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Money in the Old Assyrian Period

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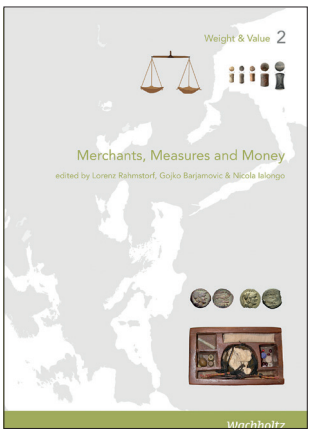

Merchants, Measures and Money

Understanding Technologies of Early Trade in a Comparative Perspective

Lorenz Rahmstorf, Gojko Barjamovic, Nicola Ialongo (eds)

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Merchants, Measures and Money

Understanding Technologies of Early Trade in a Comparative Perspective

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Abstract

This second volume in the series collects papers from two workshops held at the University of Göttingen in 2019 and 2020. The international meetings tackled questions related to merchants and money in a comparative perspective, with examples spanning from the Bronze Age to the early Modern period and embracing Europe, the Mediterranean, Asia and East Africa. The first part of this volume presents historical case studies of how merchants planned and carried out commercial expeditions; how risk, cost, and potential profit was calculated; and how the value of goods was calculated and converted. The papers in the second part address current theories and methods on the development and function of money before and after the invention of coinage. The introduction of balance scales around 3000 BCE enabled the formation of overarching indexes of value and the calculation of the commercial value of goods and services. It also allowed for a selected set of commodities to take on the role of currency. Around 650 BCE, this led to the invention of coinage in the Eastern Mediterranean.

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Merchants, Measures and Money

Understanding Technologies of Early Trade in a Comparative Perspective

Proceedings of Two Workshops

Funded by the European Research Council

(ERC)

Edited by Lorenz Rahmstorf, Gojko Barjamovic and Nicola Ialongo

Weight & Value

Edited by Lorenz Rahmstorf
Seminar für Ur- und Frühgeschichte
Georg-August-Universität Göttingen

Volume 2

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WEIGHTANDVALUE: Weight Metrology and its Economic and Social Impact on Bronze Age Europe, West and South Asia

Göttingen
2021

Merchants, Measures and Money

Understanding Technologies of Early Trade in a Comparative Perspective

Edited by

Lorenz Rahmstorf, Gojko Barjamovic and Nicola Ialongo

with contributions from

Rodney Ast, Gojko Barjamovic, Alain Bresson, Georg Christ, Gareth Dale, Jan Gerrit Dercksen, Mark Gardiner, Anthony Harding, Nicola Ialongo, Carsten Jahnke, Christoph Kilger, Sibel Kusimba, Chapurukha M. Kusimba, Elizabeth Lambourn, Natascha Mehler, Claude Mordant, Rebecca Peake, Lorenz Rahmstorf, Felix Rösch, Malfalda Roscio, Clive Stannard, Piotr Steinkeller, François R. Velde, Julien Zurbach

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The contributions to this volume have been individually reviewed by colleagues from the respective subfields to which they relate. The editors are grateful to the 19 colleagues who acted as peer-reviewers.

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Front cover (top left): Reconstruction of the scale from Bordjoš, Banat, Serbia, c. 1200 BC (modified after P. Medović, Die Waage aus der frühhallstattzeitlichen Siedlung Bordjoš (Borjas) bei Novi Bečej (Banat). In: B. Hänsel (Hrsg.), Handel, Tausch und Verkehr im bronze- und früheisenzeitlichen Südosteuropa. Südosteuropa-Schr. 17 = Prähist. Arch. Südosteuropa 11 (München, Berlin 1995) 209-218, here fig. 5).
Front cover (top right): Spool-shaped balance weights with markings from Tiryns, Argolid, Greece, mid- and late 3rd millennium BC. Courtesy of Lorenz Rahmstorf.
Front cover (upper bottom): Examples of *trientes* of the Second Punic War issue at Minturnae. Courtesy of Clive Stannard.
Front cover (lower bottom): Gold trader's complete weighing tool kit, Bani-Shangul, Ethiopia. Donation by Per Sandvik, Vitenskapsmuseet, University of Trondheim, E 485-38 (photo: B. E. Thingstad).
Back cover (top): Experimental leather zip pouch with fastening of leather loops and bronze baton inspired by the zip pouch found in the Middle Bronze Age Danish tomb of Hvidegard (made by Jess Paske); bone balance beam (made by Vincent Lascour) and three bronze weights (made by Aurélie Legras and Killian Morin) (© Claude Mordant).
Back cover (bottom): The control of lengths of measurements is depicted in a 15th-century version of Jónsbók (Heynesbók) (AM 147 4to). Image provided by The Árni Magnússon Institute of Icelandic Studies, Reykjavík.

