

## THE TRADE IN WOOL IN OLD ASSYRIAN ANATOLIA

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### *Introduction*

Contrary to the Old Assyrian trade in copper and textiles, the wool trade has only been partially studied. Veenhof (1972) described the basic outline of the buying and selling of wool, and Dercksen (2004) studied how communal trading ventures, *ellutus*, traded wool in bulk within Anatolia. However, a complete study has never been conducted, and the overall structure of the trade is still unknown. In the following, I will investigate a number of aspects of the organisation of the wool trade in the hope of reaching a fuller and more detailed understanding.<sup>1</sup>

### *The wool*

The Old Assyrian classification of qualities of wool was done according to a different set of criteria than during the Ur III-period, although wool can be termed as ‘good’ (*dammuqum*) or ‘extra good’ (*dammuqum watrum*). Such designations, however, seem to belong to the generic Old Assyrian classification system ranging from ‘extra fine’ to ‘of inferior quality’ (*maṭium*) used about merchandise in general, and apparently hold little relation to the Ur III-system.<sup>2</sup> The most common designation for Old Assyrian wool is ‘soft’ (*narbum*), a category never used of wool by the Sumerians. It is difficult to establish the technical meaning of this expression, but in Roman and Medieval times, the designation ‘soft’ was also commonly used. The wool would either have been the result of a particular preparation technique, or it may perhaps have come from select parts of a specific breed of sheep.

Other types of wool mentioned are ‘long’ (*arkum*) and ‘combed’ (*pušikkum*). Long wool presumably refers to fibre length, and it is indeed possible to separate the longest fibres from the bulk of short ones by carefully combing it. By using the right type of spindle whorl, long woollen fibres can produce a very thin but still strong thread — qualities fit for the warp of a loom. Combed wool can either refer to wool that has been combed off the sheep rather than plucked, or to wool combed in order to refine its quality and to force the fibres to lie parallel in order to produce a hard, strong yarn.<sup>3</sup> Presumably, the latter is meant in the Old Assyrian

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<sup>1</sup> This article makes use of a number of unpublished texts: primarily texts from Kt 94/k II (nos. 569-1789), which will be published in the *AKT* series by Mogens Trolle Larsen, and Kt 94/k I (nos. 1-568) to be published by Gojko Barjamovic, also in *AKT*.

<sup>2</sup> Veenhof 1972, 191-213. Veenhof does see some influence from the Ur III-administration, especially in the rarely used qualification *ša šarruttim* and the Sumerian administrative and economic terminology (Veenhof 1972, 193). In the wool trade of early modern Spain, grades of wool were often named after the best washing stations, and this terminology was recognised and used also in the international market, see Phillips and Phillips 1997, 279.

<sup>3</sup> Barber 1991, 20.

sources.<sup>4</sup> The surface of a textile made from combed wool has a tendency to be shiny, glossy, and smooth, without any sign of wooliness, and is sometimes rubbed or 'polished' with a smooth hard object, usually made of glass or stone.<sup>5</sup>

In the Old Assyrian texts there are a number of colour and/or dye designations used of wool: red (*sānum*), white (*pašium*), dyed (*šinītum*) and red-dyed wool (*makrûm*).<sup>6</sup> The attested amounts of red wool, e.g. 20 talents = c. 600 kg mentioned in *CCT* 4, 47a, makes dyeing unlikely: the amount of dyestuffs needed to pigment such an amount of wool would have been very large, and probably prohibitively expensive.<sup>7</sup> Note in comparison that red-dyed wool (*makrûm*) occurs only in volumes between 10 and 20 mines (about 5 and 10 kg). *Sānum* thus denotes a natural colour and likely a hue of red-brown.<sup>8</sup> *Pašium* could well be the wool's natural colouring 'white'. It meant 'normal white wool', at least in the Ur III-period (*šig.babbar*, *pešûm*), whereas *šig.babbar.si.sá/išarum* meant wool that had been bleached.<sup>9</sup> *Makrûm* and *šinītum* obviously are not natural pigmentations. *Šinītum* is most commonly attested in texts dated to the Old Assyrian period, but the word also turns up in Old Akkadian, Alalakh, Middle Babylonian and Neo Babylonian texts. *Makrûm* (red-dyed) is used about wool exclusively in the Old Assyrian records, and only in two texts from Ališar, *OIP* 27, 6 and 46b (restored). When it occurs in later periods, it refers only to moles and the planet Mars. Gelb, who published the two texts, suggests a connection with Arabic *mkr* 'red',<sup>10</sup> which both *AHW* and *CAD* accept. However, the rarity and contexts of the word made Landsberger ask rhetorically: "Wenn 'rot' schlechthin, warum so überaus selten? M. beschränkt sich auf unsere Pustel, auf eine nur in Kültepe Ib bezeugt gefärbte Wolle und auf den Namen des Mars?"<sup>11</sup> Veenhof did not comment on this discussion in his own treatment on the colours of the Old Assyrian textiles, but simply translated it as 'reddish'.<sup>12</sup> The peculiar usage of *makrûm* is still unexplained, but it could be attributed to the quirks of a single letter writer. On the other hand, the special nature of the Old Assyrian text corpus means that parts of the Akkadian vocabulary, usually not attested elsewhere, occasionally appear in the merchant letters.

<sup>4</sup> Wool in Roman or Medieval times was often carded, which makes the type of soft, spongy elastic yarn used today for e.g. knitting. Cards needed to produce woollens are indeed first attested in the Roman period, and the English and Danish word derives directly from Latin *carduus*, thistle. Cards have two purposes: firstly, it prepares the wool for spinning by forcing the fibres to lie fluffily (called carding). Secondly, after the textile has been woven, and is taken off the loom, the cloth can be teaselled to to raise the nap (called teaselling). Whether both uses were known and applied during the Roman period is unknown, but carding (i.e. the preparation of the fibre before spinning) is never mentioned in legal regulations in Europe before the 14<sup>th</sup> c. AD, and when it does turn up, it is regarded with great distrust (Perroy 1963, 86). A textile made from carded wool, a so-called 'woollen', has a softer, fluffier surface, and this effect can be enhanced by 'raising the nap', i.e. to raise and cut the short fibres protruding from the surface.

<sup>5</sup> Crowfoot, Pritchard, and Staniland 2006, 17.

<sup>6</sup> For the colours of the textiles in the Old Assyrian trade, see Veenhof 1972, 186ff. For colours of wool and textiles in general in Mesopotamia, see Landsberger 1967, 139-173.

<sup>7</sup> We have very limited knowledge of dyeing techniques in the Old Assyrian period. The mordant alum (*gabûm*) is conspicuously absent from the OA texts, and so are any vegetal dyestuffs, which is usually the case in the cuneiform records. For a comparable situation note the Linear B records in Nosch 2004, 32-39, where dyed wool only appear in small quantities.

<sup>8</sup> *Contra CAD S*, sub *sānu* 11 b, 129: "said of red-dyed wool".

<sup>9</sup> Waetzoldt 1972, 51.

<sup>10</sup> Gelb 1935, 28-9.

<sup>11</sup> Landsberger 1967, 144.

<sup>12</sup> Veenhof 1972, 187.

The colour designation *šarpum* is used of woollen fleeces, and appears to have the dual meaning of both dyeing wool red and tanning leather. It is possible that this type of tanning also coloured the leather red during the process, or that the word just refers to the soaking.<sup>13</sup>

### Organisation

During the Old Assyrian period Assyrian merchants were active in the distribution and exchange of wool within Anatolia. They could not, however, claim monopoly on this trade, and there is mention also of a ‘professional’ Eblaite wool trader (*ša šaptim*) in the Assyrian texts.<sup>14</sup> The Assyrians also collaborated with professional wool traders with Anatolian names, for example Karaššuna,<sup>15</sup> and Happu-aššu.<sup>16</sup> Only a single individual with a clearly Assyrian name, Puzur-Aššur, is said to be a professional wool trader.<sup>17</sup> However, a review of the names of individuals attested in the wool transactions reveals that almost all agents have Assyrian names, and that remarkably few Anatolians seem to have been involved in the process. It is impossible to say whether this is due to a bias of the sources, but it does seem that the Assyrians largely dominated the wool trade between the Anatolian cities.

Only a handful of Assyrian merchants recur in documents concerning the wool trade, and the large majority are only attested to have dealt with wool a single time. It would therefore seem that the merchants bought and sold wool only as a side business to their more regular undertakings, and one gets the impression that the exchange was conducted on an *ad hoc* level, although sometimes, as will be addressed below, it could be conducted through the larger communal trading ventures known as *ellutus*.

The Old Assyrian trade in general was organised around family firms that to some degree specialised in the trade of a few commodities, although they would also conduct business in other goods when opportune.<sup>18</sup> Until recently, no archive belonging to a family specialised in the copper trade was known, and as a result, the huge importance of the Anatolian metal trade was barely suspected. Similarly, no family firm known so far specialised in wool, and the activities reflected in the extant texts indicate that wool was one of the commodities that were primarily traded when season and opportunity made it profitable. Often the texts read “buy

<sup>13</sup> CAD S, 105. Note also the detailed discussion of the word in Landsberger 1967, 145ff. He concludes that it, rather than ‘simply’ denoting a colour, refers to the ‘außergewöhnliche Färbungen’ or ‘Rot von hohem Sättigungsgrad’, like ‘grell rot’ and ‘brandrot’. Furthermore, on the basis of this word he adduces that the transition from understanding colour as the concrete ‘dye’ to an abstract ‘colour’ here occurs in the Akkadian language, being absent in other Semitic languages (p. 147). For a continuation of this discussion, see the recent contribution by Warburton 2004.

