inim <i>ša</i> ša-li-mu-um | order of Šalimum; |
| 1(ban ₂) ^{šim} <i>a-na</i> | 1 seah perfumed oil for the |
| dumu ^{meš} lugal | princes, |
| šu-ti-a ša-li-mu-um | receipt of Šalimum, |
| giri ₃ a-ba-a | via Abâ; |
| 30) 4 gur a-du-a-a | 4 kor ..., |
| 1 a ba ² | 1 ..., |
| <i>a-na</i> ar ku ka x x | for ..., |
| ab is is | |
| x x še <i>rad-da si-</i> []- <i>a-ni</i> | ..., |
| giri ₃ gi-mil-suen | via Gimil-Sîn; |
| 35) a x ku ₃ geš | ..., |
| 1 ma-na gaba la ₃ | 1 mina wax, |
| 10 gin ₂ <i>lu-ur-pi-</i> | 10 shekel <i>lurpianum</i> -mineral, |
| <i>a-nu-um</i> | |
| 1 sila ₃ ^{im} zu-ge ₆ kur-ra | 1 k. black x-resin, |
| ¹ / ₂ gin ₂ ^{na} du ₈ -ši-a | ¹ / ₂ shekel <i>dušû</i> -stone, |
| 40) ¹ / ₂ gin ₂ ^{na} za-gin ₃ | ¹ / ₂ shekel lapis-lazuli, |
| 1 ma-na uruda | 1 mina copper, |
| ¹ / ₃ ma-na ^{šim} sig ₇ | ¹ / ₃ mina guḥlu ² , |
| ¹ / ₃ ma-na ^{šim} bar-sig ₇ | ¹ / ₃ mina ..., |
| šu-ti-a ^d suen-du-ur-šu | receipt of Sîn-dūršu, |
| 45) giri ₃ ša-li-mu-um | via Šalimum, |
| ra-bu-ut- ^d suen | Rabût-Sîn and |
| e ₂ -a-ra-bi | Ea-rabi; |
| <i>iv</i> | |
| 41) 1 ¹ / ₃ gin ₂ ku ₃ - | 1 ¹ / ₃ shekel silver for flood ² |
| [babbar] <i>a-na</i> ku-kur | |
| <i>a-na</i> e ₂ šu-zi <i>in-na-</i> | granted to the E-šuzi, |
| <i>ad-nu</i> | |
| 1(ban ₂) <i>kar₃-šum^{sar}</i> | 1 seah leeks, receipt of ..., |
| šu-ti-a x-mu-ga | |
| giri ₃ nu-ur- ^d kab-ta | via Nur-Kabta, son of [...]-a; |
| dumu x-a | |
| 45) 7 sila ₃ <i>kar₃-šum^{sar}</i> giri ₃ | 7 <i>qûm</i> leeks, via Warad-Amurru, |
| ir ₃ - ^d mar-tu | |

šu-ti-a ^d suen-an-dul ₇ - a-ni	receipt of Sin-andul-ani;
1 sila ₃ i ₃ -geš ^{eren}	1 <i>qûm</i> cedar oil, 1 <i>qûm</i> honey,
1 sila ₃ lal ₃	
3 sila ₃ šim ^{li} a-na	3 <i>qûm</i> juniper, for Ilu-inimma,
dingir-inim-ma	
ša u ₄ bara ₂ -ma	of the ...;
50) 1 sila ₃ i ₃ -geš ^{eren}	1 <i>qûm</i> cedar oil, 1 <i>qûm</i> honey,
1 sila ₃ lal ₃	
3 sila ₃ šim ^{li}	3 <i>qûm</i> juniper,
a-na dingir-inim-ma	for Ilu-inimma of the town of
iri ^{ki1} ib-ra-at	Ibrat,
ezem ma-ka-tum	<i>makatum</i> festival;
15 gur naga a-na geš ^{kiri}	15 kor potash, for the orchard,
55) šu-ti-a ša-li-mu-um	receipt of Šalimum, via Zikrum;
giri ₃ zi-ik-rum	
3 sila ₃ i ₃ -sag 5 sila ₃	3 <i>qûm</i> premium oil, 5 <i>qûm</i> mixed
šim hi-a	perfumes,
ezem itine-ne-gar	Nenegar festival of Ilu-inimma ,
dingir-inim-ma	
giri ₃ suen-ma-ħa-[...]	via Sin-maħa-[...];
1 gin ₂ sar 1 mu	1 shekel ...,
60) a-na pe ₂ -hi ur ₂ -ša-a-d ^x	to caulk the ...,
2 sila ₃ i ₃ -sag 1 sila ₃	2 <i>qûm</i> premium oil, 1 <i>qûm</i> cedar
i ₃ -geš ^{eren}	oil,
1 sila ₃ lal ₃ a-na	1 <i>qûm</i> honey, for Mār-ili,
dumu-i ₃ -li ₂	
inim ša i-din ^d suen	order of Iddin-Sîn;
1 tu ^g ma-aš-sum	1 <i>mašsum</i> garment, for Enlil-...,
a-na den-lil ₂ -x x x	
65) 2 tu ^g ma-aš-sum šu-ti-a	2 <i>mašsum</i> garments, receipt of
ša-li-mu-um	Šalimum,
a-na nar ^{meš} ma-ar-	for the sick singers,
su-tum	
giri ₃ im-gur ^d suen	via Imgur-Sîn;
1 gin ₂ ku ₃ -babbar	1 shekel silver, for a tamarisk,
a-na geš ^{šinig}	
ša gur ezem dne ₃ -	that of the kor-measure of the
eri ₁₁ -gal	feast of Nergal,
70) šu-ti-a im-gur ^d utu	receipt of Imgur-Šamaš;
blank space	
iti geš ^{apin} -du ₈ -a u ₄	m 8 d 20
20-kam	
mu du ₁₁ an en-lil ₂ en-	RS 27
[ki-ga-ta] i ₇ gu ₃ -nun-	
na-di ul-[ta ba-ra-si-ga]	
GAN ₂ gi dagal-la gan ₂	
[zi nu gal ₂ -la] d ^{ri} -im-	
d[en-zu sipa geš tuk	
kur gal-la igi] a-ab-	
[ba-še ₃ (e da-ri ₂ in-	
si-ga ³)]	

49, 53) I cannot document these festivals.

§5.3.1.6. *TCL* 10, 72, AO 8464 RS 27

Copy: *TCL* 10, 72

Collation: Arnaud (1976: 86).

Transliteration, translation: Breckwolddt (1994: part 5, 72-73),
Jean (1931: no. 128), Leemans (1960: 150-152)

Discussions: Ebeling (1948, 130), Leemans (1960: 119-120,
127, 151, 157)

- 1) 3 ma-na ku₃-babbar 3 mina silver,
8 gin₂ ku₃-gi kar 4 gin₂ 8 shekels gold, rate 4 shekels,
ku₃-bi 1/2 ma-na 2 gin₂ its value 1/2 mina 2 shekels;
5 gin₂ ku₃-gi kar 3 gin₂ 5 shekels gold, rate of 3 shekels,
- 5) ku₃-bi 15 gin₂ its value 15 shekels;
4 (gur) 1(ban₂) gur 4 kor 1 seah kor oil, rate of 1 seah
i₃-geš^{kar} 1(ban₂) 8 (*qûm*),
8 (sila₃)
ku₃-bi 1 ma-na 7 gin₂ its value 1 mina 7 1/6 shekels;
1/6
1(barig) 1 sila₃ i₃-sag 1 *pānû* 1 *qûm* premium oil, rate
kar 5 gin₂ 10 še of 5 shekels 10 grains,
ku₃-bi 12 gin₂ igi its value 12 1/6 shekels 6 grains;
6-gal₂ 6 še
- 10) 1(ban₂) šim kar 3 sila₃ 1 seah perfumed oil, rate of
ku₃-bi 3 1/3 gin₂ 3 (shekels), its value 3 1/3
shekels;
10 ma-na geš^{eren} 10 mina cedar,
10 ma-na geš^{za-ba-al} 10 mina juniper (excelsa),
10 ma-na geš^{šu-ur₂-min₃} 10 mina cypress,
10 ma-na geš^{li-wi-ir} 10 mina white cedar,
- 15) kar 12 ma-na ku₃-bi rate of 12 mina, its value 3 1/3
3 1/3 gin₂ shekels;
4(ban₂) 2 sila₃ šim hi-a 4 seah 2 *qûm* mixed perfumes,
kar 1 (barig) rate of 1 (*pānû*),
ku₃-bi 2/3 gin₂ 6 še its value 2/3 shekel 6 grains;
40 udu-nita₂ kar 40 rams, rate of 2/3 shekel,
2/3 gin₂
ku₃-bi 1/3 ma-na its value 1/3 mina 6 2/3 shekels;
6 2/3 gin₂
- 20) 1.07 udu-nita₂ kar 67 rams, rate of 1/2 shekel,
1/2 gin₂
ku₃-bi 1/2 ma-na its value 1/2 mina 3 1/2 shekels;
3 1/2 gin₂
9 udu-nita₂ bar-su₃ kar 9 rams without fleece, rate of
1/3 gin₂ 1/3 shekel,
ku₃-bi 3 gin₂ its value 3 shekels;
1.39 ganam₄ kar 99 ewes, rate of 1/2 shekel,
1/2 gin₂
- 25) ku₃-bi 2/3 ma-na its value 2/3 mina 9 1/2 shekels;
9 1/2 gin₂
10 ganam₄ bar-su₃ 10 ewes without fleece,
kar igi 4-gal₂ rate of 1/4,
ku₃-bi 2 1/2 gin₂ its value 2 1/2 shekels;
16 sila₄ kar 1/3 gin₂ 16 lambs, rate of 1/3 shekel, its
ku₃-bi 5 1/3 gin₂ value 5 1/3 shekels;
34 maš₂-munus-aš₂ kar 34 female x-goats, rate of
1/3 gin₂ 1/3 shekel,
- 30) ku₃-bi 11 1/3 gin₂ its value 11 1/3 shekels;
šu-nigin 7 1/3 ma-na total 7 1/3 mina 5 1/3 shekels,

5 1/3 gin₂
 22¹ x x 22 ...,
 mu-DU it-ti-^dsuen- delivery of Itti-Sîn-milki,
 mil-ki
 35) geš-tag-ga lugal royal sacrifice,
 it_iudru^{duru}₅ month of *šabattu*,
 šu-ti-a i-ku-un- receipt of Ikūn-pî-Adad
 pi₄-^diškur
 u₃ i₃-li₂-i-din-nam and Ili-idinnam;
 it_iudru^{duru}₅ m 11
 mu[?] i₇ gu₃-nun-di [...] RS 27[?]
 ba-ra-si[?][...]

6) Arnaud's collation of 8 gin₂ at the end of this line is unlikely. One would have to understand this as 1/2 (mina) 8 shekels which the math does not support.

7) Leemans (1960: 151-52) notes the possibility of this line as 7 1/6 shekels 10 še, which Breckwoldt (1994: part 5 72) follows.

18-19) Arnaud's collation suggests the possibility of 40 at the beginning of this line, which is backed up by Leemans' review of the document in Leemans (1960: 151).

19) Jean (1931: no 128) reads: zi²-nin.

32) Leemans notes the text is clearly 22, against the copy in *TCL* 10. Leemans would further prefer to restore ku₃-babbar after it, though he states "the traces hardly allow this reading." (Leemans 1960: 151 n. 3)

34) For the translation of geš-tag as 'to sacrifice,' see Thompson 1984: 318. Leemans (1960: 149) leaves this untranslated. Breckwoldt (1994: part 5 68 n. 10) understands this phrase as derived from "to offer."

§5.3.1.7. *TCL* 10, 81, AO 8470 RS 30

Copy: *TCL* 10, 81

Editions: Breckwoldt (1994: part 5, 75-76), Feuerherm (2004b, 202-203), Leemans (1960: 152)

Discussions: Ebeling (1948: 130, 141), Feuerherm (2004: vol. 2, 203), Leemans (1960: 47, 119, 127, 151-52, 157)

1) [n] gu₂ 30 ma-na n talents 30 mina cypress,
 geš^su-ur-min₃
 30 ma-na ^{sim}mar-ga- 30 mina *marganum*,
 nu₂-um
 ša e₂-a-bu-wa-qar of the estate of Abu-waqar;
 1 gu₂ geš^seren 1 talent cedar,
 5) 30 ma-na geš^sli-wi-ir 30 mina white cedar wood,
 30 ma-na ^{sim}az 30 mina myrtle,
 30 ma-na ^{sim}gi-du₁₀-ga 30 mina sweet reed,
 30 ma-na ^{sim}du₁₀-eren[?] 30 mina cedar resin,
 30 ma-na ^{sim}hal 30 mina *galbanum*,
 10) 30 ma-na ^{sim}ša-me[!]- 30 mina box,
 eš[!]-la
^{sim}d_{nin}-urta euphorbia,
^{sim}mug *bullukku*,
 3(ban₂) ^{sim}gam-gam 3 Seah terebinthe,

geš^sza-[ba-al] juniper (*excelsa*),
 15) 3(ban₂) ^{sim}[...] 3 Seah ...,
 3(ban₂) ^{sim}[še]-li 3 Seah juniper berries,
 1 i₃-sag du₁₀-ga 1 premium worked oil,
 giri₃ dingir-ga-mil via Ilu-gāmil, replacement
 diri-ga
 šu-ti-a i-ku-un- receipt of Ikūn-pî-Adad;
 pi₄-^diškur
 it_iše-sag₁₁-ku₅ u₄ 9-kam m 12 d 9
 mu i₃-si-in^{ki} ba-an-dab₃ RS 30

4) Leemans (1960: 152) gives geš^sbara₆-eren

8) For šim-du₁₀-x see Feuerherm (2004: vol. 2, 203 n. c). As he notes, this is not šim hi-a. EREN is broken but supported by the copy.

10) Following Ebeling's reading. Cf. YBC 7189: 3, where we see ^{sim}ši-mi-iš-la₂.

18) Following Feuerherm (2004: vol. 2, 203 and n. 1)

§5.3.1.8.1. Tablet

Copy: Leemans (1960: 153)

Transliteration, translation: Breckwoldt (1994: part 5 76),

Leemans (1960: 154)

Discussions: Breckwoldt (1994: part 5 76), Leemans (1960: 154)

Obverse

1) 6 sila₃ i₃-geš^seren 6 *qum* cedar oil,
 10 gu₂ 11 ka na x 10 talents 11 x cedar,
 geš^seren
 a-na ^dme-an[?] for ...,
 šu-ti-a i-ku-un- receipt of Ikūn-pî-Adad,
 pi₄-^diškur
 5) ki ^dutu-mu-ba-li₂-iṭ from Šamaš-muballiṭ,
 inim ša ta-ri-bu-um order of Taribum;

Reverse

iti geš^sapin-du₈-a m 8 d 20
 u₄ 20-kam
 mu geš^stukul-maḥ RS 30
^den-lil₂ ^dsuen i₃-si-in^{ki}
 ba-an-dab₅

§5.3.1.8.2. Case

Copy: *TCL* 10, 82

Transliteration, translation: Leemans (1960: 154)

Discussions: Leemans (1960: 154)

1) 6 sila₃ i₃-geš^seren 6 *qum* cedar oil,
 10 gu₂ 11 ma-na 10 talents 11 x x,
 x geš^s-i₃-a
 a-na ^dme-an[?] for ...,
 šu-ti-a i-ku-un- receipt of Ikūn-pî-Adad,
 [pi₄]-^diškur
 5) ki ^dutu-mu-ba-li₂-iṭ from Šamaš-mubaliṭ
 ba-zi disbursed;
 iti geš^sapin-du₈-a m 8 d 20
 u₄ 20-kam

mu^{ges}tukul-mah RS 30
 den-lil₂ d^{suen} i₃-si-in^{ki}
 ba-an-dab₃

2 (tablet and case) Breckwoldt (1994: part 5, 76) notes the possibility that the first two signs are to be read 'aš-šum.'

§5.3.2. YOS

Perhaps YOS 5, 171, 172, and 194, are related to RIME 4.2.14.3, a Rīm-Sîn inscription dealing with the construction of the Ešahulla. Frayne would like to attach this to Rīm-Sîn 4 and locate it in Larsa (RIME 4, p. 274), but George would place this more likely in Uruk (George 1993: 143 no. 1018), which would fit these texts well. Of additional interest is the year date for these three texts, year 6, which notes the building of a temple of Baraulegarra in Adab, and, though not stated in the year dates of these texts, the production of gold statues of Sîn-iddinam. Perhaps a connection can be made between these statues and YOS 5, 171: 7, and 194: 10, where the temple of Sîn-iddinam is mentioned.