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Preface by the editor of the series

This volume presents the contributions of two further workshops which were held within the scope of the research project ERC-2014-CoG 'WEIGHTANDVALUE'. Volume 1 in the series Weight & Value presented the proceedings of Workshops 1 and 2 held in 2016 and 2017 focussing on "Weights and their Identification" and "Weights and Marketplaces". This volume publishes the contributions of Workshops 3 and 4. Workshop 3, "Weights and Merchants. The Technology of Early Trade", took place between 15th-17th May 2019, Workshop 4, "Weights and Money. Understanding Money in a Comparative Perspective from Prehistory to Modern Times", between 27th-29th May 2020. I am grateful that nearly all participants delivered a paper for the proceedings. My special thanks are due particularly to the authors of the last workshop as they had only three months to prepare the written versions of their papers. As with Volume 1, this publication is available as open access. Please note that larger, high-quality versions of the footnotes and figures printed within this volume are available for download: https://doi.org/10.23797/9783529035418

I would like to thank my co-editors Gojko Barjamovic and Nicola Ialongo for their support in editing this publication. The layout of the papers and the book was again arranged by Heinz-Peter Koch. He was also responsible for solving graphical problems. Laura Hermann revised the language, Sandra Busch-Hellwig corrected formal inaccuracies. I would like to express to them and to Olaf Irlenkäuser from Wachholtz Verlag my deepest gratitude for their outstanding work. The invitation and hosting of the workshop's participants, the printing and the open access of this publication have been financed by the ERC Grant.

The two first volumes in this series can be regarded as a *prolegomena* to the material evidence that we have focussed on in the research project: mainly weights, but also scales and weight-adjusted artefacts. In the workshops, the problems of the identification and the contextual use of these objects were discussed for the Bronze Age and later periods. In the volumes which will follow in this series, the actual data, especially the weights from Bronze Age Europe, West and South Asia, which have been investigated by the research team over the years since 2016, will be published in detail.

Göttingen, January 2021

Lorenz Rahmstorf

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Money in the Old Assyrian period

by Jan Gerrit Dercksen

Assur, Kültepe, Kanesh, Old Assyrian, trade, money

The legacy left by the Old Assyrian trading practices is comprised of a rich body of written and material evidence which offers a unique insight into the use of money, both by the Assyrian traders and their families in Assur and Kanesh, and by the inhabitants of Kanesh and other Anatolian towns. The present contribution describes the goods used as money and the functions this money fulfilled, the shapes and qualifications of metals used as money and the regional and chronological dimensions involved. It also addresses some metallurgical and archaeological issues.

Geld in der altassyrischen Zeit

Assur, Kültepe, Kanesh, altassyrisch, Handel, Geld

Das Vermächtnis der altassyrischen Handelsaktivitäten anhand von Keilschrifttexten bietet ein reiches Zeugnis, das einen einzigartigen Einblick in die Verwendung von Geld gewährt. Dieses wurde sowohl durch die assyrischen Händler und ihre Familien in Assur und Kanesh als auch durch die Bewohner von Kanesh und anderen anatolischen Städten genutzt. Der vorliegende Beitrag beschreibt die Güter, die als Geld dienten, und die Funktionen, die dieses Geld erfüllte, die Formen und Eigenschaften der als Geld verwendeten Metalle sowie die damit verbundenen regionalen und zeitlichen Unterschiede. Dabei wird auch auf einige metallurgische und archäologische Fragen eingegangen.