<sup>14</sup> *Eb-lá-i-im ša ŠÍG.HI.A* (Kt 91/k 348: 32). For the identification of professions by “*ša x*”, see Veenhof 2003, 25-27.

<sup>15</sup> TC 1, 99: 15-16. Although it is difficult to link the name to a particular ethnicity, individuals named Karaššuna often occur in the corpus in purely Anatolian contexts, e.g. in texts from the Kt d/k-archive (Kt d/k 17 and 31) as witnesses in local dealings.

<sup>16</sup> Kt 91/k 348: 32. Happu-aššu is either a Hittite or a Luwian personal name, see Laroche 1966, 60 (Happuwassu).

<sup>17</sup> Kt n/k 340: 3.

<sup>18</sup> For a discussion, see Barjamovic 2005, 3 and n. 9. The family archives of Ali-ahum (Kt c/k 1-869) and Šalim-Aššur, son of Issu-arik, (Kt 94/k 569-1789) reflect the activities of two firms specialised in the Anatolian copper trade. A further example might be the firm of Enna-Suen son of Iddin-abum, who seems to have specialised in tin and iron (*amūtum*) (Larsen *forthcoming*, 9).

either wool, fleeces, or *pirikannu*-textiles” or just “wool or fleeces” suggesting that the merchants considered these commodities in a category separate, not just from the goods imported from Assur, but also from the Anatolian copper.

The sheer bulk of the wool must have caused transportation costs to be high, necessitating that traffic in wool had to be in substantial quantities to be profitable. Around 40% of the recorded transactions, however, deal with amounts of less than 1 talent of wool (30 kg), and as many as 75% of the recorded transactions refer to quantities of less than 10 talents (300 kg). Thus, only a small number of texts document undertakings that involved truly vast quantities of wool. It was in these major transactions that the communally organised *ellutum* played a role.

This pattern may reflect a three-tier system where 1) very large amounts of wool were purchased, either from major producers, such as palaces, or on central markets; 2) such large quantities of wool could be acquired as joint ventures between several merchants, and after the initial purchase, the wool was divided among them. 3) Most of the wool was then sold to the consumers by the merchants or by retailers. Finally, the merchant community used a smaller amount of the wool in their own textile production — for personal consumption and probably for sale.

In his study of the use of *ellutus* in the wool trade, Dercksen understood the term as referring to a communal partnership organised by the office of the colony (*bēt kārim*) and intended to carry out one major trade venture.<sup>19</sup> He stressed the *ad hoc* nature of such *ellutus*, and suggested that the relatively high profit gained from them, as well as the large quantities of wool that could be obtained constituted the logic behind this type of organisation.<sup>20</sup> The system is comparable to the Old Babylonian *tappātu*-partnerships, which also consisted of investors from different family firms that undertook only a single business venture together.<sup>21</sup> The *ellutum* was thus quite unlike the typical Old Assyrian *naruqu*-partnerships, which ran over several years and were used for numerous different trading expeditions.<sup>22</sup>

Only four wool trading *ellutus* are attested in the Old Assyrian text corpus, namely those of Aššur-malik,<sup>23</sup> Amur-Aššur,<sup>24</sup> Pūšu-kēn,<sup>25</sup> and Lā-qēpum.<sup>26</sup> It is interesting to note that both the *ellutus* of Amur-Aššur and Lā-qēpum are mentioned only in connection with Pūšu-kēn’s *ellutum*. Thus LB 1263: 1-7 reads: “...15 talents of [wool] of the shares, [x+] 2 talents: the ‘share of the profit’ of the *ellutum* of Amur-Aššur, 19 talents of the *ellutum* of Pūšu-kēn: [x]+60 *ukāpus*”.<sup>27</sup> Apparently, the text is a personal memorandum of an anonymous merchant who held shares in both Pūšu-kēn’s and Amur-Aššur’s wool enterprises. In the unpublished text Kt n/k 183 Pūšu-kēn’s wool *ellutum* is mentioned again, this time together with that of

<sup>19</sup> Dercksen 2004a, chap. 10.

<sup>20</sup> *Ibid.*, *passim*.

<sup>21</sup> Leemans 1950, 30-33 and Larsen *forthcoming*, 19, n. 34.

<sup>22</sup> See Larsen 1977.

<sup>23</sup> I 600, Kt a/k 827.

<sup>24</sup> LB 1263

<sup>25</sup> *KTB* 3; *CCT* 1, 35; *CCT* 3, 9; LB 1263; Kt n/k 183.

<sup>26</sup> LB 1263.

<sup>27</sup> LB 1263: 1-7: [x] 15 GÚ [SÍG.HI.A] ša qá-ta-tim [x]+2 GÚ šál-ša-tim [š]a ELLAT A-mur-A-šūr '10' +9 GÚ ša ELLAT Pu-šu-ke-en<sub>6</sub> [x] me-at 60 ú-kà-pì. For a discussion of the term ‘šalšātim’ (‘the thirds (of the profit)’), see Larsen 1998-2001, and note also Dercksen 2004a, 169.

Lā-qēpum. In both cases, the merchants thus invested in more than one enterprise at a time, perhaps to obtain as much wool as possible to minimise the relative transportation costs and thus ensure a greater profit.

The only wool trading *ellutum* that is sufficiently documented to reveal any details about the organisation of this type of business venture is that of Pūšu-kēn.<sup>28</sup> Each investor in the *ellutum* received wool according to a ratio per mina of silver he invested.<sup>29</sup> In *OAA* 1, 83, the ratio was 40 minas of wool per invested mina of silver; in *Kt n/k* 183, mentioned above, and *CCT* 1, 35, which states that one of the investors received wool for 28 minas 53½ shekels of silver in the town of Karpatta,<sup>30</sup> the ratio was 30 minas of wool per shekel of silver.<sup>31</sup> I see two possible ways of explaining these two different ratios. Either, 1) different investors received different ratios according to an unknown system, perhaps according to seniority; or 2) the *ellutum* made several purchases of wool, and was able to obtain it for more or less favourable prices, which affected the ratio given to the investors.

Dercksen has suggested that the *ellutus* that were set up as a part of the trade within Anatolia were organised by the colony (*kārum*), but the issue remains undecided.<sup>32</sup> Indeed, the colony in Zalpa is mentioned as recipient of 10 textiles in *BIN* 6, 167, a text accounting for the disbursement of 195 textiles, but this text does not necessarily concern an *ellutum*. Furthermore, *TC* 3, 15 mentions a *šitapkum*, an investment, in silver organised by the office of the colony (*bēt kārim*), but here an *ellutum* is not mentioned either.

To sum up, most of the available evidence attests relatively small transactions in wool. Some texts, however, show that also very substantial wool trading enterprises existed. In these, the merchants acquired wool through major joint ventures, in which a single merchant was responsible and carried out the actual buying, presumably from major producers, such as palaces or central markets. Several merchants who invested silver in the undertaking raised the necessary capital for these enterprises. They were subsequently awarded a sum of money according to a set rate. At times merchants invested in more than one wool-trading venture at a time. It is unclear to what extent the colony office was involved in these undertakings.

### *The selling of wool*

Unfortunately, our documentation does not reveal any details about how the wool purchased through the *ellutus* was sold again, but it seems likely that most of it was sold by

<sup>28</sup> The case is documented by at least five texts: *CCT* 1, 35; *CCT* 3, 9; *OAA* 1, 83; *LB* 1263, *Kt n/k* 183, and possibly also *Kt n/k* 1575 (Dercksen 2004a, 186).

<sup>29</sup> *Idem.* 185ff.

<sup>30</sup> The location of Karpatta is unknown. Dercksen 2004a, 187 suggests that it is *not* the same as Hittite Kappatta, located on the Ašharpaya Mountain. His rejection is based upon of a localisation of the wool producing area of Anatolia in the southeast. As will be shown below, however, the Zalpuwa on the Black Sea, where Forlanini 1977 locates the Ašharpaya Mountain, was also a wool producing area, and thus Forlanini's suggestion cannot be rejected on the basis of the geography of wool production.

<sup>31</sup> It is unknown what this ratio actually reflects. It cannot be the final outcome for the investors, since receiving 30 or 40 minas of wool for one mina of silver is unrealistically low. That would correspond to prices of 90 and 120 shekels of silver for a talent of wool respectively. For comparison, the other attested purchase prices for wool in Anatolia average 16 shekels of silver for a talent of wool.

