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OLD ASSYRIAN METAL TRADE, ITS VOLUME AND INTERACTIONS*

HAKAN EROL**

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 Kaniš. 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.[1] However, the total volume of the Old

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** Assoc. Prof. Dr., Ankara University, Faculty of Languages and History-Geography, Department of Ancient Languages and Cultures,Ankara/TURKEY, herol@ankara.edu.tr

[1] J. G. Dercksen offered a detailed study of the copper trade (J. Gerrit Dercksen, *The Old Assyrian Copper Trade in Anatolia*, PIHANS 75, Leiden/İstanbul 1996); a summary of metals attested at Kültepe (J. Gerrit Dercksen, "Metals According to Documents from Kültepe-Kanish Dating to the Old Assyrian Colony Period", (ed.) Ü. Yalçın, Anatolian Metal III, Der Anschnitt, Beiheft 18, Bochum (2005)), and a brief study on tin (J. Gerrit Dercksen "Zinn", Reallexikon der Assyriologie, (2017)). K. R. Veenhof studied

Assyrian metal trade and accessing regions of metals has not been evaluated since Veenhof in 1972.[2] In this study, I produce a general view especially about the metal trade volume by means of information gathered from the available Kültepe texts.[3]

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

silver (Klaas R. Veenhof, "Silver in Old Assyrian Trade. Shapes, Qualities and Purification", (ed.) Zoltán Csabai, Studies in Economic and Social History of the Ancient Near East in Memory of Péter Vargyas, Department of Ancient History, the University of Pécs L'Harmattan, Budapest, (2014)) and Veenhof 2016 iron (Klaas R Veenhof, "A Difficult Old Assyrian Business Venture. Mannum-Kī-Aššur Tries his Luck with Iron", Bibliotheca Orientalis, Jaargang LLXXIII, no. 1-2, (2016)). A broader discussion of the trade volume (including metal) is offered in Gojko Barjamovic, *A Historical Geography of Anatolia in the Old Assyrian Colony Period*, Copenhagen 2011: ch. 1.3, and in Edward Stratford, *A Year of Vengeance: Time Narrative, and the Assyrian Trans-Taurus Trade in 1891 BCE*. SANER, Boston: De Gruyter 2017: ch, 18. Lastly, especially for the prices of the metals and within the contexts of the available texts, L.G. Gökçek produced a detailed list in L. Gürkan Gökçek, "Kültepe Vesikalarında Geçen Nesnelerin Fiyatları", (ed.) M. Şahin, *II. Kayseri ve Yöresi Tarih Sempozyumu Bildirileri* (16-17 Nisan 1998), Kayseri (1998).

[2] Klaas R. Veenhof, *Aspects of Old Assyrian Trade and its Terminology*, BRILL, Leiden, 1972: pp. 79-80.

[3] The research behind this article was carried out as a visiting scholar at Harvard University with the support of The Scientific and Technological Research Council of Turkey (TÜBİTAK). The main target of my research was to find answers to questions related to metals and metal trade in the Old Assyrian Colony Period as recorded in a wide range of texts. Within the scope of this project, the attestations of gold, silver, tin, iron, copper, and lead metals and bronze alloy were collected from a database that includes nearly 12 thousand Old Assyrian texts, about half of which are still unpublished. I would like to express my gratitude to the TÜBİTAK for the financial support for this research, and to the Department of Near Eastern Languages and Civilizations at Harvard University and my colleagues there Gojko Barjamovic and Piotr Steinkeller for hosting me during my work. I am grateful to G. Barjamovic also for both his editing the language of the article and his valuable comments on it.

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; *kaspum*) 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

[4] See for the Old Assyrian Chronology Klaas R. Veenhof, *The Old Assyrian List of Year Eponyms from Karum Kanish and Its Chronological Implications*, Türk Tarih Kurumu Yayınları, VI/64, Ankara 2003; Cahit Günbattı, "An Aponym List (KEL G) from Kultepe", Altorientalische Forschungen 35, (2008); Gojko Barjamovic, Thomas Hertel, Mogens T. Larsen, *Ups and Downs at Kanesh-Observations on Chronology, History and Society in the Old Assyrian Period*, Nederlands Instituut voor het Nabije Oosten, Leiden 2012.

[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 – *awītum* 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.[9] 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.[10] These are the known qualifications known at the moment, alongside some of their translations into English, when known: SAHAR.BA "in its dust";[11] *tirum*;[12] *līt̮um*;[13] *hušā'ū* "scraps";[14] *šabartum*[?] "lump";[15] *ṣarrut̮um* "purified";[16] *amurrum* "checked[?]";[17] *ha'atim* "faulty[?]" ;[18] *massuhum* "dirty";[19] *damqum* "fine"; and *ša ma-a-sú*.[20] The meanings of some of these terms are still uncertain or contradictive.

[9] Mogens T. Larsen, *Ancient Kanesh, A Merchant Colony in Bronze Age Anatolia*, Cambridge University Press, Cabridge 2015: 190.