1 Introduction

1.1 The Old Assyrian period

Evidence concerning goods used in monetary functions in the Old Assyrian trade stems in the majority of cases from the site of Kültepe (ancient Kanesh) near the Turkish city of Kayseri. At that time, the beginning of the Middle Bronze Age, the political landscape in Mesopotamia and Anatolia consisted of well-organised city-states governed by a king, some of which expanded into larger territorial states. Excavations in the Lower Town of Kültepe led to the discovery of about 23,000 texts (clay tablets, envelopes, bullae) inscribed in cuneiform in the Akkadian language; however, most of the texts dated by eponym stem from a period of about 30 years (Revised Eponym List no. 80-110, *c.* 1893-1863 BC, see Barjamovic *et al.* 2012; for Assyrian archives, see Veenhof 2003). They originated from the activities of merchants from the city of Assur in North Iraq, who travelled to Kanesh during the 1st century of the 2nd millennium BC and many of whom eventually settled there and in other towns in Central Anatolia (estimated at 700-800 persons during REL 80-110). Two main periods of Assyrian activity in Kanesh can be distinguished, named after the stratigraphy of the Lower Town: the Level II period (*c.* 1925-1835 BC), which is regarded as the classical period of trade, and Level Ib (until *c.* 1710 BC). Assyrian cuneiform texts have been found at both levels. The most recent level (Ia) did not yield any such texts and represents the time shortly before the Old Hittite period.

The trade consisted of the bulk import of tin and textiles and smaller quantities of other elite goods from Assur to Kanesh, which were sold for silver and gold (sometimes also using copper and wool) in that town or elsewhere in Central Anatolia. The Assyrians established trade colonies (Akkadian word: *kārum*; colony in the sense of a group of merchants settled in a foreign land retaining contact with their city of origin) and smaller stations (Akkadian: *wabartum*) in Kanesh and at other towns of economic importance (see Fig. 1 in the article by G. Barjamovic in this volume), which were administered by the merchants under the auspices of the city-state of Assur. Their activities were enabled and protected by treaties which Assur or the Kanesh colony concluded with local rulers.

At the same time, the documentation informs us about Anatolian society, partly through texts written on behalf of the palace and some members of the Kaneshite elite.[1]

1.2 Scholarship concerning the existence and use of money in Ancient Mesopotamia

Before reviewing the Old Assyrian material for money, I will briefly summarise the main opinions in Assyriology about money during the Old Assyrian and Old Babylonian periods.

The definitions of the uses of money in this article follow those by Karl Polanyi (1957, 264-265), without, however, accepting his tenets about the absence of markets or market forces. Money is used as a means of (deferred) payment, as a standard of value, and as a means of (indirect) exchange. Payment is the "discharge of obligations in which quantifiable objects change hands" and the quantifiable object is accepted as payment in at least two different types of obligation (*e. g.* dues, taxes, rent, or tribute). If the payment is due in future, as with debts, the term deferred payment is used. As a standard of value, amounts of different kinds of goods are equated for definite purposes. (Indirect) exchange involves the use of quantifiable objects to directly or indirectly obtain other goods.

In his study of money in the Old Babylonian period (roughly 2000-1600 BC in South Iraq), Sweet (1958) presents abundant evidence for the use of various commodities as money. He employs the word money in the definition of Polanyi. Sweet notes that the most important use of silver as money during this period was as a standard of value, introduced by the logogram kù-bi "its silver" or "commodity *ša* x silver". He remarks that the use of silver as a standard of value "was much more common in business documents than is immediately obvious" and argues that "many of the references to silver as a means of payment were really no more than payments in other forms (in kind) which were disguised as payments in silver for reasons of scribal convenience and simplicity" (Sweet 1958, 128). This statement is of great significance for the understanding of the economy. Sweet bases this conviction on a small number of texts which specify what was used as a means of payment instead of silver. Yet, he acknowledges that in other cases there is concrete evidence for the physical use of silver.

Other commodities that served as a standard of value, albeit on a much smaller scale than silver, were cattle and barley. As a means of payment, barley was frequently used in Babylonia, much more than silver. The use of actual silver seems incontestable in texts where it occurs alongside other commodities used as a means of payment. Sweet notes that the quantities of silver used are always small and rarely exceed ten shekels and that the type of transaction can be regarded as minor. Large transactions were paid in kind (barley, sesame oil).

A commodity functions as a means of (indirect) exchange when it is obtained by direct exchange for other goods or services and is subsequently used as payment to obtain yet other goods or services. Silver was preferred for long-distance transactions, but otherwise it did not function as the preferred

1 A good introduction to this period can be found in Larsen 2015. Veenhof 2008a contains a thorough discussion of all aspects of Old Assyrian history and trade. From *c.* 1972 BC, the chronology rests on the succession of year-eponyms in Assur; the relative number is preceded by REL according to Barjamovic *et al.* 2012, 92-97.

means of exchange. Sweet concludes that there was no actual money or moneys of exchange during the Old Babylonian period.

