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Textile Terminologies from the Orient to the Mediterranean and Europe, 1000 BC to 1000 AD

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What did sheep shears in the 1st millennium BC Babylonia look like? We are not sure. Many cuneiform texts were written about textile work in Babylonia, but it was largely about administration or accounting. There were hardly any descriptions of the actual tools and processes. In this article we go back over the words, the iconography, and the archaeology in an attempt to find these missing descriptions. This study is limited to Babylonia during the 1st millennium BC, and this period correspond to a state of the Akkadian language, called Neo-Babylonian. At these times, major evolution took place. Mesopotamia entered in the Iron Age at the end of the 2nd millennium BC. Empires were built (Neo-Assyrian 911-610 BC, Neo-Babylonian 610-539 BC BC, Achaemenid 539-330 and Hellenistic 330-64 BC). Most of the cuneiform documentation of that period discovered by the archaeological excavations is dated from the "long 6th century BC".[2] At these times, Babylonia enjoyed an economic growth, long-distance trade developed, and the temples has an important economic weight.[3] All these factors induce changes in the textile craft that are visible through an analysis of the vocabulary.

Textile tools were objects of everyday life, they were handled manually to transform the raw materials into finished woven products. They included all the implements used at different stages of fibre preparation, spinning, and weaving, as well as dyeing, washing, decorating and the repair of fabrics. An approach that combines the study of vocabulary of tools with the study of action verbs related to textile manufacturing can bring information about the techniques known in 1st millennium BC.

In Babylonia, during the 1st millennium BC, the textile craft was well-developed. Textiles were widely used in transportation, in home furnishing as well as for clothing. Common domestic production and luxury production both existed with the former being much less documented than the latter. Luxury production was organized by the temples, and probably also by the palaces.[4] Wool was the most commonly used raw material.[5] Flax was rare but present, and cotton appeared at these times in Babylonia.[6] Special

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1. I deeply thank Elizabeth Payne and Michael Jursa for sharing with me transliterations of unpublished texts from the Yale Babylonian Collection, and Walter Farber for providing permission to reproduce the image of the amulets of the Lamaštu. I also warmly thank Marie-Louise Nosch, Cécile Michel, Salvatore Gaspa, Ariel Rosenblum and Arch Naylor for their help in improving my paper. Responsibility for any errors lies with me.

2. Jursa 2010, 7. A synthesis of the Neo-Babylonian cuneiform documentation can be found in Jursa 2005.

3. See Jursa 2010 for the evolution of the economy of Mesopotamia in 1st millennium BC.

4. About the use of textiles in the temples during the Neo-Babylonian period see Zawadzki 2006 and 2013; Beaulieu 2003. The Neo-Babylonian and Achaemenid textile production in the palaces is poorly documented, but if we compare with the situation in Mari or in the Neo-Assyrian period, one can hypothesis that the Babylonian palaces were important centres of a luxury textile production.

5. The volume of Breniquet & Michel 2014 has demonstrated the importance of wool in Mesopotamia's economy since the 4th millennium BC.

6. About flax, see Quillien 2014 and about cotton, see Zawadzki 2006, 25-29 and Muthukumaran 2016, 98-105.

products like Egyptian flax, purple wool or special dyes, especially destined for luxury production, were imported through long distance trade.[7] Manufacturing techniques were complex: the luxury textiles were adorned with metal appliqué, tassels, and embroidery.[8] The vocabulary of tools and action verbs dealing with textile production gives some information about the different tasks accomplished by the textile craftsmen, and about the techniques they mastered.

Important works about textile tools in Mesopotamia include the book by Catherine Breniquet *Essai sur le tissage en Mesopotamie* and the articles by Eva Andersson Strand, Agnete Wisti Lassen, and Caroline Sauvage.[9] Using the context of these previous works supported by the Neo-Babylonian documentation, the question is how studying tool terminology and action verbs can improve our understanding of the function of the textile production in 1st-millennium BC Mesopotamia. Does textile terminology reveal evolutions at this late period of Mesopotamian history?

The sources

The cuneiform sources from Babylonia dealing with textiles and dated from the 1st millennium BC mostly comes from the temples of Uruk and Sippar. They are administrative documents, written by scribes whose purpose was to organize and control the production of the textiles made especially for the clothing of gods' statues and for the cult. In the temples, the garments of deities were regularly renewed, and the statues' attires were changed several times a year during ceremonies called *lubuštu* (dressing).[10] This regular need for clean or new items was an important factor for the growing production of luxury textiles in the Neo-Babylonian temples.

The texts from Babylonian temple archives dealing with textile production mostly date to the "long 6th century BC". They record materials given to craftsmen by the temple's administration to perform specific tasks (to spin, to weave, to decorate, to dye, to wash, to repair) and finished products delivered to the temples by craftsmen. These texts were written by temple scribes to control the quality and quantity of textiles made by the craftsmen and to managed their work.[11] However, these texts do not describe specifics of workers tasks, and most of the time craftsmen used their own tools. What was common was not written down, for instance the clay tools like loom weights were not recorded in the texts. Therefore, with the exception of some metal objects, the descriptive vocabulary of textile tools themselves remains scarce throughout these cuneiform tablets. The action verbs of textile work are more frequent because texts sometimes mention which task has to be performed by the craftsmen with the material given to them. These verbs reveal some of the stages of the *chaîne opératoire* and show the specialisation of the craftsmen in one or several tasks. This temple administrative documentation is complemented by some ritual texts and lexical lists where the terminology of textile tools is mentioned. Private archives of rich urban families sometimes mention textile work, for instance in letters. They come from a greater number of cities: Uruk, Sippar, Babylon, Ur, Nippur, Borsippa. Although the textual records are the primary sources that elucidate the meaning of this vocabulary, sometimes it is possible to compare these terms with the iconographical representations and with the archaeological remains.

From fibre to thread

The collection of the fibres

Cuneiform texts do not describe the processes of preparing fibres for spinning. Indeed, these steps were very commonly performed and there was no need to put them down in writing. Only shearing is well documented in texts dealing with the managing of the

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7. Graslin 2009, Quillien 2015.

8. These different techniques can be seen, for the Neo-Assyrian period, on the palaces' bas-reliefs and the paintings. We will see that they were also known by Neo-Babylonian craftsmen.

9. Breniquet 2008; Andersson 2010; Wisti Lassen 2010; Sauvage 2015.

10. About the *lubuštu* ceremony and the garments of the gods see Matsushima 1994 and 1998, Beaulieu 2003, Zawadzki 2006.

11. Zawadzki 2006 explains in detail this organization for the temple of Sippar.

temples' large flocks.[12] The tool used for shearing is named *sirpu* in Akkadian. The *Chicago Assyrian Dictionary* (CAD) translates it as 'shears, scissors'.[13] We do not know if this tool had one or two blades. The date of appearance of shears with two blades linked together in a U-shape in Mesopotamia is not clear.[14] If it were a tool with one blade only, the translation 'knife' would be more appropriate. The following text from the Ebabbar temple of Sippar in the Neo-Babylonian period describes iron shears as weighing up to 163 grams, and made by a blacksmith.

> "'1/2' talent 8 minas of iron had been given to Sūqaia, blacksmith, to make iron scissors for the shearing. Of that amount, Sūqaia delivered to the Ebabbar 4 minas 15 shekels, weight of 13 shears, (and) 15 shekels, weight of three iron sickles, a total of 4.5 minas in full, month Dūzu, 18th day, 15th year, Nabonidus, king of Babylon."[15]

As iron was an expensive metal, specific instructions were given to the blacksmiths working for the temples of Sippar to make the shears and then to entrust the tools to the shepherds or to professional shearers for the shearing season.[16] The workers had to give back the tools after the completion of their tasks, probably at the end of the season.[17] Sometimes, the Ebabbar temple of Sippar did not have enough *sirpu* and had to borrow equipment from its dependant sanctuaries, for instance from the Bēl-ṣarbi temple at Bāṣ.[18]

The *sirpu* are also found in private archives, without indication of their use within a household. However, the terminology is ambiguous because the *sirpu* were also used by carpenters.[19] The *sirpu* found in the three texts Nbn 258, Camb 330 and Camb 331 which contain inventories of houses where beer was brewed.[20]

It is interesting that the word *sirpu* seems to appears in cuneiform documentation during the 1st millennium BC. This "new entry" in the Akkadian vocabulary of the 1st millennium BC supports the hypothesis that sheep were mostly sheared, and no longer plucked in this period.[21] Indeed, the genetic evolution of the continuous growth of sheep hair occurred around 1200 BC in Europe, whereas previously, the sheep moulted there every year.[22] If one supposes the same evolution in Mesopotamia, the shearing would be the most used technique at the end of the 2nd millennium BC. Furthermore, one can suppose that the development of iron technology in the end of the 2nd millennium BC results in the appearance of new, more efficient tools, like iron shears.