[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 *sarrut̮um*, i.e. "refined/pure".

[12] For detailed information about *tiri*-silver which occurs in about 50 Kültepe texts, see Mogens T. Larsen, "Four Letters from the Walters Art Gallery, Baltimore", (ed.) B . Hruska ve G. Komoroczy, Festschrift Lubor Matouš, vol.1-11, Budapest (1978), p. 115, Dercksen, "Metals", p. 22, and Veenhof, "Silver in Old Assyrian Trade", p. 397. *tiri*-silver does not occur with any qualification. It is used as *beulātum*-credit in a few texts.

[13] The term *līt̮um*, 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 *līt̮um*-silver had an Anatolian feature (Veenhof, "Silver in Old Assyrian Trade", p. 396). It is qualified by *damqum* (SIG_5) "good" in some texts.

[14] The term *huša'um* "scrap" occurs only once and is qualified by SIG_5 "good": CCT 4, 2a: [7] … 6 *ma-na* [8] KÙ.BABBAR *hu-ša-e* SIG_5 "6 minas of fine silver scraps". Except for this attestation, this term *huša'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-tám* in ICK 1, 171: 6 and as *ša-áb-ra-tum* in CCT 2, 2: 9 as a "lump".

[16] The most common qualification of silver in Kültepe texts is *ṣarrut̮um* "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/ṭ-ìm* 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 *hāṭû* "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: [1] 6 1/3 *ma-na* 3 1/2 GÍN [2] KÙ.BABBAR 6 1/2 GÍN [3] *ša ma-a-sú* [4] *ša A-šur-na-da* [5] *ku-nu-ki-ni* [6] *Ṣí-li-*^{d}IM [7] *ú-bi-il*$_5$*-šu-um* "Aššur-nādā's 6 minas 23.5 shekels of silver; 6.5 shekels of it … Ṣilli-Adad shipped to him under our seal". The word may represent the adjective *mādum* "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,[21] has been known for its rich silver deposits since ancient times.[22] 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.[23]

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.

[21] P. R. S. Moorey, *Ancient Mesopotamian Materials and Industries, the Archaeological Evidence*, Clarendon Press, Oxford 1994, p. 134.

[22] Pretiss S. de Jesus, "Metal Resources in Ancient Anatolia", Anatolian Studies, 28, (1978), p. 100.

[23] Barjamovic, *A Historical Geography*, p. 372-374, 412-413 *contra* e.g. Mogens T. Larsen, *Old Assyrian Caravan Procedures*, PIHANS, 22 (Leiden : Nederlands Instituut voor het Nabije Oosten), 1967, p. 94 n. 47; 1976: 104; Klaas R. Veenhof-Jesper Eidem, *Mesopotamia: The Old Assyrian Period*, Orbis Biblicus et Orientalis 160/5, Fribourg, 2008, p. 150-151; Massimo Forlanini, "The historical geography of Anatolia and the transition from the karum-period to the Early Hittite Empire," (ed.) J. G. Dercksen Anatolia and the Jazira during the Old Assyrian Period. (OAAS 3. PIHANS 111), Leiden 2008: 64-65.

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.[24]

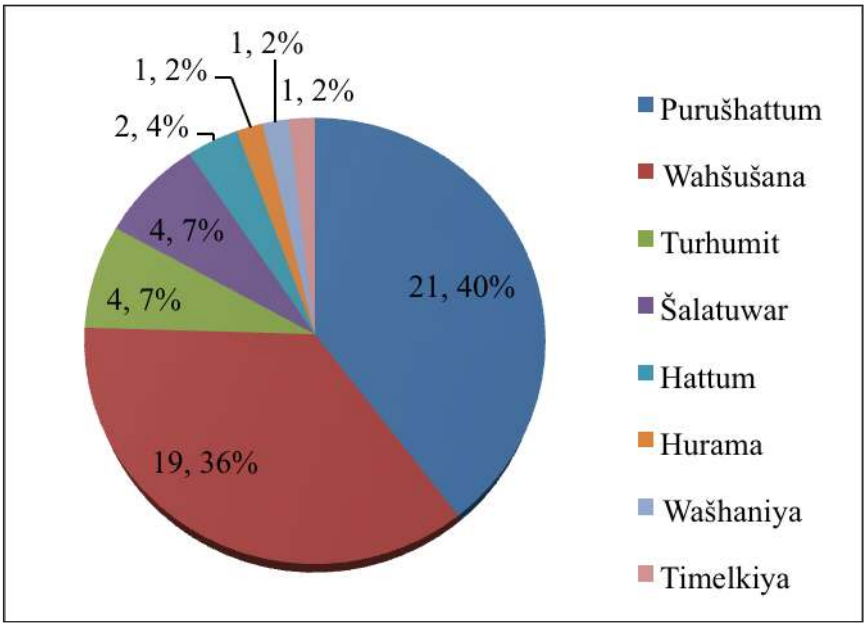

Figure 1. The number of attestations and the percentages of the cities in which the Assyrian traders obtained silver through commercial transactions (except Kaniš)

