OLD ASSYRIAN METAL TRADE, ITS VOLUME AND INTERACTIONS

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Introduction

The information based on written sources about the period roughly 1972-1718 BC, known as the Old Assyrian Colony Period in Anatolian history, comes from more than 23,000 Old Assyrian cuneiform texts most of which belong to the Assyrian traders’ personal archives which were discovered at Kültepe, ancient Kaniş. Many aspects, especially economy and the commerce practices of the Old Assyrian society in Anatolia, can be studied through these texts. Among them, the records offer detailed information about the metals in circulation of the trade. On the subject of Old Assyrian metals, especially on some certain metals, several studies have been produced up to now. However, the total volume of the Old
Assyrian metal trade and accessing regions of metals has not been evaluated since Veenhof in 1972. In this study, I produce a general view especially about the metal trade volume by means of information gathered from the available Kültepe texts.

Let me begin by listing some of the problems one comes across in calculating the commercial volumes of traded metals in the Kültepe texts. Firstly, it is not always possible to determine the definite amount of a given material in a specific context. This is especially due to incompletely known situations and vague concepts used in the records. However, within the available corpus, and by the help of some certain texts in particular, an approximate figure for the amount of a metal traded, especially between Assur and Anatolia, can be offered. Secondly, it needs to be stressed that one specific transaction of metal from Assur to Anatolia or vice versa was sometimes recorded in more than one text (as is the case in the texts EL 108; TC 3, 67; CCT 3, 27a and KTS 38a) and that it is not always possible to identify such situations. In some rare cases, the same transaction may therefore be counted twice in the study.

It also needs to be stressed in advance that although the long distance trading traffic between Assur and Anatolia seems to be continued nearly 250

years according to the chronological data,\(^4\) by far the most intense period of its documentation, nearly 90% of it, in fact, comprises just over 30 years between 1893 and 1863 BC.\(^5\) Therefore, one must keep in mind that the results obtained from the texts scanning do not comprise all 250 years of Colony Period, but compress data on volume into a much denser time-frame.

1. Silver

Because of its intensive use especially as a currency during the Old Assyrian Colony Trade, silver (KÙ.BABBAR; kaspuum) appears in almost half of the Kültepe texts. Due to some of the obstacles related to available texts mentioned above, an accurate amount of silver that transported from Anatolia to Assur cannot be calculated for certain. However, some significant types of texts, such as business reports, which were sent from Assur in particular, and in which the amount of transported silver were recorded (i.e. caravan accounts),\(^6\) some witnessed records that include the amount of the taxes paid silver which are to be entrusted to the transporter(s) (i.e. the transport contracts) and some letters that specify silver transported to Assur (e.g. notifying messages)\(^7\) provide some measure of the volume of silver transported to Assur.

The total amount of silver shipped from Anatolia to Assur according to this study was at most 232 talents, 22 minas (approximately 7 tons).\(^8\) This sum is a result of simply adding up amounts recorded in all texts that refer to the transport of silver and where the direction of movement from Anatolia to Assur is sometimes in doubt. According to 510 texts, the total amount of shipped silver to Assur is at least 174 talents, 30 minas (approximately 5 tons 220 kg). Considering the total number of 23.000 texts excavated at Kaniš, and including those not yet edited, Larsen gave an estimation of about 12.5 tons of silver sent to Assur by the


\(^5\) Barjamovic et all., *Ups and Downs*, p. 55-57.

\(^6\) The terminology of caravan accounts, transport contracts, and notifying messages is adapted from Mogens T. Larsen, *Old Assyrian Caravan Procedures*, PIHANS, 22 (Leiden : Nederlands Instituut voor het Nabije Oosten ), 1967.

\(^7\) Larsen, *ibid*, p. 6.

\(^8\) About 30 talents (900 kg) of silver mentioned in texts (e.g. Dalley 12; I, 742) as a currency – *avātum* or “declared value” – can perhaps be added to this sum. However, one may think that this currency was used for the silver value of other commercial materials that were being brought to Anatolia from Assur and have thus been excluded from the present analysis.
Assyrian traders during the period of 30 years. This amount seems not too far from the results of the calculations presented here.

a. Qualifications of Silver

The Assyrian records use several qualifications about silver and its shapes, varieties, qualities, etc. These are the known qualifications known at the moment, alongside some of their translations into English, when known: SAHAR, BA “in its dust”; tirum; huššā’u “scrap”; šabartum “lump”; sarrupum “purified”; amurrum “checked”; ha’atim “faulty”; massuhum “dirty”; damqum “fine”; and ša ma-a-sū. The meanings of some of these terms are still uncertain or contradictory.