The existence of money is not questioned by Leemans (1960) or in the writings of Powell (1996; 1999), who argues in support of the important role of money in the Mesopotamian economy, with silver as the main currency. He investigated the role of weight stones in the physical exchange of metal as money. As for silver, Powell (1999, 16) stated that he "cannot imagine silver circulating from hand to hand on a daily basis throughout the whole populace – including rural areas – in the Old Babylonian period or in any later period". Still, silver played an important role in the economy.

Renger (1995; 2007) stressed the importance of considering the embedded position of the economy of Mesopotamia in its society, a crucial point in Polanyi's theoretical framework. In his analysis, the form of economic organisation determines the room there is for market exchange and the use of money apart from receiving rations and sustaining agriculture at a subsistence level. The economic sphere therefore determines the use of money, and Renger argues that silver played a small role in the economic exchange between and within household organisations (*oikos*). He considers the silver brought to Assur by Old Assyrian merchants as merchandise (*Handelsgut*) and, although this trade is a fine example of an embedded economy, the profit-driven attitude of its merchants makes it in his opinion an exception within Mesopotamian economic history.

The relation between money and trust is at the heart of the book edited by van der Spek/van Leeuwen (2018). It discusses the role of money from its emergence in 3rd millennium BC Mesopotamia until the present. The Old Assyrian evidence is summarised there as well (Dercksen 2018).[2]

1.3 Weighing metal: Evidence and practical problems

The goods that functioned as money were weighed (*šaqālum*) in the case of metals or measured out in volume (*madādum*) for cereals. The Old Assyrian texts contain at times small amounts of silver, and the question is whether the weighing system allowed precise weighing of such quantities, or whether the small amounts result from calculation, and serve, in the case of silver, to indicate the silver value. It is likely that there was a difference between the accuracy of palace weighing systems and those outside the palace, with a special position for merchants.[3] But even within the sets of balance weights handled by an institution there may have been slight differences. A span of variation exists among balance weights of 3 to 5 % (Powell 1989-1990, 509-510; Ialongo *et al*. 2018). Powell wrote: "Based on calculation of standard deviation in Old Babylonian precision weights, I postulated (Powell 1979, 82-83) that the margin of error in small weights was about three per cent of the total mass. At the mass of a shekel, this would amount to about a day's pay in silver, so it is obvious that exchange of cheap commodities or small amounts of commodities for silver is not something to be expected." (Powell 1999, 16). The interpretation of balance weights is further complicated by the fact that there co-existed several standards with a basic unit of one shekel. Among the stones excavated in the south Babylonian city of Ur and dating to the Ur III/Old Babylonian period, are some that belong to a non-Mesopotamian unit (Peyronel 2019, 71).

A detailed description of balance weights excavated at Kültepe is now available (Kulakoğlu 2017, tab. 21.3); the smallest stone possibly representing a fraction of the Mesopotamian shekel is one of 10 še (from Level Ia), followed by stones of 30, 45, 90, 120, and 135 še (one shekel consisting of 180 še). The one-shekel stones range from 8.00 to 8.95 g and weigh on average 8.296 g. It was already clear from earlier publications that the majority of these stones belong to the Mesopotamian system with a shekel being about 8.3 g; a smaller number of stone weights represent the Syrian and Levantine systems, and some stones can be assigned to the local, Anatolian system (with a shekel of about 11 g), which the Assyrian merchants called the "stone of the land" (*aban mātim*) (Dercksen 2016; Peyronel 2017, 206-207). This Anatolian system was in use by the palaces in Kanesh and other towns in Central Anatolia (the *aban ekallim* "stone of the palace" of Durḫumit occurs in AKT 6A, 251:11-12), but details are lacking to establish whether these differed from the one used in Kanesh.[4]

The Assyrian standard balance weights were kept in an institutional environment: the City Hall in Assur and the Office of the Colony in Kanesh.

1.4 Goods functioning as money and their prices in silver

The goods used as money during the Old Assyrian period were metals (copper, tin, silver, gold) and barley. The Assyrian merchants were not involved

2 The important results in Jursa 2010 will not be discussed here since they deal with money in Babylonia in the 1st millennium BC.

3 It is known that most(?) merchants possessed their own set of balance weights, but it is unclear whether they also owned a balance or always went to a central point in a town where such facilities could be used; in the case of Kanesh mention of the use of the colony's one-mina balance weight is evidence that amounts of silver could be weighed at the Office of the Colony (Dercksen 1996, 86; not "deviations of weights"). According to Kulakoğlu (2017, 349-350, 353), six scale pans were found in Level II, and four in Levels Ib-Ia, all in tombs, against about 200 weight stones. The problem of possessing such equipment was less urgent when measuring out grain, as creditors usually owned their own measuring pot (*karpatum*) which they used in the process.