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,[25] and gold credited in loans. As in the case of silver, it is not easy to calculate the exact amount of gold

[24] Gojko Barjamovic, "The Geography of Trade - Assyrian Colonies in Anatolia c. 1975- 1725 B.C. and the Study of Early Interregional Networks of Exchange," (ed.) J.G. Dercksen Anatolia and the Jazira during the Old Assyrian Period. (PIHANS Ill. OAAS 3). Leiden, 2008; Barjamovic, *A Historical Geography*

[25] For the partnerships in the Old Assyrian trade, see Mogens T. Larsen, "Partnerships in the Old Assyrian Trade", Iraq , 39, (1977).

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 *naruqqum*-partnerships. Those partnerships were one of the main types of commercial venture in Assyrian merchant society. Although the actual investment in *naruqqum*-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 *naruqqum*-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[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,[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

[26] Kt 79/k 101: 4-25) … *ṭup-pá-am ša dì-in a-lim*^{ki} *ša a-šu-mì* KÙ.GI *ša ni-iš-pu-ra-ku-nu-tí-ni ṭup-pu-um šu-ut a-ku-uš a-šu-mì* KÙ.GI *i-ṣu-ur-tám ù-la né-ṣú-ur a-wa-tum ša* KÙ.GI *pá-ni-a-tum-ma a-hu-um a-na a-hi-im a-na ší-mì-im i-da-an ki-ma a-wa-at na-ru-a-im* DUMU *A-šùr šu-um-šu* KÙ.GI *a-na A-ki-dí-im A-mu-ri-im ù Šu-bi-ri-im ma-ma-an la i-da-an ša i-du-nu ú-lá i-ba-la-aṭ* "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. 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 Asyrian Legislation", Chicago-Kent Law Review, Vol. 70, (1995), p. 1733, see also Hüseyin Sever, "Yeni Kültepe Tabletlerinde Geçen 'Kima awat narua'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.

[27] Dercksen, "Metals", p. 25.

inside Anatolia as well. Furthermore, according to Kt 92/k 347[28] translated below, it seems as if the Assyrian *līmum*-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 *līmum*-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[29] 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] HU.SÁ / *sāmu* =

[28] Hakan Erol, *Kültepe'de 1992 Yılında Bulunmuş Šu-Ištar Arşivi*, Unpublished PhD Thesis, Ankara, 2012.

[29] For the term *hupšum*, cf. J. Gerrit Dercksen, "Some Elements of Old Anatolian Society in Kaniš", (ed.) J. G. Dercksen, Assyria and Beyond, Studies Presented to Mogens Trolle Larsen, Nederlands Instituut het Nabije Oosten, Leiden (2004), p. 146.

[30] Kt 92/k 347: [1)] *a-na Lu-zi-na* [2)] *ù* DAM.GÀR *qí-bi-ma* [3)] *um-ma* DINGIR-*ba-ni-ma* [4)] KÙ.GI : *ša a-niš-a-/ni* [5)] *li-ma-am* [6)] *nu-kà-li-im-ma* [7)] 4 GÍN.TA *ú-kà-lu* [8)] KÙ.GI *ni-da-an-/ma* [9)] *ší-ma-am* [10)] *ni-ša-am-ma* [11)] *a-ta-bi-a-ma* [12)] *a-ta-lá-kam* [13)] *hu-up-šu-um* [14)] *ma-ma-an ša* KÙ.GI [15)] *i-lá-qé-ú* [16)] *lá i-ba-ší*

[31] *liqtum* gold occurs in two texts: Kt 84/k 3: 1 (Veysel Donbaz, "More Old Assyrian Tablets from Assur", *Akkadica 42*, (1985), p. 7) and Kt n/k 1697: 1. Salih Çeçen and Hakan Erol, "Kültepe'den Değişik Bir Ticarî Mal Listesi", *Archivum Anatolicum* 12/2, (2008), p. 56-58). The unit price is 1:15 shekels in both texts. CAD L, 206a gives "a choice quality of gold and garments" for the fourth meaning of this term, which occurs in Old Babylonian texts. Clearly derived from the verb *laqātum* "gather, collect" so perhaps "choice gold" is an appropriate translation.

[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" (SIG_5) or "extra fine" (SIG_5 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] *hurāṣum 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 damē* ("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_5) "fine", *damqum watrum* (SIG_5 DIRI) "extra fine", *ša mā'īšu* "good",[41] *ša mātim* "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 HU.SÁ 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 HU.SÁ (*sāmum*) "red" gold occurs in four Old Assyrian texts: Ass 130058f:2 (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 HU.SA gold is once qualified as "very fine" (SIG_5 DIRI) in CCT 4, 22b.