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12. About sheep breeding in 1st millennium BC Babylonia, see van Driel 1993 and Kozuh 2014; on the wool economy in Mesopotamian society, see Breniquet & Michel 2014.

13. CAD S, 316; also AHw III, 1037, *serpu*, *serapu* 'Schermesser'.

14. For instance, the comprehensive inventory of bronze tools in Mesopotamia compiled by Deshayes 1960 does not mention such scissors. Margueron 1995, 134 refers to the discovery of 'scissors' at Emar, a Syrian archaeological site of the 14th century BC, but he does not describe the object. According to Barber 1991, 29 the most ancient scissors were discovered in France (Iron Age), in Roman Egypt, and in Parthian Iran. According to Ryder 1993, 15, bronze knifes can also be used for the sheep shearing, even is there is no evidence of it in Mesopotamia.

15. Nbn 867: "(1) '1/2' gú-un 8 ma-na an-bar *šá a-na e-peš si-ra-pi* an-bar *šá gi-iz-zu a-na* ˹su-˺qa-a-a ˺ lúsimug an-bar sì-*nu ina lìb-bi* 4 ma-na 15 gín ki-lá (5) 13 *si-ra-pi* 15 gín ki-lá 3-*ta* níg-gál-la-a-*tu*₄ an-bar pap 4 ½ ma-na *gam-ri* ˹su-qa-a-a a-na e-babbar-ra it-ta-din* iti šu u₄ 18-kam mu 15-kam (10) ᴵᵈnà-i lugal eᵏⁱ".

16. The specialists of the shearing were called *gāzizu*, CAD G, 60 (GCCI 1, 93, GCCI 1, 139 and GCCI 1, 183).

17. In the texts Nbn 867, Nbn 960, CT 55, 252 the use of iron shears "for the shearing" is mentioned. In the last text, the temple give to a man 40 iron shears in the 3rd month of the year, beginning of the shearing season at Sippar.

18. CT 55, 252.

19. CT 55, 445. In this context the word probably meant 'chisel'.

20. Nbn 258, a dowry text; Camb 330 and Camb 331, two inventories of a cabaret from the Egibi archive, edited by Joannès 1992. The *sirpu* might have been used during the process of beer preparation. The three texts indeed mention containers for the brewing.

21. Wisti-Lassen 2010, 276; Barber 1991, 29.

22. See Rast-Eicher 2012, 14-15. The data about this evolution are lacking for Middle East.

Evidence of this change in wool collection methods is supported by the textual sources. The verb 'to shear', *gazāzu,* becomes progressively very frequent in comparison to the verb 'to pluck', *baqāmu*.[23] Although the word *gazāzu* is attested from the 3rd millennium BC onwards, it was scarcely employed before the Nuzi period of the 15th–14th century BC, and the two methods were both used at Ugarit in the 14th–13th century BC.[24]

In the available 1st millennium documentation from Babylonia, the verb *baqāmu* (to pluck) is mentioned at least once, in the text CT 22, 214, a letter dated to the Neo-Babylonian period, "sheep *ša baqanu' u guzzu*", "the sheep have been plucked and shorn." [25] As the word *gazāzu* 'to shear' is preferred in the administrative document, this letter shows that in everyday life, outside the institutions, the plucking may have still continued to be in use, and that maybe not everybody had shears at their disposal.

In comparison to wool, the vocabulary for the collection and preparation of flax is not well attested in cuneiform texts. However, we know of its existence in earlier periods.[26] Archaeological excavations have shown tools such as sickles and combs used for the preparation of flax fibres for spinning in Mesopotamia, but they are older than our present period of study.[27]

The preparation of fibres for spinning

All the steps of the preparation of wool for the spinning are not mentioned in the cuneiform texts. It is possible to identify some terms dealing with this work in the Neo-Babylonian corpus.[28] The Akkadian term for the comb is *mušṭu*.[29] The term *mušṭu,* in Akkadian, is not mentioned in the Neo-Babylonian texts from the temples' archive dealing with textile manufacturing, probably because it was a common object of low value. But the word does appears in 1st millennium rituals against the Lamaštu, a demon responsible for the death of new-born babies. To keep this evil female creature away from the house, the ritual issues instructions that she must be given, among other things, objects associated with textile work and/or toiletry: comb, distaff, spindle, oil, pin, needle.

> "You give her a comb, a d[is]taff/spindle?, (and) a half-*sūtu* fla[sk] of oil" *Lamaštu Series* I: 50.[30]

> "Accept from the woodworker a comb, a distaff/spindle?, and a needle for your sewing needs" The Incantation Thureau-Dangin RA 18, 163: rev. 21.[31]

From this text the comb (*mušṭu*) seems to be related to textile fibre preparation rather than to women's toiletry. The oil can also be used for spinning, as well as for toiletry.[32] The word for distaff/spindle will be discuss later. These objects are found together in images of the Lamaštu presented below.[33] One also learns from the second text that these tools were made of wood, even the needles. The combing of the wool is

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23. The verb *gazāzu* is translated "to shear (sheep and goats)" according to CAD G, 59 and "scheren" according to the AHw II, 284. CAD B, 97 translates *baqāmu* (*baqānu*) as "to pluck", and the AHw I, 104 "ausraufen, scheren". The word is attested since the 3rd millennium BC. In Hebrew two different words are also used for shearing and plucking, and the verb for shearing, Hebrew *gazaz* has the same root as the Akkadian *gazāzu*, according to Delcor 1955, 384-385.

24. At Nuzi, Abrahami 2014, 286, at Ugarit Vita 2016, 139-147. They may have used bronze tools.

25. CT 22, 214: 16–18 "Idamar-utu-*re-man-ni i-ta-mar-ru-šú-nu-ut šá ba-qa-nu-'u u ga-zu-´'u* ™"; "Marduk-rēmanni has inspected them (the sheep) which have been plucked or sheared". Ebeling 1930 n°214.

26. See the Sumerian poem "The song of Utu to Inanna", in Jacobsen 1987, 13-15.

27. Breniquet 2006, 167-173; Breniquet 2008, 103-107.

28. In the same way, Salvatore Gaspa has studied the Neo-Assyrian terminology of wool processing. See Gaspa 2013, 225–226.

29. The word *mušṭu,* equivalent of the Sumerian giš-ga-ríg and is translated, according to the CAD M/II, 290, 'comb'. See also AHw III, 687, 'Kamm'.

30. "*mulṭâ pi[la]qqa šik[kat] šamni bitqu tanaddinši*", translation by Farber 2014, 150-151.

31. "*muḫrī ša naggāri mulṭâ pilaqqa u kirissa sīmat qêki*", Translation by Farber 2014, 298-299. As for the comb, the needle *kirissu* can be related to textile work (needle) but also to toiletry (hair clasp, pin) according to CAD K, 407. But here the term is specifically linked to spinning.

32. If the wool is dry one can add oil to make the fibres stick together during the spinning. (I thank Eva Andersson-Strand for this information). In the wool industry in 19th century Europe, the wool, before being carded or combed, and after being washed to remove impurities and fat, was soaked with some oil, to facilitate the spinning of a fine thread. See also Blanqui 1839, 159.