10 Most of these qualifications have recently been discussed in detail in Veenhof, “Silver in Old Assyrian Trade”.
11 SAHAR.BA “in its dust” does not indicate a type or quality of silver, but its shape. It occurs in about a dozen records, most of which are loan contracts. Silver in this shape is further qualified in CTMMA 1, 87a as being sarrupum, i.e. “refined/pure”.
13 The term šabartum, which is attested in numerous loan contracts generally related to the dealings of local Anatolians probably designates a form of silver. It is clear that šabartum-silver had an Anatolian feature (Veenhof, “Silver in Old Assyrian Trade”, p. 396). It is qualified by damqum (SIG) “good” in some texts.
14 The term huššā’um “scrap” occurs only once and is qualified by SIG “good”: CCT 4, 2a: ṣ Š 6 mana KÙ.BABBAR huššā’um SIG “6 minas of fine silver scraps”. Except for this attestation, this term huššā’um is used exclusively about copper in the Kültepe texts.
15 J. G. Dercksen (“metals”, p. 22) interprets the term šabartum attested as ša-ba-ar-tām in ICK 1, 171: 6 and as ša-ab-na-tum in CCT 2, 2: 9 as a “lump”.
16 The most common qualification of silver in Kültepe texts is sarrupum “purified”. It designates the pure silver that had been refined through smelting.
17 The meaning of amurrum as a type of silver was formerly thought to designate a source from Amurrum in Northern Syria, but is now known to be derived from the verb amārum “to check” cf. Th. Sturm, “Kaspum ammurum, ein Begriff der Silbermetallurgie in den Kültepe-Texten”, Ugarit Forschungen 27, (1995).
18 The term ha-at-t-im which occurs only in CCT 1, 104: 7 and was thought to indicate Hattum as a place of origin, cf. Veenhof, “Silver in Old Assyrian Trade”, p. 395, n. 6, can also be associated with the adjective hāṭī “bad, faulty” (CDA, 112-b).
19 The word massuhum that is also attested as a qualification of tin, gold, and copper occurs in about two dozen texts about silver in the meaning “poor quality” or “dirty”.
20 This term occurs only in the unpublished Kt n/k 84: ṣ 6 1/3 mana 3 1/2 GÍN KÙ.BABBAR 6 1/2 GÍN ṣ ša ma-a-sū ṣ ša Aššur-na-da ši-li-IM Û-bi-il, šu-am “Aššur-nādi’s 6 minas 23.5 shekels of silver; 6.5 shekels of it … Shillu-Adad shipped to him under our seal”. The word may represent the adjective múdum “much” and not be a qualification of silver.
b. The Artifacts Made of Silver

Compared to the common attestation of silver in the texts, there are a limited number of silver artifacts recorded. In addition, we are not certain in what shapes the silver was traded inside Anatolia or taken to Assur. The most common artifacts made of silver in the texts are annuqum “ring”; hīdum “bead”; šawirum “bracelet/coil”; supannum “a cup”; tuditum “brooch/pin”; kassum “cup”; ilum “divine figurine” and libbum “heart figurine”.

c. Silver and the Anatolian Cities

One of the main reasons that Assyrian traders established themselves in Anatolia must have been its wealth of silver, the acquisition of which was one of the main goals of the traders. The Taurus Mountains, parts of which were called the “Silver Mountains” in some Mesopotamian records, has been known for its rich silver deposits since ancient times. Consequently, these deposits must have been mined by local Anatolians in the Colony Period and constituted the origin of a large part of the silver in circulation during the period.

The cities from which the Assyrian traders obtained the silver can be determined by reference to the texts. Accordingly, except for Kaniš, Assyrian traders transported and sold their goods for silver mainly in Purušhattum, Wahšušana, Turhumit, Šalatuwar and Hattum. The cities of Purušhattum, Wahšušana and Šalatuwar were located in the western part of Central Anatolia and were probably important market centers for the circulation of the silver, rather than being producers themselves.

Judging from the recorded silver in the commercial texts for which a geographical location is explicitly provided for the acquirement of silver, by far the largest markets appear to have been Purušhattum and Wahšušana (see figure 1). Together they account for 76% of the total attestations among the other cities.

The image provided by the origin of the silver acquired through commercial activities supports the image of a western directionality of the trade flow also obtained in recent studies of the geography and underlines the importance of the western circuit for Assyrian business in Anatolia.  

**Figure 1.** The number of attestations and the percentages of the cities in which the Assyrian traders obtained silver through commercial transactions (except Kaniš)

### 2. Gold

Gold (*hurāṣum*; KÙ.GI/KÙ.KI) is recorded with weight specified in more than 600 Kültepe texts. The occurrences can be classified into three main groups: gold shipped to Assur; gold invested in the *naruqqum*-partnerships, and gold credited in loans. As in the case of silver, it is not easy to calculate the exact amount of gold

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transported from Anatolia to Assur, but the same criteria can be implemented for calculating the approximate volume of metal shipped.

The total amount of gold recorded in the texts comes to about 16 talents 5 minas or approximately 482 kg. Out of this sum, 5 talents 49 minas (approximately 175 kilos) are credits invested in narurqum-partnerships. Those partnerships were one of the main types of commercial venture in Assyrian merchant society. Although the actual investment in narurqum-partnerships was mainly made in silver, these were calculated in gold. Consequently, it needs to be emphasized that the gold recorded in this type of investment must be considered generally as fictive gold equivalencies.

In addition to the narurqum-partnerships, some 2 talents 26 minas of gold (approximately 73 kilos) were credited to others as loans. Also these amounts may to a small or large extent have been expressed as gold currency and do not necessarily relate to a physical volume of metal.

This leaves at least 3 talents 2 minas (approximately 91 kilos) of gold shipped to Assur from Anatolia during the Colony period, corresponding to about 3 kg per year on average during the 30 densely documented years. This total seems very low because it is known from the letter Kt 79/k 101\textsuperscript{26} from the waklum of Assur to kārum-Kaniš that one of the Assyrian policies was to hoard the gold in Assur. Hence, Assyrian authorities must have given special importance to the import of quality gold by the Assyrian traders both in Anatolia and elsewhere. When the Assyrians nevertheless seem reluctant to obtain the gold in order to ship it to their home city,\textsuperscript{27} the reason may have been the high risk of incurring a loss when exchanging gold into silver due to difficulties determining its degree of purity. There are several examples showing that Assyrian traders could sell their gold