§5.3.2.1. YOS 5, 171, YBC 6143 RS 06

Copy: YOS 5, 171

Obverse

- | | | |
|-----|--|---|
| 1) | 2 sila ₃ i ₃ -geš e ₂ - ^d inanna
u ₃ ^d na-na-a | 2 qûm oil, temple of Ištar and
Nanaya; |
| | 4 sila ₃ i ₃ -eren a-wi-lim | 4 qûm cedar oil, Awilim; |
| | 1(ban ₂) i ₃ -eren bi-tim | 1 seah cedar oil, Bitim; |
| | 1(ban ₂) i ₃ -eren li-iq-
tum | 1 seah cedar oil, Liqtum; |
| 5) | 1(ban ₂) i ₃ -eren be-ta-
tum | 1 seah cedar oil, Bettatum; |
| | 1(ban ₂) i ₃ -eren ša-at-
ib-bi | 1 seah cedar oil, Šāt-ibbi; |
| | 1(ban ₂) si-gar e ₂ - ^d suen-
i-din-nam bad ₂ -[x]
gir ₂ [x] | 2 seah, door-bolt, temple of Sîn-
Idinnam Bad-[...] x [...]; |
| | 1(ban ₂) pi-iš-ti-ia i-
nu-ma si-gar e ₂ - ^d x x
u ₂ -ša-ki-lu [...] | 1 seah, Pištiya, when the door-
bolt of the temple of ...
she polished; |
| 10) | 1(ban ₂) a-na e ₂ -a-ab-
ba-a i-nu-ma i-
din- ^d suen
[...] aḫ-ra-ma | 1 seah, to the Eabba when
Iddin-Sîn
[...] was delayed; |
| | 1(ban ₂) ši-li ₂ - ^d utu
dumu si-im-mu-ug-ra | 1 seah, Šilli-Šamaš, son of
Simmugra; |
| | 2 sila ₃ a-na nig ₂ -du ₃ -
e ₃ -a a-na e ₂ -i ₃ -li ₂ -
tu-kul ₂ -ti
i-nu-ma i-mu-tu | 2 qûm, for ... (and) for the estate
of Ili-tukulti,
when they died; |
| 15) | 4 2/3 sila ₃ ir ₃ e ₂ -mar-
ba-tum | 4 2/3 qûm, servant of
the Marbatum estate; |
| | 1 sila ₃ a-na uruda
ur-mah ša e ₂ - ^d inanna | 1 qûm, to anoint the copper lion
of the Ištar temple; |

pa-ša-ši-im
 1/2 sila₃ a-na maš₂-šu-
gid₂-gid₂ giri₃ i₃-li₂-[...]
 1/3 sila₃ a-na e₂-^dUtu
 pa-ša-ši-im₃
 [n] sila₃ ku₃-^d[...]

1/2 qûm, to the diviner, via
Ili-x;
 1/3 qûm, to anoint the temple of
Šamaš;
 n qûm, holy-x ...;

Reverse

- | | | |
|-----|---|---|
| 20) | 3 sila ₃ a-na [...]
1(ban ₂) ku ₃ - ^d inanna
[...]
3(ban ₂) ku ₃ - ^d inanna-
uḫ-me x x [...]
1/3 sila ₃ ir ₃ e- [...]
1 sila ₃ a-na nig ₂ -i ₃ -
de ₂ -a ^d dumu-[zi ...] | 3 qûm, to ...;
1 seah, Ku-Inanna ...;
3 seah, Ku-Inanna-uḫ-me ...;
1/3 qûm, servant of ...;
1 qûm, for libation of Dumuzi ...; |
| 25) | 2 sila ₃ a-na ^d dumu-zi
i-nu-ma šu [?] -ma [?] [...]
1(ban ₂) im-gur- ^d suen
maš ₂ -šu-gid ₂ -gid ₂
1/2 sila ₃ a-ma-at- ^d suen
5 sila ₃ a-ḫu-ṭa-bu-um
i-nu-ma aḫ-ra-ma
1(ban ₂) 5 1/3 sila ₃ i ₃ -
eren nanna-ma | 2 qûm, for Dumuzi when ...;
1 seah, for Imgur-Sîn, diviner
when [...];
1/2 qûm, Amat-Sîn;
5 qûm, Aḫum-ṭābum when he
was delayed;
1 seah 5 1/3 qûm cedar oil,
of Nanna, |
| 30) | x-lum-x-il-bi [...]
2 sila ₃ pi-iš-ti-ia
i-nu-u ₂ -ma nu-ur ₂ -
ub-tum aḫ-ra-ma
3 (pi) 5 2/3 sila ₃ i ₃ -geš
ba-zi | ...;
2 qûm, Pištiya,
when Nūr-ubtum was
delayed;
3 pānû 5 2/3 qûm, oil
disbursed; |
| 35) | i ^{ti} šū-numun-a u ₄
30-kam
mu e ₂ - ^d bar ₃ -ul-e-gar-ra
ša ₃ adab ^{ki} mu-un-du ₃ -a | m 4 d 30
RS 06 |

1) See also YOS 5, 172: 1 and 194: 1, below where the temple of Inanna and Nanaya is also mentioned. If the e₂-^dinanna u₃ ^dna-na-a of this text and those below are related to the mention of ^dinanna u₃ ^dna-na-a in TCL 10, 100, then a location in Uruk is certain (ll 36-37: a-na ^dinanna u₃ ^dna-na-a / ša₃ unu^{ki}). This is supported by YOS 5, 172: 8-9, where an allotment is given to one Awilum while he was delayed at Uruk. Thus reference is possibly made here to a part of the Eanna-complex at Uruk, for which see George (1993: 67-68 no. 75, 99 no. 460, and 126 no. 793).

4) Breckwoldt (1994: part 5 152) also notes the possible appearance of Liqtum in SVJAD 52: 6 (nig₂-ba li-iq-[...]). SVJAD 52: 7-8 "i-nu-ma iš-tu mu-x-[x il]-li-kam-ma / i-na e₂-^dinanna ik-ka-lu-u₂," as noted by Breckwoldt (1994: part 5 152), is similar to YOS 5, 172: 8-9, thus making this identification likely. Unfortunately the name in SVJAD 52: 6 is broken, as is the town name in l. 7, thus rendering certain identification impossible.

5) For Bettatum, see Breckwoldt (1994: part 5 152 n. 5), where a personal correspondence between T. Breckwoldt and G. Beckman makes note of an unpublished seal in the Babylonian

collection which identifies her as the daughter of Balmunamḫe and spouse of Nurum-liṣi, a diviner.

7-31) I understand the majority of oils in this text and the following two to be cedar oil.

7) The tablet itself shows this is clearly the door-bolt, si-gar. This line refers to a temple of Sîn-idinnam, a deified predecessor of Rîm-Sîn, for which see above and under the introduction to this section. Mention of this temple is also made in *YOS* 5, 194: 10

11) *ah-ra-ma* is clear upon a reexamination of the tablet. Note also its appearance in ll. 28 and 32 of this text, and in *YOS* 5, 95: 6. This is understood as the predicative masculine singular of *ahāru*, translated in *CDA* 7 as “to be behind” and *AHW* I, 18 as “hinten sein,” plus a ventive ending, which is represented in the following -ma. Its use here is perhaps of the same purpose as *kalû* in *YOS* 5, 172: 8-9.

12) For Simmugra, see *TCL* 10, 17: R 7, *TCL* 17, 1: 20, *YOS* 5, 172: 7 (below) and 174: 9. In the latter two he is also identified as the father of Šilli-Šamaš.

§5.3.2.2. *YOS* 5, 172, YBC 7185 RS 06

Copy: *YOS* 5, 172

Transliteration, translation, commentary: Breckwoldt (1994: part 5 150-151)

Obverse

- | | | |
|-----|---|---|
| 1) | 2 sila ₃ i ₃ -geš e ₂ - ^d inanna
u ₃ ^d [na-na-a] | 2 qûm oil, temple of Inanna
and Nanaya; |
| | 4 sila ₃ i ₃ -eren a-wi-lim | 4 qûm cedar oil, Awilim; |
| | 1(ban ₂) i ₃ -eren bi-tim | 1 seah cedar oil, Bîtim; |
| | 1(ban ₂) i ₃ -eren li-iq-
tum | 1 seah cedar oil, Liqtum; |
| 5) | 1(ban ₂) i ₃ -[eren be-
ta]-tum | 1 seah cedar oil, Bettatum; |
| | 1(ban ₂) i ₃ -[eren ša-
at-ib]-bi | 1 seah cedar oil, Šât-ibbi; |
| | 1(ban ₂) ši-li ₂ - ^d utu
dumu si-im-mu-ug-ra | 1 seah, Šilli-Šamaš, son of
Simmugra; |
| | 2 (pi) 1(ban ₂) i-nu-
u ₂ -ma a-wi-lim [a]-
na e ₂ - ^d inanna ša ₃
unu ^{ki} ik-ka-lu-u ₂ | 2 pânû 1 seah, when Awilum at
the temple of Inanna in Uruk
was delayed [?] ; |
| 10) | 2 2/3 sila ₃ a-na geš ^{ma} ₂
ḫa-te-e-im kaskal
unu ^{ki} | 2 2/3 qûm, to load ship (for) the
journey of Uruk; |
| | 5 sila ₃ a-na nig ₂ -i ₃ -
de ₂ -a a-na e ₂ - ^d inanna
zabala ^{ki} | 5 qûm, for supplication for the
temple of Inanna of
Zabalam; |
| | 2(barig) 2(ban ₂) wa-
ar-ki a-wi-lim kaskal
iri ^{ki} ra-ḫa-bu-um | 2 pânû 2 seah, after Awilum’s
journey to Raḫabum; |
| | 1(ban ₂) i-šar-re-i-ni | 1 seah, Išar-re’ini; |
| | 5 sila ₃ ^d nanna-ma-
an-si ₂ šidim | 5 qûm, Nanna-mansî, builder; |
| 15) | 1 (gur) 4(ban ₂) 8 2/3 | 1 kor 4 seah 8 2/3 qûm oil |

sila₃ i₃-geš

ba-zi disbursed;

Reverse

iti^šše-sag₁₁-ku₅ [u₄] m 12 d 6

6-[kam]

mu e₂-^dbar₃-ul-[e-gar- RS 06

ra] ša₃ [adab^{ki}] mu-un-

[du₃-a] u₃ [alan ku₃]-

sig₁₇^d[suen-i-din-nam]

[lugal] larsa^{ki}-[ma

mu-na-an-dim₂]

10) Breckwoldt (1994: 151 understands *ḫa-te-e-im* as “to rivet/patch,” based on a suggestion by Postgate “on the basis of the meaning “zusammenscharren” given for the Semitic cognate seah” (ibid. 152). Levey (1959: 92), mentions the use of oil, along with bitumen and wool to caulk ships. “Zusammenscharren” is suggested in the *AHW* I, 336 iii, again based on Semitic cognate seah. However, the *AHW* is uncertain on this point, as is *CAD* H, 152 B (3) on the meaning altogether in this example. *CDA* 112 suggest “to load” ship?”, which I follow. This is likely if the oil used here is cedar oil as I understand it.

11) This line perhaps refers to the same Inanna of Zabalum whose temple was rebuilt by Warad-Sîn in *RIME* 4.2.12.1. See also George (1993: 92 no. 369, 107 no. 562, and 140 no. 968).

12) For the Kittum temple and mention of Raḫabum, see Franckena (1966: 20 no. 30: 6-7, 10-11). For Raḫabum: *YOS* 5, 106: 5, the partitioning of a built up estate, and 217 iv 18, a contract concerning sheep and wool, both from the reign of Rîm-Sîn.

13) Išar-re’ini appears in *YOS* 8, 14: 3 and 9: case 2. There are two interpretations for this name: that of *AHW* II, 978 as i-šar-re-e/i-lî or that of Bowes 1987 2, 424: i-šar-re-e/e’-i-ni. Its appearance here as i-šar-re-i-ni lacks the first sign for i₃-li₂ or the middle radical for re’u, which shows that the *AHW* interpretation is incorrect, at least in this example.

§5.3.2.3. *YOS* 5, 194, YBC 6219 RS 06

Copy: *YOS* 5, 194

Obverse

- | | | |
|----|---|--|
| 1) | 2 sila ₃ i ₃ -geš e ₂ - ^d inanna
[u ₃ ^d na-na-a] | 2 qûm oil, temple of Inanna and
Nana; |
| | 4 sila ₃ i ₃ -eren a-wi-il-
[i ₃ -li ₂ [?]] | 4 qûm, cedar oil Awil-[ili [?]]; |
| | 1(ban ₂) i ₃ -eren bi-tim | 1 seah cedar oil, Bîtim; |
| | 1(ban ₂) i ₃ -eren ša-
at-ib-bi | 1 seah cedar oil, Šât-ibbi; |
| 5) | 1(ban ₂) i ₃ -eren li-iq-
tum | 1 seah cedar oil, Liqtum; |
| | 10 gin ₂ še be-ta <i>ah-
ra-ma</i> | 10 shekels grain, Beta was
delayed; |
| | 1/3 sila ₃ dumu-munus
ša-at- ^d nin-šubur | 1/3 qûm, daughter of
Šât-Ninšubur; |
| | 2 (barig) 3(ban ₂) e ₂
a-bu-wa-qar | 2 pânû 3 seah, estate of
Abu-waqar; |
| | 1(ban ₂) e ₂ - ^d Iškur- | 1 seah, estate of Iškur-ḫegal, |

	ḥe ₂ -gal ₂ nagar	carpenter;
10)	1(ban ₂) e ₂ - ^d suen-i-din-nam	1 seah, temple of Sîn-idinnam;
	1 sila ₃ e ₂ - ^{geš} gu-za en ^d en-ki	1 <i>qûm</i> , E-guza of the en of Enki;
	3 (barig) 2(ban ₂) 7 1/2 sila ₃ i ₃ - ^{geš} ba-zi	3 <i>pānû</i> 2 seah 7 1/2 <i>qûm</i> oil disbursed;
<i>lower edge</i>		
	3.27.30	3.27.30
<i>Reverse</i>		
	iti ^{ti} gu ₄ -si-su u ₄ 30-kam	m 2 d 30
	mu bad ₃ iri ^{ki} gar-ra ² [...]	RS 06?

2) The beginning of this broken name, a-wi-il, matches that of *YOS* 5, 108: 8, rather than of the a-wi-lim of the two notables mentioned above (171: 2, 172: 2), making an identification with the former more likely. However the occurrence of Bitim, Šāt-ibbi, and Liqtum render the opposite plausible as well.

6) Be-ta could be a mistake for be-ta-<tum> in *YOS* 5, 171: 5 and 172: 5.

8) Note also Abu-waqar's appearance in *UET* 5, 130: R 10 and possibly *UET* 5, 540: 11 (as a-ad-da-wa-qar). For a study of this notable at Larsa, see Feuerherm (2004).

9) The same Iškur-ḥegal appears in *YOS* 5, 191: 6, a grain disbursement dated to RS 10.

16) This line is broken though what is clear does not match the formula for Rīm-Sîn year 6, thus the date is uncertain. However, the content of this document closely matches that of *YOS* 5, 171 and 172. It seems therefore likely that this text dates from the same year.

§5.3.2.4. *YOS* 14, 212, YBC 10317 SE 05

Copy: *YOS* 14, 212

Transliteration, Translation: Gallery (1980: 8)

Discussion: Gallery (1980: 8-9), Whiting Jr. (1987: 108)

1)	2 (barig) 1(ban ₂) 1 1/2 sila ₃ i ₃ - ^{geš} mu-DU	2 <i>pānû</i> 1 seah 1 1/2 <i>qûm</i> oil,
	ir ₃ -ra-a-zu	delivery of Irra-azu,
	e ₂ -i ₃ -du ₁₀ -ga	processed oil house,
5)	šu-ti-a	receipt of
	li-pi ₂ -it-ir ₃ -ra	Lipit-Irra,
	[e ₂]-i ₃ -ra ₂ -ra ₂	perfumer's [workshop],

Reverse

	[...]-e-x-x	...;
	iti ^{ti} udru ^{duru} ₅	m 11
10)	mu ugnim	SE 05
	unu ^{ki} ^{geš} tukul ba-se ₃	

7) Restoration of e₂ seems likely for two reasons. First, this is the only text of the oil bureau which names specifically where any official works. Second, this is the only text where both Lipit-Irra and Irra-azu are named together. My understanding is that, Lipit-Irra, as the former head of the oil bureau, needed to be differentiated from the current oil bureau head, Irra-azi. Thus the name of the location where each worked was written. It would seem, then, that Lipit-Irra received a promotion from the chief of the 'processed oil house,' where I believe oil products were worked, to the perfumer's workshop, where oil was infused with aromatic materials (§2.2.3). Perfumed oil production would have required more skill as more production steps went into their manufacture.¹²⁰ Perhaps a family relation (this suggestion is based on name only), Irra-azu replaced him as the head of the 'processed oil house.'

8) An examination of the text itself shows there is a break right before -e. There is plenty of room in this break for a sealing official, such as a ša₃-tam-official, to be named.

§5.4. Letters

It must be noted outright that the first two texts discussed are not from the Kingdom of Larsa, but likely from Sippar (Leemans 1960: 94-95). However, as there are relatively few letters dealing with the procurement by merchants of aromatics in this period in what would become Babylonia, their inclusion here is justified.

§5.4.1. *CT* 29, 13 BM 80685

Copy: *CT* 29, 13

Transliteration, Translation: Leemans (1960: 92)

Discussions: Leemans (1960: 47, 94ff, 105, 110, 112)

Obverse

1)	[a-na] dingir-pi ₄ - ^d utu
	qi ₂ -bi ₂ -ma
	um-ma ^d ^d suen-a-ḥa-am-i-din-nam
	ša aš-ta-na-ap-pa-ra-ak-ku-u ₂
5)	la ta-na-az-zi-iq
	ku ₃ -babbar i-ba-aš-ši-ma aš-ta-na-ap-pa-ra-ak-ku
	ša 10 gin ₂ ku ₃ -babbar ba-lu-ḥa
	3 gu ₂ ba-lu-ga 1 gur ku-uk-ri
	qa-du-um ša lugal- ^d suen
10)	1 (barig) 3(ban ₂) su-um-la-li-e
	ša 5 gin ₂ ku ₃ -babbar bu-ra-ša
	ša 3 gin ₂ i ₃ -a-si []
	ša 10 gin ₂ i ₃ -šu-ur ₂ -min ₃

Reverse

	tu-il-ma da-am-[qa-am]
15)	su-ḥu-ur-ma
	u ₂ -ul ti-di ki-ma a-na dam-qi ₂ -ma ku ₃ -babbar
	u ₃ i ₃ <ṭa>-ba-am la tu-ma-ṭa ₃
	^{geš} ban ₂ 2 gin ₂ ku ₃ -babbar dam-qa-am ša-ma-am
	u ₃ i ₃ - ^{geš} ur-šum-ma ^{geš} ban ₂ -ta
20)	ša 5 gin ₂ ša-ma-am
	2 (barig) 2(ban ₂) ku-uk-ri ša 5 gin ₂ ku ₃ -babbar
	i-ti lugal- ^d suen ma-ḥu-ur
	lu-u ₂ -lu ka-lu-ša na-ad-na-ad

¹²⁰ See §2.3 and Levey 195: chapter 10 for perfume production as well as Levey 1959: chapter 7 for oil production.

bu-ra-ša ša te-zi-ba

- 25) *a-na* 1 gin₂ ku₃-babbar *at-ta-di-in*
[*a*]-*na e-zi-zi-ia*
ku₃-babbar *a-ša-am* u₃ *da-qa-[ti]*
[(...)] *ka-lu-ša na-ad-na-ad*

left edge

[*ki-ma*] *ta-at-ta-lak-ku-u da-qa-ti*

- 30) *x-zi-i ši₂-bi-it te₄-mi-im*
[*ku-uk*]-*ri ta-ba-al-ka* i₃-šu-ur₂-min₃ *la tu-[ma-ta₃]*

1-3 Say to Ilum-pi-Šamaš: “thus Sîn-aḥam-idinnam, 4-6 Do not worry about what I have repeatedly written you, there is silver so I have continually written you. 7-15 Galbanum worth 10 shekels silver, 3 talents ballukka, 1 talent terebinthe, together with that of Šarrum-Sîn, 1 pānū 3 seah sumlalum, juniper worth 5 shekels, myrtle-oil worth 3 shekels, cypress-oil worth 10 shekels—make inventory—look for good quality and take it. 16-17 Don’t you understand? As for good quality, don’t reduce the silver or processed oil. 18-20 The seah is 2 shekels fine silver, buy! Also, the Uršum oil, buy 5 shekels worth from the seah. 21-22 Recieve 2 pānū 2 seah worth 5 shekels silver from Šarrum-Sîn. 23-28 All the lulu has been sold. I have sold the juniper which you sent me for 1 shekel silver. I sold my ezizzu-vegetables for silver. All of the remainders are given! 29-31 As soon as you have left, the remainder [...]. Take action! Bring terebinthe; don’t reduce the cypress oil!