33. Götting 2009, 68-71.

mentioned in cuneiform texts since the Ur III period.[34] In the 3rd millennium BC an ideogram had the shape of a comb.[35] Combs have been found in the archaeological remains in Mesopotamia but it is difficult to know the functions of these objects and to identify which ones were employed for textile work.[36]

The verbs *napāšu* and *mašādum,* translated 'to comb wool' by the *Chicago Assyrian Dictionary*, do not appear in the Neo-Babylonian texts.[37] It is not clear if carding, being the action of homogenizing fibres by brushing them loosely, was known in Mesopotamia, or if only combing was used. Combing sorts the long fibres from the short ones and makes the fibres lie parallel.[38] The two techniques do not produce the same quality of thread.

Several terms mean raw fibres at different stages of the preparation for spinning, in Neo-Babylonian. In the texts issued from temple archives, one finds the term 'combed flax' gada *ḫalṣi*.[39] The CAD gives the following translation for *ḫalṣu*: "(1) obtained by

ḫalāṣu (said of oil, *etc.*) (2) pressed out (said of sesame seeds) (3) combed (said of flax)."[40] The linen *ḫalṣu* is given by the temple administration to the linen weavers or bleachers to make fabrics.[41] The wool also can be *ḫalṣi*, even if this word is more rare.[42] Another term, *ḫilṣu* appears once in a text from Sippar to qualify wool. Even though it is translated "combed wool" by the CAD, it may refer, instead, to the *ḫilṣu* ceremony.[43]

The word *pušikku* is another term translated as "combed wool" by the CAD.[44] It appears, for instance, in the following text:

> "Wool issued, 8 talents (for) the female weavers, for *pušikku*-wool, the month Abu, 20th day, 7th year, king Nabû-nāṣir", BRM 1, 7.[45]

But in another text where *pušikku*-wool is issued to a high official, Mac Ewan proposes the translation

34. Waetzoldt 1972, 115-119.

35. The ideogram ZATU 719, in shape of a comb, refers to the combing of the wool according to Charvát 2014, 81.

36. Breniquet 2006. Breniquet 2014, 66.

37. CAD N/I, 291 "1. To comb and clean wool, to pluck apart", AHw III, 737 *napāšu* II "(Wolle) auszupfen". CAD M/I, 351 "3. to comb out air, to comb wool", but AHw III, 623 "schlagen, walken".

38. Barber 1991, 29 and 261-262 explains that carding appeared late in History, probably in Medieval times. But according to Grömer, tools for carding have been discovered in the Hallstatt salt mines and date from 300 BC (Grömer 2016, 69-73). A Neo-Assyrian text seems to refer to carding at first sight but probably deals with the airing of the wool instead. This text is the prophecy for the crown prince Aššurbanipal, SAA 9, 7 e.14-r.1-2: "Secondly, let me tell you: I will finish the land of Gomer like (I finished) Elam. … I will break the thorn, I will pluck the bramble into a tuft of wool, I will turn the wasps into a squash." ("*mur-din-nu a-na ni-ip-ši a-nap-pa-áš*"). In the text quoted, the verb *napāšu* is used. It usually means the airing of the wool, before the combing, according to Michel, 2014, 239, and Michel 1998. Airing 'opens' the wool, removes the bulk of the impurities and facilitates the cleaning. The tool used is a *murdinnu* or *amurdinnu*, translated "bramble" by the authors of the CAD A II, 90. Maybe the image here is the removing of foreign bodies in the wool by airing it and plucking it apart, to make the wool smooth for the spinning.

39. gada *halṣi*: UCP 9/I 68, GCCI 2, 381, NBC 8350.

40. CAD H, 50; AHw II, 313: "ausgekämmt, ausgepresst". The verb *ḫalāṣu* is translated as "(1) to press, squeeze out (2) to clean by combing," but it is not attested for textile work in the 1st millennium BC, only for combing human hair, CAD H, 40; AHw II, 311 "auskämmen, auspressen".

41. For instance, to make the linen curtain, according to the text UCP 9/I 68 from the Eanna archive of Uruk.

42. Zawadzki Garments II 546, "8 ma-na síg *ḫal-ṣi*" translated "8 minas of combed wool" by Stefan Zawadzki.

43. The term *ḫilṣu* is mentioned in the text Zawadzki Garments II 462: "10 gín síg za-gìn-[kur-ra] *šá ḫi-il-ṣu*". Stefan Zawadzki translates this extract in the following way: "10 shekels of blue-pu[rple] wool for the *ḫilṣu* ceremony?" (Zawadzki 2013, 424). According to Bongenaar 1997, 267, the *ḫilṣu* is a kind of perfume or incense, or the ceremony when this perfume/incense is used. The CAD H, 187 translate *ḫilṣu* "A. a cleaning process performed on sesame seeds", the only meaning attested for the 1st millennium BC and "C. combed wool", in lexical lists where this term is linked to wool. The place named *bīt ḫilṣi* in the Neo-Babylonian temples of the Egišnugal at Ur, of the Eanna at Uruk and of the Esabad at Babylone are dedicated to the manufacturing of oils, ointments and other medicine. CAD H, 187-188, Joannès 2006.

44. CAD P, 541-542; AHw III, 883: "gekämmte Wolle". This term appears also, once, in the Nuzi texts according to Abrahami 2014, 294 who choose the translation "combed wool".

45. "(1) síg hi-a zi-ga mu-ni 8 gú-un mí-uš-bar-meš *a-na* síg *pu-sik-ki* iti-ne u4-20-kam (5) mu 7-kam d nà-pap lugal", BRM 1, 7. Reign of Nabû-nāṣir (747-734 BC).

"wool ration."[46] In a third text the *pušikku*-wool is used in a ritual with other precious raw materials including purple wool and red wool, two precious materials.[47] One can deduce from these two last texts that it was a high quality wool, probably carefully selected, by combing, or other process.

The word *ṣuppu* is translated "strip of carded wool," in the CAD, thanks to linguistic arguments.[48] This translation is problematic, because the existence of the carding at these times is not proved, and because *ṣuppu* applies not only to wool, but also to flax. The word *ṣuppu* appears in several documents from the Neo-Babylonian temples' archives,[49] always in the plural form without quantification (*ṣuppātu*), which indicates that it is a kind of raw material rather than a fabric. The *ṣuppu* can be counted or weighted whereas raw is just weighted.[50] In the texts from the temples' archive, *ṣuppu* are never given to craftsmen to spin thread, they are sometimes dyed or even used directly made into belts, as in the following text.[51]

> "Nine minas 25 shekels, weight of sashes — *ṣipīrtu* (made) of skeins of combed fibres (*ṣuppātu*), had been delivered by Rēhētu. The skeins of combed fibres (*ṣuppātu*) on the account of Bunene-šimānni [...] the month Simānu, 25th day, 4th year, Cambyses king of Babylon, king of Lands", Camb 235.[52]

If the *ṣuppātu* are strips of combed or carded wool, as the proximity of the word with the Aramaic *ṣuppā* (carded wool) suggests, they are not destined to the spinning but used directly for the manufacturing of pieces of clothing or decoration. They were delivered by the craftsmen in important quantities (8.5 kg in the text Bertin 1884) and sometimes with the *išḫunnu* which are woollen decorations.[53] Nevertheless, at Uruk the term *ṣuppu* was preceded by the determinative gada and Paul-Alain Beaulieu proposes the meaning 'braided curtain'.[54] Indeed, the text PTS 2492 mentions 2 *ṣuppātu* for the door of a cella, as if they were curtains and not a raw material.[55] So the material and use of the *ṣuppu/ṣuppātu* may have differed within Babylonia according to the city considered.