<sup>32</sup> Dercksen 2004a, 179-180. This type of *ellutum*, which Dercksen describes in chap. 9.6, is connected with wool and tin.

retailers. These retail traders sometimes left behind a paper trail shedding some light on their activities. The text Kt 94/k 557 is a personal note of a merchant who distributed different quantities of wool to different people: "1 talent and 40 minas of wool I gave to Hani. Aššur-x took 1 talent of wool. The official took 30 minas of wool. The official also took 16 minas that was its tax. I checked 1 talent and 15 minas of wool for Iliš-takil. 9 minas (for) Huzziya".<sup>33</sup> The text can tentatively be understood as follows: the anonymous author had transported 4 talents and 50 minas of wool into an unspecified city, perhaps Kaneš. There he paid 16 minas of wool in tax, which equals 5½ % of its total value,<sup>34</sup> and he gave the official a gift of 30 minas.<sup>35</sup> He distributed quantities of wool for retailing to Hani, Aššur-x and Iliš-takil, and finally he gave 9 minas of wool to Huzziya for the home production of two pieces of textile.

21 talents (630 kg) of wool were given as a loan to a retail merchant according to Kt 94/k 1024. From the capital he realised by selling the wool he had to pay 6⅔ minas of good *litu*-silver to his creditor. This corresponds to a price of 19 shekels of silver per talent of wool, and so the merchant had to sell his wool at a higher price than that in order to make a profit. If he could not pay back the silver from the realised funds, he was committed to pay interests at a rate of 1½ shekels of silver per month per mina of any silver still owed. This type of indirect retailing, where a merchant lends out a commodity to another merchant who has to repay an agreed price in cash, is not uncommon and is also attested for other commodities, such as copper.<sup>36</sup>

The wool could also be sold by the servants, junior partners or representatives of the merchants.<sup>37</sup>

### *Private use of wool*

Although the wool trade was primarily inter-Anatolian, small amounts of wool were occasionally sent to Assur at the request of Assyrian women for use in their private textile production.<sup>38</sup> Similarly, a minor part of the wool traded in Anatolia was kept by the Assyrians for clothing and for their local households in the colony.<sup>39</sup> These were usually small amounts

<sup>33</sup> Kt 94/k 557, 1-11: 1 GÚ 40 *ma-na SÍG.HI.A a-na Ha-ni a-dí-in* 1 GÚ SÍG.HI.A *A-šur-[x]-dí-[x] il<sub>5</sub>-qé* 30 *ma-na SÍ[G] kà-šu-um il<sub>5</sub>-qé* 16 *ma-na ni-<is<sup>3</sup>>-ha-tí-šu kà-šu-ma il<sub>5</sub>-qé* 1 GÚ 15 *ma-na a-na I-lí-iš-ta-ki-il<sub>5</sub> as-ni-iq* 9 *ma-na Hu-zi-a*.

<sup>34</sup> In the only other text I have had access to in which taxation of wool occurs, *ICK* I, 98, the palace levies a tax of exactly 5% on 11 talents and 20 minas of wool. This tax rate corresponds to the one levied on textiles (Veenhof and Eidem 2008, 184). If the merchant in Kt 94/k 557 had 5 talents and 20 minas (320 minas) of wool, instead of 4 talents and 50 minas (290 minas), the tax of 16 minas levied by the official would equal 5%. It is possible that the merchant kept 30 minas of wool for himself and did not mention it in the memorandum.

<sup>35</sup> For gifts given to local *kaššum*-officials, See Veenhof and Eidem 2008, 226.

<sup>36</sup> See e.g. Dercksen 1996, 103-104.

<sup>37</sup> Note e.g. the sale of wool by the servants Šēp-lštar and Šalim-wardī for Ennam-Aššur son of Šalim-Aššur in the Kt 94/k-archive (Kt 94/k 1373, 1101, 1245, and 1313 will be published by M. T. Larsen in volume II of the Kt 94/k II publication series).

<sup>38</sup> See Michel and Veenhof *forthcoming*; Günbattu 1992, 229-234; and Veenhof 1972, 113.

<sup>39</sup> *CCT* 4, 456; *POAT* 41; *Ka* 435; *RA* 59, 36; *TC* 1, 44; *TC* 3, 17; Kt 91/k 388; Kt k/k 8; *BIN* 4, 9. At times it is stated explicitly that a certain amount of wool or piece of cloth was intended for clothing. I 646 states in lines 9-13: SÍG.HI.A *na-ar-ba-tim ša-ma šé-bi-<lam> šu-ma SÍG.HI.A lá-šu ni-ib-ra-ra-am na-ar-ba-am a-na l[i-tab-ší-a] ša-[ma-am]*, "Buy soft wool and send it to him. If there is no soft wool available buy a soft *nibrārum* textile for my clothing". Similarly, *POAT* 41, 15-19 has: *a-ha-<ma>* 1 GÍN KÙ.BABBAR *ša am-tim tù-kà-al* SÍG.HI.A *5 ma-na <a>-lu-bu-ší-ša šé-bi<sub>4</sub>-lam*, "Moreover, you are holding 1 shekel of silver of the servant girl. Send me 5 minas of wool for her clothing". In the latter example it seems clear that the servant girl had to make the textile for

— often around 5 minas and clearly meant for one textile — and almost always less than a talent.<sup>40</sup>

A woman with the Assyrian name Lamassutum seems to have been particularly active in Anatolia in the wool and textile business.<sup>41</sup> She appears as the creditor of a loan of 30 minas of soft wool for the weft (or warp) in Kaneš in Kt 91/k 388.<sup>42</sup> The text clearly indicates that she possessed wool intended for weaving, which presumably means that textiles were produced in her household. In Kt 87/k 118 she, together with Hapilu, buys up wool for 19 shekels of silver, which is enough for her to produce at least a dozen textiles,<sup>43</sup> and in Kt n/k 1185 Lamassutum, together with Kuwari, sells 6 *pirikannus* for silver to the anonymous author of the text. It is likely that these Anatolian-type textiles were produced by Lamassutum and, as the text states, later also sold by her. Thus, we here have an example of an Assyrian woman making an Anatolian type of textile, albeit in collaboration with an Anatolian woman,<sup>44</sup> and of textile production by an Assyrian woman in Anatolia with the intention of sale, running parallel to the well-documented production in Assur.<sup>45</sup> Another possible case is attested in Kt n/k 1385, where Imdī-ilum asks an anonymous person to give the proceeds of the sale of 10 soft *pirikannus* belonging to/from his daughter, Ištar-bāštī, to Uzua.<sup>46</sup> Ištar-bāštī lived in Anatolia, and after the death of her first husband, Al-ṭāb, she married an Anatolian.<sup>47</sup> It is also possible that Ištar-lamassī, presumably the daughter-in-law of Šalim-Aššur, produced *pirikannus* for sale; Kt 94/k 989, which first lists half a dozen *pirikannus*, reads: “All of these *pirikannus* Ištar-lamassī gave as goods to be sold.”<sup>48</sup>

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herself. Note also Kt 92/k 237 and CCT 6, 4c, in which smaller amounts of wool were left to the maid, presumably for the household production, and finally, Kay 1833: 7-9 which reads: 20 *ma-na* SÍG.HI.A SIG<sub>5</sub> ú SÍG.HI.A SIG<sub>5</sub> DIRI *a-na ší-it-ri*, “20 minas of good or extra good wool for veils”. Note also TC 3, 65, where the Assyrians buy soft, long and very fine wool from Mamma for 2 shekels of silver. With the prices attested for soft wool elsewhere in the Old Assyrian text corpus (see below), this corresponds to only slightly more than 4 minas of wool, i.e. material for one textile.

<sup>40</sup> For the weight of textiles, see Veenhof 1972, 90-91, and Michel and Veenhof *forthcoming*. Note e.g. BIN 4, 9: 3-8, in which Lamassī did not receive 5 minas of wool as promised, and so Ea-šar would make one textile himself. Here the 5 minas of wool were clearly intended for the production of a single textile.

<sup>41</sup> If the texts are indeed dealing with the same Lamassutum, she appears together with wool in CCT 6, 4c; Kt n/k 860, Kt n/k 1185; Kt 87/k 118 and Kt 91/k 388.

<sup>42</sup> Kt 91/k 388, 5-9: 30 <*ma-na*> SÍG.HI.A *na-ar-ba-tim ša-kà-ki-iš i-šé-er A-šur-ták-lá-ku* DUMU *Hu-li-a* [L]á-*ma-sà-tum tí-šu*. For an analysis of *ša-kà-ki-iš*, see Michel and Veenhof *forthcoming*. Lamassutum also appears as a co-debtor in Kt n/k 860 for 1/3 mina and 5 1/2 shekels of silver. If she and her co-debtors are unable to repay within the set time they are to pay interest in the form of soft wool.

<sup>43</sup> Kt 87/k 118: 19 GÍN KÙ.BABBAR *i-na Hu-ra-ma<sup>1</sup> a-na Lá-ma-sí-tim ú Ha-pí-lá<sup>1</sup> a-na ša-áp-tim ša-a-mì-im e-zi-ib* (courtesy K. Hecker) 19 shekels of silver is enough for 1 to 1 1/2 talents of wool (30-45 kg), and at an average weight of 2 1/2 kg for a textile this would result in 12-18 textiles.

<sup>44</sup> Hapilu is an Anatolian (Luwian or Hittite) name (Laroche 1966, 59).

<sup>45</sup> Note also CCT 6, 4c where a talent of wool is given to a servant girl, which may also be taken as an indication for the existence of a small household production in Anatolia, perhaps intended for sale. For textile production in Assur, see above, note 38.