[37] *hurāṣum ša damē* "blood gold" occurs only in Kt c/k 48: 36 (Kemal Balkan, *Mama Kralı Anum-Hirbi'nin Kaniš Kralı Waršama'ya Gönderdiği Mektup*, TTKY 7-31, Ankara 1957, p. 13) and has been associated with *hurāṣum sāmum*, "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, 240: 6. It is characterized as "*kīšum* of the land" (*kīšam ša mātim*) in Kt c/k 440 and qualified as "fine" (SIG_5) in AKT 7-a, 211 and 212. The meaning of the term is not clear, cf. Dercksen, "Metals", p. 26.

[39] For the *sādum* gold that occurs only in Kt c/k 18: 25, 40 cf. J. Gerrit Dercksen, "The Goddess Who was Robbed of her Jewellery. Ishtar and her Priest in an Assyrian Colony", Anatolica 41, (2015), p. 40.

[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/II, 156b translates the *ša mā'ešu*, as "a fine quality" (See also Veenhof, *Aspects*, p. 181). *ša mā'ešu* 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: 4) … 4 1/3 GÍN KÙ.GI 5) *ša ma-e-šu* : *ku-pur-ši-ni-im* "4 1/3 shekels of *ša mā'ešu kupuršinnum* gold". It is therefore difficult to suggest a precise translation of this word.

[42] The phrase *ša mātim* "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 (*hīdum*) in the commercial circulation. In addition, it was also traded in the form of ore (*ša abnišu*). 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[?]", *ilum* "a divine figurine", *ūrum* "a vulva figurine", *tudittum* "a pin or brooch", *zimizzum* "a kind of bead", *kiplum* "gold foil", *uqurtum* "an object", and *iṣṣabtū* "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 Uṣur-ša-Ištar, Wahšušana is specified as the origin of the good-quality *pašallum* gold.[43] Wahšušana is generally thought to have been located somewhere south of modern Ankara, perhaps on the banks of the Kızılırmak River west of Kültepe.[44] 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.[45] 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,[46] occurs four times as the source of gold for the Assyrian traders.

[43] Kt n/k 1426: [1-5] 3 *ma-na* KÙ.GI *ša Wa-ah-šu-ša-na pá-ša-lam* SIG_5 *i-ṣé-er Hu-ra-sà-nim A-šur-i-mì-tí i-šu* "Hurasānum owes *Aššur-imitī* 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 it relative vicinity.

[45] Barjmovic, *ibid*, p. 366, 378; Goko Barjamovic, "A Commercial Geography of Anatolia: Integrating Hittite and Assyrian Texts, Archaeology and Topography", (ed.) M. Weeden ve L. Z. Ullmann, Brill, Leiden/Boston (2017), p. 315.

[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/Yassıhöyük as a possible candidate for the site.

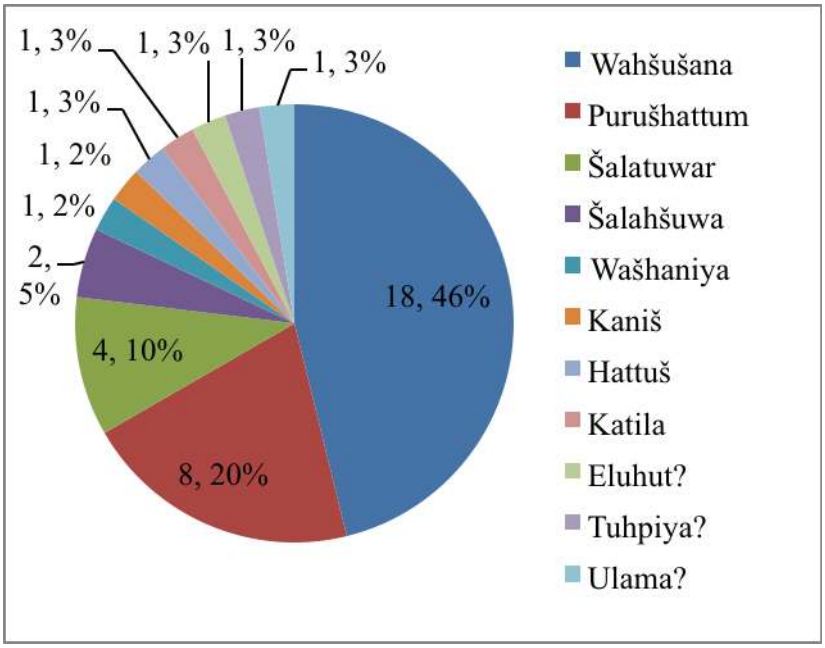

Figure 2. The number of attestations and the percentages of the cities from which the gold was acquired according to the records from Kültepe.

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[47] and Northeastern Anatolia and Southern Caucasus have substantial gold reserves. Significant ancient mining activities have been determined in these latter two regions.[48] 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.[49] Golden artifacts found at Alacahöyük near modern-day Çorum,

[47] Pretiss S. de Jesus, *The Development of Prehistoric Mining and Metallurgy in Anatolia*, Part I, B.A.R. International Series 74, Oxford 1980, p. 199-201.