\textsuperscript{26} Kt 79/k 101: 4-25) … ṭu-pú-am ša dí-in a-limša a-tu-mši KÙ.GI ša ni-is-pu-ru-ka-nu-ti-ni ṭu-pú-un šu-ut a-lu-usi a-tu-mši KÙ.GI i-šu-ur-tam ša la né-sí-ur a-wa-tam ša KÙ.GI pà-ni-a-tum-ma a-hu-un a-na a-hi-im a-na ši-mš-im i-da-an ki-ma a-wa-tat na-su-a-im DUMU A-šur ša-un-su KÙ.GI a-na A-ki-di-im A-mu-rí-im ša Šu-bí-rí-im ma-ma-an la i-de-an ša i-du-nu ša-ša-la-at “The tablet with the verdict of the City, which concerns gold, which we sent to you, that tablet is cancelled. We have not fixed any rule concerning gold. We have not fixed any rule concerning gold. The earlier rule concerning gold still obtains: Assyrians may sell gold among each other, (but) in accordance with the words of the stela, no Assyrian whosoever shall sell gold to any Akkadian, Amorite, or Shubarean. The one who does so shall not stay alive”. Transl. Klaas R. Veenhof, “In Accordance with the Words of the Stele: Evidence for Old Assyrian Legislation”, Chicago-Kent Law Review, Vol. 70, (1995), p. 1733, see also Hüseyin Sever, “Yeni Kültepe Tabletlerinde Gegen ‘Kima awat naru’a’im’ Tabiri ve Değerlendirilmesi”, DTCFD, V. 34, I. 1-2, p. 260-262 1990 and J. Gerrit Dercksen, Old Assyrian Institutions, PIHANS 98, Leiden 2004, p. 81f.

\textsuperscript{27} Dercksen, “Metals”, p. 25.
inside Anatolia as well. Furthermore, according to Kt 92/k 34728 translated below, it seems as if the Assyrian līnum-officials did not always approve of the quality of the gold that was being transported to Assur, and that gold of poor quality could also be sold to people of hupšum class:

1-3) To Luzina and the trader, from Ilī-bāni: 4-7) We showed the gold that I brought to the līnum-official and they offered four shekels of (silver for per shekel of gold). 8-12) We will sell the gold and make purchases and then I will set out and come. 13-16) There is no member of the hupšum-class who will take the gold! 30

a. The Qualifications and the Prices of the Gold

Ten kinds of gold are recorded in the Kültepe texts: liqtum,31 pašallum,32 kupuršinnum,33 ša tiamtim (“of the sea”),34 pāṣi’um (“white”),35 H.U.SÁ / sāmu =

30 Kt 92/k 347: 1) a-na Lu-zi-na 2) û DAM.GÂR gi-bi-ma 3) um-ma DINGIR-ba-ni-ma 4) KÙ.GI : ša a-ni-iš-a/-ni 5) li-ma-am 6) nu-kà-li-im-ma 7) GIN.TA ú-kà-ša 8) KÙ.GI ni-da-an/-ma 9) ṣi-ma-am 10) ni-la-am-ma 11) a-la-br-a-ma 12) a-la-lak-kam 13) wa-up-ša-ša 14) ma-ma-an ša KÙ.GI 15) i-lâ-gé-ú 16) lâ i-ba-ši
32 pašallum is the most preferred kind of gold by the traders. It occurs in about 30 texts. Its unit price is 8 shekels of silver on average. pašallum gold is generally qualified as “fine” (SIG₂) or “extra fine” (SIG₂ DIRI) in the texts, and has been interpreted as “nugget” by Dercksen, “Metals”, p. 26.
33 The term kub/puršinnum is described as a “foreign word” in CAD K, 489b. What feature of gold kub/puršinnum indicates is not clear. The unit price is recorded in about 20 texts at an average of 1:6.
34 ša tiamtim “of the sea” is recorded in four texts: TC 1, 104: 8; WAG 48-1463: 6; Kt 75/k 86: 15; Kt h/k 104: 8. The qualification suggests the gold was literally obtained from the sea (cf. Karin Reiter, Die Metalle im Alten Orient: unter besonderer Berücksichtigung altbabylonischer Quellen, Ugarit-Verlag, Münster 1997, p. 14).
35 hurúšum pāṣi’um “white gold” suggests gold that containing a high ratio of silver. It occurs at least twice: WAG 48-1462: 24, 27; KTS 1, 52b: 5.
“red”);\(^{36}\) ša đamē (“blood”),\(^{37}\) kīšum,\(^{38}\) sādum,\(^{39}\) and zakium (perhaps “pure”).\(^{40}\) The precise meaning of some of these terms is still not known.

The following set of terms was used to specify a quality and/or feature of the gold: damqum (SIG) “fine”, damqum watrum (SIG, DIRI) “extra fine”, ša máršu “good”,\(^{41}\) ša mátim “of the country”,\(^{42}\) ša mahīrim “of the market (pašallam ša mahīrim in Kt n/k 1566: 78)”, ša harran ālim “for sending to Assur”; ša šabšulim “for smelting”.

The price ranges between 3 1/3 and 15 shekels of silver per shekel of gold. The reason for this variance appears to stem from great differences in purity. As stated above, the most inexpensive type of gold – the HUSÁ or “red” gold – presumably contained a high rate of copper. The most expensive type was liqtum of “select” quality. The most commonly traded gold types were pašallum with an average exchange ratio with silver being 8:1, and kupuršinnum with the average unit price being 6:1. It seems that there was no difference in the exchange rate between gold and silver in Anatolia and Assur.