<sup>46</sup> Kt n/k 1385, 15-19: 10 *pì-ri-kà-nim na-ar-bu-tim ša Ištar-ba-áš-ti šit-im-šu-nu* URUDU SIG<sub>5</sub> *ta-ri-ta-ra-i-am a-na Ú-zu-a dí-in-ma*, “Give the proceeds of 10 soft *pirikannus* belonging to Ištar-bāštī in fine Taritar copper to Uzua”.

<sup>47</sup> Ichisar 1981, 11ff. If it is indeed the same woman, she is also involved in a case where she has problems retrieving the payment for her homespun textiles (Veenhof 1972, 111).

<sup>48</sup> Kt 94/k 989, 14-19: *mì-ma pí-ri-kà-ni-e a-ni-ú-tim a-na ta-ad-mì-iq-tim Ištar-lá-ma-sí ta-ta-dí-in*. For another possible example from the Kt 94/k-archive, see Kt 94/k 1294, 8-10: *a-na I-iš-ta-ku-ša-ar qí-bi-ma 5 pí-ri-kà-ni ša a-ta-ad-mì-iq-tim ta-dí-ni-šu-ni* (courtesy M.T. Larsen).

In one of the archives from Alişar (d 2200+d 2500), Nabi-Enlil seems to have been involved in the production of textiles.<sup>49</sup> The texts make it clear that he was in charge of a fuller named Inar, whom he sent to one of his contacts according to one letter, and in another letter, asked to have him returned. The personal memorandum *OIP* 27, 7, also from Nabi-Enlil's archive, records small consignments of different qualities of wool: in three instances we hear of 3 minas of wool from Hahhum, along with 10 minas, 15 minas, and 20 minas of 'red wool' brought by Adad-nāšir, presumably to Nabi-Enlil. Finally, in a number of texts Nabi-Enlil received silver in exchange for different types of textiles, which combined with the evidence above might suggest that he was active in producing his own textiles in addition to his involvement in the more conventional trade.<sup>50</sup>

To conclude, a part of the wool obtained in Anatolia by the Assyrian traders was not sold on, but used for the household production of clothing in Anatolia and especially for the production of *pirikannus*. Some of the textiles produced in this way were intended for sale rather than use. Finally, there is a clear tendency that when the quality of the wool is specified in the texts, that particular wool is intended for private consumption rather than sale.

#### *Logistics of distribution*

Large-scale movement of goods had already developed into an organised system in the Early Bronze Age, when raw materials such as metals were distributed around Anatolia in a two-tier system,<sup>51</sup> and objects were imported into central Anatolia from Mesopotamia and Syria. It is interesting to note that more Mesopotamian and Syrian objects are found in the Anatolian archaeological assemblages of the Early Bronze Age than the Middle Bronze Age.<sup>52</sup> Considering the overwhelming written evidence for trade in the Middle Bronze Age this is a very curious coincidence. One possible explanation for this seeming discrepancy is the nature of the goods traded by the Assyrian merchants: only under certain conditions and excavated very carefully do textiles leave traces in the archaeological record; and tin and copper (and wool) are all raw materials that are worked into products that are not detectable as having a foreign origin, and in any case, it seems that a large proportion of these metal objects were melted down and reused many times over the centuries. Thus, the Assyrians' primary trade goods are invisible archaeologically, and the fact that an international trade of great magnitude even existed can be deduced only on the basis of the technological devices — cuneiform writing and cylinder seals — that the Assyrians also brought with them. This does not necessarily imply a more substantial trade in the Early Bronze Age, but it does not, at least, suggest that trade in this period was significantly smaller. This would indicate that an infrastructure of some sort was in place already when the Assyrian traders entered Anatolia, including a road system, inns, guard stations and bridges controlled and maintained by the local city rulers.<sup>53</sup>

<sup>49</sup> These two 'hoards' of tablets were found relatively closely together, and two of the fragments from one group join two fragments in the other group. Furthermore, the texts from both groups seem to belong to Nabi-Enlil. This makes it likely that the two 'hoards' in fact make up one single archive (see Dercksen 2001, 46).

<sup>50</sup> Perhaps his production also included skins, as he, for an unknown reason, paid an amount of silver to Inar the leather worker. The payment could have been for Inar's services as a craftsman.

<sup>51</sup> See Yener 2000.

<sup>52</sup> For the Early Bronze Age material, see e.g. Şahoğlu 2004, 2005. For the Middle Bronze Age, see e.g. Özgüç 2003 with further references. For a discussion see Lassen 2008.

<sup>53</sup> For an investigation of the infrastructure of Anatolia in the Old Assyrian period, see Barjamovic 2005 and forthcoming.



Wagons were commonly used to transport bulky goods, such as copper and wood,<sup>54</sup> but contrary to what might be expected, there is not a single attestation of wool being carried by wagon. Although this is striking, it is probably coincidental, and a result of the type of information that was being taken for granted in the texts.<sup>55</sup> We do, however, have a number of attestations of wool being loaded onto donkeys.<sup>56</sup> There is also an instance of wool packed in a ‘tent’ or ‘large piece of cloth’ (*maškunum*).<sup>57</sup> In the text, 21 talents and 45 minas of wool was divided in between 14 pieces of cloth, which means that each could hold a little over 45 kg. Furthermore, a number of different types of bags for transportation are attested in the texts,<sup>58</sup> but it is difficult to reach any clear understanding of specific differences between these types.

### *The geography of the wool trade*

It is often stated that the area southeast of Kaneš was the major wool-producing region in Anatolia,<sup>59</sup> and that places like Luhuzaddiya, Mamma and Hahhum were central to the trade in wool.<sup>60</sup> In the approximately 10,000 texts I have had access to, Luhuzaddiya is mentioned ten times in connection with wool transactions, and is thus the most frequent provider of wool for the Assyrian merchants.<sup>61</sup> Except for Purušhaddum, Luhuzaddiya was also the provider of the highest quantity of wool. Furthermore, it is worth noting that the Assyrians also sold wool there: *BIN* 4, 6 states: “Write them to sell the wool in Luhuzaddiya”,<sup>62</sup> suggesting that a central wool market was located in the city.

The town of Mamma, on the other hand, in spite of regularly being emphasised for its importance in the wool trade in the literature,<sup>63</sup> only appears in a single text (*TC* 3, 65) in relation to wool, and only for an amount valued at 2 shekels of silver. The exceptional quality of the wool mentioned in that text (extra fine soft and long wool) suggests a high price, presumably around 30 shekels of silver per talent of wool, which would correspond to about 4 minas of wool — enough to make only a single piece of textile.<sup>64</sup> The wool was bought by Assyrians and the small quantity suggests private consumption. In addition to this reference, a number of textiles are designated as being ‘from Mamma’, perhaps indicating that they were originally produced there. It could, however, also signify a special type of textile and not the geographic origin. Suffice it to say that there is no evidence that Assyrians ever bought wool in Mamma with the intention of selling it.

<sup>54</sup> See Gökçek 2005, Barjamovic 2005, appendix 1.3, and Dercksen 1996, 64ff.

<sup>55</sup> Note that there is no mention of porters (*ša bilātim*) in connection with wool either.

<sup>56</sup> E.g. Kt 94/k 340 cited below, note 75.

<sup>57</sup> See Dercksen 1996, 145.

<sup>58</sup> See Dercksen 2004a, appendix three, section 4, and Gökçek 2005.

<sup>59</sup> E.g. Veenhof and Eidem 2008, 148, and Dercksen 2004a, 183.

<sup>60</sup> Dercksen also suggests that the communal trade obtained wool in Mamma, Luhuzaddiya, and Timelkiya, all southeast of Kaneš. Neither Mamma nor Timelkiya, however, are mentioned in connection with communal trading. In fact, the only places mentioned in connection with the communal trade are Luhuzaddiya (*BIN* 6, 176), Balihum (*BIN* 6, 176, Kt c/k 922, Kt c/k 944) and Karpatta (*CCT* 1, 35).

<sup>61</sup> *BIN* 4, 6; *BIN* 4, 162 (uncertain); *BIN* 4 181; *BIN* 4, 176; *CCT* 4, 6c; Kt 87/k 464; Kt 93/k 84; Kt n/k 1475; *OIP* 27, 55 (uncertain, is a duplicate of *BIN* 4, 162) and *TC* 3, 51.

<sup>62</sup> *BIN* 4, 6, 23-25: *šu-pur-ma ša-pá-tim i-na Lu-hu-za-dí-a li-dí-nu-ma*.

<sup>63</sup> Cf. Veenhof 1972, Veenhof and Eidem 2008, Dercksen 2004a, and Michel 2006.

<sup>64</sup> For the weight of textiles, see Veenhof 1972, 90-91, and Michel and Veenhof *forthcoming*.