17) Restoration of Leemans (1960: 92).

19) Ur-šum was perhaps located in Syria or southern Anatolia, cf. Groneberg (1980: 250).

26-27) Lit. “for my *e*. I bought silver.” Leemans suggests an error here for either “*ana kaspim eziziia ašam* or *ana eziziia add-in*.” (Leemans 1960: 93 no. 1)

27-28) i.e. “my stock is all gone!”

31) Restoration is based on l. 17.

§5.4.2. CT 29, 14 BM 80558

Copy: CT 29, 14

Transliteration, Translation: Leemans (1960: 93-94)

Discussions: Leemans (1960: 94ff., 105, 110, 112, 127, 129, 183)

Obverse

- 1) *a-na dingir-um-pi₄-^dutu*
[*qi₂*]-*bi₂-ma*
[*um*]-*ma^dsuen-a-ḥa-am-i-din-nam*
[*am-mi*]-*nim a-wa-tu ša*
- 5) [*aš*]-*ša-pe-re e-li-ka ma-ru-iš*
[*aš-pu*]-*ra-ku-ma um-ma a-na-ku-ma*
[*i₃*]-*šu-ur₂-min₃ ša* 10 gin₂ ku₃-babbar *šu-bi-la*
i₃ u₂-ul tu-ša-bi-la-am
u₃ su-ḥa-ra-am ri-qu₂-su
- 10) *ta-ta₃-ar-ra-da-am*
iš-tu te-zi-ba-an-ni
da-qa-ti ag-da-mar

Reverse

u₃ i₃-šu-ur₂-min₃ u₃ i₃ ka'-na-ak-ti

u₂-ul i-šu-u₂ i-na ku₃-babbar

- 15) *ša u₂-ša-bi-la-ak-ku-u₂*
¹*ki-ib-ra-ab-ba pe-ni-ka*
li-iš-ba-at-ma i₃ *da-am-qa-am*
ša 10 gin₂ ku₃-babbar i₃-šu-ur₂-min₃
ša 3 gin₂ ku₃-babbar i₃ *a-su*
- 20) *u₃ 5 gin₂ i₃-^{ges}eren*
ša-ma-am-ma li-qi-a
i₃ ma-ši šum-ma i₃
ša i-ba-tum la da-mi-iq
šu-ḥu-ur-ma i₃ *da-am-qa-am*
- 25) *ša-ma-am-ma li-qi-a*
ša aš-pu-ra-ku u₂-ul iq-bu-ni-ku

left edge

ki-ma 12 [gin₂ ku₃]-babbar *u₂-ta-na-ru*

1 (ban₂) i₃-gi-[lu] ^d*tišpak-ga-mil*

u₃ lu-u ki-ib-ra-ba *li-še-pi₂-ra-ka*

1-3 Say to Ilum-pi-Šamaš: “Thus Sîn-aḥam-idinnam. 4-5 Why are the words which I have sent displeasing to you? 6-7 I sent you as follows: “bring cypress oil worth 10 shekels silver.” 8-10 You did not bring oil but dispatched to me a servant empty handed! 11-14a Since you abandoned me, I have exhausted my remainder and I have no cypress-oil or kanaktu-oil! 14b-22a Kibrabba should guide you in the silver which I sent you so that you buy for me good quality oil and take possession (of it): cypress-oil worth 10 shekels silver, myrtle-oil worth 3 shekels silver, and cedar-oil worth 5 shekels. The oil is available. 22b-25 If the oil of Ibatum is not good quality, search! Buy me good quality oil and take possession (of it)! 26-29 Nobody told you what I sent you. Since I am entrusting 12 shekels of silver, Tišpak-gamil or Kibrabba should send you reed-oil.

13) The collation shows BIL instead of ka.

§5.4.3. YOS 2, 112 YBC 5489 RS 40

Copy: YOS 2, 112

Transliteration, Translations: Ebeling (1943: 62-63), Leemans (1960: 78-80), Stol (1981: 112, p. 73)

Discussion: Leemans (1960: 78-80)

Obverse

- 1) *a-na da-da[-a]*
u₃^dsuen-u₂-se₂-li
qi₂-bi₂-ma
um-ma ši-ip-^dsuen-ma
- 5) ^d*utu u₃ ašnan*
[*aš-šum-ia*] *a-na da-ri-a-tim*
[*li-ba-al-li-tu₃*]-*ku-nu-ti*
ki-a-[am aš]-pu-ra-ku-nu-ti
um-ma a-na-ku-u₂-ma
- 10) *ki-la-<lu->ku-nu at-ta* u₃ ^d*suen-u₂-se₂-li*
an-na ḥi-im-mi u₃ *ša-ak-ti-šu*
kar₃-šum^{sar} u₃ šim u₃^{sim}li
u₃ 2 gu₂ uruda
li-qi₂-a-ni-im-ma
- 15) *u₄-ma ka-si la te-ni-zi-ba-ni*
u₃ iš-te-en ma-ri šu-ši-im^{ki}
a-na ta-ap-[pe-e]-ku[?]-nu[!](SA) -ma

- i-ti-ku-[nu]*
li-il-li-[kam-ma]
 20) *ki-a-am aš-[pu-ra-am]*
 Reverse
at-tu-nu mi-nu-[um]
ša um-ma at'(NE)-tu-nu-[ma]
i nu-ša-bi-il
u₄-um un-ne-du-uk-ki
 25) *ta-am-ma-ra-a*
ki-la-lu-ku-nu la te-ni-zi-ba-ni
pa-a'(ZA)-ku-nu e-iš-me-ma
qa₂-du-um re-di-i šar-ri-im
u₃ un-<ne>-du-uk-ka-at šar-ri-im
 30) *ša a-di larsa^{ki}-ma*
ma-am-ma a-na pa-ni-ku-nu
la pa-ra-ki-im
i-na iri^{ki} a-ḥa-nu-ta ri-is-ku-nu
u₂-ka-al iš-tu i-na-an-na
 35) *u₄ 5-kam pa-ni-ku-nu lu-mu-ur*
10 gu₂ ^{šim}[li] u₃ 1 gu₂ ^{šim}ḥi-[li]
li-di-[in]
a-ḥu-um a-ḥa-[am (...)]
la i-pa-[ri-ik/ku]
 40) *iš-te-ni-iš ki-la-[lu-ku-nu]*
at-ta u₃ ^dsuen-[u-se₂-li]
ar-ḥi-iš pa-ni-ku-[nu li-mu-ur]
 left edge
a-di i-na iri^{ki} [a-ḥa-nu-ta]
qa₂-du-um ri-di-i šar-[ri-im]
 45) *aš-ba²'(GIŠ)-[ku]*
ar-ḥi-iš pa-ni-ku-nu lu-mu-ur

○ 1-4 Speak to Dadā and Sîn-uselli: “Thus Šēp-Sîn. 5-7^a May Šamaš and Ašnan keep you well for my sake. 8-9^a Thus I sent you, as follows me: 10-15^a “Both of you, you and Sîn-uselli, gather for me tin sweepings and its powder, leeks, perfumed oils, juniper, and two talents of copper. Do not delay! 16-19^a A citizen of Susa should g[o] with[you] as yo[ur] partner.” R20^a Thus I sent you. 21-24^a What you yourselves replied is “we shall have it brought.” 25-26^a On the day you see my letter, both of you, do not delay. 27^a I heard your words. 28-34^a I, together with the king’s soldiers and the king’s letter of non-interference up to Larsa, will be ready for you in al-Aha-nūta. 34b-35^a I shall see you 5 days from now. 36-37^a May he gi[ve] 10 talents of juniper and 1 talent resin. 38-39^a One must not hinder another.... 40-42^a I shall see both of you together, you and Sîn-uselli, in person soon. l.c. 43-46^a I, together with the king’s soldier(s), shall see you soon in person while I am staying in al-Aha-nūta.

8) Stol understands -ti as a mistake for -ŠI

12) Leemans (1960: 79) transliterates ^{u2}x against Ebeling (1943) šim. I follow Ebeling as šim here is similar to the first šim in l. 36 while the second is broken but looks similar as well.

16) Following Stol. The copy shows KI, though upon examination of the tablet ŠU is clear. For this GN. see Groneberg (1980: 230) and Edel and Mayrhofer (1971: 3), where šu-ši-im is equated with Susa in Iran in the Old Babylonian period.

17) Leemans’ transliteration as *ta-ap-p[e₂]* seems likely considering its context. My suggestion of -ku-nu-ma is very tentative. Both Stol and Ebeling do not have a restoration for this line. Stol notes the copy is wrong, it is “not AŠ₂ or u₂; SA is possible.” (Stol 1981: 72 n. 112c).

27) Leemans suggests *pa-ZA-ku-nu* and translates “your excuses;” Stol suggests *pa-a-ku-nu*, “your words.” The ‘e’ here is difficult. Is it *e-iš-ma*, ‘heard,’ following Stol, or *e iš-me*, ‘I shall not hear,’ a misspelling following Leemans? In each case the spelling is incorrect. I side tentatively with Stol.

29-30) Stol suggests UD.U[NU^k]ⁱ. The passage is lit. “Until Larsa, nobody is to hinder you.”

33, 43) For this GN see Groneberg (1980: 5) and Leemans (1960: 80). Leemans notes of this town: “The mention of a lu₂ āl-A-ha-am-nu-ta^{ki} ša₃ Larsa^{ki} in the letter *LIH* 42 (*VAB* 4, 25) could suggest that it was a district of the town of Larsa, but other references suggest that it was a separate town in the kingdom of Larsa, probably not a great distance from Larsa.” (ibid. 80)

36) I tentatively follow Leemans. Ebeling (1943: 62) suggests ^{šim}im-[du-um], “Zypergras?” This does not fit the space allowed. Stol’s suggestion of šim ḥi-a is likely incorrect since šim ḥi-a is normally measured by capacity at Larsa in this period.

§5.5. Rīm-Sîn 17¹²¹

IM 22890

Copy: Edzard (1957: pl. 3)

Editions: Edzard (1957: 185); Kärki (1968: 88-89; 1980: 165), *RIME* 4.2.14.7

Discussion: (Edzard 1957: 178); Hallo (1961: 11); *RIME* 4, p.280

Beginning broken

- | | |
|--|------------------------------------|
| 1) [sag]- ^r en ^l -tar | The supervisor |
| [gir]-su ^{ki} | of Girsu |
| [ki]-lagaš ^{ki} -a | [(and) the land of] Lagaš, |
| me ^{gcs} ḥur eridu ^{ki} -ga | who performs perfectly the |
| šu-du ₇ -du ₇ | me’s and rites of Eridu, |
| 5) e ₂ -babbar-da ni te-ge ₂₆ | who is in awe of the E-babbar, |
| lugal larsa ^{ki} -ma | king of Larsa, |
| lugal ki-en-gi ^{ki} ki-uri | king of Sumer and Akkad, |
| e ₂ -i ₃ -ra ₂ -ra ₂ | the house of the perfumer— |
| ir-si-im-bi du ₁₀ -ga-am ₃ | its fragrances are sweet, |
| 10) geš ḥi-a-bi peš-peš | its trees very wide (of variety?)— |
| mu-na-du ₃ | he built for him. |
| [...] x NI [...] | ... |

Rest broken

This building inscription occurs on a fragment of a clay cylinder (Hallo 1961: 11). Edzard (1957) attributes this text to the reign of Rīm-Sîn of Larsa, followed by Hallo 1961. Frayne

¹²¹ Following Hallo 1961’s designation.

¹²² George 1993, 103 entry 502, citing Frayne, also states: “House of the Parfumer,” a temple (at Ur?) built by Rīm-Sîn I.”

notes that the titular on this inscription closely resembles that of *RIME* 4.2.14.6 and thus likely comes from the same period (Rim-Sin 8 according to Frayne, *RIME* 4, p. 280). Further, Frayne sees this inscription as likely excavated by Woolley at Ur (ibid. 280). Thus this would be a building inscription for a temple workshop in Ur.¹²²

10) Kärki (1968 and 1980) does not restore geš. *RIME* 4 translates peš-peš as “costly.” Kärki (1968 and 1980) restores -[am₃] at the end of the line.

§6. Appendices

Appendices 1-3 deal directly with items found in the texts. Those in bold are materials or products understood as aromatic items. Appendix 4 lists personal names, estate names, temple or workshop names, and geographic names in that order, found within the text collection. Appendices 1-4 also list products and names found in unpublished texts from the Kingdom of Larsa. Commodities and names from these texts are of my own translations.

§6.1. Glossary

In this glossary, materials and products are given their *CAD*, *CDA* and *AHw* definitions as well as their description in Thompson 1949, Myers 1975, and Van de Mieroop 1992b when available. See also two lexical studies the author was made aware of only after submitting this article and thus not incorporated here: Brunke and Sallaberger 2010 and Halloran 2006. Some items are also discussed here in more detail when appropriate. A thorough discussion of each material or product is not attempted here; this has already been done for many items and does not fall within the scope of this work.

^{sim}a: NBC 8584: 4. Fragrant/aromatic water? For the production of aromatic water, see *KAR* 140: R 4-8, treated in Ebeling 1950, 39-41 and discussed in Levey 1956, 139-40. *KAR* 140: R 8 calls this “*e-gub₂-ba ša eli šarri i-qab-b[i-u]* (Ebeling’s transliteration). Note also the use of juniper water (a^{mes} ^{sim}li) in *CT* 4, 5: 9 and *KAR* 73: 7.

a-ba: *TCL* 10, 71 i: 31. Meaning unknown. Van de Mieroop 1992b: 157 for ^{ges}A.BA: “this type of wood is unknown to me. In *BIN* 9, 97: 6 forty-two of them are issued to the queen’s palace.”

a-du-a-a: *TCL* 10, 71 i: 30. Meaning Unknown. There are three additional occurrences of this item I am aware of from the Ur III period: *CUSAS* 3, 1464: 4, *CUSAS* 3, 1465: 5, and *CUSAS* 3, 1509: 7. The first two are measured by capacity (2 seah each), the last by weight (4 mina).

an-da-ab-šum^{sar}: NCBT 1808: 3. Akk. *andabšum*. *CAD* A II, 112-13 “a bulbous spring vegetable.” *CDA* 17: (an alliaceous plant). *AHw* I, 50 “eine Pflanze;” Thompson 1949: 89, 92-94: “lentils?”

an-na: *YOS* 2, 112: 11. *annaku/anāku*. *CAD* A II 127-30: “tin.” *CDA* 18: “tin, lead.” *AHw* I, 49: “Zinn” u wohl auch “Blei.” Interesting is its use in *YOS* 2, 112: “an-na ḥi-im-mi u₃ ša-ak-ti-šu,” “tin sweepings and its powder.”

^{sim}ar-ga-num: YBC 5151: 1. Akk. *argānu*. See also variant ^{sim}mar-ga-nu₂-um. *CAD* A II 253-54: “1. (a conifer), 2. (the resin of a conifer), from OB on.” *CDA* 23 “(a conifer, its resin).” *AHw* I, 67 “eine Pflanze.” However, see Thompson 1949: 359-364 followed by Myers 1975: 21, 26-31: “balm of Mecca.” Thompson 1949: 363 identifies it with resins or gums and notes its sweet scent in particular. Thompson, followed by Myers, mentions its medicinal uses, often in conjunction with *siḫu* and *barirātu* (Thompson 1949: 359-364, Myers 1975: 30). Note also Thompson 1949: 337, where *argānu* is listed with other plants and trees that use the “det. ^{riq}.”