[48] Piotr Steinkeller, "The Role of Iran in the Inter-Regional Exchange of Metals: Tin, Copper, Silver and Gold in the Second Half of the Third Millennium BC", (ed.) K. Maekawa, *Ancient Iran, New Perspectives from Archaeology and Cuneiform Studies*. Ancient Texts Studies in the National Museum, Vol. 2, (2016), p. 128.

[49] De Jesus, "Metal Resources", p. 101.

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.[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.[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.[52]

3. Tin

The main commercial good of the Old Assyrian metal trade was tin (AN. NA = *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 (*awītum*) of merchandise and equipment contained in a caravan traveling from Assur to Kaniš was calculated in tin.[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 *awītum* apart from this figure comes to 714 talents (approximately 21.42 tons) of tin. Since at least one-third of

[50] De Jesus, ibid, p. 101-102.
[51] Reiter, *Die Metalle*, p. 13.
[52] Steinkeller, "The Role of Iran", p. 128.
[53] Dercksen, *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 (*lē'um*).[54] However, a few texts state that tin could also be cast into beads (*hīdum*).[55] Records refer to two kinds of tin *mašitum*,[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 for 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]

[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] *mašitum* 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 *mašitum*); Kt 87/k 443: 4; Kt 87/k 448: 5 (hand tin or tin for expenses qualified as *mašitum*). The meaning and/or origin of this term are not clear. The *CAD* M/I, p. 389b lists *mašitum* 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 *maššum* "polished" (CAD M/I, p. 390a), which is used as a qualifier for gold and copper in other sources.

[57] The term *mazirum* 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 *mazirum*-tin. In Kt 87/k 382 the *mazirum*-tin is characterized also as *mašitum*.

[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]

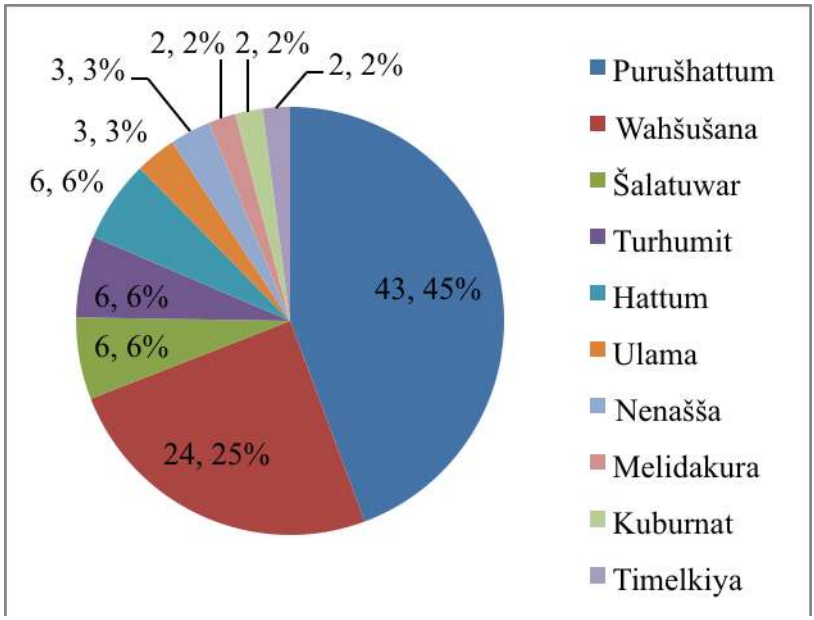

Figure 3. The number of attestations and the percentages of the cities to which Assyrian traders transported the tin at least two times in the texts.

[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"; *ṣallamum* "black"; *damqum* "fine"; *damqum watrum* "extra fine"; *zakium* "pure"; *lammunum* "bad (quality)"; *massuhum* "dirty" and *šikkum/šabburum* "broken"; *ša šadui-šu* "native copper"; *ṣahhirum* "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,

[64] Dercksen, *Copper Trade*, p. 1-3. İrfan Albayrak, "Uṣur-ša-İštar Arşivinden Bakır Ticareti ile ilgili Bir Mektup", (ed.) S. Erkut ve Ö. S. Gavaz, *Studies in Honour of Ahmet Ünal Armağanı*, Arkeoloji ve Sanat Yayınları, İstanbul (2016), p. 26. 25-34.