Hahhum, located southeast of Kaneš, is mentioned twice as a provider of wool, in *OIP* 27, 7 and Kt b/k 27. Remarkably, both texts date to the Level Ib period. Kt b/k 27, which remains unpublished, was briefly quoted by K. Balkan in 1955, but he does not specify how much wool is mentioned in the text.<sup>65</sup> In *OIP* 27, 7 the wool was intended for the Assyrian textile production (see above) and not for sale.<sup>66</sup>

Kaneš is mentioned six times in connection with wool, but it is difficult to ascertain how often the wool was actually from the area or simply stored there.<sup>67</sup> Tišmurna, located in the Çorum area, was a regular provider of wool, and it seems that it specialised in red wool.<sup>68</sup> Furthermore, very large quantities of wool derived from there. Durhumit, not far from Tišmurna, also supplied wool,<sup>69</sup> as did neighbouring Šinahuttum<sup>70</sup> and Šamuha near Sivas.<sup>71</sup> All of these areas are located north or northeast of Kaneš rather than southeast.<sup>72</sup> Finally, the palace in Purušhaddum far to the west of Kaneš sold 15 tons of wool to an Assyrian consortium of traders in a single transaction in the so-called Ušinalam affair (see below).

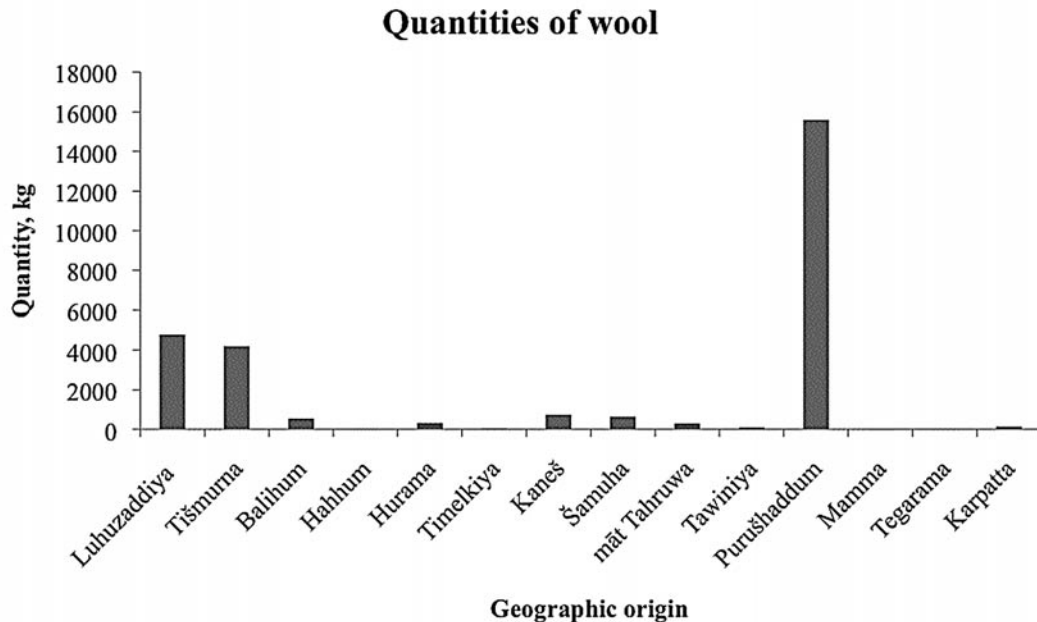


Fig. 1. The quantities of wool combined with their geographic origin.

<sup>65</sup> Balkan 1955, 65.

<sup>66</sup> Note that Veenhof also mentions *BIN* 6, 136 as an attestation of wool from Hahhum (Veenhof 1972, 129). The tablet, however, reads: *ha-hi-a-tim* ⅔ GÍN KÛ.BABBAR *i-na li-bi<sub>4</sub> Ha-hi-im-ma áš-qúl*, and so there is no indication that *hahhiātum* refers to wool. Veenhof subsequently refers to the text *RA* 58, 60, l. 5, which reads: 2' *ha-hi-ta-an* in a list of various commodities. This reference, however, suggests that *hahhiātum* is countable, excluding rather than indicating the meaning 'wool'. Dercksen suggests that *ša Hahhim* denotes a special quality rather than origin (Dercksen 2004a, 183-4).

<sup>67</sup> *ICK* 1, 37b; *JCS* 14, 2; Kt 94/k 1024; Kt a/k 627; *RA* 59, 36; and *TC* 3, 51.

<sup>68</sup> *BIN* 4, 58; *BIN* 6, 76; *CCT* 4, 27a; and *CCT* 4, 47a.

<sup>69</sup> *CCT* 4, 27a. Wool is transported from Šinahuttum to Durhumit according to Kt 94/k 340.

<sup>70</sup> Kt 94/k 340. Wool from Šamuha is sold on the market in Šinahuttum according to Kt 93/k 239.

<sup>71</sup> Kt 93/k 84; Kt 93/k 239; *VŠ* 26, 195.

<sup>72</sup> For a general analysis of the Anatolian historical geography, see Barjamovic 2005.

<sup>73</sup> Information gathered from *Tarimsal yapı ve üretim. Agricultural Structure and Production*, Republic of Turkey Prime Ministry State Institute of Statistics, Ankara 1968.

In a number of texts both the geographical origin and the quantity of the wool are stated (see Figure 1).<sup>74</sup> A graph produced on the basis of this evidence clearly shows that most of the attestations only record smaller quantities of wool, but that three toponyms, Luhuzaddiya, Tišmurna, and Purušhaddum, stand out as ‘major’ producers.

This information can be transferred onto a map (see Figure 2). Although there is a high degree of uncertainty due to the inconsistent nature of the source material, the figures suggest that three regions of central Anatolia can be regarded as the main providers of wool: the east, the north and the west. The wool trade in the eastern and northern regions is much better represented in the textual evidence with over 20 attestations, whereas Purušhaddum is represented by only two attestations. This emphasises the biased nature of the texts, but it also suggests that Purušhaddum was by far the largest producer of wool in Anatolia.

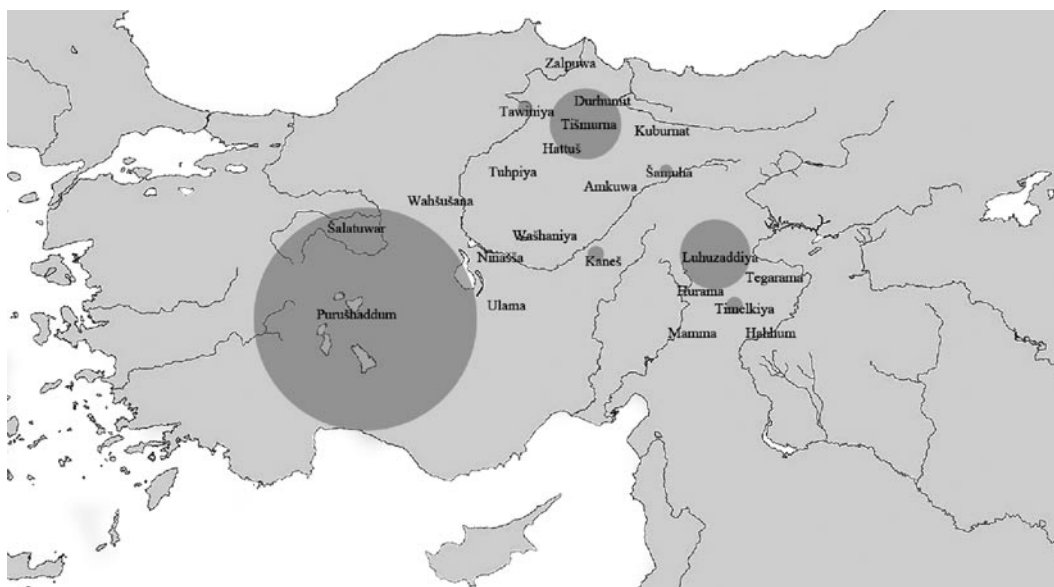


Fig. 2. The size of the wool production in different areas of Anatolia. The size of the rings reflects greater quantities.

Production of wool seems always to have been widespread in Anatolia. Indeed, a look at Turkey in the mid-1960s AD, before the widespread mechanisation of agriculture, shows that wool was produced in most areas, though especially concentrated in the western part of central Anatolia and south-eastern Turkey (see Figure 3), and is thus consistent with the pattern revealed by the ancient sources.

<sup>74</sup> Luhuzaddiya: *BIN* 4, 6: wool is sold; *BIN* 4, 181: 24 t 20 m; *BIN* 4, 176: 10 t 15 x 5 shares plus 3 t 55 m x 5 shares; *Kt* 87/k 464: 57 t; *Kt* 93/k 84: 7 t 20 m of *lahhu* wool = in all 159½ talents (4785 kg). Tišmurna: *BIN* 6, 76: 60 t; *CCT* 4, 47a: 80 t; = in all 140 talents (4200 kg). Balihum: 3 t 40 m x 5 shares = in all 18½ talents (550 kg). Hahhum: *OIP* 27, 7: 9 m = in all 9 minas (4½ kg). Hurama: *Kt* 87/k 118: 19 shekels of silver equalling 1-1½ talents of wool; *VS* 26, 110b: 10 t = in all 11-11½ talents (330-345 kg). Timelkiya: *Kt* m/k 114: 50 m; *TC* 3, 98: 15 m; *TC* 1, 81: 30 m = in all 1 t 35 m (47½ kg). Kaneš: *ICK* 1, 37b: 10 m, *Kt* 94/k 1024: 21 t; 3 t 50 m = in all 25 t (750 kg). Šamuha: *Kt* 93/k 84: 4 t + [x+]1; *VS* 26, 195: 16 t 30 m = in all 21½ t (645 kg). The country of Tahuruwa: *Kt* 93/k 236: 10 t (300 kg). Tawiniya: *Kt* 93/k 239: 3 t (90 kg). Purušhaddum: *Kt* 94/k 842: 20 t; *Kt* 94/k 917 approx. 500 t = in all 520 t (15,600 kg). Mamma: *TC* 3, 65: approx. 4 m (2 kg). Tegarama: *Kt* 92/k 237: 5 m (2½ kg). Karpatta: *TC* 3, 180: 4 t 50 m (145 kg).