4 Identified by a toponym are those of Karaḫna (AKT 11A, 97:4), Purušḫattum (Sadberk Hanım 16:4-5), Tuḫpiya (Kt 93/k 278:3-4), Ušša (Kt n/k 827:7.10).

in the mining or production of any of these commodities. A recent study into the volume of the trade in metals and its geographic distribution can be found in Erol 2019.

Gold (Akkadian: *ḫurāṣum*, logographic writing: kù-gi, kù-ki; Dercksen 2005, 25-27) occurs in several varieties defined by colour, shape or origin: *pašallum* (*damqum*) "(good) *pašallum* gold", *pašallum ša ḫarrān āli* "*pašallum* gold of the road to Assur", *sāmum* "red", *puṣium* "white", *kuburšinnum*, *ša abnīšu*, *ša tiamtim*, *ša mā'ēšu*.[5] Gold prices in Anatolia range from 10 to 5 shekels of silver per shekel of gold, those in Assur range from 10 to 4 (for details see Dercksen 2014, 90-91).[6] One of the shapes in which gold circulated was as beads (*ḫiddum*), another one was in the form of bracelets (see 2.1.2 below).

Silver (Akkadian: *kaspum*, logographic writing: kù-babbar), occurs in the qualifications *ṣarrupum* "refined", *ammurum* "checked", *tīrum* "coil(?)", *litum* "?", saḫar-ba "?", *massuḫum*. The standard quality of silver when used as a measure of value in Kanesh and in Assur is *ṣarrupum*, which is often translated "refined". *Litum*, often in the plural *li-té*[7] (conventional reading) and frequently qualified as "good", is distinguished from *ṣarrupum* and *dammuqum* in OIP 27, 59. It only occurs in texts from the Level II period and mostly (but not exclusively) with Anatolian debtors. The largest quantities mentioned are 11 minas of good *litu*s (ATHE 2A:1; debtor: Ḫaršunuman priest of the sun-god) and 25 minas of good *litu*s (TC 3, 231A:1-2; debtors two Anatolians), in both texts with Pušu-ken as creditor. Garelli (1963, 267) assumed that what he normalised as *liti* and *tiri* denote inferior qualities of silver, but proof for this is lacking. The designation *litum* appears to denote a specific shape of silver typically used in Anatolia, which is suggested by KTK 96: (1) *1* ma-na kù-babbar *li-té* (2) sig_5 *ša kà-ni-iš*, "1 mina of silver (in the shape of) good *litu*s of Kanesh".[8] It was not among the silver transported to Assur; an isolated reference in a debt-note stipulates payment of 5 shekels of good silver *litu*s in Kanesh or in Talḫat in Northern Syria (Kt j/k 90) (*cf.* a loan of *litum* silver to a merchant from Talḫat in BIN 6, 237).

The meaning of the word *tirum* (usually in the plural, *tí-re(-e)*; Dercksen 2005, 22; Veenhof 2014, 397) is unclear. Kouwenberg (2019) suggested that it means a coil of silver. It is used by Assyrians and Anatolians and the largest quantity mentioned thus far is 16 minas.[9] Veenhof (1989, 523) drew attention to the Middle Assyrian use of quantities of tin or silver that are qualified as *tí-re* na_4 *é a-lim* (lit. "*tiru*s of/by the balance weight of the City Hall") and connected it with how the weight was established by the use of official balance weights;[10] previously, Saporetti (1981, 29, 32) had translated these phrases "stagno/argento misurato secondo (il peso del) la pietra della casa della città". Attractive as the interpretation as coils is, it seems difficult to reconcile with tin in the Middle Assyrian expression.

The logogram saḫar-ba (lit. "in its earth"; Dercksen 2005, 22; Veenhof 2010, 137; 2014, 396) as a qualification of silver occurs in nine texts from the Level II period and in two from Level Ib.[11] Twice, the text on a tablet has saḫar-ba but that on the envelope *ṣarrupam* – whether this is a scribal mistake or whether the two terms could be used synonymously remains unclear.[12] Saḫar-ba silver is used to indicate the price of a slave and the extent of debts; it could also be sent to Assur (AKT 9A, 63:3; 50 shekels). Its relative value seems practically the same as that of *ṣarrupum*; the price of tin expressed in saḫar-ba is 5 ⅔ (AKT 5, 41), which is very close to the common price of 6.