The spinning

As with fibre preparation, spinning is poorly documented in cuneiform documentation, even if it was a routine task for textile workers. However, at least one spinning tool is well attested in the cuneiform texts dated from the 1st millennium Babylonia: the spindle. The word for spindle, *pilakku* or *pilaqqu*,[56] is attested in Akkadian texts since the Old Babylonian period. In Antiquity, spindles were made of various materials including wood, stone, and bone.[57] Assyrian

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46. McEwan LB Tablets No. 48: 5

47. TuM 2-3, 250: 5-6 "ˢⁱᵍga-rík-ak-a ˢⁱᵍza-gìn ˢⁱᵍhé-me-da", among plants and vessels for a ritual.

48. CAD Ṣ, 249 "*ṣuppu* C", translation suggested by the Talmudic *ṣuppā/ṣippā*; AHw III, 1112 suppatu II: "Lage gekämmte Wolle"; according to Abraham & Sokoloff 2011, 51, Talmudic *ṣuppā* mean "hatchelled wool", and is an Aramaic ghost word. They doubt that the word *ṣuppatu* was a loanword from Aramaic. On the influence of Aramaic on the textile terminology, see Joannès 2010, 4 and 8, Abraham & Sokoloff 2011.

49. Nbk 286; Camb 235; Nbn 731; YOS 3, 117; YOS 21, 139; CT 55, 792; Bertin 1884.

50. Counted: Nbk 286, CT 55, 792; weighted: Camb 235, Nbn 731, Bertin 1884.

51. Dyed: Camb 235.

52. "(1) 9 ma-na 1/3 5 gín ki-lá *ṣi-pi-ri-e-tu₄ šá ṣu-up-pa-a-tu₄* ᴵᴵ*ri*-{*he*}-*tú it-ta-din ṣu-up-pa-tu₄ ina* [*muh-hi*⁽?⁾ ...] (5) ᴵᵈsaggár-*ši-man-ni* [......] iti sig₄ u₄ 25-kam mu 4-kam ᴵ*kam-bu-zi-ia* lugal eᵏⁱ lugal kur-kur" Camb 235. The *ṣi-pi-ri-e-tu₄* here probably does not mean *ṣiprētu*, "a dye" (CAD Ṣ, 204) but *ṣipīrtu* (plural form), "a sash woven or threaded in a special technique" (CAD Ṣ, 201).

53. The first meaning of the term *išḫunn(at)u* is, according to the CAD I-J, 190, *išḫunnatu* "cluster of grapes" and *ishunnu* "bunch of grapes" and the AHw I, 387 *is/šḫunnatu(m)* "Weintraube". The word can also mean a wool decoration, as the text Nbk 286: 1-5. attests: "14 ma-na *dul-lu gam-ru* ki-lá 10 ˢⁱᵍ*is-ḫu-nu ù* 3-ta ˢⁱᵍ*ṣu-up-pa-a-ta* ᴵdub-numun *a-na* é-babbar-ra *it-ta-din*", "14 minas, complete work, weight of 10 *išḫunnu* and 3 *ṣuppātu*, Šapīk-zēri (a weaver of coloured clothes) delivered to the Ebabbar". See also Bertin 1884. It may be trimmings in the form of bunches of grapes.

54. Beaulieu 2003, 387.

55. PTS 2491: 4 "2-*ta* ᵍᵃᵈᵃ*ṣu-up-pa-a-ta a-na* ká *pa-pa-ḫu*", "2 braided curtains *ṣuppātu* for the gate of the inner cella". Beaulieu 2003, 283.

56. Sumerian giš-bal, CAD P, 371-373; AHw III, 863: "Stilett, Spindel".

57. Andersson-Strand 2010, 12.

texts indicate that they were in wood.[58] Only one text from the Neo-Babylonian temple archives mentions this tool. These finds are rare in the documentation because the spindle was a very common object, and the temple archives listed primarily precious or rare materials, belonging to the temple, that the administration wanted to track. In the text CT 56, 454, silver was given by the temple's administration to a craftsman for making or buying a spindle, but the amount of money spent is lost in a break of the tablet.[59] But most of the time the craftsmen probably used their own spindle, and it is possible that this text may refer to religious objects rather than to real tools.

The word for spindle whorl, literally the head of the spindle *qaqqad pilakki* is not attested in the Neo-Babylonian texts. The distaff, a tool use in spinning to hold the unspun fibres, was not distinguished from the spindle in the vocabulary, according to the CAD, which occasionally translates *pilakku* by 'distaff'.[60] We know that spinning tasks were accomplished for the temples, because the craftsmen working for the sanctuaries received raw flax and wool and delivered threads and fabrics.[61] But the verbs to spin, *ṭamûm* and to ply, *eṣēpum* are not attested in the Neo-Babylonian documentation.[62] The absence of this vocabulary does not mean that these words were not employed; rather it indicates the purpose of the cuneiform documentation, which did not aim to describe in detail the technical work of craftsmen. Outside the temples, many people were surely spinning at home, but the domestic work was usually not recorded by writing.
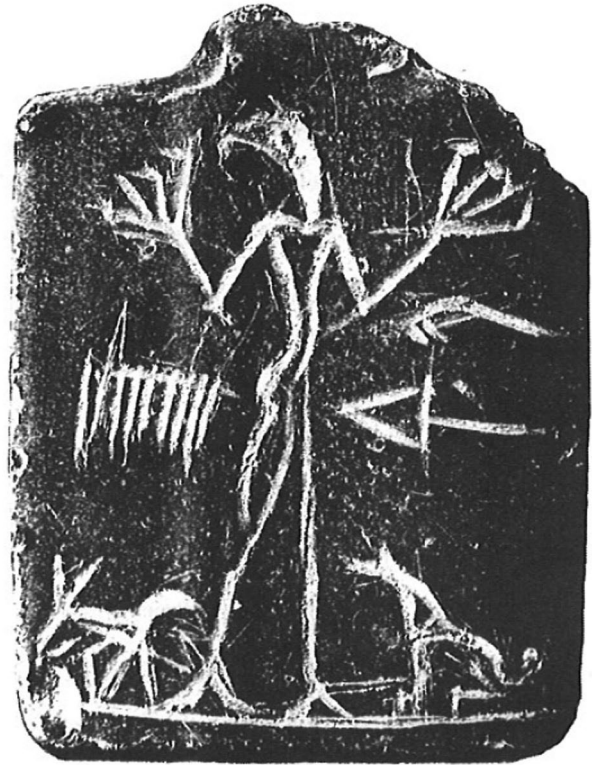
The spindle has symbolic uses in Mesopotamia.

Fig. 1. Lamaštu amulet no. 14, Teheran, photo taken in 1982 by P. Calmeyer, 34x40 mm. (From Farber 2014, 5).

Archaeological remains from the 1st millennium BC provide an example of a distaff, made in onyx, a semi-precious stone, discovered in the palace of Babylon.[63] The spindle object is present in omen texts and rituals linked to femininity, to assist delivery, to avoid the death of a new-born baby.[64] Representations of

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58. CT 54, 219: 5 "ᵍⁱˢ*pi-laq-qa ta-na-áš-ši-i-ma*", "you are carrying a wooden spindle", in a broken text.

59. CT 56, 454 rev. 8. "[...]ˈgín' kù-babbar *šá a-na pi-la-qu a-na* ᴵᵈutu-sig₅-*iq*' sì-ˈ*nu*' [...] 40? 1/2 gín kù-babbar *ina pi-la-ki*", "[...] shekels of silver that were given for a spindle, to Šamaš-udammiq [...] 40? 1/2 shekels of silver in the spindles?'", in a broken list of transactions from Sippar.

60. The CAD translates *pilakku* by distaff in the texts dealing with Lamaštu's objects (examples quoted above), for instance CAD D, 170, col. 1, probably following the usual translations of these texts. But *pilakku* could mean the spindle in this context. Maybe the Akkadian word for the distaff is simply unknown to us. It is not necessary to use a distaff to spin.

61. For example, the administration gives to a team of craftsmen raw flax and asks in exchange thread and fabrics, Nbn 163; Nbn 164.

62. *ṭamûm*: CAD Ṭ, 45: "to spin, twist, braid, entwine"; AHw III, 1379: "gezwirnt"; *eṣēpum*: CAD E, 345: "to twine, to double, to multiply"; AHw I, 252: "verdoppeln".