Fig. 3. The production of wool in Turkey in 1965-67. Darker colour marks higher production.<sup>73</sup>

### Wool and copper

Wool often appears in transactions with copper. Sometimes wool is exchanged for copper, but the opposite is also the case. The former is e.g. attested in Kt 94/k 340.<sup>75</sup> Here wool was bought in Šinahuttum,<sup>76</sup> which was located in the relative proximity of Durhumit, and sold in Durhumit for copper, which was in turn transferred to Purušhaddum. The wool was thus used in the chain of exchanges that increased the profit in silver for the merchants.

A similar case of wool being exchanged for copper in the Durhumit area is attested in a group of texts concerning the Assyrian trader Imdī-illum. Dercksen, who has studied these texts, concludes: "In and around Durhumit and Tišmurna, Amur-Ištar and Uzua sold wool for Imdīlum. This was almost exclusively done in exchange for copper. Both Amur-Ištar and Uzua contracted retailers (*pāšīrum*), who paid in copper. They also employed people engaged more often by the firm ... KTS 18 contains the single reference of a sale to a palace ... Apparently the palace in Turhumit is meant in KTS 18."<sup>77</sup>

The Ušinalam affair examined below is an example of copper being exchanged for wool, i.e. the opposite of the system encountered in the Durhumit area. In this case, copper is transported to Purušhaddum and exchanged for wool, which is supplied by the palace there.

<sup>75</sup> Kt 94/k 340, 2-11: *i-nu-mi ŠÍG-tám iš-tù Ší-na-hu-tim a-na Dur<sub>4</sub>-hu-mi-it ni-še<sup>2</sup>-bi-lu-ni ANŠE ša En-nam-We-er a-ší-ni-šu ŠÍG-tám a-[na] Dur<sub>4</sub>-hu-mi-it En-nam-We-er is-ri-sú iš-tù Dur<sub>4</sub>-hu-mi-it URUDU a-na Pu-ru-uš-ha-tim is-ri-id-ma*, "When we carried the wool from Šinahuttum to Durhumit Ennam-Wer twice packed his donkey with wool to Durhumit. He packed (the donkey) with copper from Durhumit to Purušhaddum."

<sup>76</sup> See Miller 2009.

<sup>77</sup> Dercksen 1996, 125-7.

I would suggest that these two systems should be explained in terms of the geo-economic conditions of central Anatolia at the time. Dercksen has shown that the trade in copper formed part of an intricate system of exchange intended to increase the profit of the Assyrian merchants.<sup>78</sup> With the change of geographical perspective argued in Barjamovic 2005 and *forthcoming*, this pattern of exchange was understood to have been a ‘triangle trade’, in which copper was moved from areas with a supply of copper to markets with a demand for copper and a supply of silver (see Figure 4).

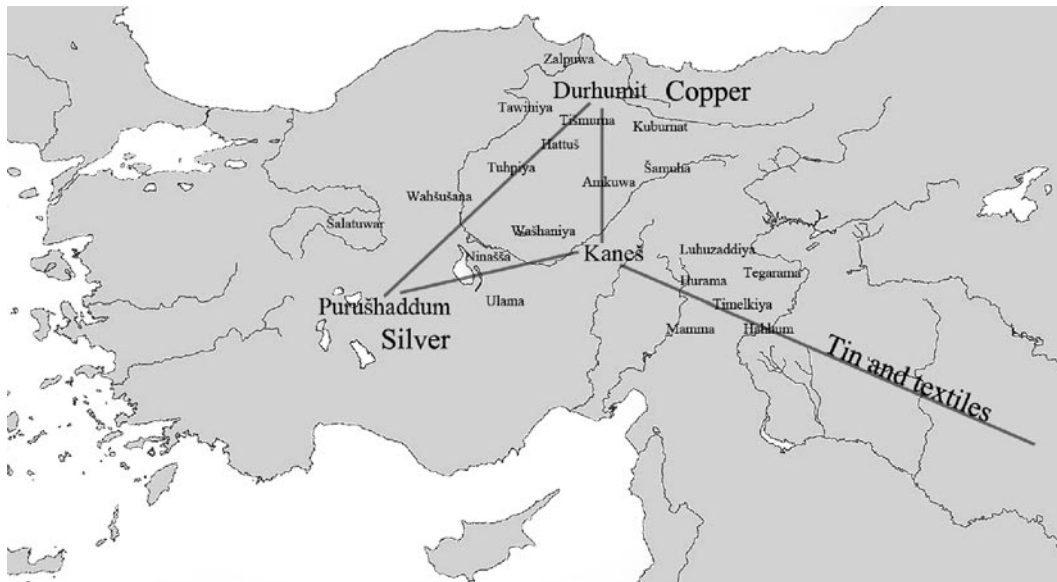


Fig. 4. Map of the triangle trade.

I would argue that wool could function in this system as another step in the chain of increasing the profit, depending on the supply situation. Wool could be obtained in the east or around Durhumit and be exchanged for copper that was transported to Puruṣhaddum. In Puruṣhaddum, the copper could be sold for wool, which could in turn be converted into silver. Depending on one’s location it was thus possible to insert wool into the triangle trade as ‘copper → silver’ with the result: ‘wool → copper → silver’ or ‘copper → wool → silver’.

#### *Wool prices*

We have a number of wool prices in the Old Assyrian text corpus. Wool is sold for copper at a price of 2 talents of wool for 1 talent of copper in Kt n/k 463. Usually, however, the prices appear in silver:

<sup>78</sup> *Ibid.*

Table 1. Prices of wool in Anatolia in the Old Assyrian period.

Price for 1 talent of wool in shekels of silver	Location	Quantity	Sale/purchase	Reference
6	Kaneš	10 minas	loan	<i>ICK</i> 1, 37b <sup>80</sup>
9½	Luhuzaddiya	57 talents	purchase	Kt 87/k 464
10 (soft wool)	Perhaps Kaneš		loan	Kt n/k 860
10	Hurama	10 talents		<i>VS</i> 26, 110
10 (soft, good wool)		10 minas	purchase	<i>AKT</i> 4, 52 and 53
12		2 talents	sale	<i>TPAK</i> 1, 36
12		10 talents	sale	Kt 93/k 236
12		20 minas	sale	Kt 94/k 1361
16		1 talent	sale	<i>TPAK</i> 1, 35
17.14	Kaneš	21 talents	loan	Kt 94/k 1349
19	Kaneš	21 talents	loan	Kt 94/k 1024
20	Timelkiya	30 minas	sale	<i>TC</i> 1, 81
28½ (soft wool)		6½ minas	sale	I 429
28½ (soft wool) <sup>79</sup>		6½ minas	sale	<i>BIN</i> 4, 162 <sup>81</sup>
36.7 (soft, tangled?)		49 minas	sale	Kt 87/k 545 <sup>82</sup>

The price of a talent of wool ranges from 6 to 36.7 shekels of silver. However, the prices fall in three clusters: around 10, from 16 to 20 and around 30. The average price is 16½, but it seems that 12 shekels of silver, and perhaps 10, were somehow standard prices for a talent of wool. Not many purchase prices are attested, but there is a clear tendency that the sale prices are higher than the purchase prices. The most expensive wool was soft wool. Offered for sale it fetched around 30 shekel of silver per ton of wool, whereas it cost about a third when purchased.

The table also includes loans in wool. Kt n/k 860 is a loan in silver to Abaya, Lamassutum, and Kuzia in which the interest is to be paid in soft wool according to a stipulated rate of silver to wool. In Kt 94/k 1349 and 1024 Ili-dān borrows 21 talents of wool, a loan that is to be repaid in silver. In Kt n/k 860 the wool is set at a low rate of wool for silver (10 š/t<sup>83</sup>), whereas the opposite is the case for Kt 94/k 1349 and 1024 (17.14/19 š/t). In both cases the advantage of the exchange thus lies with the creditor.<sup>84</sup>

<sup>79</sup> Since *BIN* 4, 162 lists the same objects as its duplicate I 429, we must also here be dealing with soft wool, although *BIN* 4, 162 does not specify this.

<sup>80</sup> In the text 10 minas of wool are kept as security for a debt of 1 shekel of silver.

<sup>81</sup> Only 6½ minas of wool were purchased, and it was most likely intended for the making of a piece of clothing.

<sup>82</sup> Kt 87/k 545, 13-16: 50 LÁ 1 *ma-na ša-áp-tum mi-iš-lúm na-ri-ib-tum mi-iš-lúm ú-šit-tum* 15 GÍN.TA KÙ.BABBAR-*áp-šu*, "49 minas of wool, half of it soft, half of it *tangled*. Its price is 15 shekels each (talent)." By courtesy of K. Hecker.