\(^{36}\) The HUSÁ (sānum) “red” gold occurs in four Old Assyrian texts: Ass 130058E2 (Donbaz, “Tablets from Assur”, p. 16); CCT 4, 22b: 19; WAG 48-1462: 17; Kt n/k 1697: 3’ (Çeçen and Erol, “Ticarî Mal Listesi”, p. 58). This type of gold is the most inexpensive one (1: 3 1/3), presumably due to its high content of copper (H. Waetzoldt, “Rotes Gold?”, Oriens antiquus 24, (1985), p. 1; Moorey, Materials and Industries, p. 226). The HUSÁ gold is once qualified as “very fine” (SIG, DIRI) in CCT 4, 22b.

\(^{37}\) hurāṣum ša đamē “blood gold” occurs only in Kt c/k 48: 36 (Kemal Balkan, Mama Kralı Anum-Hirbi’ın Kanis Kralı Wirtama’ya Gönderdiği Mektup, TTKY 7-31, Ankara 1957, p. 13) and has been associated with hurāṣum sānum, “red gold”, cf. Larsen, “Four Letter”, p. 115 and Dercksen, Metals”, p. 26. However, the “blood gold” is expected to fetch a price of 8.5 or 9 : 1 in the text, which is significantly above what would be expected for “red gold”.

\(^{38}\) kīšum gold is recorded in at least six Kültepe texts: KTK 99: 1; Kt c/k 440: 3, 15; AKT 5, 16: 13; AKT 7-a, 211: 9, 23, 32; AKT 7-a, 212: 7, 12, 32; AKT 7-a, 210: 6. It is characterized as “kīšum of the land” (kīšum ša mátim) in Kt c/k 440 and qualified as “fine” (SIG) in AKT 7-a, 211 and 212. The meaning of the term is not clear, cf. Dercksen, “Metals”, p. 26.


\(^{40}\) It is not certain that the term zakium refers to the type or quality of the gold. zakium, meaning “clear; clean; plain; refined” [CAD Z: 23a-b], is recorded as qualification of gold in at least three Old Assyrian texts, one of which was excavated at Assur: Ass 13058e (Donbaz, “Tablets from Assur”, p. 6); Kt a/k 178:2; Kt n/k 1697: 5. The unit price of zakium gold in all three instances is 5.5: 1 in silver.

\(^{41}\) CAD M/H, 156b translates the ša māršu, as “a fine quality” (See also Veenhof, Aspects, p. 181), ša māršu gold, which was interpreted literally as “of its water” and thought to refer to “alluvial gold” in Dercksen “Metals”, p. 26, occurs in three additional texts from Kültepe: TC 1, 47: 16; Kt c/k 48: 39; AKT 11-a, 125: 5. This kind gold is recorded as an alternative to kupuršinnum gold in TC 1, 47, but was qualified as kupuršinnum in AKT 11-a;\(^{41}\) . . . 4 1/3 GÍN KÙ.GI\(^{9}\) ša ma-e-šu : ku-par-ši-ni-im “4 1/3 shekels of ša māršu kupuršinnum gold”. It is therefore difficult to suggest a precise translation of this word.

\(^{42}\) The phrase ša mátim “of the land” is attested as the qualification of kīšum gold only in Kt c/k 440: 3 and 6.
b. Artifacts Made of Gold

Gold was generally used in molded shapes such as rings (annuqum) and beads (ḥīdum) in the commercial circulation. In addition, it was also traded in the form of ore (ša abnīšu). Except for the rings and beads, artifacts and shapes made of gold recorded in the Kültepe texts include šamšum “a sun disc”, kassum “a cup”, supānum “a type of container”, takaltum “a sheath”, īlum “a divine figurine”, īrum “a vulva figurine”, tudittum “a pin or brooch”, zimizzum “a kind of bead”, kiplum “gold foil”, uqurtum “an object”, and ʾiṣṣabtā “earrings”.

c. Gold and the Anatolian Cities

The Assyrian traders had access to gold mainly in the cities located in the western part of Central Anatolia. The most prominent of these cities is Wahšušana, which is recorded in 18 texts as place where gold was obtained. In the debt note Kt n/k 1426 from the archive of Ušur-ša-Ištar, Wahšušana is specified as the origin of the good-quality pašallum gold. Wahšušana is generally thought to have been located somewhere south of modern Ankara, perhaps on the banks of the Kızılırmak River west of Kültepe. The location of Purušhattum remains disputed, but a comprehensive recent study points to the area between modern-day Konya and Afyonkarahisar, probably near modern Akşehir. The city attested in eight texts as a place in which the gold was acquired. Finally, another western city, Šalatuwar, which was probably located at or near the confluence of the Sakarya River and Porsuk Çay, occurs four times as the source of gold for the Assyrian traders.

43 Kt n/k 1426: 1-3 ma-na KÙ.GI ša Wā-ah-ša-na pā-ša-lam SIG i-ṣē-er Hu-ra-sā-nim A-šur-i-mī-ti i-šu “Hurasānum owes Aššur-imitti three minas of fine quality pašallum gold of Wahšušana”.
44 Barjamovic, A Historical Geography, p. 400-401, 411 suggests identifying Wahšušana with the site of Büklükale on the river, or a site in its relative vicinity.
46 Barjamovic, A Historical Geography, p. 401. Based on recent studies of the course of the Sahariya River in antiquity, Barjamovic, “A Commercial Geography”, p. 313 adds the site of Gordion/Yasshöyük as a possible candidate for the site.
Figure 2. The number of attestations and the percentages of the cities from which the gold was acquired according to the records from Kültepe.