63. This object was also identified as a sceptre. Völling 1998, 102-104, has shown the parallel with the shape the distaff. See also Sauvage 2014.

64. Opp. Dream-book 332; SAA 10, 92; Lamaštu ritual, see Farber 2014. "The symbol of womanhood were the spindle and a specific pin (or thimble)", according to Stol 1995, 124 quoting Sjöberg 1975, 224. In the hymn to the goddess Inanna edited by Sjöberg, the spindle and comb are part of the feminine paraphernalia "she may dress them in a clothing of a woman, she may place the speech of a woman in their mouth and give them a spindle and a hair clasp". See also Cassin 1964, 293 for the meaning of the spindle in Mesopotamia and Baccelli *et al.* 2014, 117 about the spindle and femininity in Anatolia and neighbouring areas.

these tools can be found on the amulets against the Lamaštu-demon, as mentioned above.[65] In one iconographic representation, we can see a spindle, a comb and a third object in the form of a stick with double crochet, probably a distaff.

Another term, *suppinnu*, is translated as "a tool for spinning."[66] But this word has several meanings, as it also describes a tool to make bricks. The Neo-Babylonian texts mentioning the *suppinnu* list others tools related with the manufacture of bricks, agriculture and woodworking. The use of this term in the textile manufacture is not attested in the Neo-Babylonian texts. Indeed, the word appears on lists of utensils that are not related to textile work.[67]

From thread to fabric

The terminology of the loom

The terminology of weaving tools is also obscure. Several types of loom existed in the Ancient Near East. The Mesopotamian people used the horizontal loom, the warp weighted loom and the vertical loom with two beams. They also wove with small belt looms and tablet looms.[68] These looms were made of wood. An Akkadian fable make this point. In it the tamarisk and the palm tree both claim to be weavers, the former says: "I am a weaver and beat-up the threads." and the later "I am superior to you in every craft (...) I am a weaver and beat-up the threads."[69] The Akkadian vocabulary for the loom is known

thanks to the lexical list Ḫar-ra = *ḫubullu*, dated to the 2nd half of the 2nd millennium BC.[70] When one looks for these terms in the Neo-Babylonian documentation of the 1st millennium BC, only a few of them can be identified. This is not only because the lexical list is older, but also because this text records all the terms in the Sumerian and Akkadian literature, even rare occurrences. Many of the words in this list are not found elsewhere. It does not reflect the real spoken or written language[71]. Only two words of the lexical list related to the loom appear in the Neo-Babylonian texts: *nanšu* and *muṣabbitu*. The word *nanšu*, included as a part of the loom in the lexical lists, means a lever according to the CAD.[72] It comes from the verb *našû*, 'to rise'.[73] This word appears only in a list of utensils for a ritual.[74] We know that the *nanšu* was made in wood, because the word is preceded by the Sumerian determinative giš. If this word still meant a wooden part of the loom in the Neo-Babylonian texts, and according to its root, the verb 'to rise', we can propose the hypothesis that it refers to the wooden beam where the heddles are attached. The heddles are the set of parallel cords in a loom used to separate warp threads and make a path for the shuttle.

The word *muṣabbitu* is mentioned again as a part of the loom the lexical list, Ḫar-ra = *ḫubullu*.[75] The word *muṣabbitu* or *muṣabbittu* is the participle of the verb *ṣabāṭum*, 'to seize' (in G-stem): "the one who envelop, knot, attach the threads" according to the CAD.[76] Following this definition, it might be the upper beam, where the warp threads were attached. The

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65. About the Lamaštu Incantation see Farber 2014. About her iconography see Götting 2009.

66. Sumerian giš-ba or giš-ba-bal, CAD S, 392 "a tool used in brick-making and spinning"; AHw III, 1060: "ein Bau-Werkzeug".

67. BIN 1, 173: 3 (among tools for the jeweller); YOS 6, 236: 8 (text concerning bricks); YOS 6, 146: 5 (in a list of tools); GCCI 2, 7: 4 (with a tool to make bricks).

68. Breniquet 2008, 133, presents all these looms with pictures.

69. Lambert 1960, 155-161. to 'beat the thread' is a metaphor for the weaving.

70. Hh V 298-320. This list is a long enumeration of Sumerian vocabulary with translations in Akkadian, organized by topic.

71. Cavigneaux,1980-83, 609-641.

72. Reference of the lexical list: Hh. V 314. According to the CAD N/I, 261, *nanšu* (Sumerian giš-íl-lá) means "lever (of a loom)". For AHw III, 731 it is "ein Heber?".

73. Wisti Lassen 2010, 278 has identified the word *asû* (CAD A/II, 347, *asû* B) as the upper beam of the loom, but it is not attested in the 1st millennium documentation, except in a Neo-Assyrian lexical list.

74. TuM 2-3 249: 6.

75. CAD M/II, 240 Sumerian "giš-nir-ra", "(1) part of a loom (2) an implement" ; AHw III, 678 "ein 'Fasser' am Webstuhl". Reference of the Lexical list: Hh V 311.

76. CAD M/II, 240.

word *muṣabbitu* is attested in two Neo-Babylonian texts from Uruk's archives.[77] One, the text NCBT 616, lists several iron tools delivered to the temple by a blacksmith.[78] Among these tools are the iron *muṣabbitu* and the iron *ṣiṣītu*, which could be a part of the loom, maybe the heddle according to the CAD and which means the loom itself according to the Ḫar-ra = *ḫubullu* lexical list.[79] The following objects listed in this text are an iron knife (*quppû*), an iron bowl (*nalpattu*), and an iron needle (*natkapu*).[80] These words may be linked with weaving work, but iron is not typical for a loom. If these objects are destined to a ritual it would explain their unusual material. The text comes from Uruk temple archive. The tools listed in NCBT 791 where the *muṣabbitu* also appears are not related to textile work.[81] It is possible that the meaning of the terms recorded in the lexical lists Ḫar-ra = *ḫubullu*, dated from the 2nd millennium BC have changed in the 1st millennium texts from Babylonia.

Another weaving word documented in Neo-Babylonian texts is not a tool but a part of the loom: the *šutû*, 'warp'.[82] This word is well attested in Old Babylonian texts but has been found in only one document of the 1st millennium BC Babylonia. According to this tablet from Sippar, some quantities of red and green dyed wool were delivered to a craftsman, with 14 shekels (117 grams) of warp thread (*šutû*).[83] The dyed threads were probably for the weft. It would suggest that the coloured patterns were made in the weft, as no colour is mentioned for the warp. But the beginning of the text is obscure, so hypothesis needs further support.

Why loom terminology is not often found in the Neo-Babylonian texts? One has to suppose that the looms were property of the craftsmen working for the temples because they were not mentioned in the texts listing the materials that the institution supplied to them. The horizontal loom, for instance, did not have many parts and could be disassembled easily. It was made with ordinary materials (palm or tamarisk wood). As a common object, the loom was not considered significant either to be recorded in dowries texts, recording all the precious belongings brought by the bride to the house of her husband.

The verbs for the weaving

A verb 'to weave' in Neo-Babylonian Akkadian is *maḫāṣu*.[84] Its most common meaning is 'to beat'. It is not surprising that the verb for beating meant, by metonymy, the action of weaving because the main gesture of the weaver is the beating of the threads to create a uniform fabric.[85] This verb is present in texts dealing with the fabrication of domestic textile, like for instance, in the following text :

> "Arrabi will deliver yearly a *gulēnu*-garment to Ṭābia. Ṭābia has given to him 5 minas of wool, for the weaving of a *gulēnu*." VS 5, 24: 14-17.[86]

According to this text from Babylon, coming from the Sîn-ilī private archive; Ṭābia rented his palm grove for 10 years to his slave Arrabi, with the gardening equipment. He also gives him wool. In exchange the

77. NCBT 616: 2; NCBT 791: 2.

78. This text is mentioned by courtesy of Elizabeth Payne.

79. CAD Ṣ, 214: "a part of the loom", "probably the harness of the loom or simply the heddle". AHw III, 1105: "Qaste, Troddel"

80. *Quppû*: CAD Q, 311, AHw III, 928: "Stilett, Messer"; *nalpattu*: CAD N/I, 202, AHw III, 724 meaning 2: "eine Schale, Tiegel"; and *natkapu*: hapax, see below.