<sup>83</sup> Shekels of silver per talent of wool.

<sup>84</sup> The same phenomenon can also be observed in Old Babylonian loan contracts (Farber 1987, 25).

It is clear that prices in general in the Old Assyrian period fluctuated on the basis of supply and demand, and that the price of wool was no exception to this. In I 768 Puzur-Adad writes to Imdī-ilum: “I hear that a lot of wool has entered Wahšušana. When I arrive I will sell the wool for the price I can get (lit. for high or low price), and send the silver to you.”<sup>85</sup> The expression to sell the wool ‘for high or low price’ obviously meant that there was not a price fixed by the palace, and that the prices could fluctuate enough for the deal to end either with a profitable outcome or with a loss. *AKT* 4, 53 states that “at that time the price stood in 6 minas per (shekel of silver)” and accordingly the author of the letter had not collected all that was owed to him by receiving only 10 minas of wool for 4½ shekels of silver.<sup>86</sup>

Veenhof explains the trade in wool as the result of the varying supply of silver in different areas of Anatolia: “Assyrian trade in wool and copper may in part have been due to the fact that in other areas [than the south and south-west, esp. Purušhaddum] of Anatolia less (cheap) silver was available, so that indirect exchange of the goods imported became a way of ultimately acquiring silver and gold elsewhere”.<sup>87</sup> Yet, a comparison between prices of wool in different areas does not reveal any clear pattern, perhaps since the attestations are so few. The two transactions involving the lowest prices (9½ š/t and 10 š/t) are both found in the region east of Kaneš in Luhuzaddiya and Hurama, but another price of 20 š/t is attested in the same area in Timelkiya. Furthermore, as noted above, wool was traded in all areas of Anatolia, including Purušhaddum, and not just outside the mining areas where silver may have been less abundant. The low prices of wool attested in Hurama and Luhuzaddiya may be examples of wool being cheap due to a great supply rather than silver being scarce.

To conclude, it seems that an understanding of the main Anatolian cities represented in the Assyrian network of colonies as *markets* rather than *producers* fits the evidence better in regard to the exchange of wool. Finally, it is also important to note that even though the indirect method of acquiring silver (wool → copper → silver) is attested regularly in the texts, we also have examples of purchases of wool directly for silver.

Most of the prices that are known from Old Babylonian Mesopotamia are ‘ideal’ prices established by the palaces in edicts and laws, found in e.g. the Laws of Ešnunna as 10 shekels of silver per talent of wool.<sup>88</sup> There are only a few known actual ‘market prices’ from the Old Babylonian period. In the loan document *YOS* 12, 23, from the first year of Samsuiluna, the price is given as 12 minas of wool per shekel of silver, equalling 5 š/t of wool. Furthermore, the very high price of 30 š/t of wool is found in *YOS* 13, 340 from the reign of Abi-ešuh.

It is very difficult to compare the prices of wool in Mesopotamia and Anatolia, but if we balance the standard price of 10 š/t for the former with the average of 16½ š/t for the latter, we see that wool in Mesopotamia only cost less than two-thirds of that in Anatolia. Yet, the consumption of wool for textile production was certainly not smaller in Mesopotamia, and the textual sources attest to a very large Mesopotamian wool production. Thus, the lower prices in Mesopotamia were presumably not the result of a greater demand or a lower supply of

<sup>85</sup> I 768, 1-12: [a-n]a Im-dí-lim [qí]-bi<sub>4</sub>-ma um-ma Puzur<sub>4</sub>-<sup>d</sup>IM-ma a-ša-me-ma SÍG.HI.A ma-a-tum a-na Wah-ah-šu-ša-na [e]-ta-ra-ab [i]-na e-ra-bi<sub>4</sub>-a-ma [SÍG.H]I.A ba-tí-iq [ù wa]-tù-ur [a-d]a-ma KÙ.BABBAR [ú]-šé-ba-lá-ku-um.

<sup>86</sup> *AKT* 4, 53, l. 9-13: a-ha-ma 4½ GÍN KÙ.BABBAR tí-ri-e a-dí-na-ku-um ŠÀ.BA 10 ma-na ša-áp-tám ta-dí-nam i-nu-mi-šu 6 ma-na.TA i-zi-iz.

<sup>87</sup> Veenhof and Eidem 2008, 151.

<sup>88</sup> For a discussion of wool prices, see Farber 1978, and Stol 2004.

wool. Rather, they seem to be a symptom of the fact that silver was cheaper in Anatolia than in Mesopotamia in general.

Letters sent from Assur sometimes contain complaints that wool was expensive there.<sup>89</sup> Lamassī, who needed wool for her own textile production, even asked for some wool to be sent to her from Anatolia.<sup>90</sup> This suggests that the wool prices in Assur must have been high, since, as we have seen, wool was already much more expensive in Anatolia than in lower Mesopotamia. Unfortunately, we do not have any prices from Assur to support this, but prices there seem in general to have been higher than in Babylonia, presumably as a result of the influx of silver from Anatolia.

In Mari the price of wool was much lower ( $3\frac{1}{2}$  š/t and 4 (of second quality) š/t), perhaps because the city held political control over the Suhû pastoralists who produced the wool. From the Mari text A.2459 (*MARI* 8, 387f. and 377) we learn that Mari attempted to prevent the Suhû from selling their wool in Assur to oppose Ešnunna, which would surely have kept the wool prices in Assur high. There was a significant textile production going on in Mari too,<sup>91</sup> and it does not seem unlikely that there could have been Mari textile merchants interested in keeping down competition. Furthermore, Mari produced some of the same types of textiles we know from Assur, e.g. the relatively expensive *raqqatum*, which cost around 5 shekels in both Mari and Assur, but around 30 shekels in Anatolia. That the textiles were much more expensive in Anatolia also supports the argument that the higher price level in Anatolia was due to a greater supply of silver.

To get an indication of the real or absolute wool price in Anatolia we can compare the relationship between the cost of raw materials and a finished textile in Anatolia and in Assur. A *pirikannum* cost 2-4 shekels of silver per piece in Anatolia, and we can assume that its weight was about 4 minas.<sup>92</sup> If the average price of wool in Anatolia was  $16\frac{1}{2}$  shekels per talent of wool, this equals a price of a little over 1 shekel of silver for 4 minas of wool. Thus, the raw materials needed to produce 1 *pirikannum* cost about 1 shekel of silver. The price ratio between raw materials and the finished textile in Anatolia is thus 2-4: 1. We can compare this relationship to the situation in Assur: a *kutānum* could be bought at a price of 4-5 shekels of silver per piece in Assur, and weighed about 5 minas.<sup>93</sup> If we assume a price of 10 shekels of silver per talent of wool, this means that the 5 minas of wool needed for 1 *kutānum* would cost about  $\frac{5}{6}$  shekel of silver.<sup>94</sup> The relationship between the raw materials and the finished textile in Assur is thus 4-5:  $\frac{5}{6}$ . The price of the raw materials was thus only about 16% of a *kutānum* worth 5 shekels, whereas the wool made up 33% of the purchase price of a *pirikannum* worth 3 shekels. This means that even though prices in general were higher in Anatolia due to the larger supply of silver, wool was actually more expensive there compared to Mesopotamia.

<sup>89</sup> Veenhof and Eidem 2008, 87.

<sup>90</sup> *BIN* 4, 9: 18-20. For a discussion of wool in Assur, see Veenhof 1972 and Dercksen 2004b, 160 ff.

<sup>91</sup> See Durand 2009.

<sup>92</sup> Veenhof 1972, 125.

<sup>93</sup> *Ibid.*, 90.

<sup>94</sup> If we assume a wool price more in line with what is attested for Mari ( $3\frac{1}{2}$  š/t and 4 š/t) we arrive at even lower prices.



*The Ušinalam affair*

The family archive of Šalim-Aššur excavated at Kültepe in 1994 provides a number of highly interesting examples of the trade in wool, which can be analysed on the basis of a number of reconstructed dossiers.<sup>95</sup> The archive reflects the activities of an Assyrian family that owned a house in Kaneš as well as in Durhumit and was headed by the merchant Šalim-Aššur. At some point, Šalim-Aššur was in charge of a very large business transaction involving wool (termed ‘the Ušinalam affair’ in Larsen *forthcoming*), which eventually ended in a court case, leaving a number of documents behind.

The Ušinalam affair revolves around an unusually large commercial enterprise that included trade in both copper and wool. A group of merchants formed a partnership under the direction of Šalim-Aššur.<sup>96</sup> The quantities mentioned in the case amount to a staggering total of nearly 2 talents and 18 minas of silver distributed among fifteen investors. Kt 94/k 1139 mentions an amount of some “5 talents of silver or more”, which might represent the expected final outcome of the deal. This would suggest that the 2 talents and 18 minas of silver was only half of the money involved in the transaction, and that Šalim-Aššur invested the other half himself.

Šalim-Aššur had a contact named Ušinalam in Purušhaddum, who had some unknown relationship to the palace there, perhaps as the crown prince.<sup>97</sup> He played an important role in the affair, presumably as a mediator between Šalim-Aššur and the local palace, which presumably supplied the wool.