[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.[66]

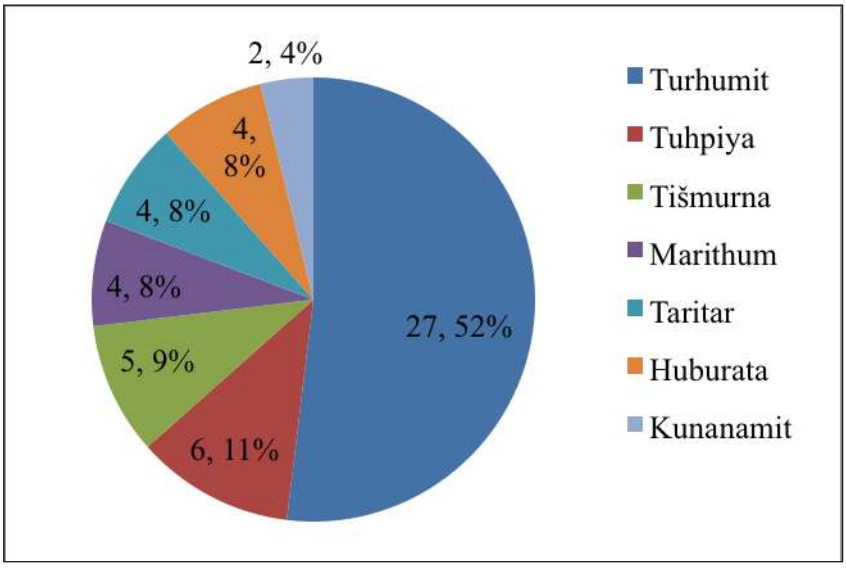

Figure 4. The number of attestations and the percentages of the cities which are attested at least two times as copper obtained centers and qualified as origin of the copper in the texts

[66] The amount of the copper transported to these cities is given only in 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.

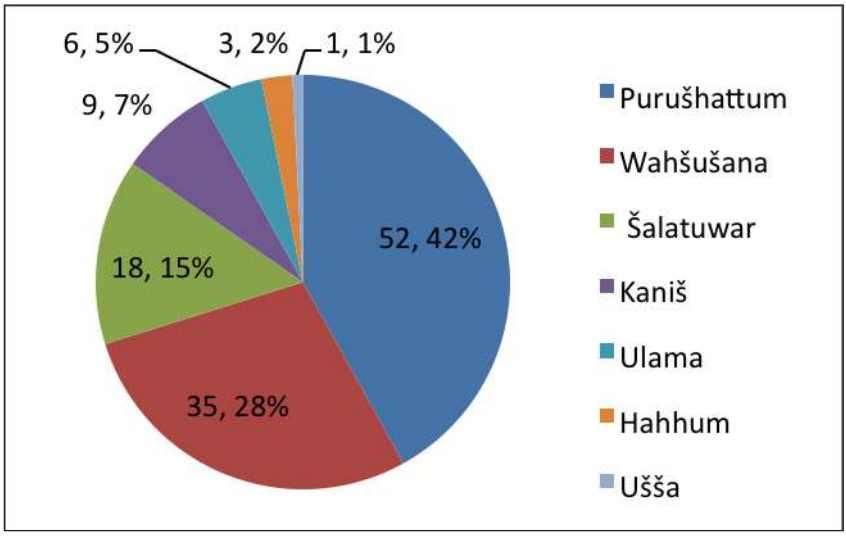

Figure 5. The number of attestations and the percentages of the cities to which the copper was shipped there for sale.

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.[67] 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.[68] 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".

[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[69] 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.[70]

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.[71] One can also assume that metal utensils have been widely melted down and re-used or plundered by looting armies.[72]

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*.[73] 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.

[69] Salih Çeçen and Hakan Erol, "Kültepe'den Değişik Bir Ticari Mal Listesi", Archivum Anatolicum 12/2, (2018), p. 56-58.

[70] Dercksen, "Metals", p. 30.

[71] Barjamovic 2008, "A Commercial Geography, p. 97-99; Larsen, *Ancient Kanesh*, p. 192.

[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".[74] 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.[75] 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"; *kiṣrum* "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 (*zakūtum*) KÙ.AN is qualified as *ša harša* the meaning of which is unknown. It is not certain whether it refers to a toponym or perhaps signifies a special type of iron.[76] 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.[77] Other objects include *tudittum* "pin/brooch", *kassum* "cup", *urākum* "bar", and maybe even *šinnātum* "teeth" (Kt 94/k 208).[78] Adjectives used to qualify iron are: *damqum* (SIG_5) "fine"; *damqum watrum* (SIG_5 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

[74] The discussion goes back to Benno Landsberger, "Kommt Hattum, "Hethiterland" und Hattium, "Hethiter", in den Kültepe Tafeln vor?", Archiv Orientálni 18/I-II (1950) and was recently summed up in Veenhof, "Business Venture". For this metal see also Salih Çeçen, "Kaniš Kārum'unun Diğer Kārum ve Wabartumlar'a 'KÙ.AN' (*amutum*) ile ilgili Önemli Talimatları", Belleten LXI/231, (1997), p. 219-232.

[75] Reiter, *Die Metalle*, 390; Dercksen, ibid, p. 28.

[76] Kt n/k 67: [10] …. KÙ.AN *za-ku-tám* [11] *ša HA-ar-ša ú ša* KI.DIRI

[77] Kt a/k 1072: 2 *a-nu-qú ša a-mu-tim ki-ip-lu* KÙ.GI 16 GÍN KI.LÁ.BI *a-na İ-ku-pì-A-šur a-dí-in-ma* "I sold Ikūn-pī-Aššur 2 rings of iron weighing 16 shekels (and) wrapping with gold …". Çeçen, ibid,p. 220, n. 11.