^{sim}az: NCBT 1808: 7, *TCL* 10, 81: 6, YBC 3365: 1, 6817: 13, 7189: 7. See also Variant ^{sim}gir. Akk. *asu*, *CAD* A II 342-344: “myrtle; from Oakk. on.” *CDA* 26: “myrtle.” *AHw* I 76: “myrtle.” Thompson 1949: 300-302 “*Myrtus communis* L., myrtle.” (listed under ^{riq}gir). Note also p. 337, where *asu* is listed with other plants and trees that use the “det. ^{riq}.” Myers 1975: 21, 32-36: “myrtle.” Van de Mieroop 1992b: 160: “myrtle.”

ba-ba-za-am, var. *ba-ba-az*: NBC 8584: 2, *TCL* 10, 71 i: 6. Irr., normally. *ba-ba-za*. Akk. *pappāsu*. *CAD* P, 111-14: “1. (a porridge), 2 (income paid to prebends); from Oakk. on.” As income it occurs as barley, dates, flax, or even silver (*CAD* P, 113-14). *CDA* 264: “porridge.” *AHw* II 824: “ein Gerstenbrei oder Pudding.” See also Thompson 1949: 101, where it is listed under cereals and vetches.

ba-lu-ga: *CT* 29, 13: 8. See also Sum. ^{sim}mug and Akk. *ballukku*. *CAD* B, 64-65: “1. (an aromatic substance of vegetable origin) 2. (the tree which produces this substance). From Oakk. on” *CAD* notes that this is a resinous substance imported into Mesopotamia in large quantities (64) and sees a relationship between *ballukku* and *baluḫḫu* mentioned below. *CDA* 37: “(an aromatic substance produced by the b. tree).” *AHw* I 100: “ein Baum.” Thompson, 1949 340 “*Styrax officinalis* L.” or *styrax*. Note also p. 337, where *ballukku* is listed with other plants and trees that use the “det. ^{riq}.” Myers 1975: 22, 37-41: “*Styrax*,” following Thompson’s identification very tentatively (Myers 1975: 37).

ba-lu-ḫa: *CT* 29, 13: 7. See also Sum. ^{sim}ḫal and perhaps also ^{sim}ḫi-li-hal and ^{sim}ḫi-il *ba-lu-hu*. Akk. *baluḫḫu*. *CAD* B, 74: (a tree and its resin, possibly galbanum) from Oakk., OB on.” *CDA* 37: “(an aromatic plant).” *AHw* I 101: “Galbanum-Kraut” Thompson 1949: 342-344: “*Ferula Galboniflua* Boisse., galbanum.” Note also p. 337, where *baluḫḫu* is listed with other plants and trees that use the “det. ^{riq}.” Myers 1975: 22, 42-45: “Galbanum.”

^{sim}bar₂-bar₂-ra: YBC 5304: 6. An aromatic, meaning unknown.

^{sim}ba-ri-ra-a-tum: *TCL* 10, 71 i: 17. Akk. *barirātu*. *CAD* B, 111: “sagapenum?” *CDA* 39: “sagapenum.” *AHw* I, 107: “Sagapenum?” Thompson, 1949, 359, 361-63: “*Ferula Persica* Wild., Sagapenum.” Note also p. 337, where *barirātu* is listed with other gum-resins. plants and trees that use the “det. ^{riq}.” Thompson, followed by Myers, mentions *barirātu*’s medicinal uses, often in conjunction with *siḫu* and *argānu* (Thompson 1949: 359-364, Myers 1975: 46). Myers 1975: 22, 46-49:

“Sagapenum.”

šimbar-sig₇: *TCL* 10, 71 i: 43. An aromatic, meaning unknown.

bu-ra-ša: *CT* 29, 13: 11, 24. See Sum. šimli. Akk. *burāšu*. *CAD* B, 326-328: “1. juniper tree, 2. (an aromatic substance obtained from the Juniper tree); from OAkk., OB on.” *CDA* 49: “(species of) juniper” *AHW* I, 139: “(phönikischer) Wacholder.” Thompson 1949: 258-262: “*Pinus pineal.*, pine (turpentine, resin).” Note also p. 337, where *burāšu* is listed with other plants and trees that use the “det. ^{riq.}” Myers 1975: 22, 51-61: “Juniper (*oxycedrous*).” Myers 1975: 51, notes early dissent among earlier scholars, with *burāšu*’s identification as both cypress and pine. Van de Mieroop 1992b: 159: “juniper.”

šimdup-ra-num: *TCL* 10, 71 i: 19. Akk. *duprānu*, variant of *daprānu*. *CAD* D, 189-90: “a tree-like variety of juniper (*Juniperus drupacea*); from OB on.” *CDA* 56: “juniper.” *AHW* I 162: “Wacholder” Thompson 1949: 268, 279: “*Juniperus drupacea* Labill., juniper.” Note also p. 337, where *daprānu* is listed with other plants and trees that use the “det. ^{riq.}” Myers 1975: 22 62-66: “Juniper (*drupacea*).” Van de Mieroop 1992b: 158: “a type of juniper.”

na₄du₇-ši-a: *TCL* 10, 71 i: 39. Akk. *dušú*. *CAD* D, 200-202: “1. (a precious stone of characterisitc color)...; from OAkk. on.” *CDA* 63: “quartz, rock crystal” *AHW*...

ešim: NBC 8584: 3. Akk. *akkullaku*. *CAD* A, 275: “a vegetable.” *CDA* 10: “(a vegetable).” *AHW* I, 29: “eine Pflanze.” This is the only occurrence with šim determinative I can document. Thompson 1949: 317-318: “perhaps a *Zizyphus*.”

šim/gešeren: *TCL* 10, 57: 7, 72: 11, 81: 4, 8, YBC 4451: 1, 5288: 2, 5304: 5, 5765: 1, 7189: 1. Akk. *erēnu*. *CAD* E, 274-279: “cedar (tree, wood and resin); from OAkk. on.” *CDA* 77: “cedar.” *AHW* I, 237-38: “Zeder” Thompson 1949: 282-285: “*Cedrus Libani* Barr., Cedar.” Note also p. 337, where *erēnu* is listed with other plants and trees that use the “det. ^{riq.}” Myers 1975: 22, 67-72: “Cedar.” Van de Mieroop 1992b: 158: “cedar.”

esir₂: YBC 5288: 3, 6817: 14. Akk. *kupru* or *iṭtu*. As *kupru*: *CAD* K, 553-55: “bitumen; from OB on.” *CDA* 168: “bitumen, pitch.” *AHW* I, 509 (“(Trocken-)Asphalt.” *Asiṭtu*: *CAD* I-J 310-12: “crude bitumen; from OB on. CDL, 137: “bitumen.” *AHW* I, 408: “Asphalt.”

e-zi-zi: *CT* 29, 13: 26 Akk. *ezizzu*. *CAD* E II, 431: “(a bulb vegetable); OA, OB, SB.” *CDA* 86: “an alliaceous vegetable.” *AHW* I 270: “ein Gemüse.” Thompson 1949: 89-94: “*Lathyrus*.”

gaba-lal₃: *TCL* 10, 71 i: 36. Akk. *iškuru*. *CAD* I-J, 251-52 “wax; from OB on.” *CDA* 134: “wax.” *AHW* I, 396: “Wachs.”

šimgam-gam(-ma): *TCL* 10, 81: 13, YBC 5173: 2, YBC 6817: 9. See also Akk. *ku-uk-ri*. Akk. *kukru*, *CAD* K, 500-01: “(an aromatic plant); from OAkk., OB on.” *CDA* 165: “(an aromatic tree)” *AHW* I, 501: “etwa ‘Terebinthe.’” Thompson 1949: 262-265: “fir turpentine.” Note also p. 337, where *kukru* is listed with other plants and trees that use the “det. ^{riq.}” Myers does not mention ‘gam-gam’ as a form of *kukru*. However, Thompson, the *CAD*, and *AHW* do. In addition, the -ma after the gam-gam

makes the value ‘gam-gam’ as, opposed to ‘gur₂-gur₂’, certain in this instance. On *kukru* Myers 1975: 92 states: “*Kukru* has been variously identified as terebinthe, chickpea, and turpentine. A possible identification is not yet possible.” However, he sides with the *AHW* definition of *kukru* as terebinthe in his section on definitions (Myers 1975: 23). For more discussion see Myers 1975: 23, 92-93.

šimgam-ma: YBC 3365: 7, 5304: 7. See also su-um-la-li-e, variant of Akk. *šumlalū*. *CAD* L, 245: “(an aromatic); from OA, OB on.” *CDA* 341: “(a spice plant).” *AHW* III, “eine Gewürzpflanze.” Thompson 1949: 347-348: “*Nerium odorum* L.?” Note also p. 338, where *šumlalū* is listed with other plants and trees that use the “det. ^{riq.}” Myers 1975: 22, 122-24: “unknown.” Myers suggests *duprānu* cuttings, citing its possible appearance as “sum-lu-lu” with *duprānu*, *kikkirānu*, which he translates as “berries,” (Myers 1975: 122) or “juniper seeds” (ibid. 23, see below under šimše-li) and *hibištum*, translated as “cuttings.” (ibid. 122)

ganam₄: *TCL* 10, 72: 24. See also variant u₈-udu hi-a. Akk. *immertu*. *CAD* I-J, 128-29: “1. ewe, 2. sheep (as a generic term); from OB on.” *CDA* 128: “ewe.” *AHW* I, 378: “MutterSchaf.” *bar-su₃*: *TCL* 10, 72: 26.

gazi: NCBT 1808: 8. Akk. *kasú*. *CAD* K, 248-50: “(a native spice plant, specifically its pungent seeds); from OB on.” *CDA* 150: “(a spice plant, phps.) ‘mustard.’” *AHW* I, 455: “Senf(-Kohl), *sinapis nigra*.” Thompson 1949: 188, 192-194: “*Ceratonnia siliqua* L.” or ibid. 188, 194-97: “the rose.”

šimgi-du₁₀-ga: *TCL* 10, 81: 7, YBC 3280: 1, 3365: 3, 7189: 6. Akk. *qanū ṭābu*. *CAD* Q: 288-89 2b): “‘sweet’ reed.” *CDA* 284: “sweet reed.” *AHW* II, 898 4c “‘Süßrohr’, Cymbopogon?” Thompson 1949: 19-21: “*Acorus calamus* L., Sweet Reed.” Note Thompson does not list *qanū ṭābu* under his section of plants and trees that use the “det. ^{riq.}” on pp. 337-338. Myers 1975: 23, 109-12: “Cane,” literally “sweet reed.” However, as stated on p. 109, there is no evidence to connect this material to sugar cane.

šimgig: YBC 7189: 9. Akk. *kanaktu*. *CAD* K, 135-36: “1. (a tree), 2. an aromatic product obtained from the tree); from OAkk., OB on.” CDL, 144: “(an incense-bearing tree).” *AHW* I, 434 “Weihrauchbaum.” Thompson 1949: 344-347: “*Boswellia* sp., *Olibanum*.” Note also p. 337, where *kanaktu* is listed with other plants and trees that use the “det. ^{riq.}” Myers 1975: 23, 81-85: “Olibanum,” following Thompson 1949: 344 while noting the *CAD* and *AHW* reservations to this meaning.

šimgir₂: *TCL* 10, 71 i: 20. See also variant šimaz. Akkadian *asu*. *CAD* A II 342-344: “myrtle; from OAkk. on.” *CDA* 26: “myrtle.” *AHW* I 76: “myrtle.” Thompson 1949: 300-302 “*Myrtus communis* L., myrtle.” (listed under ^{riq}gir). Note also p. 337, where *asu* is listed with other plants and trees that use the “det. ^{riq.}” Myers 1975: 21, 32-36: “myrtle.”

geš-i₃-a; *TCL* 10, 82: (case) 2. Likely a mistake for gešeren.

imha-gir₂: *TCL* 10, 71 i: 23. Perhaps a shortened form of ^uha-gir-ha-ah, Akk. *puquṭtu*. *CAD* P, 515-16: “thorn, barb; from

OB on." *CDA* 278: "thorn." *AHW* II, 880: "ein Dornpflanze." Thompson 1949: 178-180: "*Carduus*, thistle."

^{sim}ḥal: *TCL* 10, 71 i: 21, 81: 9, *YBC* 3280: 2, 4402: 1, 4451: 2, 6817: 1, 10759: 1. see also *ba-lu-ḥa*, and perhaps ^{sim}ḥi-il *ba-lu-hu* and ^{sim}ḥi-il *ḥal*. Akk. *baluḥḫu*. *CAD* B, 74: (a tree and its resin, possibly galbanum) from Oakk., OB on." *CDA* 37: "(an aromatic plant)." *AHW* I 101: "Galbanum-Kraut" Thompson 1949: 342-344: "*Ferula Galboniflua* Boisse., galbanum." Note also p. 337, where *baluḥḫu* is listed with other plants and trees that use the "det. ^{riq}." Myers (1975: 22, 42-45): "*galbanum*." Van de Mieroop 1992b: 159: "a tree and its resin, possibly galbanum."

^{sim}ḥašḫur(-ra): *TCL* 10, 71 i: 15, *YBC* 1928: 1, *YBC* 6817: 2. Akk. *ḥašḫūru*, *CAD* H, 139-140: "(1) apple tree, (2) apple, (3) "apple" plant, (4) (a cut of meat); from OB on." *CDA* 111: "apple(wood)." *AHW* I, 333-34: "Apfel(baum)." Thompson 1949: 302, 304: "*Pirus malus* L., apple."

ḥa-za-nu-um^{sar}: NCBT 1808: 2. *ḥazzannu*, variant of *azannu*, *CAD* A II, 526 A: "bitter garlic, OB, SB." *CDA* 113 (*ḥazzannu*): "(an alliaceous plant)." *AHW* I 92: "eine Pflanze...wohl "Köcher." Thompson 1949: 90 only makes mention of it in lexical lists.

ḥi-bi-iš-ti: NBC 8584: 1. Akk. *ḥibištum*. *CAD* H 180-81 "(1) cuttings (of undefined nature), (2) cuttings of resinous and aromatic substances, (3) plants yielding aromatic substances, (4) fragrance; from OB on." *CDA* 114: "crushed pieces (of aromatic wood)." *AHW* I, 344: "etwa "Harzholzscheit(e)." Myers 1975: 22 and 74 is unsure of this items value. *Ḥibištum* is used in connection with perfume production in *OIP* 2, 116 viii: 71, though this is a later usage from the annals of Sennacherib.

^{sim}ḥi-li: *YOS* 2, 112: 36. Akk. *ḫīlu*. *CAD* H, 188: "exudation of plants, resins; from OB on." Often used in medicine production(189). *CDA* 116: "exudation, resin." *AHW* I, 345: "Harz." Thompson 1949: 338-339: "gum." On p. 339 Thompson states concerning *ḫīlu*: "...where *ḫīlu* is used we should suspect at least a gum-resin which will give emulsion in water."

^{sim}ḥi-il *ba-lu-hu*: *TCL* 10, 71 i: 22. see also ^{sim}ḥi-li-*hal*, possibly from ^{sim}ḥal, Akk. *ba-lu-hu* and for which see above. *CAD* B, 75 and H, 189: "resin which is prepared for medicinal purposes," related to *baluḥḫu*. Perhaps see also *hilbanītu*, *galbanum*: *AHW* I, 345, Myers 1975: 22, 75, *CAD* H, 185 where it is identified as "(the resin) produced by the *hilbanū* plant; NB*." Van de Mieroop 1992b: 159: "resin of the *baluḥḫa*-tree."

^{sim}ḥi-li sikil: *YBC* 4451: 4 Possibly *ḫil sikillu*. For *sikillu*: *CAD* H, 243-44: "1. (a plant), 2. (a stone); MB, Bogh., SB." *CDA* 322: "1 (a plant) ... as drug, called *šam tēlilte* "purification plant." *AHW* II, 1042: "eine Pflanze." Thompson 1949: 52, 54-55: "(wild) onion."

^{sim}ḥi-li hal: *YBC* 4451: 3 Variant of ^{sim}ḥi-il *ba-lu-hu* above. *CAD* B, 75 and H, 189: "resin which is prepared for medicinal purposes," related to *baluḥḫu* discussed above. Perhaps see also *hilbanītu*, *galbanum*: *AHW* I, 345, Myers 1975: 22, 75, *CAD* H, 185 where it is identified as "(the resin) produced by the

hilbanū plant; NB*." Van de Mieroop 1992b: 159: "resin of the *baluḥḫa*-tree."

i₃-a-si/su: *CT* 29, 13: 11, *CT* 29, 14: 19. Myrtle oil. See Sum. ^{sim}az and variant ^{sim}gir₂.

i₃-du₁₀-ga: *YBC* 5169: 1. Akk. *šamnu tābu*. For its understanding as 'processed oil,' see §2.2.3. *CAD* T, 19: "aromatic," *ibid.* 22-23: "said of oil, herbs, reeds, perfumes." *CDA* 354: "'fine oil"; aromatic "oil" of trees, e.g. myrtle, cedar." *AHW* III, 1377-78: "schön, gut, süß." 1) "v Wasser, Getränken, Speisen." 1) d) "v Öl"

i₃-(g^{es})eren: *CT* 29, 14: 20, *TCL* 10, 56 (case): 12; 71 iv: 47, 50, 61; 82 (tablet):1; 82 (case):1; *YOS* 5, 171: 2-8, 10, 12-13, 15-29, 31; 172: 2-8, 10-14; 194: 25, 7-11. *CAD* E, 277: "šaman erēni cedar oil." see also above *šim/g^{es}eren*.

i₃-gi-lu: *CT* 29, 14: 28. Akk. *šamnu gillu*, reed oil. for *gillu*: *CAD* G, 73 A: "cut reed." *CDA* 93: "(a piece of reed)." *AHW* I, 288: "ein Stück Rohr."

i₃-geš: *CT* 29, 13: 19; *TCL* 10, 61: 1; 63: 2; 72: 6; *YBC* 4451: 6; *YOS* 5, 171: 1; 172: 1, 194: 1. See also variant *u₂i₃-geš*. see §2.2.3. Akk. *ellu*, *šamnu. ellu*: *CDA* 70: "sesame oil." *AHW* I, 205: "(gutes) Sesam-Öl." *šamnu*: *CAD* Š I, 321-30: "Oil, fat, cream; from Oakk. on." *ibid.* 325e: "for making perfume." *CDA* 354: "oil, fat, cream." *AHW* III, 1157-58: "Öl, Fett."