### d. Possible Sources of Gold

Anatolia is one of the main sources of gold in the Eastern Mediterranean and the Near East. Especially the regions of Western and Northeastern Anatolia and Southern Caucasus have substantial gold reserves. Significant ancient mining activities have been determined in these latter two regions. Gold in Western Anatolia is documented through more detailed studies through ancient workshops. Especially the Sardis River is well known as a main source of wealth of ancient Lydia and gold workshops have been found in the archeological excavations of its capital city. Golden artifacts found at Alacahöyük near modern-day Çorum,

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and dated to the Early Bronze Age, brings to mind that there were likewise gold resources in that region, or at least in the periphery of it. The Çoruh River basin on the southern side of the Black Sea mountain range has been suggested as a source of these artifacts.\textsuperscript{50}

The well-known passage in Gudea Stat. B VI 33-35 that: “he extracted gold in its dust from the Hahhum mountain” illustrates that one of the sources of gold for the Mesopotamian cities was Hahhum on the western bank of the Euphrates River in Southern Anatolia.\textsuperscript{51} According to Steinkeller, along with the gold of Hahhum, there are important gold sources in Bolkardağ mining region in the Taurus Mountains. He states that the local cultures of Anatolia, Northern Syria, and especially Northern Mesopotamia received gold primarily from these sources through third and early second millennium BC.\textsuperscript{52}

3. Tin

The main commercial good of the Old Assyrian metal trade was tin (AN. NA = \textit{annakum}). The metal as a commodity is recorded in a large number of Kültepe texts. The volume of tin transported to Anatolia is difficult to calculate or estimate, given the difficulties of sometimes deciding whether a given amount was being shipped from Assur to Anatolia, or whether it was in circulation inside Anatolia in transit from one town to another. Besides, as in the case of some of the other metals, but much more so in the case of tin, it is sometimes difficult to prevent the same transaction from being counted twice due to uncertainty about whether it might appear multiple times across different records. Finally, the total value declared (\textit{awītum}) of merchandise and equipment contained in a caravan traveling from Assur to Kaniš was calculated in tin.\textsuperscript{53} Accordingly, it is generally not possible to estimate the actual proportion contained in a given shipment.

The total search of the Kültepe texts has produced an amount of at least 2360 talents (approximately 70.8 tons) of tin. It is determined that at least a total of 1383 talents (approximately 41.49 tons) of tin whiten all these amounts were sent from Assur to Anatolia. The total amount of \textit{awītum} apart from this figure comes to 714 talents (approximately 21.42 tons) of tin. Since at least one-third of

\textsuperscript{50} De Jesus, ibid, p. 101-102.
\textsuperscript{51} Reiter, \textit{Die Metalle}, p. 13.
\textsuperscript{52} Steinkeller, “The Role of Iran”, p. 128.
\textsuperscript{53} Dercksen, \textit{Old Assyrian Institutions}, p. 148-163.
the *awītum* would on average have been constituted by actual tin bars, one can thus
determined that at least 1600 talents (approximately 48 tons) of tin was shipped
from Assur to Anatolia, mainly during the 30-year period c. 1893-1863 BC. At
least 75 talents (approximately 2.25 tons) of the tin included in this sum was used
for expenses (annak qātim) paid by the caravans on the road to Anatolia.

**a. Qualifications and Prices of Tin**

Tin was probably mainly traded in the shape of plates or ingots (*le'um*).\(^{54}\) However, a few texts state that tin could also be cast into beads (*hidum*).\(^{55}\) Records refer to two kinds of tin *mašītum*,\(^{56}\) and *mazīrum*,\(^{57}\) both of uncertain meaning, but apparently not mutually exclusive. The adjectives used to express the quality of the tin were *damqum* (SIG\(_5\)) “fine”; *damqum watrum* (SIG\(_5\) DIRI) “extra fine”; *zakium*
“pure”; *massuhum* “bad”; *ṭapšum* “bad”\(^{58}\), and *lemmenum* “very bad”.

Assyrian traders purchased the tin in Assur at a price ranging from 11 shekels to 17 1/3 shekels of tin for one shekel of silver with an average price of 15:1.\(^{59}\) The difference in price seems to have depended mainly upon its availability
in the time of purchase with quality as a secondary factor. The tin was sold
in Anatolia at a price ranging from 4 to 10 shekels of tin per shekel of silver,
depending not only upon quality and demand, but also upon whether it was sold
for cash or on credit. The average price of tin in Anatolia was 7 shekels to 1 shekel
of silver.\(^{60}\)

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\(^{54}\) The term *le'um* occurs in just four texts: AKT 3, 49: 24; AKT 6-c, 606: 3; 659: 9; AKT 6-d, 808: 18. J. G. Dercksen (*Copper Trade*, p. 57) and K. R. Veenhof (*AKT 5*, 59: 3) take the term to refer to a “metal plaque; plate”, whereas M. T. Larsen prefers to translate them as “ingot” and states that there was not a
standard weight of a *le'um*, its weight fluctuating between 4 and 12 minas (AKT 6-c, 606: 3).

\(^{55}\) Look for the tin in the shape of beads Sadberg-ARK 154-9472:7, AKT 8, 146: 20 and may be in
AKT 8, 357: 4, 6.

\(^{56}\) *mašītum* appears in seven texts: Kt n/k 518: 27, 32; AKT 3, 70: 5; BIN 6, 64: 4, 6, 22; Kt 87/k 366: 2; Kt 87/k 382: 5 (in which mazīru-tin is qualified as being *mašītum*); Kt 87/k 443: 4; Kt 87/k 448: 5 (hand
tin or tin for expenses qualified as *mašītum*). The meaning and/or origin of this term are not clear. The *CAD*
M/I, p. 389b lists *mašītum* in BIN 6, 64, under *maššītum* “delivery; ingredients” and derives it from the verb
*našā'um*. It is also possible to derive it from the adjective *mašum* “polished” (CAD M/I, p. 390a), which is
used as a qualifier for gold and copper in other sources.