[78] Veenhof, "Business Venture", p. 15.

fluctuates greatly between 11 2/3[79] 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:[80] 34, 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 of 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".[81] Apart from Kültepe, an iron dagger with gold handle was discovered among the iron artifacts of Alacahöyük, dated to the Early Bronze Age[82] and the Anitta-text famously mentions that the Great King of Purushattum brought him a gift of an iron throne and an iron scepter.[83]

Assyrian traders purchased the iron not only form the city hall (*bēt ālim/līmim*) in Assur, but also within Anatolia, and they sold this valuable metal to Anatolian elites where it was in demand.[84] 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.[85]

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.[86] 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

[79] The price of KÙ.AN in Kt u/k 3: 51, cf. Dercksen, "Metals", p. 28; Veenhof, ibid, p. 15.

[80] Çeçen and Erol, "Ticari Mal Listesi", p. 56-58.

[81] Kt b/k 93+167: 13) 1 GÍR GAL *ša-kàr-šu* 14) *a-mu-tum ù* KÙ.GI "a big dagger, handle of which is made of iron and gold".

[82] Ünsal Yalçın, "Early Iron Metalurgy in Anatolia". Anatolian Studies, vol. 49, (1999), p. 177.

[83] Itamar Singer, "Hittites and Hattians in Anatolia at the Beginning of the Second Millennium B.C.", Journal of Indo-European Studies (JIES) 9, (1981), p. 130-131, n. 7.

[84] Veenhof, *ibid*, p. 13.

[85] Dercksen, *ibid*, p. 28; Veenhof, *ibid*, p. 13.

[86] Veenhof, *ibid*, p. 14. For detailed information see also AKT 5, p. 67, 82-85.

that the text should date to the end of the lower town Level II at Kaniš.[87]

A damaged *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 *kārum* should levy the *šaddu'utum* and *išrātum*-tax on *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)

Obv. 1 *um-ma wa-a*[*k-lu*]*m-ma*
a-na Puzur$_4$*-ì-lí*
Ti-ti-na-tal
šú-ip-r[*i ša a-lim*^{ki}]
ù kà-r[*i-im Kà-ni-iš*]
5 [*qí-bí-ma* x x x x]
⌜3 x⌝ [x x x x x]
šú-im : a-[x x x x]
ša É [x x x x x]
i-na z[*i*$^{?}$-x x x x]
10 ^{d}*A-šùr-*[x x x x]
[x x] ^{d}*A-š*[*ùr*$^{?}$ x x x x]
[x x] ⌜^{d}⌝*A-š*[*ùr*$^{?}$-x x x x]
[x x x]-*ni-*[x x x]
[x x x]-*tù-*[x x x]
15 [x x *šá*]*l-ki-a* [x x]
[x x x] KÙ.BABBAR *: a-n*[*a*]$^{?}$
[x x x *A-š*]*ùr-lá-ma-sí*
[x x x] *: šu-ma*
Lo.e. [(x) *A-šùr*]*-lá-ma-sí*

[87] AKT 5, p. 82.

20 [x x] *: lá wa-ša-ab*
[*a-na*] ⌜*ša ki-ma*⌝
Rev. [*A-šùr-lá-ma-sí*]
[x x x x x x x-*i*]*m*
[x x x x x x]-*a-ra*
25 [x x x x x x]
[x x x x x x]-*lá*
[x x x x x *n*]*i*
[x x x x-x-*t*]*ám*
⌜*i*⌝-[x x x x-*t*]*a*ʾ-*im*
30 *: a-mu-tim : ša A-šùr-lá-/ma-sí*
: É *a-lim*^{ki}
il$_5$*-qé-ú-ni : ù lá ta-*<*lá*>*-qé-a*
ù kà-ru-um : šu-um-šu
a-šar : A-šùr-lá-ma-sí
35 *uš-te*$_6$*-bu-lu-ni*
ša-du-a-tám
ù iš-ra-tim : i-na
ší-im : a-mu-tim
ù-lá i-lá-qé-ú
40 *lá ša A-šùr-lá-ma-sí-/ma*
ma-ma-an : DUMU *A-šùr*
U.e. *:* É *a-lim*^{ki} *: a-mu-tám*
ù TÚG.HI.A *ša A-ki-dí-e*
L.e. *il*$_5$*-qé-ú-ni : ša-du-a-tám* ⌜*ù*⌝ [*iš-ra-tim*]
45 *ša a-mu-tim ù* TÚG.HI.A *ša* ⌜*A*⌝-[*ki-dí-e*]
ú-lá ta-lá-qé-a ù kà-ru-um [*šu-um-šu ú-lá i-lá-qé-ú*ʾ]

[1-4)] 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-lamassī] [23-27] [……..] [28-32] You shall not take the […….] of the *amūtum* that Aššur-lamassī bought (from) the City Hall. [33-39] In addition, (the authorities of) a *kārum* to which Aššur-lamassī has shipped the *amūtum* may not levy the *šaddu'utum* and *išrātum*-tax on the price of the *amūtum*. [40-46] Apart from Aššur-lamassī, 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 *lulûm*, 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 *lulûm* 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.