i₃-geš-bar₂a-ga: *TCL* 10, 63: 1. Akkadian *ḫalšu*. *CAD* H, 50-51: "adj.: (1) obtained by *ḫalāšu* (said of oil, etc.), (2) pressed out (said of sesame seeds), (3) combed (said of flax); form OB on." *CDA* 103: "'combed filtered"...of sesame, sesame oil "filtered"; of perfumes." *AHW* I, 313: "ausgekämmt, ausgepreßt." See §2.2.3 and Soubeyran 1984 for a discussion of this term as used in the Mari Oil bureau. For a discussion of *ḫalšu*, see Postgate 1985: 146-47, and Stol 1985: 121.

i₃ ka-na-ak-ti: *CT* 29, 14: 13. *kanaktu*-oil, see ^{sim}gig.

im-babbar: *TCL* 10, 71 i: 11. Akk. *gaššu*. *CAD* G, 54-55: "gypsum, whitewash; from OB on." *CDA* 91: "gypsum" *AHW* I, 282-83: "Gips"

ir₃: *TCL* 10, 56 (case): 10. Akk. (*w*)*ardu*. *CAD* A II, 243-51: "1.) slave, 2.) official, servant, subordinate, retainer, follower, soldier, subject (of a king), worshiper (of a deity); from Oakk. on;" *CDA* 434: "slave, servant." *AHW* III, 1464-66: "sklave, Diener."

i₃-sag: *TCL* 10, 56 (case): 11; 57: 5; 71 iv: 56, 61; 72: 8. Premium oil, see §2.2.3.

i₃-sag du₁₀-ga: *TCL* 10, 81: 17 Processed premium oil, see §2.2.3.

i₃-šu-ur₂-min₃: *CT* 29, 13: 13, 31; 14: 7, 18. Cypress oil, see ^{sim}šu-ur₂-min₃.

kar₃-šum^{sar}: NCBT 1808: 1; *TCL* 10, 63: 3; 71 iv: 43, 45; *YBC* 5288: 1; 5304: 9; *YOS* 2, 112: 12. Variant of Akkadian *karašum*. *CAD* K, 212-14: "1. leek, 2. (a stone); OB, SB, NB. *CDA* 148: "leek." Thompson 1949: 52-53: "*Allium Porrum* L.,

leek.” Note also 305, 307-08, where Thompson discusses *karšu* as a type of cherry: “*Cerasus Mahaleb* L., the perfumed cherry.”

ku₃-babbar: *TCL* 10, 56: (case, tablet) 1; 71 iv: 41, 68; 72: 1. Akk. *kaspu*. *CAD* K, 245-47: “1. silver (as metal used for objects and as means for payment), 2. money (as medium of exchange), price, value, payment (usually pl); from OAkk. on.” *CDA* 150: “silver.” *AHW* I, 454: “Silber”

ku₃-sig₁₇: *TCL* 10, 72: 2, 4. Akk. *ḫurāšu*. *CAD* H, 245-247: “gold; (1) as metal, (2) varieties, (3) economic use, (4) figurative use, (5) in pharmacopoeia, (6) other occ.; from OAkk. on.” *CDA* 121: “gold” *AHW* I, 358: “Gold.”

ku-uk-ri: *CT* 29, 13: 8, 21, 31. See also Sum ^{sim}gam-gam(-ma). Akk. *kukru*. *CAD* K, 500-501: “(an aromatic plant); from OAkk, OB on.” *CDA* 165: “(an aromatic tree)” *AHW* I, 501: “etwa ‘Terebinthe.’” Thompson 1949: 262-265: “fir turpentine.” Note also p. 337, where *kukru* is listed with other plants and trees that use the “det. ^{riq}.” Myers 1975: 23, 92-93. On page 92 Myers states: “*Kukru* has been variously identified as terebinthe, chickpea, and turpentine. A possible identification is not yet possible.” However, he sides with the *AHW* definition of *kukru* as terebinthe in his section on definitions (Myers 1975: 23).

(^{sim})*al*₃: *TCL* 10, 57: 4, 71 iv: 47, 50, 62, YBC 10758: 1. Akk. *dišpu*. *CAD* D, 161-163: “honey; from OA, OB on.” *CDA* 61: “honey, syrup.” *AHW* I, 173: “Honig.”

geš^{lam}-gal *TCL* 10, 57: 3. Akk. *buṭuttu/buṭumtu*. *CAD* B, 359: “1. pistachio tree (*Pistacia vera*), 2. pistachio wood, 3. pistachio nut; from OAkk., OB, Mari ...” *CDA* 51: “terebinte.” *AHW* I, 144: “Terebinthe, Pistazie.” Thompson 1949: 247, 252-253: “Pistachio, prob. *Pistacia Terebintheus* L.” Van de Mieroop 1992b: 159: “pistachio.”

geš^{lam}-tur: *TCL* 10, 57: 2. Akk. *šer’azu, tur’azu*. *CAD* T, 485: “(a nut tree).” *CDA* 367: “(a nut tree)?” *AHW* III, 1216: “ein Baum.” Thompson 1949: 247, 254-255: “perhaps *Pistacia vera*.” Van de Mieroop 1992b: 159: “a type of nut.”

šim^{li}: *TCL* 10, 71 i: 18, iv: 48, 51; YBC 6817: 7; *YOS* 2, 112: 12, 36. Akk. *burāšu*. *CAD* B, 326-328: “1. juniper tree, 2. (an aromatic substance obtained from the Juniper tree); from OAkk., OB on.” *CDA* 49: “(species of) juniper” *AHW* I, 139: “(phönikischer) Wacholder.” Thompson 1949: 258-262: “*Pinus pineal.*, pine (turpentine, resin).” Note also p. 337, where *burāšu* is listed with other plants and trees that use the “det. ^{riq}.” Myers 1975: 22, 51-61: “Juniper (*oxycedrus*).” Van de Mieroop 1992b: 159: “juniper.”

šim^{li}-wi-ir: *TCL* 10, 72: 14; 81: 5. Perhaps a variant of Akk. *liāru/tiālu* or a variant of *lip/bāru*. As *liāru/tiālu*: *CDA* 405: “(a tree and its wood) ‘white cedar.’” *AHW* III, 1353: “Weiβzeder (*Juniperus oxycedrus*).” Thompson 1949: 282, 285: “*Juniperus oxycedrus* L.” Van de Mieroop 1992b: 159: “white cedar resin.” As *lip/bāru*: *CAD* L, 198: “(a fruit tree); OA, OB, Elam, Bogh., SB.” *CDA* 181: “(a fruit (tree)); OA, O/jB, Elam, Bogh.” *AHW* I, 554: “ein baum od Strauch.” This example is cited by *AHW* as *li-pi-ir* (I, 554).

lu-u₂-lu: *CT* 29, 13: 23. meaning unknown, possibly an aromatic.

lu-ur-pi-a-nu₂-um: *TCL* 10, 71 i: 37. *CAD* L, 256: “(a mineral); OB, SB.” *CDA* 186: “(a mineral)?” *AHW* I, 565 “ein Mineral?”

^{sim}*mar-ga-nu-um*: *TCL* 10, 81: 2. See also variant ^{sim}*ar-ga-num*. *CAD* M 279: variant of *margūnu*, “an aromatic.” *CDA* 197: “(a resinous bush; also its resin).” *AHW* II 611: “ein Harz-Busch.” Thompson 1949: 359-364 and Van de Mieroop 1992b: 159 mentions it as a variant of *arganu*, for which see above.

^{sim}*mar-gu-šum*: *TCL* 10, 71: 16. YBC 10512: 1. Akk. *margušu* *CAD* M I, 279: “(an aromatic); Ur III, OB, SB. *CDA* 197: “(a resinous bush).” *AHW* II, 661: “ein Harz-Busch.” Thompson 1949: 359-64 mentions it as a variant of *arganu*, for which see above. Note also *ibid.* 337, where *margušu* is listed with other plants and trees that use the “det. ^{riq}.”

^{tu}*ma-aš₂-um*: *TCL* 10, 71 iv: 64, 65. *CAD* M I, 344A: “a garment; OB.” *CDA* 200: “a garment.” *AHW* II, 621: “ein Gewand.”

maš₂-munus-aš₂: *TCL* 10, 72: 29. meaning unknown, perhaps a type of female goat.

^{sim}*mug*: *TCL* 10, 81: 12. Akk. *ballukka*. *CAD* B, 64-65: “1. (an aromatic substance of vegetable origin) 2. (the tree which produces this substance). from OAkk. on” *CAD* notes that this is a resinous substance imported into Mesopotamia in large quantities (64) and notes a relationship between *ballukku* and *baluḫḫu* mentioned above. *CDA* 37: “(an aromatic substance produced by the b. tree).” *AHW* I 100: “ein Baum.” Thompson, 1949 340 “*Styrax officinalis* L.” or *styrax*. Note also p. 337, where *ballukku* is listed with other plants and trees that use the “det. ^{riq}.” Myers 1975: 22, 37-41: “*Styrax*,” Following Thompson’s identification very tentatively (Myers 1975: 37).

^{tu}*mu-sir₂-ra*: *TCL* 10, 71 i: 13. perhaps ‘garment of the mussiru-official.’ For Akk. *mussiru*: *CAD* M II, 235B: “(a cult functionary); lex.” *CDA* 220: “3. Mari, jB lex. (a cult functionary).” *AHW* II, 678: “3) ein Beschwörer?”

or: ^{tu}*mu-bu-ra*, perhaps *tuk muburru*. For *muburru*: *CAD* B, 158 (*mubarru*): “member of the temple personnel who presents offerings, announcer?; MB, SB, NB, akkadogram in Hitt.” *CDA* 214: “2. (a temple? official).” *AHW* II, 665 “ein Funktionär.” This would be a garment for a *muburru*-official.

naga: *TCL* 10, 71 i: 12, 15, iv: 54. Akk. *uḫūlu*. *CDA* 419: “potash” “as mineral; for soap.” *AHW* III, 1404-05: “Salzkräutern u deren alkali (Natriumkarbonat)-haltiger Asche.” Thompson 1949: 31-32: “Alkali.”

^{tu}*na-al-ba-šum*: *TCL* 10, 56: (tablet, case) 8. *CAD* N I, 200: “(a fine cloak)...; mari, EA, SB.” *CDA* 234: “cloak, coat.” *AHW* II, 724: “Mantel”

^{sim} ^d*nin-urta*: *TCL* 10, 81: 11; YBC 7189: 4. Akk. *nikiptu*. *CAD* N II, 222 A: “(a plant); OAkk., OB, Bogh., EA, SB, NA.” *CDA* 253: “‘spurge, Euphorbia?’ (a shrub with male and female

flowers, milky juice)." *AHW* II, 788: "ein Euphorbia-Strauch?" Thompson 1949: 364-367: "probably *Euphorbia Antiquorum* L., or similar." Note also p. 338, where *nikipu* (*nigibtu*) is listed with other plants and trees that use the "det. ^{riq.}" Myers 1975: 23, 102-106: "milkwort."

^{ges}*qu-ta-nu-um* *hi-a*: MLC 1683: 1. Perhaps for *qutānum*, thin pieces of wood according to the *CAD* Q, 321 B. *CDA* 292: "s. th. thin...3. OB (a piece of wood)." *AHW* II, 930: das Dünne." As a low quality of thin wood see *VAS* 16, 182: 4-8: *a-na* ^{ges}*hi-a aq-bi-kum / um-ma a-na-ku-ma* ^{ges}*ma*₂ [...] / ^{ges}*hi-a dam-qu₂-tim šu-bi-[lam²]/ at-ta qu₂-ta-ni ša a-[na ...]/[la²] i-re-ed-du[...]*, "I spoke to you about wood, I said as follows: "send to [me] a boat [...] good quality wood," but you [sent to me²] thin wood, which is not suitable for [...]."

^{im}*sa*₅: YBC 5274: 2. Akk. *šaršerru*. *CAD* Š II, 124-125: "red clay or paste; Mari, Nuzi, SB, NA, NB." *CDA* 361: "red paste." *AHW* III, 1191 "rote Paste."

^{sim}*sig₇*: *TCL* 10, 71 i: 42. Perhaps a shortened form of ^{sim}*sig₇-sig₇*.

^{sim}*sig₇-sig₇*: MLC 1683: 2; YBC 5274: 1. See possible variant ^{sim}*sig₇*. The two occurrences here add to three previous occurrences, all from the OB period: *OIP* 11 3: 7; *OIP* 11, 191 face e 1: 13, and *ZSN* 65: 10. ^{sim}*sig₇-sig₇* is understood here as a variant of ^{im}*sig₇-sig₇*, equated to Akkadian *gublu* in Hg B III I 53, following Feuerherm's designation in his dissertation ([i]m.sig₇-sig₇ = *e-gu-u₂* = [gu-ub-lu] (cf. Hg A II 139)). However, the ^{sim} determinative's occurrence with this item makes it unlikely to be a mistake for im, as Feuerherm suggests, leading to the likelihood that this product was used for its fragrance. Thus, its designation as antimony paste, as stated by the *CAD*, *AHW*, and *CDA* (*CAD* G, 125, *AHW* I, 296, and *CDA* 95 respectively) seems unlikely and its designation as *Commiphora mukul*, also known as Mukal Myrrh and Bdellium, as described by Potts (Potts et al 1996: 291-305), et al is favored here. Other possibilities variants are: ^{ges}*kin-sig₇-sig₇*, ar-qu (III 6 9b C. Thompson 1949: 287 sees also ^{ges}*sig₇-sig₇* as a form *kiskanu*), im-sig₇-sig₇, *da-a'-ma-tum* (x I 317 f) and ^{sim}*bi-sig₇-sig₇*, *u₂ da-ma-tu₂* (Uruanna III 490f).

silā₄: *TCL* 10, 72: 28. Akk. *pubādu*. *CAD* P, 477-79: "1. lamb, young male sheep ...; from Oakk., OB on." *CDA* 277: "lamb." *AHW* II, 875: "Lamm."

su-um-la-li-e: *CT* 29, 13: 10. See also Sum. ^{sim}*gam-ma*. Variant of *šumlalū*. *CAD* L, 245: "(an aromatic); from OA, OB on." *CDA* 341: "(a spice plant)." *AHW* III, "eine Gewürzpflanze." Thompson 1949: 347-348: "*Nerium odorum* L. ?." Note also p. 338, where *šumlalū* is listed with other plants and trees that use the "det. ^{riq.}" Myers 1975: 22, 122-24: "unknown." Myers cites a tentative suggestion of *duprānu* cuttings, citing its possible appearance as "sum-lu-lu" with *duprānu*, *kikkirānu*, which he translates as "berries," (Myers 1975: 122) or "juniper seeds" (ibid. 23; see below under ^{sim}*še-li*) and *hibištum*, translated as "cuttings" (ibid. 122).

si-ib-ḥi-ir-tum: *TCL* 10, 56: (tablet, case) 6. Variant Akk.

šebbertum, *CAD* L 174: "1. minor crop, 2. scraps, small items; OB, SB." *CDA* 335: "young girl" "minor crop" "small pieces"? of wood, stone." *AHW* III, 1088: "kleines Mädchen" "(Ernte-) Nebenfrucht."

^{sim}*ša-me'-es'-la*: see ^{sim}*ši-mi-iš-la₂*

še: *YOS* 5, 194: 6. Akk. *še'u*. *CAD* Š II, 345-55 "1. barley, grain, 2. grain (a unit of measure) 3. pine nut; from Oakk. on." *CDA* 369: "barley, grain." *AHW* III, 1222: "Gerste; Getreide."

še-geš-i₃: *TCL* 10, 61: 2, Akk. *šamaššammū/u*. *CAD* Š I, 301-307: "(the principal oleiferous plant, probably flax, and its seeds); from Oakk. on." *CDA* 353: "sesame." *AHW* III 1155: "meist PL. "Sesam." Thompson 1949: 101-102: "'corn of the oil tree'... Arab. simsim, sesame (*Sesamum indicum* ...)".

^{sim}*še-gir₂*: NCBT 1808: 6. Perhaps myrtle seed or berry. For myrtle, see ^{sim}*az*, ^{sim}*gir₂*. For "še" used as "seed," see ^{sim}*še-li*. Thompson, 301 discusses the uses of myrtle seed. However, the use of *gir₂* here is curious as ^{sim}*az* occurs below it for myrtle, not ^{sim}*gir₂* as would be expected with the use of ^{sim}*še-gir*. Further, this item is measured by weight, as opposed to *še-li* above it measured by capacity. Thus the suggestion of myrtle seed is very uncertain.

^{sim}*še-li*: NCBT 1808: 4; *TCL* 10, 81: 16; YBC 3287: 1; 3365: 5; 5304: 8; 7189: 9. Akk. *kikkirānu*. *CAD* K, 351-52: "(an aromatic substance); from OB on." *CDA* 157: "pine or juniper seeds." *AHW* I 475: "Pinien-, Wacholdersamen"? Thompson (1949: 261): "seed of the pine." Myers 1975: 23, 88-91: "pine seed."

^{sim}*šeš*: YBC 7189: 5. Akk. *murru*. *CAD* M II, 221-22: "myrrh²; OA, Bogh, EA, MA, SB, NA, NB." *CDA* 219: "2. "myrrh." "AHW II 676: "2) Myrrh" Thompson (1949: 339): "*Balsamodendron myrrha* Nees, myrrh." Note also p. 338, where *murru* is listed with other plants and trees that use the "det. ^{riq.}" Myers (1975: 22, 97-101): "Myrrh."

^{sim}: *TCL* 10, 71: 27; 72: 10; YBC 5227: 1; *YOS* 2, 112: 12. Akk. *riqqu/riqu* *CAD* R 368-71: "aromatic plant; from OB on." *CDA* 305: "aromatic substance." *AHW* II 988: "Dufstoff, Würzholz." Thompson (1949: 335-339). On p. 336, Thompson states: "The word, therefore, which would appear to cover *riqqu* (*riqu*), the evacuations or filtering of trees, is, I would suggest, "essence", with all its comprehensive English implications." (Thompson 1949: 337) Myers (1975: 152): "generic term for aromatics." Strangely, in Myers' section dealing with Akkadian definitions and terms for aromatics, he does not make direct mention of the Akkadian term for aromatic but only explains it in his section "Summary and Conclusions" (152-161). For more on this word see §2.3.