The business venture seems to have been quite complex, and it is impossible to understand the details of the case. It is feasible, however, to tentatively reconstruct the general outline as follows: Šalim-Aššur took the initiative for a major undertaking in Anatolian goods. He invested more than 2 talents of silver in the venture himself, and he approached other merchants who together invested an equal amount. Based on our understanding of the Old Assyrian trading system, I would suggest that Šalim-Aššur bought the copper in the region of Durhumit (although this is not stated explicitly anywhere), and that he had it transported down to Purušhaddum, where he sold it for wool to Ušinalam, who acted on behalf of the palace. The wool was then sold, perhaps on retail, for silver, and each of Šalim-Aššur’s investors received their share in the surplus.

Two separate amounts of copper are mentioned in Kt 94/k 842: 16,040 minas of copper that was the price of the wool bought from Ušinalam, and another 30,000 minas of copper, which Šalim-Aššur had perhaps promised to the palace on another occasion, but which he had failed to deliver. The lines referring to the amounts of copper are difficult to understand. Apparently Šalim-Aššur paid 15,000 minas of copper to Ušinalam for the wool and considered his debt resolved. There is no mention of the 30,000 minas of copper again, and it does not seem that Ušinalam ever claimed them.

The quantities of copper and wool that are mentioned in the texts render it possible to offer a tentative suggestion as to the financial reasoning behind the affair. If we assume that the standard ratio between copper and wool was 2:1,<sup>98</sup> this would mean that the palace was offer-

<sup>95</sup> Larsen *forthcoming*.

<sup>96</sup> For a reconstruction of the dossier and a thorough discussion of the events, see Larsen *forthcoming*, 17-23.

<sup>97</sup> *Idem*, 19-20.

<sup>98</sup> Dercksen 1996, 127.

ing 30,000 minas of wool = 500 talents (15 tons) to Šalim-Aššur. If all of this wool had been produced in a single year, the amount would correspond to the wool of 15,000 – 20,000 sheep.<sup>99</sup> This large quantity makes it likely that the palace supplied the wool, and thus that Ušinalam worked on behalf of the palace.<sup>100</sup> It seems improbable that private wool producers would own sheep in such number, and there are several examples of palaces in city-state systems that owned very large herds. In addition, the fact that an official under the king of Purušhaddum held the title of 'the king's fuller' also suggests that the palace was involved in the textile industry.<sup>101</sup>

The wool was sold for silver, perhaps by retailers, and the proceeds were subsequently distributed among the investors. As already stated, it is unknown exactly how much silver had been invested originally, and it is thus impossible to ascertain the profit rate. One might speculate, however, that if Šalim-Aššur sold the 500 talents of wool at the average rate for wool (see above) of 16½ š/t the expected outcome would have been 2.29 talents of silver. If the actual outcome of the transaction was around 5 talents of silver as stated in Kt 94/k 1139, this gives a rate of 36 shekels of silver per talent of wool, a price that is very high, but not unattested (see Table 1). Yet, compared to the 100% profit on copper shown by Dercksen the price does not seem unreasonable.<sup>102</sup>

Even though the volume of wool in the Ušinalam affair is unusually large, the highest directly attested quantity mentioned in the Kt 94/k archive is to be found in the personal memorandum Kt 94/k 1482. Itūr-ilī and Ennānum, who are mentioned as shareholders in the document, occur elsewhere in the archive where they act as the agents (*šazzuztum*) of Šalim-Aššur, and thus it is possible that the memorandum belongs to him. The first lines of the text read: "Of the five shares belonging to Itūr-ilī and Ennānum at 13 talents of wool each (share), 65 talents of wool; and 56 fleeces each (share), in all 280 fleeces. I received all of this."<sup>103</sup> The great quantity of wool makes it possible to suggest that the text is related to the Ušinalam affair. The people involved, Itūr-ilī and Ennānum, however, are not mentioned among the shareholders in that affair, and it seems that Šalim-Aššur at one point formed *another* partnership, which purchased Anatolian goods (copper, wool, and fleeces), perhaps an *ellutum*, and that Kt 94/k 1482 shows the outcome of that venture, similar to *BIN* 6, 176.<sup>104</sup>

To sum up, the Ušinalam affair was a major wool-trading venture headed by Šalim-Aššur, and funded by 15 shareholders in addition to Šalim-Aššur himself. Initially, a large quantity of copper was purchased, probably in Durhumit, and later sold for wool to the palace in Purušhaddum. The expected profit amounted to around 5 talents (150 kg) of silver. The staggering amounts mentioned make this case quite extraordinary. The text Kt 94/k 1482, however, suggests that Šalim-Aššur undertook yet another of these very large wool transactions.

<sup>99</sup> On average a sheep in the ancient world would yield  $\frac{3}{4}$  -1 kg of wool (Waetzoldt 1972, 17-23).

<sup>100</sup> For institutional herds in Kaneš, cf. the title 'Shepherd of the queen' (*ICK* 1, 13) (Dercksen 2008, 154).

<sup>101</sup> Kt 94/k 833: 32.

<sup>102</sup> Dercksen 1996, 159.

<sup>103</sup> Kt 94/k 1482: *ša 5 ha-me-eš! qá-ta-tim ša I-tur<sub>4</sub>-DINGIR ù En-na-nim 13 GÚ.TA SÍG 65 GÚ SÍG.HI.A ù 56 maš-ku.TA ŠUNIGIN 2 me-at 80 maš-ku mi-ma a-nim am-hu-ur.*

<sup>104</sup> For a discussion of *BIN* 6, 176, see Dercksen 2004a, 187-188.

### Conclusion

The wool trade in Anatolia in the Old Assyrian period took place on three levels. Very large quantities of wool were bought and sold by communal trading ventures headed by a single individual in a system of palaces and central markets located across central Anatolia. The minor details of these ventures are unclear as most of our documentation does not deal with these major undertakings, but rather cover relatively small transactions in wool, reflecting the day-to-day dealings of the merchants. This trade seems to have been mainly of an *ad hoc* nature. Furthermore, the merchant community in Anatolia used a smaller amount of the wool for their own textile production — for personal consumption and for sale. Assyrian women living in Anatolia were producing both Assyrian and Anatolian types of textiles with the intention of sale, parallel to the well-documented household production in Assur.

Wool was available more or less universally in Anatolia and it seems that it could be integrated into the copper trade after a scheme depending on the geographical location. Thus, e.g. wool was purchased in the Durhumit area and then exchanged for copper, which was sold for silver (wool → copper → silver). Similarly, copper could be exchanged for wool in the Purushaddum area, which was then sold for silver (copper → wool → silver). It thus seems that an understanding of the main Anatolian cities represented in the Assyrian network of colonies as *markets* rather than *producers* fits the evidence better in regard to the exchange of wool.

The textual material is rather uninformative about the wool consumers and the nature of wool consumption. There is one reference to wool sold in the ‘towns’ (*ālānu*),<sup>105</sup> and a few mentions of sale to palaces.<sup>106</sup> Dercksen has suggested that the logic behind the communal wool trade rested on “a constant demand for wool by the households”.<sup>107</sup> It is difficult to specify such a demand, but it seems unlikely that regular ‘private’ Anatolian households alone could be able to consume the very large amounts of wool traded by the Assyrian merchants. It is also doubtful that small-scale producers should choose to buy from the Assyrians who had to make a profit instead of relying on a local supply directly from the wool producers. There could, naturally, have been a demand for special wool qualities not locally available, such as the ‘long soft wool of extra good quality’, but in our source material most of these special types of wool were destined for private Assyrian consumption and not for sale. It is reasonable to assume that retailers sold some of the wool transported through the Anatolian countryside to private households, but the sheer magnitude of the attested trade suggests that most of the wool ended up in the Anatolian palaces or other major households, where it was used for textile production.

This contention is to some extent supported by some official titles, which indicate the presence of a centrally organised textile production, such as the ‘king’s fuller’ in Puruṣhaddum, mentioned above,<sup>108</sup> the ‘chief of linen’,<sup>109</sup> and the ‘chief of the fullers’.<sup>110</sup> The archaeological material from the period also corroborates this view. It is symptomatic of the Anatolian

<sup>105</sup> Kt 94/k 1313: 4.

<sup>106</sup> E.g. KTS 18.

<sup>107</sup> Dercksen 2004a, 190.

<sup>108</sup> Kt 94/k 833, l. 32.

<sup>109</sup> BIN 4, 160, l. 8.

<sup>110</sup> Kt 93/k 501, l. 2ff.

weaving tools from the Middle Bronze Age layers that they were impressed with stamp seals, but also cylinder seals, pins and fingernails are attested.<sup>111</sup> The stamp seal technology is usually connected to the Anatolian palaces, and it suggests some form of centrally organised production. The virtual omnipresence of stamped loom weights indicates that their use was adopted by palace administrations in most of the independent Anatolian city-states. Such a palace production would surely have had the capacity to consume the quantities of wool that were circulating within central Anatolia and thereby have created a demand, and thus the foundation for the Assyrian wool trade.

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<sup>111</sup> For a discussion of the Middle Bronze Age Anatolian textile tools, see Lassen 2008. For an analysis of the patterns of seal use on the crescent shaped loom weights from Karahöyük Konya, see Weingarten 1991.

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