81. This text is mentioned by courtesy of Elizabeth Payne.

82. CAD Š/III, 408, *šutû* A: "warp", AHw III, 1293: "Gewebe".

83. ZA 4, 145 n. 18: 1-5 "1/3? 2-me 60? sig*ta-bar-ru ù* sig*ḫa-ṣa-áš-ti* 14 gín *šu-tu-ú ina* igi ᵈu-gur-din-*iṭ* lú*uš-<bar> bir-mu*", "... red wool and green wool, 14 shekels, the wrap, at the disposal of Nergal-uballiṭ, weaver of coloured clothes".

84. CAD M/I, 71-84, meaning 3 "to weave"; AHw III, 580: "schlagen, weben".

85. Cassin 1964, 974-975.

86. VS 5, 24: 14-17 "*ina* mu-an-na^meš ⁽túg⁾ʳ*gu ̀-le-e-ni* ¹*ar-rab-bi a-na* ¹du₁₀-ga-*iá* [*i*]-*nam-din* 5 ma-na síg^hi-a *a-na ma-ḫa-ṣu* ⁽túg⁾-*gu-le-e-ni* ¹du₁₀-ga-*iá id!-da-áš-šú*", Babylon, Nabonidus' reign. Michigan Coll. 47: 1-3 also deals with the weaving of the *gulēnu*: a woman is supposed to weave (*ta-ma-aḫ-ṣu*) one *gulēnu* yearly. The text NBC 6189: 6 mentions the verb *maḫāṣu* in the expression "*ana ma-ḫa-aṣ* qu", litteraly "for the beating of the thread". I thank M. Jursa his transliteration of this text.

slave own him a part of the harvest and a garment.

The verb *šatû,* which also means 'to weave', was no longer used in the 1st millennium BC.[87]

Ornamentation and care of the garments

The dyeing

While the vocabulary of the loom and weaving is not often used in written documentation dealing with textile fabrication, the terminology for the preparation of garments (decoration, washing, *etc.*) is found more frequently. Garments and fabrics offered to the gods in order to dress their cultic statues were richly decorated with golden appliqués and coloured wool. The texts coming from 1st millennium BC temple archives and dealing with the manufacturing of garments for the gods' statues indicate which materials were used for dyeing, but they rarely mention tools. Only the vocabulary for the containers for dyes is mentioned. The word *naṣraptu* is translated "dyeing vat" by the CAD.[88] But in some Neo-Babylonian texts, for instance TCL 12, 84, the word means linen textile.[89] The cauldron used for dyeing the wool is named *ruqqu* in the Neo-Babylonian texts.[90] It appears only in the context of the blue dyes, in the expression "*ša pî ruqqi*" which mean (wool) from the cauldron. This expression is only applied to blue and blue-purple dye.[91] It

could express the process of the vat dye, especially used for dyes containing indigotine[92].

The verb meaning the action of dyeing comes from the verb "to soak", *ṣabû/ṣapû*.[93] It is used in the Neo-Babylonian texts in the form of the noun *ṣīpu*.[94] It is often mentioned in temple archives dealing with the textile industry. Materials were given to the craftsmen *ana ṣapê* "for dyeing". These craftsmen were specialised in the work of coloured wool, including the dyeing and the manufacturing of small coloured woollen items. At Sippar, they were named "the weavers of coloured wool," *išpar birmu*.[95]

The decoration

According to the temple archive of Sippar and Uruk, many cultic garments were decorated with coloured wool. Techniques for embroidery, tapestry or carpet, and tassels were known in Mesopotamia.[96] The Neo-Assyrian bas-reliefs show that royal garments were decorated with tassels and with complex scenes, for instance of hunting or mythology, probably embroidered.[97] A Babylonian ritual written in the Hellenistic period, maybe a copy of an older text, describes the garments of the king. They were adorned with complex embroideries depicting gods symbols or astral motives.[98] The Babylonian craftsmen would have used needles for these embroideries or for sewing the

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87. *šatû* CAD Š/ II, 217 *šatû* B, "to weave, to spin, to entwine, interlace, to join battle"; AHw III, 1203 *šatû* III: "(Fäden) knüpfen".

88. CAD N/II, 51, AHw III, 757: "Färbbottich".

89. TCL 12, 84: 12–13 and 16 "11 ma-na 1/3 gín [sig]za-gìn-kur-ra *a-di* 2 ᵍᵃᵈᵃˊ*na-aṣ*ˋ-*ra-pa-a-tú gu-*ˊ*ra*ˋ-[*bu*]ˀ*ˮ* and "2 *na-aṣ-ra-pa-a-tú šá* ˢⁱᵍza-gìn-kur-a" "11 minas 1/3 shekel of blue purple (wool) together with two linen *naṣrapātu* in a bag"; "Two *naṣrapātu* of blue purple wool"; Transcription Joannès 1999, 194.

90. CAD R, 416 "1. kettle, cauldron"; AHw III, 995 "(Metall-)Kessel, Schale".

91. Purple wool out of the cauldron: PTS 3230, YOS 19 74 (Payne 2007, 132); blue wool out of the cauldron: NCBT 632 (Payne 2007, 128). See Payne 2007, 137 who quotes these texts and translates the expression "wool fresh from the cauldron", and the parallel YBC 7436 (Beaulieu 2003, 361–362).

92. This process requires to soak the wool in hot alkaline water with the blue dye (for instance woad) in a closed vat. The blue dye then became soluble and fix into the wool. Then the wool is exposed to air and become blue by oxidation.

93. CAD Ṣ, 45. AHw III, 1104: "Durchfeuchtung, 3. Färbung"

94. CAD Ṣ, 205, AHw III, 1104 meaning 3: "Färbung".

95. This profession also existed during the Neo-Assyrian period, according to Gaspa 2013, 232.

96. Several texts indicate that a same garment could be made of linen and wool at the same time. Usually, a big quantity of linen is used with a small quantity of coloured wool. For example, in the text GCCI 2 381, Amēl-Nanāia, a bleacher, receives 250 grams of purple wool and 2,7 kilograms of flax to made a *šiddu*-curtain. We can suppose that the fabric was in white linen and the decoration in coloured wool.

97. Lion forthcoming.

98. UVB 15 40, Falkenstein 1959, 40-41 and Joannès 2014, 447. The garments "embroidered" are said "*šapû*". On this verb, see below.

golden attachés that adorned the god's garments. The word *ṣillû*, meaning needle in the Old Babylonian period, seems to have changed its meaning in the 1st millennium.[99] Indeed, according to the texts GCCI 1, 130 and GCCI 1, 75 the *ṣillû* is an iron object weighing more than one kilogram, too heavy for a sewing needle. It refers to a tool for working wood.[100] It is probable that the same word, *ṣillû,* was used for several pointed objects, from small to large.

Lastly, the term *natkapu* is mentioned once in a Neo-Babylonian text from Uruk, NCBT 616, and could mean an iron needle, because it comes from the verb *takāpu*, "to pierce, to puncture, to stitch."[101] The words *dalû* and *katātu*, which also mean needle, are not attested in the 1st millennium documentation from Babylonia.[102] The action of sewing may have been expressed by the two verbs: *takāpu* "to pierce" and *rakāsum* "to attach." It is expressed in the Neo-Babylonian letter BIN 1 6:

> "Tablet of Ṣillaia, to Kalbaia[?] his sister, may Bēl and Nabû ordain well-being of my sister. Sew (and) seal a *šabbatu*-garment, (taken) in the clean garments. Send it to me through the messenger of Nādin."[103]

To understand more about the techniques of ornamenting textiles, one has to examine the verbs.