^{sim}*du*₁₀: resin, see §1.4.2 and §2.2. This appears as a genitive construct before several raw materials, for which see the individual material entry here for their definitions.

^{sim} *hi-a*: *TCL* 10, 57: 6; 71 iv: 56; 72: 16; YBC 5169: 2. Akk. *urū*, variant *labānatu* or *riqqu*. I translate the Sumerian as 'mixed perfumes.' Limet informs us that ^{sim} *hi-a* refers to a fin-

ished product in the Ur III period and often occurs with or in the place of i_3 - du_{10} - ga (Limet 1979, 152). Its measurement in capacity make it seem likely that this is a general term for aromatic oils. See §1.4., §2.3., and §3.4. for additional discussion. Thompson 1949: 335-338 treats $\text{šim } \text{h}_i$ - a as form of riqqu and states on p. 337: “this word again coincides with the equivalence $\text{ŠIM } \text{h}_i$ - a = ur_u (šamr_u), the latter word (if ur_u) probably coming from the root ar_u “to throw, shoot, evacuate (the body)”. Riqqu (riq_u), then, represents the substances which have oozed or filtered forth from trees.” (Thompson 1949: 337) As ur_u : *CDA* 427: “pl. tant. “aromatics.”” *AHw* III, 1436: “Bez. für Räucher-Kräuter.” As *labānātu*: *CAD* L, 8: “frankincense; SB, WSem. lw.” *CDA* 173: “incense.” *AHw* I, 522: “Weihrauch.” Myers (1975: 23, 95): “Frankincense.” As *riqqu*: *CAD* R, 368-71: “aromatic plant; from OB on.” This product’s measurement is by capacity rather than weight as other resins in the texts, would seem to preclude its use as *labānātu* or ur_u , at least in the texts discussed here.

šim_i - mi - iš - la_2 : YBC 7189: 3. Var. ša - me' - $\text{eš}'$ - la *TCL* 10, 81: 10. Probably a variant of šim_i - šim - šal , šim_i - šim - meš - li , Akk. šimeššall_u . *CAD* Š III, 4-5: “(a tree, possibly the box); from OB on.” *CDA* 373: ““(type of) box-tree?”” *AHw* III, 1237: “eine Buchsbaumart.” Thompson (1949: 348): “*Buxus longifolia* Boiss., box.” Note also p. 338, where šimeššall_u is listed with other plants and trees that use the “det. riq_u .” Myers (1975: 23, 126-128) is uncertain of this šimeššall_u ’s identification.

geš_i - šinig : *TCL* 10, 71 iv: 68. Akk. binum . *CAD* B, 239-42: “tamarisk; from OAkk., OB on.” *CDA* 44 “tamarisk” *AHw* I, 127: “Tamariske.” Thompson 1949: 279-282: “*Tamarix orientalis* Forsk., tamarisk.”

šim_i - šu - ur_2 - min_3 : NCBT 1808: 5; *TCL* 10, 72: 13; 81: 1; YBC 6817: 15; 7189: 2; *CT* 29, 14: 13. Akk. šurmēnu . *CAD* Š III, 349-353: “a cypress; from OAkk. on.” *CDA* 388: “cypress.” *AHw* III, 1284: “Zypresse.” Thompson 1949: 286-287: “*Cupressus sempervirens* L., Cypress generally, and thus doubtless *C. horizontalis* (Mill) Gord.” Note also p. 338, where šurmēnu is listed with other plants and trees that use the “det. riq_u .” Myers 1975: 24, 130-31: “cypress.” Van de Microop 1992b: 160: “cypress.”

udu - nita_2 : *TCL* 10, 57: 1; 72: 18, 20. Akk. immeru . *CAD* I, 129-134: “1. sheep, 2. sheep and goats, 3. ram...; from OA, OB on.” *CDA* 128: “sheep.” *AHw* I, 378: “Schaf, Widder.”; bar - su_3 : *TCL* 10, 72: 22.

uruda : *TCL* 10, 71: 41; *YOS* 2, 112: 13. Akk. er_u / wer_u . *CAD* E, 321: “copper.” *CDA* 438: “copper.” *AHw* III, 1495: “Kupfer, Bronze”

geš_i - za - ba - al : *TCL* 10, 72: 12; 81: 14. Variant of geš_i - za - ba - lam , Akk. sup_u . *CAD* S, 390-91: “(a variety of Juniper?); OAkk., OB, Mari, Bogh., SB.” *CDA* 328: “juniper.” *AHw* III, 1059-60: “Wacholder.” Thompson (1949: 268): “*Juniperus excelsa* M.B., juniper.” Van de Microop (1992b: 160): “a type of juniper.”

za_3 - h_i - li - a : *TCL* 10, 71 i: 24. Akk. sabl_u . *CDA* 312: “(a cultivated plant, phps.) “cress.”” Thompson 1949: 55-61: “*Lep-*

idium sativum L., cress.”

na_4 - za - gin_3 : *TCL* 10, 71 i: 40. Akk. uqn_u . *CDA* 424: “lapis lazuli; turquoise?” *AHw* III, 1426: “Lapislazuli, Lasurstein, Türqis.”

im - zu - ge_6 kur - ra : *TCL* 10, 71 i: 38. Meaning unknown, a form of paste.

§6.2. Product Distribution

šim_a : NBC 8584:4 (3 qum_u , 3 l)

a - ba : *TCL* 10, 71 i: 31 (# 1)

a - du - a - a : *TCL* 10, 71 i: 30 (4 kor, 1200 l)

an - da - ab - šum ^{sa}: NCBT 1808: 3 (4 qum_u , 4 l)

an - na : *YOS* 2, 112: 11 (no figure)

šim_i - ar - ga - num : YBC 5151: 1 (6 mina, 3000 g)

šim_i - az : NCBT 1808: 7 (2 mina, 1 kg); *TCL* 10, 81: 6 (30 mina, 15 kg); YBC 3365: 1 (13 $\frac{1}{3}$ mina, 6.667 kg); YBC 6817: 13 (1 talent 58 mina, 59 kg); YBC 7189: 7 (x talent, x kg)

ba - ba - za - am : NBC 8584: 2 (4 seah 40 l); var. ba - ba - az : *TCL* 10, 71 i: 6 (#16)

ba - lu - ga : *CT* 29, 13: 8 (3 talent (silver equivalent?), 90 kg)

ba - lu - ha : *CT* 29, 13: 7 (10 shekel, silver equivalent, 83 g)

šim_i - bar_2 - bar_2 - ra : YBC 5304: 6 (3 seah 30 l)

šim_i - ba - ri - ra - a - tum : *TCL* 10, 71 i: 17 (1 seah 10 l)

šim_i - bar - sig_7 : *TCL* 10, 71: 43 ($\frac{1}{3}$ mina, 166.7 g)

bu - ra - ša : *CT* 29, 13: 11 (5 shekels, silver equivalent, 41.5) 24 (no figure)

šim_i - dup - ra - num : *TCL* 10, 71 i: 19 (1 seah., 10 l)

na_4 - du_8 - ši - a : *TCL* 10, 71 i: 39 (1/2 shekel, 4.15 g)

e šim_i : NBC 8584: 3 (1 $\frac{2}{3}$ seah, 10.667 l)

šim_i / geš_i - eren : *TCL* 10, 57: 7 (11 mina, 5.5 kg); *TCL* 10, 72: 11 (10 mina, 5 kg); *TCL* 10, 81: 4 (1 talent, 30 kg)

8 (du_{10}) (30 mina, 15 kg); *TCL* 10, 82 (tablet): 1 (10 talent 11 mina¹²³, 305.5 kg); YBC 4451: 1 (1/2 mina, 250 g); YBC 5288: 2 (geš) (#1); YBC 5304: 5 (du_{10}) (5 mina, 2.5 kg); YBC 5765: 1 (du_{10}) (15 mina, 7.5 kg); YBC

7189: 1 (geš) (2 talents 15 mina, 67.5 kg)

esir_2 : YBC 5288: 3 (10 mina, 5 kg); YBC 6817: 14 (1 talent 21 mina, 40.5 kg)

e - zi - zi : *CT* 29, 13: 26

gaba - lal_3 : *TCL* 10, 71 i: 36 (1 mina, 500 g)

šim_i - gam - gam - (ma) : *TCL* 10, 81: 13 (3 seah, 30 l); YBC 5173: 2 (10 mina, 5 kg); YBC 6817: 9 (2 pān_u , 1 seah, 2 qum_u , 132 l.

šim_i - gam - ma : YBC 3365: 7 (2 seah. 6 qum_u , 26 l); YBC 5304: 7 (3 seah, 30 l)

ganam_4 : *TCL* 10, 72: 24 (# 99)

ganam_4 bar - su_3 : *TCL* 10, 72: 26 (# 10)

gazi_2 : NCBT 1808: 8 (# 4)

šim_i - gi - du_{10} - ga : *TCL* 10, 81: 7 (30 mina, 15 kg); YBC 3280: 1 (10 mina, 5 kg); YBC 3365: 3 (13 $\frac{1}{3}$ mina, 6.667 kg);

YBC 7189: 6 (1 talent 15 mina, 37.5 kg)

šim_i - gig : YBC 7189: 9 (# x)

šim_i - gir_2 : *TCL* 10, 71 i: 20 (4 mina, 2 kg)

¹²³ Restoration of mina is not certain, see text commentary for details.

geš-i₃-a: *TCL* 10, 82 (case): 2 (10 talents 11 mina, 305.5 kg)
 gud al-zu₂-a: *TCL* 10, 56 (case): 14 (# 5 heads)
 šim^{sim}ha-gir: *TCL* 10, 71 i: 23 (4 mina, 2 kg)
 šim^{sim}hal: *TCL* 10, 71 i: 21 (4 mina, 2 kg); *TCL* 10, 81: 9 (30
 mina, 15 kg); YBC 3280: 2 (10 mina, 5 kg); YBC 4402:
 1 (1 talent 6 mina, 33 kg); YBC 4451: 2 (1 mina, 500 g);
 YBC 6817: 1 (24 mina, 12 kg); YBC 10759: 1 (du₁₀) (#
 2)
 šim^{sim}hašhur(-ra): *TCL* 10, 71 i: 15 (1 seah, 10 l); YBC 1928 (5
 qúm, 5 l); YBC 6817: 2 (1 pānū, 4 seah. 3 qúm., 103 l)
 ha-za-nu-um^{sar}: NCBT 1808: 2 (1 seah., 10 l)
 hi-bi-iš-tum: NBC 8584: 1 (4 seah., 40 l)
 šim^{sim}hi-li: *YOS* 2, 112: 36 (1 talent, 30 kg)
 šim^{sim}hi-il ba-lu-hu: *TCL* 10, 71 i: 22 (4 mina, 2 kg)
 šim^{sim}hi-li sikil: YBC 4451: 4 (1/2 mina, 250 g)
 šim^{sim}hi-li hal: YBC 4451: 3 (1/2 mina, 250 g)
 i₃-a-si/ su: *CT* 29, 13: 12 (3 shekel, silver equivalent, 24.9 g);
CT 29, 14: 19 (3 shekel, silver equivalent, 24.9 g)
 i₃-du₁₀-ga: YBC 5169: 1 (2 seah, 20 l)
 i₃-(geš)eren: *CT* 29, 14: 20 (5 shekel, silver equivalent, 41.5 g);
TCL 10, 56: (case) 12 (2 qúm. 2 l); *TCL* 10, 71 iv: 47 (1
 qúm, 1 l), 50 (1 qúm, 1 l), 61 (1 qúm, 1 l); *TCL* 10, 82:
 (tablet) 1 (6 qúm., 6 l); *TCL* 10, 82: (case) 1 (6 qúm., 6 l);
YOS 5, 171: 2 (4 qúm, 4 l); 3 (1 seah, 10 l); 4 (1 seah, 10
 l); 5 (1 seah, 10 l); 6 (1 seah, 10 l); 7 (1 seah., 10 l); 8 (1
 seah, 10 l); 10 (1 seah, 10 l); 12 (1 seah, 10 l); 13 (2 qúm,
 2 l); 15 (4 2/3 qúm, 4.667 l); 16 (1 qúm, 1 l); 17 (1/2 qúm,
 0.5 l); 18 (1/3 qúm. 0.667 l); 19 (x qúm., x l); 20 (3 qúm. 3
 l); 21 (1 seah, 10 l); 22 (3 seah, 30 l); 23 (1/3 qúm, 0.667
 l); 24 (1 qúm, 1 l); 25 (2 qúm, 2 l); 26 (1 seah, 10 l); 27
 (1/2 qúm, 0.5 l); 28 (5 qúm, 5 l); 29 (1 seah, 10 l); 31 (2
 qúm, 2 l); *YOS* 5, 172: 2 (4 qúm, 4 l); 3 (1 seah, 10 l); 4 (1
 seah, 10 l); 5 (1 seah, 10 l); 6 (1 seah, 10 l); 7 (1 seah, 10
 l); 8 (2 pānū 1 seah, 140 l); 10 (2 2/3 qúm, 2.667 l); 11 (5
 qúm, 5 l); 12 (2 pānū, 2 seah, 140 l); 13 (1 seah, 10 l); 14
 (5 qúm, 5 l); *YOS* 5, 194: 2 (4 qúm, 4 l); 3 (1 seah, 10 l);
 4 (1 seah, 10 l); 5 (1 seah, 10 l); 7 (1/3 qúm, 0.334 l); 8 (2
 pānū 3 seah, 160 l); 9 (1 seah, 10 l); 10 (1 seah, 10 l); 11
 (1 qúm, 1 l)
 i₃-gi-lu: *CT* 29, 14: 28 (1 seah, 10 l)
 i₃-geš: *CT* 29, 13: 19 (no figure); *TCL* 10, 61: 1 (21 kor 3
 pānū 5 seah, 6.53 kl); *TCL* 10, 63: 2-3 (3 qúm, 3 l); *TCL*
 10, 72: 6 (4 kor 1 seah, 1.21 kl); YBC 4451: 6 (1 KUDU
 2 qúm, x and 2 l); *YOS* 5, 171: 1 (2 qúm. 2 l); *YOS* 5, 172:
 1 (2 qúm, 2 l); *YOS* 5, 194: 1 (2 qúm, 2 l); *YOS* 14, 212: 1
 (2 pānū 1 seah 1 1/2 qúm, 131 1/2 l)
 i₃-geš bara₂ a-ga: *TCL* 10, 63: 1 (8 qúm, 8 l)
 i₃ ka-na-ak-ti: *CT* 29, 14: 13 (no figure)
 im-babbar: *TCL* 10, 71 i: 11 (20 talent, 60 kg)
 ir₃: *TCL* 10, 56 (case): 10 (5 head)
 i₃-sag: *TCL* 10, 56 (case): 11 (2 qúm, 2 l); *TCL* 10, 57: 5 (3
 seah 2 qúm, 32 l); *TCL* 10, 71 iv: 56 (3 qúm, 3 l);
 61 (2 qúm, 2 l); *TCL* 10, 72: 8 (1 pānū, 1 qúm, 61 l)
 i₃-sag-du₁₀-ga: *TCL* 10, 81: 17 (# 1)
 i₃-šu-ur₂-min₃: *CT* 29, 13: 13 (10 shekels, silver equivalent,
 83 g) 31 (no figure); *CT* 29, 14: 7 (10 shekels, silver equivalent, 83
 g); 18 (10 shekels, silver equivalent, 83 g)
 kar₂-šum^{sar}: NCBT 1808: 1 (1 seah., 10 l); *TCL* 10, 63: 3
 (1 seah, 10 l); *TCL* 10, 71 iv: 43 (1 seah, 10 l); 45
 (7 qúm, 7 l); YBC 5288: 1 (5 kor 1 pānū 5 seah., 1.61 kl);
 YBC 5304: 9 (3 seah. 11 mu-šub 30 l.); *YOS* 2, 112: 12
 (no figure)
 ku₃-babbar: *TCL* 10, 56: (tablet) 1 (x mina, x g), (case) 1 (x
 mina, x g); *TCL* 10, 71 iv: 41 (1 1/3 shekel, 11.0667 g),
 68 (1 shekel, 8.3 g); *TCL* 10, 72: 1 (3 mina, 1.5 kg)
 ku₃-sig₁₇: *TCL* 10, 72: 2 (8 shekel, 66.4 g), 4 (5 shekel, 41.5 g)
 ku-uk-ri: *CT* 29, 13: 8 (1 kor, 300 l), 21 (2 pānū, 1 qúm, of 5
 shekels), 31 (no figure)
 (šim)lal₃: *TCL* 10, 57: 4 (no šim) (2 seah, 20 l); *TCL* 10, 71 iv:
 47 (no šim) (1 qúm, 1 l), 50 (no šim) (1 qúm, 1 l), 62 (no
 šim) (1 qúm, 1 l); YBC 10758: 1 (1 mina, 500 g)
 gešlam-gal *TCL* 10, 57: 3 (2 seah, 20 l)
 gešlam-tur: *TCL* 10, 57: 2 (2 seah, 20 l)
 šim^{sim}li: *TCL* 10, 71 i: 18 (1 seah, 10 l), iv: 48 (3 qúm, 3 l), 51 (3
 qúm, 3 l); YBC 6817: 7 (3 talent 20 mina, 100 kg); *YOS*
 2, 112: 12 (no figure), 36 (10 talents, 300 kg)
 šim^{sim}li-wi-ir: *TCL* 10, 72: 14 (10 mina, 5 kg); *TCL* 10, 81: 5 (30
 mina, 15 kg)
 lu-u₂-lu: *CT* 29, 13: 23 (no figure)
 lu-ur-pi-a-nu-um: *TCL* 10, 71 i: 37 (10 shekels, 83 g)
 šim^{sim}mar-ga-nu₂-um: *TCL* 10, 81: 2 (30 mina, 15 kg)
 šim^{sim}mar-gu-šum: *TCL* 10, 71 i: 16 (1 seah, 10 l); YBC 10512:
 1 (# 1)
 tu^{tu}g₂ma-aš-sum: *TCL* 10, 71 iv: 64 (#1), 65 (#2)
 maš₂-munus-aš₂: *TCL* 10, 72: 29 (# 34)
 šim^{sim}mug: *TCL* 10, 81: 12 (30 mina, 15 kg)
 tu^{tu}g₂mu-sir₂-ra: *TCL* 10, 71 i: 13 (no figure)
 naga: *TCL* 10, 71 i: 12 (15 kor, 4500 l), 15 (15 kor, 4500 l),
 71 iv: 54 (15 kor, 4500 l)
 tu^{tu}g₂na-al-ba-šum: *TCL* 10, 56 (tablet): 8 (# x), (case): 8 (# 1)
 šim^{sim}d₁nin-urta: *TCL* 10, 81: 11 (30 mina, 15 kg); YBC 7189: 4
 (1 talent, 30 kg)
 geš^{geš}qu-ta-nu-um hi-a: MLC 1683: 1 (# 3)
 im^{im}sa₂: YBC 5274: 2 (x mina, x g)
 šim^{sim}sig₇: *TCL* 10, 71 i: 42 (1/3 mina, 166.7 g)
 šim^{sim}sig₇-sig₇: MLC 1683: 2 (2 mina, 1 kg); YBC 5274: 1 (n
 mina, n kg)
 sila₇: *TCL* 10, 72: 28 (# 16)
 geš^{geš}šinig: *TCL* 10, 71 iv: 68 (no quantity)
 su-um-la-li-e: *CT* 29, 13: 10 (1 pānū, 2 seah, 80 l)
 ši-i₃-hi-ir-tum: *TCL* 10, 56 (tablet/case): 6
 šim^{sim}ša-me¹-eš²-la: *TCL* 10, 81: 10 (30 mina, 15 kg)
 še: *YOS* 5, 194: 6 (10 shekel, 0.05 l)
 še-geš-i₃: *TCL* 10, 61: 2 (53 kor, 2 pānū, 2 seah, 16.04 kl)
 šim^{sim}še-gir: NCBT 1808: 6 (2 mina, 1 kg)
 šim^{sim}še-li: NCBT 1808: 4 (2 qúm. 2 l); *TCL* 10, 81: 16 (3 seah,
 30 l); YBC 3287: 1 (x mina, x g) YBC 3365: 5 (2 seah, 6
 qúm, 26 l); YBC 5304: 8 (2 seah, 20 l); YBC 7189: 9 (x)
 šim^{sim}šeš: YBC 7189: 5 (x talent, x kg)
 šim: *TCL* 10, 71: 27 (1 seah, 10 l); *TCL* 10, 72: 10 (1 seah,
 10 l); YBC 5227: 1 (geš) (4 qúm., 4 l); *YOS* 2, 112: 12 (no