Another qualification is *ammurum* "checked" (Sturm 1995; Dercksen 2005, 21; Veenhof 2014, 394-395). It is distinguished from *ṣarrupum* and *dammuqum* "good" silver (in an unpublished text *ammurum dammuqum* "good checked (silver)" occurs) but this does not seem to affect its value and texts associated with Anatolia demonstrate that its quality did not differ from *ṣarrupum*,[13]

5 Bronze Age metallurgists were able to remove impurities from gold by cupellation, but were unable to separate silver from gold (cementation), see Pernicka/Wunderlich 2017, 434.

6 Prices for gold types in Anatolia: very good *pašallum*: 10 (AKT 6A, 166:9; ICK 1, 30; OrNS 50, 3:11); 8 ¼ (Sadberk Hanım 12:40); 8 (AKT 2, 9). *Pašallum*: 9 (AKT 9A, 44:12; AKT 11A, 76:19). Good *ša dāmē*: 9 or 8 ½ (Kt c/k 48:37). *Ša abnišu*: 8 (WAG 48-1463:9), 5 ½ (AKT 2, 27). *Ša tiamtim*: 6 (WAG 48-1463:6). *Kuburšinnum*: 5 ½ (AKT 2, 27). Prices in Assur range from 10 to 4 (in Kt 92/k 347:7, see n. 73). Good gold (kù-gi sig_5) is 8 ⅔ (CCT 3, 22a:11). *Kuburšinnum*: 6 ⅔ (TC 3, 43:9).

7 Dercksen 2005, 21-22; Veenhof 2014, 396. For the singular, see kù-babbar *li-tám dam-qám* in AKT 8, 302:5 and for the plural, kù-babbar *li-té-e dam-qú-tim* in Kt 87/k 120:7.

8 The same form of silver may be meant by kù-babbar *ša kà-niš* "Kanesh silver" in AKT 10, 27 (= Kt d/k 15) A:1-2 and 27B:8-9.

9 WAG 48-1462: (3) ... *8* ma-na kù-babbar (4) *tí-re a-dí-na-kum* (5) *8* ma-na kù-babbar *tí-re* (6) *ku-nu-ki-a sà-ha-ar-li* (7) *ù a-zu na-áš-ú-ni-kum* (8) šunigin *16* ma-na *i-li-kà-kum* "I gave you 8 minas of silver *tiru*s. Saharli and Azu brought you 8 minas of silver *tiru*s under my seal. In all 16 minas went to you."

10 *Cf.* Postgate 2013, 32 n. 94, where the word is read *ṭiri* and translated "stamped?".

11 AKT 5, 37:6 (10 shekels); AKT 5, 41:2 (19 shekels); AKT 5, 45:22' (3 ½ shekels); AKT 5, 46:1 (1 ⅓ minas) // AKT 5, 35:6-9 "kù-babbar"; AKT 9A, 63:3 (50 shekels); AKT 9A, 95:22 (4 minas); Lester Guttman tablet:2 (6 minas); TC 3, 246 tablet. Level Ib: Kt k/k 15a (21 shekels); Kt n/k 19 (5 shekels).

12 CTMMA 1, 87a (handcopy): (12) ½ ma-na kù-babbar saḫar-ba // 87b: (11) ½ ma-na kù-babbar *ṣa-r*[*u-pá-a*]*m*; TC 3, 246A tablet: (1) *15* gín kù-babbar saḫar-ba, but the envelope (246B) has: (4) ... *15* gí[n kù-babbar] (5) *ṣa-ru-pá-am*.

13 RA 59, 32: *10* ma-na kù-babbar *a-mu-ra-am ša é ma-ḫi-ri-im galkilia ana nazi iddinma u na-zi 10* ma-na kù-babbar *uraddi-ma* šunigin *20* ma-na kù-babbar *ṣa-ru-pá-am* "Galkilia gave 10 minas of *ammurum* silver of the House of the market to Nazi and Nazi added 10 minas of silver, making in all 20 minas of *ṣarrupum* silver".

which leaves the shape of the ingot or a certification of its weight or purity as a possible characteristic. *Ammurum* silver was among the silver sent to Assur. A group of traders from the Syrian town of Ebla bought copper at an Anatolian palace in exchange for *ammurum* silver (ATHE 32).