[89] Kutlu Emre, *Anadolu Kurşun Figürinleri ve Taş Kalıpları*, TTKY, Ankara 1971; Fikri Kulakoğlu-Selmin Kangal, *Anadolu'nun Önsözü, Kültepe Kaniş-Karumu, Asurlular İstanbul'da*, (Katalog), Kayseri Büyükşehir Belediyesi Kültür Yayınları No: 78, İstanbul 2011, p. 271-274.

[90] Dercksen, "Metals", p. 29.

[91] Moorey, *Materials and Industries*, p. 241; Dercksen, "The Goddess", 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 Kaniš, 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

AKT 3	Bilgiç, E.-Günbattı, C., *Ankararer Kültepe Texte III*, Freiburger altorientalische Studien (FAOS) Beiheft 3, Stuttgart, 1995.
AKT 5	Veenhof, K. R., *Kültepe Tabletleri V, The Archive of Kuliya, son of Ali-abum (Kt. 92/k 188-263)*, Türk Tarih Kurumu Yayınları, Ankara, 2010.
AKT 6-c	Larsen, M. T., *Kültepe Tabletleri VI-c, The Archive of the Šalim-Aššur Family Volume 3: Ali-ahum*, Türk Tarih Kurumu Yayınları, Ankara, 2014.
AKT 6-d	Larsen, M. T., *Kültepe Tabletleri 6-d, The Archive of the Šalim-Aššur Family, Vol. 4, Texts Concerning Non-Family Members*, Türk Tarih Kurumu Yayınları, Ankara, 2018.
AKT 7-a	S. Bayram-R. Kuzuoğlu, *Kültepe Tabletleri VII-a, Aššur-rē'î Ailesinin Arşivi, I. Cilt: Aššur-rē'î'nin Kendi Metinleri*, TTKY, Ankara 2014.
AKT 8	Veenhof, K. R., *Kültepe Tabletleri VIII, The Archive of Elamma, Son of Iddin-Suen, and his Family (Kt 91/k 285-568 and Kt 92/k 94-187)*, Türk Tarih Kurumu Yayınları, Ankara, 2017.
AKT 11-a	Erol, H., "*Kültepe Tabletleri XI-a, I. Cilt: Šu-İštar'a Ait Belgeler*", Türk Tarih Kurumu Yayınları, Ankara, 2018.
BIN 6	Ferris, J. Stephens, *Old Assyrian Letters and Business Documnets, Babylonian Inscriptions in the Collection of James B. Nies*, Yale University Vol. VI, New Haven 1944.
CAD	Chicago Assyrian Dictionary

CCT 1-6	Cuneiform Texts From Cappodocian Tablets in the British Museum, London.
CDA	J. Black - A. George - N. Postgate, *A Concise Dictionary of Akkadian*, Wiesbaden, 2000.
CTMMA 1	M. T. Larsen, *Cuneiform Texts in the Metropolitan Museum of Art 1*, New York, 1988.
Dalley	St. Dalley, *A Catalogue of the Akkadian Cuneiform Tablets in the Collections of the Royal Scottish Museum Edinburgh*, Art and Archeology 2, Edinburgh, 1979.
EL	Eisser, G. – Lewy, J., *Die altassyrischen Rechtsurkenden vom Kültepe*, MVAG 33 EL 1, 1930 – MVAG 35/3 = EL 2, 1935.
ICK 1	Hyrozny, B., *Inscriptions Cunéiformes du Kultépé, Vol. 1*, Stántí Pedagogické Nakladatelství, Prague, 1952.
KTK	Jankowskaja, N. B., Klinopisnye Teksty iz Kjul'Tepe v Sobranijach SSSR, Moscou, 1968.
KTS 1	Lewy, J., Die altassyrischen Texte von Kültepe, Keilschrifttexte in den Antiken - Musees zu Stambul, İstanbul 1926.
PRAG I	Hecker, K.-Kryszat, G.-Matouš, L., Kappadokische Keilschrifttafeln aus den Sammlungen der Karlsuniversität Prag, Prag 1998.
Sadberg	Donbaz, V., *Sadberk Hanım Müzesi'nden Bulunan Çiviyazılı Belgeler*, İstanbul, 1999.
TC 1	Contenau, G., *Tablettes cappadociennes du Louvre (TCL 4)*, Paris, 1920.
TC 3	Lewy, J., *Tablettes cappadociennes de Luvre, (TCL 19, 20, 21)*, Paris 1935-1937.
WAG	Walters Art Gallery (WAG 48)

EKLER

Kt 92/k 432

Ön Yüz

Arka Yüz

Alt Kenar

Üst Kenar

Sol Kenar

Sağ Kenar