figure)

- šim hi-a: *TCL* 10, 57: 6 (5 seah, 50 l)
TCL 10, 71 iv: 56 (5 *qûm.*, 5 l); *TCL* 10, 72: 16 (4 seah 2 *qûm.*, 42 l); YBC 5169: 2 (1 seah.10 l)
- šimšī-mi-iš-la₂: YBC 7189: 3 (1 talent, 30 kg)
- šimšu-ur₂-min₃: NCBT 1808: 5 (2 mina, 1 kg); *TCL* 10, 72: 13 (10 mina, 5 kg); *TCL* 10, 81: 1 (x talent 30 mina, 15+ kg); YBC 6817: 15 (2 mina, 1 kg); YBC 7189: 2 (1 talent, 30 kg); *CT* 29, 14: 13 (no figure)
- udu-nita₂: *TCL* 10, 57: 1 (# 118); *TCL* 10, 72: 18 (# 40) 20 (# 67)
- udu-nita₂ bar-su₃: *TCL* 10, 72: 22 (# 9)
- uruda: *TCL* 10, 71 i: 41 (1 mina, 500 g); *YOS* 2, 112: 13 (2 talent, 60 kg)
- geš^šza-ba-al: *TCL* 10, 72: 12 (10 mina, 5 kg); *TCL* 10, 81: 14 (3 seah, 30 l)
- za₃-hi-li-a: *TCL* 10, 71 i: 24 (2 seah, 20 l)
- na₄za-gin₃: *TCL* 10, 71 i: 40 (1/2 shekel, 4.15 g)
- imzu-ge₆ kur-ra: *TCL* 10, 71 i: 38 (1 *qûm.*, 1 l)

§6.3. Aromatic Prices

- šimaz: (YBC 3365: 1) 13 1/3 mina, value 1 1/3 shekel, rate: 600:1
- šimdu₁₀-eren: (YBC 5765: 1) 15 mina, value 2/3 shekel, 15 grains, rate: 1200:1
- šimgam-ma: (YBC 3365: 7) 2 seah 6 *qûm.*, value 1 2/3 shekel 12 grains, rate: 15:1
- šimgi-du₁₀-ga: (YBC 3365: 3) 13 1/3 mina, value 1 1/3 shekel, rate: 600:1
- šimhal: (YBC 4402: 1) 1 talent 6 mina, value 10 1/3 shekel, rate: 383 7/31: 1
- i₃-geš^šeren: (*TCL* 10, 56 (case): 12) 2 *qûm.*, value 2/3 shekel, rate 3:1.
- i₃-geš^š: (*TCL* 10, 72: 6) 4 kor 1 seah, value 1 mina 8 shekels, rate: 18:1
- i₃-geš^š ur-šum: (*CT* 29, 13: 19-20) 5 shekels from the seah: rate 1:5
- i₃-sag: (*TCL* 10, 56 (case): 11) 2 *qûm.*, value 2/3 shekel, rate: 3:1; (*TCL* 10, 72: 8) 1 *pānû*, 1 *qûm.*, value 12 1/6 shekels 10 grain, rate: 1: 5 1/18.
- ku-uk-ri: (*CT* 29, 13: 21) 2 *pānû*, 1 *qûm.*, of 5 shekels, rate: 28:1
- šimli: (YBC 6817: 7) 3 talent 20 mina, value 1/2 mina, 5 shekels, rate: 342 6/7:1
- šimmar-gu-šum: (YBC 10512: 1) #1 (= 1/10 shekel), value 2 shekels, rate 1:20
- šimše-li: (YBC 3365: 5) 2 seah 6 *qûm.*, value 1 2/3 shekel 12 grain. rate: 15:1
- šim: (*TCL* 10, 72: 10) 1 seah, value 3 1/3 shekels, rate: 3:1
- šim hi-a: (*TCL* 10, 72: 16) 4 seah 2 *qûm.*, value 2/3 shekel, 6 grains, rate: 60:1 (*TCL* 10, 72: 11-15); geš^šeren 10 mina; geš^šza-ba-al 10 mina; geš^šsu-ur₂-min₃ 10 mina; geš^šli-wi-ir 10 mina, value 3 1/3 shekels, rate: 720:1
- šim[...]: (YBC 5232: 1) 1 (+) seah, value 10 (+) shekels, rate 1:1?

§6.4. Names

- §6.4.1. Personal Names:
- a-ba-a: *TCL* 10, 71 i: 29 (via)
- a-ba-an-ni-a: YBC 5304: 11 (via (with ir₃-^dsuen)
- a-bu-um-wa-qar: YBC 3280: 5 (receipt from)
- a-bu-wa-qar: YBC 3287: 4 (receipt from (with [...]dingir); YBC 5173: 4 (disbursed from); YBC 5274: 5 (disbursed from); YBC 5288: 5 (receipt from); YBC 5304: 14 (receipt from)
- dⁱškur-ma-an-šum₂: YBC 5765: 3 (ša...broken)
- a-da-al-lal_x(LA)-a-a: YBC 7189: 10 (delivery of)
- a-hi-na-x[...]: YBC 5232: 3 (for)
- a-hu-um-wa-qar: *TCL* 10, 56: 17 (receipt of, s. of lu₂[...])
- a-hu-ṭa-bu-um: *YOS* 5, 171: 28 (when delayed)
- amar-ne₂-ru-um: *TCL* 10, 61: 6 (for)
- a-ma-at-^dsuen: *YOS* 5, 171: 27
- a-mu-u₂-a-tum: YBC 5304: 13 (receipt of)
- ar-bi-tu-ra-am: YBC 3280: 3 (receipt of (with ^dsuen-da-mi-iq)
- a-wi-lim: *YOS* 5, 171: 2; *YOS* 5, 172: 2
- a-wi-lum: *YOS* 5, 172: 8 (delayed at the temple of Inanna in Uruk); 12 (journey to Raḥabum)
- a-wi-il-i₃-li₂: *YOS* 5, 194: 2
- be-ta: *YOS* 5, 194: 6 (delayed)
- be-ta-tum: *YOS* 5, 171: 5; *YOS* 5, 172: 5
- bi-tim: *YOS* 5, 171: 3; *YOS* 5, 172: 3; *YOS* 5, 194: 3
- da-da-a: NBC 8584: 5 (received from); *YOS* 2, 112: 1 (letter to, with ^dsuen-u₂-se₂-li)
- dingir-ga-mil: *TCL* 10, 81: 18 (via, replacement (diri-ga))
- dingir-inim-ma: *TCL* 10, 71 iv: 48 (for); 53 (for, uru ku-ur-ra-ab); 57
- dingir(-um)-pi₄-^dutu: *CT* 29, 13: 1 (letter to); *CT* 29, 14: 1 (letter to)
- dumu-i₃-li₂: *TCL* 10, 71 iv: 62 (for)
- e₂-a-ra-bi: *TCL* 10, 71 i: 5 (via, with two others), 10 (via?, with two others); 46 (via, with ša-li-mu-um and ra-bu-ut-^dsuen)
- ^den-lil₂-na-ši: YBC 10512: 7 (f. of ^dsuen-be-el-ap-lim)
- gi-mil-suen: *TCL* 10, 71 i: 34 (via)
- ^dgu-la-du-um-qi: YBC 5169: 3 (receipt of)
- ḥa-ba-an-nu-um: *TCL* 10, 63: 7 (disbursed from)
- i-ba-tum: *CT* 29, 14: 23 (oil of)
- ib-bi-^dšamaš: YBC 1928: 3 (receipt of)
- ib-bi-^dsuen: YBC 1928: 4 (receipt from)
- i-din-^dsuen: *TCL* 10, 71 iv: 63 (order of); YBC 10758: 4 (goods (nig₂-šu) of); YBC 10759: 4 (goods (nig₂) of); *YOS* 5, 171: 10 (delayed)
- i-ku-un-pi₄-^diškur: *TCL* 10, 56: (tablet) 17, (case) 18 (receipt of, with i₃-li₂-i-din-nam); *TCL* 10, 61: 5 (receipt of, with i₃-li₂-i-din-nam); *TCL* 10, 72: 36 (receipt of, with i₃-li₂-i-din-nam). *TCL* 10, 81: 19 (receipt of); *TCL* 10, 82: (tablet, case) 4 (receipt of); YBC 5169: 6 (receipt from, sanga of Ninurta)
- i₃-li₂-i-din-nam: *TCL* 10, 56: (tablet) 18, (case)19 (receipt of, with i-ku-pi₄-^diškur); *TCL* 10, 61: 4 (receipt of, with i-ku-un- pi₄-^diškur); *TCL* 10, 72: 35 (receipt of, with i-ku-un-pi₄-^diškur)

*i*₃-*li*₂-*inim-gi-na*: *TCL* 10, 71 i: 14 (receipt of)
*i*₃-*li*₂-*ma-a-bi*: NCBT 1808: 10 (receipt of)
*d*₁*i*₃-*li*₂-*na-ap-še-ra-am*: NBC 8584: 6-7 (received)
im-gur-^d*suen*: *TCL* 10, 71 iv: 67 (via); *YOS* 5, 171: 26 (divinor)
im-gur-^d*utu*: *TCL* 10, 71 iv: 70 (receipt of)
im-gu-rum: YBC 6817: 23 (via, with ^d*suen-ga-mil* and *wa-tar*-^d*utu*)
i-ni-ia-tum: YBC 5169: 4 (order of)
*ir*₃-^d*mar-tu*: *TCL* 10, 71 iv: 45 (via)
i-ri-ba-am-^d*suen*: YBC 5288: 4 (receipt of)
*ir*₃-^d*suen*: YBC 5304: 12 (via / with *a-ba-an-ni-a*)
*ir*₃-*ra-a-zu*: *YOS* 14, 212: 3 (delivery, processed oil house)
i-šar-re-i-ni: *YOS* 5, 172: 13
it-ti-^d*suen-mil-ki*: *TCL* 10, 56: (tablet) 19, (case) 20 (delivery of); *TCL* 10, 57: 8 (delivery of, of Zarbilum); *TCL* 10, 61: 3 (delivery, merchant overseer of Zarbilum); *TCL* 10, 72: 33 (delivery)
mi-ka-zi-im: YBC 4402: 2
ki-ib-ra-ab-ba: *CT* 29, 14: 16, 29
*kur-mar-da-maḥ-ni*₂: *TCL* 10, 63: 6 (receipt of, with ^{1d}*ri-im*-^d*suen-mu-ba-li*₂-*it*)
li-iq-tum: *YOS* 5, 171: 4; *YOS* 5, 172: 4; *YOS* 5, 194: 5
*li-pi*₂-*it-ir*₃-*ra*: *YOS* 14, 212: 6 (receipt of, perfumer's workshop)
lugal-^d*suen*: *CT* 29, 13: 9, 22 (receive from)
*lu*₂-^d*nin-šubur-tu-kul*₂-*ti*: YBC 5232: 4-5 (for?)
*lu*₂-^d*utu*: YBC 3287: 2 (receipt of)
mar-ra-bi: *TCL* 10, 71 i: 25 (receipt of, for the *e*₂-*nin*)
^d*nanna-ma-an-si*₂: *YOS* 5, 172: 14 (builder)
^d*nin-urta*²-*mu-pad*₃-*da*: *TCL* 10, 56: (case, tablet) 2 (receipt of)
^d*nin-urta-us*₂-*eden*: YBC 5169: 5 (via)
nu-ur-^d*kab-ta*: *TCL* 10, 71 iv: 44 (via, son of X)
*nu-ur*₂-*ub-tum*: *YOS* 5, 171: 32 (delayed)
pi-iš-ti-ia: *YOS* 5, 171: 8 (when she polished the door bolt of x-temple), 31 (when Nur-ubtum was delayed)
*puzur*₄-*dingir-a-ba*₄: YBC 5151: 3 (receipt of), 7 (receipt from)
ra-bu-ut-^d*suen*: *TCL* 10, 71 i: 46 (via, with *ša-li-mu-um* and *e*₂-*a-ra-bi*)
^{1d}*ri-im*-^d*suen-mu-ba-li*₂-*it*: *TCL* 10, 63: 5 (receipt of, with *kur-mar-da-maḥ-ni*₂)
si-im-mu-ug-ra: *YOS* 5, 171: 12 (father of *ši-li*₂-^d*utu*); *YOS* 5, 172: 7 (father of *ši-li*₂-^d*utu*)
^d*suen-a-ḥa-am-i-din-nam*: *CT* 29, 13: 3 (letter from); *CT* 29, 14: 3 (letter from)
^d*suen-an-dul*⁷-*a-ni*: *TCL* 10, 71 iv: 46 (receipt of)
^d*suen-be*₂-*el-ap-lim*: YBC 4402: 3 (goods (*nig*₂-*šu*) of)
YBC 10512: 6 (delivery of, s. of ^d*en-lil*₂-*na-ši*)
^d*suen-da-mi-iq*: YBC 3280: 4 (receipt of, with *ar-bi-tu-ra-am*)
^d*suen-du-ur-šu*: *TCL* 10, 71 i: 44 (receipt of)
^d*suen-ga-mil*: YBC 6817: 10 (via); 24 (via, with *im-gu-rum* and *wa-tar*-^d*Utu*)
^d*suen-iš-me-a-ni*: YBC 10758: 3 (receipt of)
suen-ma-ḥa-[...]: *TCL* 10, 71 iv: 58 (via)
^d*suen-še-mi*: MLC 1683: 4 (receipt of)
^d*suen-u*₂-*se*₂-*li*: *YOS* 2, 112: 2 (letter to, with *da-da-a*); 10; 41
*ši-li*₂-^d*utu*: *YOS* 5, 171: 12 (son of *si-im-mu-ug-ra*); *YOS* 5, 172: 7 (son of *si-im-mu-ug-ra*)
ša-li-mu-um: *TCL* 10, 71 i: 7 (receipt of), 26 (order of), 28 (receipt of), 45 (via, with *ra-bu-ut*-^d*suen* and *e*₂-*a-ra-bi*), iv: 55 (receipt of), 65 (receipt of)
^d*utu-dingir*: YBC 5173: 3 (receipt of)
^d*utu-mu-ba-li*₂-*it*: *TCL* 10, 82: (tablet, case) 5 ((disbursed) from)
ša-at-ib-bi: *YOS* 5, 171: 6; *YOS* 5, 172: 6; *YOS* 5, 194: 4
ša-at-^d*nin-šubur*: *YOS* 5, 194: 7 (in *dumu-munus ša-at*-^d*nin-šubur*)
ši-ip-^d*suen*: *YOS* 2, 112: 4 (letter from)
ta-al-pu-ni: YBC 4451: 8 (to; palace servant, head fisherman)
ta-ri-bu-um: *TCL* 10, 82: (tablet) 6 (order of)
^d*tišpak-ga-mil*: *CT* 29, 14: 28
*u-na-ḥi-id-eš*₁₈-*dar*₂: YBC 10759: 3 (receipt of)
*ur-lugal-banda*₃^{da}: YBC 5274: 3 (via, office broken)
wa-tar-^d*utu*: YBC 3365: 14 (receipt from); YBC 5151: 4 (receipt from); YBC 6817: 3 (via, received in his house, gur) 25 (via, with *im-gu-rum* and ^d*suen-ga-mil*)
za-a-lam: *TCL* 10, 56: (case, tablet) 5 (receipt of); YBC 5274: 4 (receipt of, chair bearer)
zi-ik-rum: *TCL* 10, 71 iv: 55 (via)
§6.4.2. Titles Only:
dumu-munus ša-at-^d*nin-šubur*: *YOS* 5, 194: 7
*ir*₃ *e*₂-*mar-ba-tum*: *YOS* 5, 171: 15
*maš*₂-*šu-gid*₂-*gid*₂: *YOS* 5, 171: 17
nar-meš: *TCL* 10, 71 iv: 66.
§6.4.3. Temples/Workshops:
*e*₂ *a-ab-ba-a*: *YOS* 5, 171: 10
*e*₂ *i*₃-*du*₁₀-*ga*: *YOS* 14, 212: 4
*gir*₄-*maḥ*: NCBT 1808: 9 (for)
*e*₂ *gu-la*: YBC 4451: 5 (for)
*e*₂ ^{gs}*gu-za en* ^d*en-ki*: *YOS* 5, 194: 11
*e*₂ ^d*inanna* *YOS* 5, 171: 16 (to anoint)
*e*₂ ^d*inanna* *u*₃ ^d*nanna*: *YOS* 5, 171: 1; *YOS* 5, 172: 1; *YOS* 5,