A complaint about the size of the ingots of silver in a grammatically difficult context is uttered in a letter to Pušu-ken, but it is uncertain whether that specifically refers to *ammurum* silver or rather to the bulk of the shipment consisting of *ṣarrupum* silver.[14]

The "checking" of silver may result in the establishment of the correct weight of an amount of silver, which is then indicated. The text mentioned in note 13 speaks of *ammurum* silver "of the House of the market", an Anatolian controlling institution. It is uncertain whether this can be compared to Old Babylonian "sealed silver" (*kaspum kankum*, for which see Marti/Chambon 2019, 59 with n. 42). In other contexts, Old Assyrian uses the form *uddu* "marked, verified" (from the verb *waddu'u*) in phrases relative to the weighing of silver; if the silver is qualified, *litum* and *ṣarrupum* occur, but not *ammurum* (see Veenhof 1972, 58-64). It is never stated who marked or verified the silver, but it is possible that this was done on behalf of the local Office of the Colony.

Scrap silver of good quality is mentioned only once,[15] where it is sent to Assur as a votive offering for the goddess Ištar. Hoards of hacksilver from Acemhöyük and Ebla show that the silver often was in the shape of complete or broken ingots, and rarely consisted of fragments of jewellery or vessels. It is likely that the weight of pieces of scrap was not accidental, but was a form of weight-based currency (Ialongo *et al*. 2018). Other forms in which silver circulated were rings/coils (*šawirum*), beads (*ḫiddum*), bracelets (*annaqum*); less frequently, toggle-pins (*tudittum*) and cups (*kāsum*) occur. A unique reference to cutting off silver from a torque (*ḫullum*) is found in AKT 9A, 11:14-17[16].

Silver and gold could be wrapped in packets (*nēpišum*) and bundles (*riksum*) for storage and for shipment to Assur. A packet contained between 10 and 20 minas (about 5-10 kg) of silver, whereas a bundle contained metal from 1 shekel (8.3 g) to 1 mina (about 500 g); exceptional is a bundle of 2 minas (KTS 2, 7:20). Sealed clay tags identifying the senders and the addressees were attached to the packets and bundles.[17]

Silver of poor quality was called *massuḫum* (Veenhof 2014, 404-405). The levels of impurity must have differed and in some cases the merchants had the metal refined.[18]

A diachronic change in terminology is apparent; in texts from the Level II period *ṣarrupum* is used in the majority of cases where a silver qualification is added and *ammurum* is relatively rare and *dammuqum* even more so. The (sparse) evidence from Level Ib (only about 2 % of all texts found at Kültepe stem from this period) consists of 15 texts with a silver qualification distributed as follows: *ṣarrupum* is attested once, saḫarba twice, *tirum* twelve times; this shows that *tirum* took over the role of *ṣarrupum* as a general indicator of quality or shape and it continues to be used in the subsequent Middle Assyrian period. The Anatolian form *litum* has not yet been attested in documents from Level Ib and may not have been used anymore.

Copper (Akkadian: *werium*, logographic writing: urudu) was traded in many varieties: *masium* "washed, refined", *dammuqum* "good", *lammunum* "poor", *šikkum* "?", *ṣallāmum* "black". Good qualities include copper with an indication of origin (shape of ingot, stamp): Ḫaburata, Taritar, Tišmurna. Good copper cost about 60 shekels of copper for 1 shekel of silver, poor copper about 150 (for prices, see Dercksen 1996, 227).

Tin (Akkadian: *annakum*, logographic writing an-na): sealed packages for export to Anatolia were bought in Assur, as well as unsealed lumps of tin ("hand-tin") to pay expenses *en route*. Prices in silver in Assur range from 17 ⅓ shekels of tin per shekel of silver to 12. Prices in Anatolia range from 11 ½ to 4 (Dercksen 2014, 106-109). Assyrian merchants considered a price of 6 (1 talent of tin = 10 minas of silver) as being fair and used it in their calculations.

14 CCT 2, 2: (4) *16* ma-na kù-babbar *i-dí-sú-en* (5) *ub-lam* šà-ba ⅚ ma-na kù-babbar (6) *a-mu-ru-um nepišam ša id-din-suen ublanni maḫar kulumaya apṭurma* ⅓ mana *1* ⅔ gín kù-babbar *batiq ša-áb-ra-tum* (10) *ra-bi-a i-na mì-ta-ḫu-ri-im* (11) *e ta-li-ib* "Iddin-Suen brought 16 minas of silver. Of this, 50 shekels is *ammurum* silver. I unpacked the packet that Iddin-Suen brought in front of Kulumaya and 21 ⅔ shekels turned out to be lacking. The ingots are (too) big, when you receive (them) you must not ..."; see also Larsen 1967, 118; Veenhof 2014, 401-403.