\(^{57}\) The term *mazīrum* appears about ten times in the records from Kültepe, normally qualifying small
quantities of tin. The exception is Kt n/k 500: 6 which lists 2 talents 20 minas of *mazīrum*-tin. In Kt 87/k
382 the *mazīrum*-tin is characterized also as *mašītum*.

\(^{58}\) For the term *ṭapšum* as a bad quality of tin, see Dercksen, “Metals”, p. 20.

\(^{59}\) Dercksen, *ibid*, p. 20.

\(^{60}\) See also Larsen, *Ancient Kanesh*, p. 191.
b. The Tin Trade in Anatolia

Except for those who used the smuggling road (harran sukinnim) to reach to the copper market at Turhumit\(^{61}\) located generally north of Kaniš, almost all of the Assyrian caravans arrived at Kaniš first. The goods could be sold for cash on the spot there, or credited to other agents or retail sellers, or they could be shipped further into Anatolia for more profit. The cities to which the tin was shipped after Kaniš can be clearly identified by searching the texts. As already predicted by the geographical analysis of the Kültepe-texts,\(^ {62}\) these cities can now be shown to cluster to the west of Kaniš, i.e. on the border to Western Anatolia. As seen in the chart below, the most commonly attested cities as a destination for the tin are Purušhattum and Wahšušana.\(^ {63}\)

![Figure 3. The number of attestations and the percentages of the cities to which Assyrian traders transported the tin at least two times in the texts.](image)

\(^{61}\) Barjamovic, *A Historical Geography*, ch. 4.9.
\(^{62}\) Barjamovic, “A Commercial Geography”.
\(^{63}\) The volumes of the shipped tin, and any other commodities, to these cities are not given generally in the texts. According to the calculation of tin shipments, amount of which was directly mentioned in texts, at least 1.5 tons of tin was transported to Purušhattum and at least 930 kilos of tin to Wahšušana.
4. Copper

Copper (URUDU = werium) is one of the most commonly attested metal in the Kültepe texts. It is clear that the Assyrian traders limited their trade in copper to the area inside Anatolia. There are a few attestations of copper going to Assur, but in those rare cases, the copper appears mainly as currency to cover travel expenses, or in the form of funds sent to family members in Assur. Hence, the commodity was not one of the goods traded between Assur and Anatolia.\(^{64}\)

a. Qualifications and the Price of Copper

The total weight of all copper attested in the Kültepe texts comes to around 315 tons covering many different forms and qualities. Some of the commonly recorded qualifications used about copper are masium “washed”; sallumum “black”; damqum “fine”; damqum watrum “extra fine”; zakium “pure”; lamnumum “bad (quality)”; massuhum “dirty” and sikkum/sabburum “broken”; ša šadui-šu “native copper”; šahhirum “small pieces”. A detailed study of the copper trade, qualities and origins was conducted in Dercksen 1996. The great influx of newly edited texts confirm his main conclusions with the difference that the geography of the trade is now better understood than previously.

Among the cities involved in the trade, Turhumit was the central market, and especially Haburata, Kunanamit, Taritar, and Tišmurna are prominent as sources of copper. As in the case of other metals, the price of copper differed in relation to supply and demand, proximity production sites, and quality of both the copper and the silver used as currency.\(^{65}\)

b. Copper and the Anatolian Cities

Anatolia has a multitude of copper deposits and some of its sources are known to have been exploited since the Chalcolithic. The Assyrian traders acquired copper primarily from cities located to the north of Kaniš and shipped the major part of it to the western part of Central Anatolia, with some additional traffic in the direction of Kaniš.

The traders generally procured the metal in Turhumit, Tuhpiya, Tišmurna,


\(^{65}\) For a detailed discussion see Dercksen, Copper Trade, p. 158-159, 227-230.
Taritar, and Marithum, all thought to have been located Middle Black Sea Region in the north. Some records show that the Assyrian traders acquired copper in Wahšušana and Kaniš as well, but there it seems the transactions were mainly in copper that was in transit and did not originate there. As for the cities to which the copper generally was shipped or sold in, Purušhattum, Wahšušana, Šalatuwar, Kaniš, and Ulama are prominent.

Figure 4. The number of attestations and the percentages of the cities which are attested at least two times as copper obtained centers and qualified as origin of the copper in the texts

66 The amount of the copper transported to these cities is given only in a limited number of texts. According to calculations of based on these volumes, at least 16,71 tons of copper was shipped to Purušhattum, 3,78 tons to Wahšušana, and 3,07 to Šalatuwar.
Figure 5. The number of attestations and the percentages of the cities to which the copper was shipped there for sale.

5. Bronze

A main factor behind the Assyrian trade in Anatolia and its continuation for more than 250 years was probably the bronze alloy. Each year, the Assyrian caravans transported tons of tin that was especially needed by Anatolian authorities in order to produce this hard alloy. However, interestingly bronze was not really a commercial commodity in this lucrative trade. Furthermore, the number of bronze artifacts discovered at Kültepe is relatively low compared to the huge amount of tin shipped from Assur to Anatolia. The reason for this apparent discrepancy is unclear.

In comparison to most other metals, there are only limited references to the bronze in the Kültepe texts. The alloy is recorded in about 80 texts under the sumerogram ZABAR or as Akkadian siparrum. In addition, we find the phrase GAL ZABAR (literally “large (of) bronze”) which is always counted by number and not measured by weight. Finally, one finds occasional reference to siparātum “bronze nails”.