The verb *kubbû* or *ḫubbû* means "to patch, to sew" or "to burnish, to attach" according to the CAD.[104] In the text GCCI 2, 69 from Uruk, concerning the manufacturing of the god's garments, one reads "172 rosettes and *tenšu*-sequins have been taken off the *muṣiptu*-garment to be *kubbû* (written *ḫubbû*). Here this verb may also mean "polish, repair."[105] It refers to the sewing and repairs of the little golden decorations sewn on the garments adorning the gods' statues.[106] The verb may also have mean the sewing of simple textiles with no mention of golden decorations, as in the following text from Uruk temple archive:

> "One *lubāru* garment, one linen *salḫu*-tunic, at the disposal of ᶠHipaia for the sewing."[107] Eames R 27: 1-3.

The verb *ḫatû* also refers to the action of sewing golden appliqués onto a garment according to the CAD, and appear in that sense in two Neo-Babylonian texts.[108] For the application of woollen decorations, another verb is employed, *šapû*. It is translated "to wrap, to fasten with laces, thongs" by the CAD.[109] This word is employed in the texts in the form of a substantive in the expression *ana šapê*. According to the texts coming from temples' archive of Uruk and Sippar, the verb means an action of applying small quantities of coloured wool on the garments

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99. CAD Ṣ, 193-194 *ṣillû* A; AHw III, 1101-1102 *ṣillû* II, 3: "Nadel".

100. The texts GCCI 1, 130, GCCI 1, 75 and GCCI 1, 187 give clues about the weight of the *ṣillû*. It weighs less than 1.25 kilograms.

101. CAD T, 68; AHw III, 1305: "durch Stiche punktieren, sticheln, tüpfeln". NCBT 616 is a list of iron tools including several terms, which can be linked to textile work.

102. CAD D, 56 *dalû* A: "a spear or needle"; CAD K, 304 *katātu*: "needle".

103. BIN 1, 6 "(1) im ᴵ*ṣil-la-a a-na* ᵐⁱur-*a* nin-*šú* ᵈen *u* ᵈnà *šú-lum šá* nin-*iá liq-bu-ú* (5) 1-*et* ᵗᵘᵍ*šab-bat bab-ba-ni-ti ina* ᵗᵘᵍ*mu-ṣip-ti eb-bé-ti ti-ˈik-pi-i*ˈ (10) *ru-ˈku-us ˈ-i ku-nu ˈ-uk-i u ina* ˈšuᴵᴵ ˡᵘa-kinˈme *šá* ᴵ*na-din šu-bi-la*", transliteration of Hackl, Jursa and Schmidl 2014, 351-352. Another edition is Ebeling 1930, K 6.

104. "To patch, to sew", according to the CAD K, 482, and "to burnish" or "to attach" according to the CAD H, 213; AHw I, 497: "benäht".

105. Furthermore, the term appears as an adjective in a text to praise the gods "a god whose glory was *ḫubbû* (radiant)" Hinke Kudurru I, 13. In the same way, a Neo-Assyrian document describes the bed of a deity in these terms: "the lower mattress with golden decorations (in form of) water *ḫubbû* (radiant)"; Streck Asb. 296: 22.

106. About these golden ornaments, see Gaspa 2014 for the Neo-Assyrian period, and Beaulieu 2003, 21-25 for the Neo-Babylonian period.

107. Eames R27: 1-3 "1 ᵗᵘᵍ*lu-bar* 1 ᵍᵃᵈᵃ*sal-ḫu / a-na ku-ub-bi-i / ina* igi míᶠ*ḫi-pa-a*".

108. CAD Ḫ, 152 "*hatû* B: (1) to attach (gold ornaments)", AHw II, 336 *ḫatû* I: "verziert". The two texts mentioned in the CAD can also relates with the weighing of the golden appliquée (verb *ḫâṭu*) (GCCI 1, 59: 7-8 [*ina*] ugu *ḫa-te-e* [*šá*] *a-a-ri u te-en-še-e*" and VS 6, 1: 4 "*a-na* [*ḫa*]-*ti šá a-a-ri šá* ᵈ*a-a*".

109. CAD Š/I, 490 *šapû* B.

for the gods.[110] The garments concerned are specified, the headbands *lubār mēṭu* and *lubār kulūlu*, and the *kusītu* dress. The latter was a feminine divine garment adorned with coloured wool and qualified *birmu* (adorned with coloured woollen embroideries or trimmings).[111] For the verb *šapû* in this context, we can suggest the translation "to embroider" or "to decorate (with trimmings)".

The verb *nasāḫu* in the context of textile work meant the action of removing a part of a garment.[112] At Sippar, we find the same formulae in several texts: "250 grams of blue-purple wool coming from the garments of Šamaš, 100 grams of blue-purple wool coming from the garments of Bunene, from these garments (the wool) was removed."[113] It seems that what was removed was not the wool of the fabric, thread by thread, but tassels or woollen braids, because their removal does not destroy the garment *lubāru* on which the wool was taken.

The care of the garments

The maintenance of the garments is well documented in temple archives dealing with the luxury textile craft. Professional craftsmen called *ašlāku*, 'washermen', regularly washed the woollen and linen textiles.[114] These craftsmen received tens of items of clothing for various deities at the same time, and were in charge of the *zikûtu*, the cleaning of the garments.[115]

For example, in CT 55, 814, 27 new linen fabrics are given to Šamaš-zēr-ušabši, the washer, for washing.[116] The linen fabrics were never dyed, they were bleached to further whiten them by the *pūṣaia*.[117]

The tools used for washing and bleaching are not mentioned, but the texts do indicate which materials were needed. For instance, the bleaching of linen, involves intensive washing with soap made from a special oil and a soda, plus sunlight exposure. In the text BM 84054, the craftsman Bunene-šimanni received tamarisk wood, alkali (soda) and an oil plant for the washing of linen door curtains.[118] The mixing of soda and oil gives soap, and the wood was used as a fuel.

The garments were also often entrusted to the menders *mukabbû* to be 'repaired', *ana batqa*.[119] They received a small number of garments, usually less than a tens, and they can be new or worn[120]. In a legal text, Bēl-ittannu, a linen weaver of the Ebabbar temple of Sippar described his work. He declared before the temple's authorities the disappearance of a linen fabric belonging to the god Šamaš while he was working on it, in those terms:

> "(Concerning) A threadbare linen fabric that was at my disposal for repair, I was tearing it in strips for making the bedcover of Šarrat-Sippar's bed, and there were no strips left".[121]

The verb used is *šarātu*, meaning here "to tear

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110. For instance: CT 44, 73:22 = Zawadzki Garments II, 67; BM 75567/9 = Zawadzki Garments II, 472; NCBT 988:3; NCBT 90:1; YOS 19, 275:5; VS 20, 15:12; PTS 2576:4; YOS 19, 218:3.

111. Zawadzki 2006, 117-118.

112. CAD N/II, 1-15; AHW III, 749 "ausreissen".

113. See Zawadzki Garments II, 293; 294; 295; 297; 299; 304; 307.

114. CAD A/II, 445-446: "washerman"; AHw I, 81: "Wäscher" About the textile craftsmen at Sippar see Zawadzki 2006, 50-86; Bongenaar 1997, 300-353. For these artisans in Uruk, see Payne 2007. See also Waerzeggers, 2006, for a study of the profession of washerman in Neo-Babylonian cities.

115. CAD Z, 117 "meaning uncertain", the dictionary suggest a hypothetic translation "cleaning work", based on the verbal form *izakku* coming from *zākû* "to become clean, clear, light" (CAD Z 25).

116. CT 55, 814: 27-28 "[pap] 27 gada *a-na zi-ku-tu* / [*a-na*] ^Id utu-numun-gál-*ši* ^lú túg-babbar sì-*in*".

117. CAD P, 538: "launderer"; AHw III, 883: "Weisswäscher". For instance, in the text Nbn 492: 8 from Sippar, craftsmen were entrusted with a linen fabric *sūnu* to bleach it "*a-na pu-uṣ-ṣi-*[*e*]".

118. Zawadzki 2006, 62-63.

119. *mukabbû*: CAD M, 181 "clothes mender"; AHw III, 669: "Näher, Flickschneider".