BIBLIOGRAPHY

- Ali, Fadhil A.
1966 "Dedication of a Dog to Nintinugga." *Archiv Orientalní* 34, 289-293
- Arnaud, Daniel
1976 "Bibliographie: *TCL* X et XI: ajouts et corrections." *RA* 79, 84-92
- Bottéro, Jean
1980-83 "Küche." *RLA* 6, 277-298
1985 "The cuisine of Ancient Mesopotamia." *Biblical Archaeologist* 48, 36-47
- Bowes, Alpin W.
1987 *A Theological Study of Old-Babylonian Personal Names*. 2 Vols. PhD Thesis Dropsie College for Hebrew and Cognate Learning, Merion
- Breckwoldt, Tina
1994 *Economic Mechanisms in Old Babylonian Larsa*. PhD Thesis Cambridge University
- Brunke, Hagan and Walther Sallaberger
2010 "Aromata für Duftöl." In A. Kleinerman and J. Sasson, eds., *Why Should Someone Who Knows Something Conceal It? Cuneiform Studies in Honor of David I. Owen on His 70th Birthday*. Bethesda: CDL Press, pp. 41-74
- Cavigneaux, Antoine & Al-Rawi, Farouk N. H.
2000 *Gilgamesh et la Mort Textes de tell Haddad VI: avec un Appendice sur les Textes Funéraires Sumériens*. Groningen: Styx Publications
- Charles, Michael P.
1985 "The Husbandry of Pulses and Oil Crops in Modern Iraq." *BSA* 2, 39-62
- Charpin, Dominique
1979 Review of S Simmons, ed., *Early Old Babylonian Documents, In Memory of Albrecht Goetze and Ferris J. Stephens*. *BiOr* 36, 188-200
1984 "Nouveaux Documents du Bureau de l'Huile à l'Époque Assyrienne." *MARI* 3, 83-126
- Civil, Miguel
1964 "A Hymn to the Beer Goddess and a Drinking Song." In R.D. Biggs and J.A. Brinkman, eds., *Studies Presented to A. Leo Oppenheim June 7, 1964*. Chicago: University of Chicago Press, pp. 67-89
1993 "On Mesopotamian jails and their lady warden," In M. Cohen, D. Snell, & D. Weisberg, eds., *The Tablet and the Scroll: Near Eastern Studies in Honor of William W. Hallo*. Bethesda: CDL Press, pp. 72-78
- Cooper, Jerrold S.
1983 *The Curse of Agade*. Baltimore: The John Hopkins University Press
- Curtis, John & Hallo, William W.
1959 "Money and Merchants in Ur III." *HUCA* 30, 103-139
- Ebeling, Erich
1943 *Altbabylonische Briefe amerikanischer Sammlungen aus Larsa*. *MAOG* 16. Leipzig: Harrassowitz
1948 "Mittelassyrische Rezepte zur Herstellung von Wohlriechenden Salben." *OrNS* 17, 129-145, 299-313
1949 "Mittelassyrische Rezepte zur Herstellung von Wohlriechenden Salben (Fortsetzung)." *OrNS* 18, 404-418

- 1950 *Parfümrezepte und kultische Texte aus Assur*. Rome: Pontificium Institutum Biblicum
- 1950a "Mittelassyrische Rezepte zur Herstellung von Wohlriechenden Salben (Fortsetzung)." *OrNS* 19, 265-278.
- Edel, Elmar & Mayrhofer, Manfred
- 1971 "Notizen zu Fremdnamen in ägyptischen Quellen." *OrNS* 40, 1-10
- Edzard, Dietz Otto
- 1957 "Die Königsinschriften des Iraq-Museums." *SUMER* 13, 172-189
- 1976-1980 "Jabrat, Ibrat." In D. O. Edzard (ed.) *RLA* 5, 229-230
- Falkenstein, Adam
- 1960 "Ein Lied auf Šulgi." *IRAQ* 22, 139-150
- Feuerherm, Karljürgen
- 2004 *Abum-Waqar and His Circle: a Prosopographic Study*. 2 vols. PhD Thesis University of Toronto
- Forbes, R. J.
- 1965 *Studies in Ancient Technology*. Vol. 3. Leiden: E.J. Brill
- Frankena, Rintje
- 1966 *Briefe aus dem British Museum (LIH und CT 2-33)*. Leiden: E.J. Brill
- Gadd, Cyril J.
- 1963 "The Second Lamentation for Ur." In D. Winton Thomas and W. McHardy, eds., *Hebrew and Semitic studies. Presented to Godfrey Rolles Driver in Celebration of his Seventieth Birthday, 20 August 1962*. 59-71. Oxford: Clarendon Press
- Gallery(-Kovacs), Maureen
- 1980 "The Office of the Šatammu in the Old Babylonian Period." *AfO* 27, 1-36
- George, Andrew R.
- 1993 *House Most High: the Temples of Ancient Mesopotamia*. Winona Lake: Eisenbrauns
- Groneberg, Brigitte
- 1980 *Die Orts- und Gewässernamen der altbabylonischen Zeit*. *RGTC* 3. Wiesbaden: Reichert
- Groom, Nigel
- 1981 *Frankincense and Myrrh: a Study of the Arabian Incense Trade*. London, New York: Longman
- Hallo, William W.
- 1961 "Royal Inscriptions of the Early Old Babylonian Period: a Bibliography." *BiOr* 18, 4-14
- 1979 "Notes from the Babylonian Collection, I: Nungal in the Egal." *JCS* 31, 161-65
- 1985 "Back to the Big House: Colloquial Sumerian, Continued." *OrNS* 54, 56-64
- Halloran, John
- 2006 *Sumerian Lexicon: A Dictionary Guide to the Ancient Sumerian Language*. Los Angeles: Logogram Publishing
- Harris, Rivkah
- 1975 *Ancient Sippar: a Demographic Study of an Old-Babylonian City (1894-1595 B.C.)*. Leiden: Nederlands Historisch-Archaeologisch Instituut
- Heimerdinger, Jane
- 1976 "An Early Babylonian Offering List from Nippur." In B. Eichler, J. Heimerdinger & Å. Sjöberg,

eds., *Kramer Anniversary Volume: Cuneiform Studies in Honor of Samuel Noah Kramer*. Kevelaer: Butzon & Bercker, pp. 225-231.

- Heimpel, Wolfgang
1997 "Disposition of Households of Officials in Ur III and Mari." *ASJ* 19, 63-82
- Heltzer, Michael
1976 *The Rural Community in Ancient Ugarit*. Wiesbaden: Reichert
- Hübner, Barbara & Reizammer, Albert
1985-1986 *Inim Kiengi II: Sumerische Deutsches Glossar*, Band 1. Privatverlag
- Jean, Charles-François
1931 *Larsa d'Après les Textes Cunéiformes *2187 à *1901*. Paris: Librairie Orientaliste Paul Geuthner
1949 "Pharmacopée et Parfumerie dans quelques Lettres de Mari." *ArOr* 17, 320-329
- Joannès, Francis
1993 "La Culture Matérielle à Mari V: les Parfums." *MARI* 7, 251-270
- Jursa, Michael
2005 "Parfüm (rezepte)." *RLA* 10, 335-336
2009 "Die Krall des Meeres und andere Aromata." In W. Arnold et al., eds., *Philologisches und Historisches zwischen Anatolien und Sokotra: Analecta Semitica In Memoriam Alexander Sim*. Weisbaden: Harrassowitz Verlag, pp. 147-180
- Kärki, Ilmari
1968 *Die Sprache der sumerischen Königschriften der frühaltbabylonischen Zeit. Die sumerischen Königschriften der frühaltbabylonischen Zeit in Umschrift und Übersetzung*. Helsinki: Societas Orientalis Fennica
- Kraus, Fritz R.
1958 *Ein Edikt de Königs Ammi-Saduqa von Babylon*. Leiden: E.J. Brill
1963 "Altbabylonische Quellensammlungen zur altmesopotamischen Geschichte." *AfO* 20, 153-155.
1968 "Sesam im Alten Mesopotamien," *JAOS* 88, 112-119
- Küchler, Friedrich
1904 *Beiträge zur Kenntnis der assyrisch-babylonischen Medizin: Texte mit Umschrift, Übersetzung und Kommentar*. Leipzig: J.C. Hinrichs
- Kupper, Jean-Robert
1992 "Le Bois à Mari." *BSA* 6, 163-170
- Lafont, Bertrand
1984 Chap. IV in *Archives administratives de Mari* 1. *ARM* 23. Paris: Éditions Recherche sur les Civilisations, pp. 227-326.
- Leemans, Wilhelmus F.
1950 *The Old-Babylonian Merchant: His Business and His Social Position*. Leiden: E.J. Brill
1960 *Foreign Trade in the Old Babylonian Period as Revealed by Texts from Southern Mesopotamia*. Leiden: E.J. Brill
- Levey, Martin
1956 "Babylonian Chemistry: A Study of Arabic and Second Millenium B.C. Perfumery." *Osirus* 12, 376-389

- 1959 *Chemistry and Chemical Technology in Ancient Mesopotamia*. Amsterdam, New York: Elsevier
- Limet, Henri
- 1978 "Pharmacopée et Parfumerie Sumériennes." *Revue d'Histoire de la Pharmacie* 25 no. 238, 147-159
- Maekawa, Kazuya
- 1996 "Comfiscation of Private Properties in the Ur III Period: a Study of é-dul-la an nig-GA." *ASJ* 18, 103-168
- Meyer, Leon de
- 1997 "Der, Tell ed-." In E. Meyers, ed., *The Oxford Encyclopedia of Archaeology in the Near East* vol. 2. New York, Oxford: Oxford University Press, pp. 145-146.
- Mieroop, Marc Van de
- 1987 *Crafts in the Early Isin Period: a Study of the Isin Craft Archive from the Reigns of Išbi-Erra and Šū-Iliš*. Leuven: Departement Orientalistiek
- 1992a *Society and Enterprise in Old Babylonian Ur*. Berlin: Dietrich Reimer Verlag
- 1992b "Wood in the Old Babylonian texts from Southern Babylonia." *BSA* 6, 155-161
- 1993 "The Reign of Rīm-Sin." *RA* 87, 47-69
- 1994 "The Tell Leilan Teblets 1991: A preliminary Report." *OrNS* 63, 305-344
- Moorey, Peter R. S.
- 1994 *Ancient Mesopotamian Materials and Industries: the Archaeological Evidence*. Oxford, New York: Clarendon Press
- Myers, Charles F.
- 1975 *The Use of Aromatics in Ancient Mesopotamia*. PhD Thesis University of Pennsylvania
- Oppenheim, A. Leo
- 1954 "The Seafaring Merchants of Ur." *JAOS* 74, 6-17
- Pomponio, Francesco & Visicato, Giuseppe
- 1994 *Early Dynastic Administrative Tablets of Šuruppak*. Napels: Istituto universitario orientale
- Poebel, Arno
- 1911 "Zur Auspreche der sumerischen Phrasen in den altbabylonisch Rechtsurkunden." *OLZ* 14, 241-247
- Postgate, J. Nicholas
- 1985 "the "Oil-Plant" in Assyria." *BSA* 2, 145-152
- Potts, Daniel T.
- 2007 "Babylonian Sources of exotic Raw Materials." In G. Leick, ed., *The Babylonian World*. New York, Londen: Routledge, pp. 124-140
- Potts, Daniel T., et al.
- 1996 "Guhlu and Guggulu." *WZKM* 86, 291-305
- Powell, Marvin A.
- 1971 (publ. 1973) *Sumerian Numeration and Metrology*. PhD Thesis University of Minnesota
- 2003-2005 "Obst und Gemüse (Fruits and Vegetales. A. I. Mesopotamien)." *RLA* 10, 13-22
- Renfrew, Jane M.
- 1985 "Finds of Sesame and Linseed in Ancient Iraq." *BSA* 2, 63-66

- Renger, Johannes
- 1979 "Interaction of Temple, Palace, and 'Private Enterprise' in the Old Babylonian Economy." In E. Lipiński, ed., *State and Temple Economy in the Ancient Near East : Proceedings of the International Conference / Organized by the Katholieke Universiteit Leuven from the 10th to the 14th of April, 1978*, vol. I. Leuven: Departement Orientalistiek, pp. 249-259
- 2004 "Oikos Wirtschaft und Tributäre Wirtschaftsreformen – Die dominanten Strukturen der Wirtschaft in Mesopotamien im 3. und 2. jt. v. Chr." In J.-W. Meyer & W. Sommerfeld, eds., *2000 v. Chr.: politische, wirtschaftliche und kulturelle Entwicklung im Zeichen einer Jahrtausendwende: 3. Internationales Colloquium der Deutschen Orient-Gesellschaft, 4.-7. April 2000 in Frankfurt/Main und Marburg/Lahn*. Saarbrücken: In Kommission bei SDV, Saarbrücker Druckerei und Verlag, pp. 141-154
- Richter, Thomas
- 2004 *Untersuchungen zu den lokalen Panthea Süd- und Mittelbabyloniens in altbabylonischer Zeit*. Münster: Ugarit-Verlag
- Rieger, Mark
- 2006 *Introduction to Fruit Crops*. Binghamton: Haworth Press
- Roberts, James J. M.
- 1972 *The Earliest Semitic Pantheon; a Study of the Semitic Deities Attested in Mesopotamia Before Ur III*. Baltimore: The Johns Hopkins University Press
- Rowton, Michael B.
- 1967 "The Woodlands of Ancient Western Asia." *JNES* 26, 261-277
- Salonen, Armas
- 1964 "Die Öfen der alten Mesopotamier." *BagM* 3, 120-125
- Simmons, Stephen D.
- 1978 *Early Old Babylonian Documents. YOS 14*. New Haven, London: Yale University Press
- Sjöberg, Åke
- 1973 "Nungal in the Ekur." *AfO* 24, 19-46
- Snell, Daniel C.
- 1982 *Ledgers and Prices: Early Mesopotamian Merchant Accounts. YNER 8*. New Haven: Yale University Press
- Soubeyran, Denis
- 1984 Chap. IV in *Archives administratives de Mari*. 1. *ARM* 23. Paris: Éditions Recherche sur les Civilisations, pp. 327-452
- Stol, Martin
- 1981 *Letters from Yale Transliterated and Translated*. Leiden: E.J. Brill
- 1985 "Remarks on the Cultivation of Sesame and the Extraction of its Oil." *BSA* 2, 119-126
- 2006-2008 "Sabum. B. Old Babylonian and Later." *RLA* 11, 479-480
- Talon, Philippe
- 1985 *Textes Administrative des Salles Y et X du Palais de Mari. ARM 24/1*. Paris: Éditions Recherche sur les Civilisations
- Thompson, Marie-Louise
- 1984 *The Sumerian Language: an Introduction to its History and Grammatical Structure*. Copenhagen: Akademisk Forlag

- Thompson, Reginald C.
- 1923 *Assyrian medical texts from the Originals in the British Museum*. London: Oxford University Press
- 1925 *On the chemistry of the ancient Assyrians*. London: Luzac
- 1930 "Assyrian Prescriptions for Treating Bruises or Swellings." *AJSL* 47, 1-25
- 1937 "Assyrian Prescriptions for the Head (Concluded)." *AJSL* 54, 12-40
- 1949 *A Dictionary of Assyrian Botany*. London: British Academy
- Tinney, Stephen J.
- 1996 *The Nippur Lament: Royal Rhetoric and Divine Legitimation in the Reign of Išme-Dagon of Isin (1953-1935 B.C.)*. Philadelphia: Samuel Noah Kramer Fund
- Unger, E.
- 1938 "Der." *RLA* 2, 199-201
- Whiting, Robert M.
- 1987 *Old Babylonian Letters from Tell Asmar. AS. 22*. Chicago: Oriental Institute of the University of Chicago
- Wiseman, Donald J.
- 1983 "Mesopotamian Gardens." *Anatolian Studies* 33, 137-144
- Yoffee, Norman
- 1977 *The Economic Role of the Crown in the Old Babylonian Period*. Malibu: Undena Publications
- Yoshikawa, Mamuro
- 1992 "The Verbs of Agentive-Oriented Infixation." *ASJ* 14, 380-194
- Zeeb, Frank
- 2001 *Die Palastwirtschaft in Alt Syrien nach den spätaltbabylonischen Getreidelieferlisten aus Alalah*. Münster: Ugarit-Verlag
- van Zeist, Willem
- 1985 "Pulses and Oil Crop Plants." *BSA* 2, 33-37
- Zimmern, Heinrich
- 1925 "Assyrische chemisch-technische Rezepte, insbesondere für Herstellung farbiger glasierter Ziegel, im Umschrift und Übersetzung." *ZA* 36, 177-208