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67 Veenhof-Eidem, Mesopotamia, p. 212f.
68 Larsen 2015, Ancient Kanesh, p. 191, 196.
The total weight of bronze in the texts amounts to 7 talents and 47 minas (approximately 234 kg). Out of this sum, 3 talents 8 minas (approximately 94 kg) are the weight of manufactured objects. There is also a total of 317 GAL ZABAR mentioned in the texts. The total number of siparātum comes to 1743.

There is only one text listing the value of bronze in relation to silver and copper. Kt n/k 1697 records that 1 shekel of silver costs 11 shekels of bronze and also mentions GAL ZABAR, which it divides into three groups of 105 pieces each one of weighing 18, 18 and 20 shekels each. The text also shows that the price of one piece of GAL ZABAR was about 1 mina of broken copper (eri’um šikkum).

Bronze was used extensively to cast household artifacts as well as weapons. A long series of terms for different kinds of bronze objects appear in the Kültepe texts. The most commonly attested artifacts are kitchenware, such as itqurum “spoon” and kassum “cup”. For example, a single text records 83 different kinds of bronze artifacts; another one lists 76 different objects.

Archaeological recovery of bronze objects – especially weapons – dated to the Colony Period has been insignificant in comparison to the intensive trade of tin and copper evidenced in the texts. One of the reasons for this could be that most of the metal was in fact shipped to cities in part of Anatolia and taken to even more remote regions. One can also assume that metal utensils have been widely melted down and re-used or plundered by looting armies.

6. Iron

The study for this article shows that the metal referred to alternatively as amūtum, ašium, parzillum and KÙ.AN is recorded at least in 200 of the texts from Kültepe. The exact translation of these terms is still debated. KÙ.AN is known to be the logographic writing of amūtum. And the text AKT 3, 45 suggests that ašium was another synonym for amūtum. Finally, parzillum, attested in very few Old Assyrian texts and its logographic writing AN.BAR known to denote “iron” in other cuneiform corpora does not occur at Kültepe.

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72 Larsen, ibid, p. 196.
73 Dercksen, “Metals”, p. 28.
It has been generally suggested that the terms *amūtum* and *ašium* were used for “meteoric iron”. However, some researchers do not accept this suggestion and pointing out that due to its high content of nickel, meteoric iron could not be processed in the ways attested for *amūtum* with the technology of that time. For the purpose of the current study, the neutral term “iron” is retained for all four writings.

The total amount of iron recorded in the Kültepe texts comes to more than 30 minas (about 15 kg), but it must be stressed that in some cases the same iron may be counted twice because it is impossible for some cases to determine whether two records refer to the same transaction. When taking into consideration its price and the fact that the Kültepe texts were written about 500 years before the beginning of the Iron Age in Anatolia, the amount of iron in the texts is astounding.

**a. The Qualifications and Price of the Iron**

Five different shapes of iron are attested in the texts: *ṣahhartum* “small pieces”; *kísrum* “lump”; *abnum* “stone” and *ša* *KI.DIRI* “raw iron” (which contains other minerals). In the unpublished text Kt n/k 67: 11 an amount of pure (*zakutum*) KÙ.AN is qualified as *ša havša* the meaning of which is unknown. It is not certain whether it refers to a toponym or perhaps signifies a special type of iron. The most commonly attested artifact made of iron is *annuqum* “ring”. One can learn from a text that a ring made of *amūtum* could also be adorned by wrapping with gold. Other objects include *tudittum* “pin/brooch”, *kassum* “cup”, *urākum* “bar”, and maybe even *šimītum* “teeth” (Kt 94/k 208). Adjectives used to qualify iron are: *damqum* (*SIG₃*) “fine”; *damqum watrum* (*SIG₃* *DIRI*) “extra fine”; *zakium/zakītum* “pure” and *ša šarruttim* “of royal quality.”

Information about the price of iron is found in about a dozen texts and
fluctuates greatly between $11 \frac{2}{3}$ to 140 shekels of silver per shekel of iron. This huge difference must be related to its kind and degree of purity and cannot simply be ascribed to the forces of market. According to Kt n/k 1697, the price for one shekel of *parzillum* was 20 shekels of silver. The price of *amūtum* alone ranges between 40 and 140 shekels of silver.

The iron seems to have been used mainly to produce jewelry and ornaments, presumably due to its scarcity. There is no mention of weapons made from iron in the archeological excavations at Kültepe. However, an unpublished texts (Kt b/k 93+167) that lists especially different kinds of cups mentions “a big dagger handle of which was made of iron (*amūtum*) and gold”.

Apart from Kültepe, an iron dagger with gold handle was discovered among the iron artifacts of Alacahöyük, dated to the Early Bronze Age and the Anitta-text famously mentions that the Great King of Purušhattum brought him a gift of an iron throne and an iron scepter.

Assyrian traders purchased the iron not only from the city hall (*bēl ālim/līlim*) in Assur, but also within Anatolia, and they sold this valuable metal to Anatolian elites where it was in demand. The source of the iron purchased in Assur is not known, but it may be assumed that the origin of most of the iron traded in Anatolia was of local origin.