120. For instance Nbn 115, Nbn 507, Nbn 137.

121. CT 2, 2: 3-4 "1+*en ki-tu-ú qa-al-pu* / *šá a-na bat-qa ina* igi-*ia a-na mu-še-zib* šu^II-meš *šá* ^giš ná ^d gašan zimbir^ki *ú-še-ra-ṭu* 1+*en ši-iš-ṭi ina lìb-bi ia-a-nu*" (Joannès 1992, 182-183).

into strips, to shred".[122] Perhaps the craftsman is using these strips of linen fabrics to make the padding of the coverlet. The tools of the menders are not described in the documentation.

Conclusion

Thanks to an analysis of the terminology, with the help of iconography and archaeology, it is possible to find some of the techniques known by the Babylonian textile craftsmen in the first millennium BC. The study of the Akkadian vocabulary in the Neo-Babylonian texts reveals evolutions. New words appeared in this period, like the term *ṣuppu*, as well as new techniques, such as the shearing of sheep with iron shears. Another characteristic of textile making in Babylonia during the 1st millennium BC is the growing specialization of craftsmen, at least in Neo-Babylonian temples. The tasks of the craftsmen were not limited to the weaving of textiles. The importance of the decoration of the garments, with coloured wool or golden appliqués, is obvious in the luxury textile production of the temples. In the domestic context, visible in the private archive, the textiles were also, not only woven but also sewn and prepared in specific ways. Textiles were valuable goods and their care was important. Even the precious textiles destined to the cult were re-used and cleaned repeatedly. When the garments of the gods were worn, they were recycled in other textiles like bed-covers. The study of tool terminology and action verbs confirms that the textile craft of 1st millennium BC Babylonia had reached a high level of specialization and technical knowledge, especially in luxury production of the temples.

Abbreviations

ABL = Harper, R. F. (1892-1914) *Assyrian and Babylonian Letters*. London-Chicago.

ABRT = Craig, J. (1895-1897) *Assyrian and Babylonian Religious Texts*, I-II. Assyriologische Bibliothek 13. Leipzig.

ADD = Johns, C. H. W. (1898-1923) *Assyrian Deeds and Documents*. Cambridge.

AfO = Archiv für Orientforschung

AHw = von Soden, W. (1959-1981) *Akkadisches Handwörterbuch*, I-III. Wiesbaden.

AOAT = Alter Orient und Altes Testament.

ASJ = Acta Sumerologica.

BAR = British Archaeological Reports

BBR = Zimmern, H. (1896-1901) *Beiträge zur Kenntnis der babylonischen Religion, Beschwörungstafeln Surpu, Ritualtafeln für Wahrsager, Beschwörer und Sänger*. I-II. Assyriologische Bibliothek 12. Leipzig.

Bertin = Bertin, G. (1883) *Copies of Babylonian Terracotta dated Tablets, principally Contracts, seven volumes*, unpublished, held by the Department of Western Asiatic Antiquities in the British Museum.

BIN I = Keiser, C. E. (1917) *Babylonian Inscriptions in the Collection of J. B. Nies*, New Haven.

BM = Tablets in the British Museum.

BRM I = *Babylonian Records in the Library of J. Pierpont Morgan*, New Haven 1917.

CAD = *The Assyrian Dictionary of the University of Chicago*. Chicago 1956-2010.

Camb = Strassmaier, J. N. (1890) *Inschriften von Cambyses, König von Babylon (529-521), Babylonische Texte Heft VIII-IX*. Leipzig.

CT 22 = Campbell Thompson, M. R. (1906) *Cuneiform Texts from Babylonian Tablets in the British Museum, Part XXII*. London.

CT 44 = Pinches T. G. (1963) *Cuneiform Texts from Babylonian Tablets in the British Museum, 44, Miscellaneous Texts*. London.

CT 54 = Dietrich, M. (1979) *Cuneiform Texts from Babylonian Tablets in the British Museum Part 54, Neo-Babylonian Letters from The Kuyunjik Collection*. London.

CT 55, 56, 57 = Pinches, T. G. & Finkel, I. L. (1981) *Neo-Babylonian and Achaemenid Economic Texts. Cuneiform Texts from Babylonian Tablets in the British Museum, band LV, LVI and LVII*. London.

Eames R27 = Oppenheim, A. L. (1948) *Catalogue of the cuneiform tablets of the Wilberforce Eames Babylonian collection in the New York Public Library*. New York.

GCCI 1 = Dougherty, R. P. (1923) *Goucher College Cuneiform Inscriptions*, *Archives from Erech, time of Nabuchadrezzar and Nabonidus*. New Heaven.

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122. CAD Š/II, 59 "2. *šurrutu* to tear into strips, to shread".

GCCI 2 = Dougherty, R. P. (1933) *Goucher College Cuneiform Inscriptions, Archives from Erech, Neo Babylonian and Persian periods.* New Heaven.

Hh V = Landsberger, B (1957) *Material for Sumerian Lexicon V. The Series HAR-ra hubullu.* Rome.

Hinke Kudurru = Hinke, W. J. (1911) *Selected Babylonian Kudurru Inscriptions.* Leiden.

ITT 5 = Inventaire des tablettes de Tello

JRAS = Journal of the Royal Asiatic Society of Great Britain and Ireland. London.

McEwan LB = Mc Ewan, G. J. P. (1982) *The Late Babylonian Tablets in the Royal Ontario Museum.* Toronto.

MDOG = Mitteilungen der Deutschen Orient-Gesellschaft.

Michigan Coll. 47 = Moore, E. (1939) *Neo-Babylonian Documents in the University of Michigan Collection.* Michigan.

NBC = *Tablets in the Nies Babylonian Collection.* Yale University.

Nbk = Strassmaier, J.N. (1889) *Inschriften von Nabuchodonosor, König von Babylon* (604-561 v. Chr). *Babylonische Texte Band V-VI.* Leipzig.

Nbn = Strassmaier, J.N. (1889) *Inschriften von Nabonidus, König von Babylon (555-538). Babylonische Texte Band I-IV.* Leipzig.

NCBT = *Newell Collection of Babylonian Tablets.* Yale University.

OBO = Orbis Biblicus et Orientalis.

Oppenheim Dream-book
   Oppenheim A. L. (1956), *The Interpretation of Dreams in the Ancient Near East, with a Translation of an Assyrian Dream Book.* Philadelphia.

PIHANS = Publications de l'Institut historique-archéologique néerlandais de Stamboul.

PTS = *Tablets in the Princeton Theological Seminary.*

RA = Revue d'assyriologie et d'archéologie orientale.

SAA = State Archives of Assyria. Vols. 1-19. Helsinki.

SAALT = State Archives of Assyria Literary Texts. Helsinki.

Streck Asb. = Streck, M. (1916) *Assurbanipal und die letzten assyrischen Könige bis zum Untergange Niniveh's.* Leipzig.

TCL 12 = Contenau P. (1927) *Contrats Néo-Babyloniens, de Téglath Phalasar à Nabonide. Textes Cunéiformes du Louvre* XII. Paris.

TuM 2 = Krückmann, O. (1933) *Neubabylonische Recht- und Verwaltungs-Texte.* Leipzig.

UCP 9/1 and 2 = Lutz, H.F. (1927) *Neo-Babylonian Administrative Documents from Erech*, I & II. University of California.

VS = *Vorderasiatische Schriftdenkmäler der (Königlichen) Museen zu Berlin.*

YOS 6 = Dougerthy, R. P. (1920) *Records from Erech, time of Nabonidus.* Yale Oriental Series VI, Babylonian Texts. New Heaven-London.

YOS 19 = Beaulieu, P.-A. (2000) *Legal and administrative texts from the reign of Nabonidus. Yale Oriental Series XIX.* New-Haven-London.

ZA = Zeitschrift für Assyriologie und vorderasiatische Archäologie.

Zawadzki Garments II = Zawadzki, S. (2013) *Garments of the Gods. Texts. Band* 2. OBO 260. Fribourg.

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