It is clear that the city of Assur paid special importance to the trade in iron. The reason for this could be the *išrātum*-tax (the tithe; 10%) levied initially by the City Hall and later by the *kārum* Kaniš. The *kārum* authorities at Kaniš were notified about this decision passed by the City Assembly and forwarded the required instructions on the matter to the remaining Anatolian colonies by the letter AKT 5, 1 (Kt 92/k 221). This text is undated, but considering the years in which the owner of archive in which it was found was active, Veenhof assumes

81 Kt b/k 93+167: 13) 1 GİR GAL ša-kār-šu 14) a-mu-tum ü KÙ.GI “a big dagger, handle of which is made of iron and gold”.
84 Veenhof, *ibid*., p. 13.
86 Veenhof, *ibid*, p. 14. For detailed information see also AKT 5, p. 67, 82-83.
that the text should date to the end of the lower town Level II at Kaniš.\textsuperscript{87}

A damaged \textit{waklum}-letter Kt 92/k 432 excavated in the same year, but said to belong to a different archive recounts another decision made by the City Assembly, namely that no \textit{kārum} should levy the \textit{šaddu’utum} and \textit{išrātum}-tax on \textit{amūtum} metal and Akkadian textiles that had been bought directly from the City Hall by Assyrian traders. It is clear from the text that this decision was made in regard to a certain Aššur-lamassī, but that it also involved other merchants in the same situation.

**Kt 92/k 432** (1-391-92; 3.6x4.3x1.6)

\begin{verbatim}
Obv. 1  um-ma wa-a[k-lū]m-ma
          a-na Puẓur₄-i-li
          Tī-ti-na-tal
          šī-i-p-[i ša a-lim][i̇]
          ū kā-[r[i-im Kā-ni-iš]
5 [qi-bī-ma x x x x]
10 r3 x7 [x x x x x]
20 šī-im : a-[x x x x]
          ša Ė [x x x x x]
          i-na z[i̇-x x x x]
          dA-šūr-[x x x x]
          [x x] dA-[ūr x x x]
          [x x] d₄A-[ūr-x x x x]
          [x x x]-ni-[x x x]
          [x x x]-tū-[x x x]
15 [x x šā]l-kī-a [x x]
          [x x x] KŪ.BABBAR : a-n[a]
          [x x x] A-š[ūr-lā-ma-sī]
          [x x x] : šu-ma
Lo.e.  [(x) A-šūr]-lā-ma-sī
\end{verbatim}

\textsuperscript{87} AKT 5, p. 82.
From the Chairman (waklum) to Puzur-ilī, Titinatal, the envoys of [the city of Assur], and the kārum [Kaniš] 5-15 [.........................] 16-22 [....] the silver to [...] if Aššur-lamassī [...]. is not present [in...] [... to] the representatives of
[Aššur-lamassî] 23-27) […………………………..] 28-32) You shall not take the [……..] of the amūtum that Aššur-lamassî bought (from) the City Hall. 33-39) In addition, (the authorities of) a kārum to which Aššur-lamassî has shipped the amūtum may not levy the šaddu’utum and išrātum-tax on the price of the amūtum. 40-46) Apart from Aššur-lamassî, you shall not levy šaddu’utum and išrātum-tax on any amūtum or Akkadian textiles from any citizen of Assur who bought the amūtum or the Akkadian textiles in the City Hall. No matter which (one) it is, no other kārum can levy it (either). 88

7. Lead

Lead is mentioned in eight Kültepe texts as abārum with its weight recorded only in Kt h/k 16: 3 at 20 minas. In the letter TMH 1, 3b, an Assyrian trader complains about the absence of any material for purchase except lead, and in KT 6-d: 789 an Anatolian woman writes her husband to express her anger over him not sending her any funds to feed her and their children. At one point, she asks him what they are supposed to eat, since nobody wants to buy the lead which he apparently left behind for them to sell for their subsistence. At Kültepe, objects made of lead are found in a wide variety of uses, including lead figurines and weights. 89 However, the low number of attestations in the texts and the instances above show that lead had an insignificant place in the Assyrian commerce, presumably due its relatively low value and high bulk compared to other metals. 90

8. Antimony? (Lulūm)

The term lulūm, for which the meaning “antimony” has been suggested (CAD L, 243a), appears in 18 Kültepe texts with a total weight of 20 talents and 53 minas (about 630 kg). If the translation is correct, the use of this metal in Anatolia during the Colony Period is not known. Since it occurs several times alongside copper in the texts, it seems possible that lulūm was used in alloys as an alternative to tin and arsenic. 91

88 A text relating to the same incident NBC 1649H is currently being edited for publication by G. Barjamovic.
90 Dercksen, “Metals”, p. 29.
Conclusion

The main goal of this study is to offer a general idea about the total volume and geographical scope of the metal trade in Anatolia as evidenced in the Assyrian texts from Kültepe. The information presented here was gathered from nearly 12 thousand texts many of which are still unpublished. In addition to those documents, another 10 thousand cuneiform texts wait unedited in the Ankara Museum. Furthermore, there must still be innumerable documents in the ground at Kaniş, as well as at Assur and in some of the other Assyrian settlements in Anatolia. Many more have of course disappeared over the course of time. Consequently, it is not possible to determine the exact volume of metals traded during the almost 250 years that the Old Assyrian Colony Period lasted. However, this sort of analysis can help estimate the amounts of traded metal and also reveals a clear geographical pattern in the trade that was focused on a small number of Assyrian colonies and generally oriented in a westerly direction.

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ABBREVIATIONS


CAD Chicago Assyrian Dictionary
CCT 1-6  Cuneiform Texts From Cappodocian Tablets in the British Museum, London.


KTS 1  Lewy, J., Die altassyrischen Texte von Kültepe, Keilschrifttexte in den Antiken - Musees zu Stambul, İstanbul 1926.


WAG  Walters Art Gallery (WAG 48)
EKLER
Kt 92/k 432

Ön Yüz

Arka Yüz

Alt Kenar

Üst Kenar

Sol Kenar

Sağ Kenar