15 CCT 4, 2a: (7) ... *6* ma-na (8) kù-babbar *ḫu-ša-e* <<*e*>> sig_5 "6 minas of good quality silver scrap".

16 AKT 9A, 11: (14) *al-kam-ma* kù-babbar (15) *ša a-ḫi-kà* (16) *i-na ḫu-li-kà* (17) *bu-tù-uq-ma* "Come here and cut off the silver of your brother from your torque".

17 See, for example, AKT 8, 9: (1) *1 né-pí-šu-um 10* ma-na (2) kù-babbar *ni-is-ḫa-sú* diri (3) *ša-du-a-sú ša-bu* (4) *i-a-um a-na um-me-a-ni-a* (5) an-na *i-ša-ú-mu-nim* (6) *5* ma-na kù-babbar *a-ḫa-ma* (7) *ni-is-ḫa-sú* diri (8) *ša-du-a-sú ša-bu* (9) *ša* dam-gàr *ku-ta-ni i-ša-ú-mu-nim* (10) *1 ri-ik-sú-um* (11) *šī-im 2 ku-ta-ni-šu* (12) *a-na ḫa-ti-a* (13) *1 ri-ik-súm* ½ ma-na *5* gín (14) *šī-im ku-ta-nim a-na* (15) *i-li-a 1 ri-ik-súm* (16) ⅓ ma-na *a-na né-er-am-tim* (17) *1 ri-ik-súm* (18) ⅓ ma-na *a-šī-ma-at-ištar* (19) *13* gín *a-na* (20) *kur-ub-ištar mì-ma a-nim* (21) *a-na a-šur-lá-ma-sí* (22) *áp-qí-id* "(1-5) One packet of 10 minas of silver, its excise added, his transport fee paid, belonging to me, for my investors; they will buy tin for me. (6-9) Separately 5 minas of silver, its excise added, his transport fee paid, belonging to the merchant; they will buy *kutānum* textiles for me. (10-12) One bundle (of silver), the price paid for his two *kutānu*s, for Ḫatiya; (13-15) one bundle (containing) 35 shekels (of silver), the price paid for a *kutānum*, for Iliya; (15-16) one bundle containing 20 shekels (of silver) for Ner'amtum; (17-18) one bundle containing 20 shekels (of silver) for Šimat-Ištar; (19-20) 13 shekels (of silver) for Kurub-Ištar. (20-22) All this I entrusted to Aššur-lamassi (witnessed by two persons)".

18 AKT 6B, 371 (in Kanesh), leading to a loss of 5.5 %: (3) *1* ½ ma-na kù-babbar *ša m.* (4) *ub-lá-ni* kù-babbar : *ma-sú-uḫ* (5) *nu-ṣa-id-ma 5* gín *im-ṭí-ma* "As for the 1 ½ minas of silver that M. brought, the silver was impure and we therefore melted it and (as a result) 5 shekels were lost."

Fig. 1. The 1992 silver hoard from Acemhöyük, Anatolia (photo by courtesy of A. Öztan).

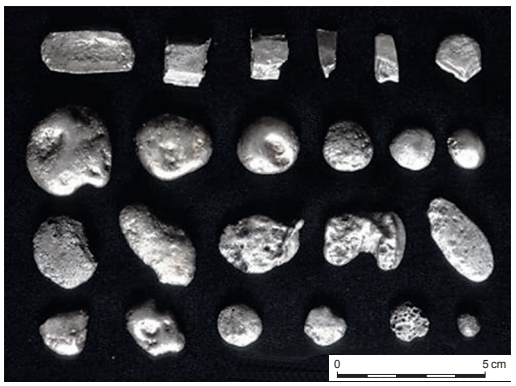

Fig. 2. Selected ingots in the 1992 silver hoard from Acemhöyük, Anatolia (photo by courtesy of A. Öztan).

Tin functioned as standard of value in the system of declared value (*awītum*) defined in Assur (see below). Beads of tin (*ḫiddum*) were used as money.

1.5 Archaeological evidence

The money of the Old Assyrian period has vanished, but some related artefacts have been excavated at several places and include moulds for the casting of bar-shaped and other ingots and some bracelets and rings. The artefacts discussed here all relate to silver. Contemporary hacksilver was excavated in Acemhöyük (Level III) in 1982 (a jar containing 22 pieces, total weight 250 g; see Özgüç 1995) and in 1992. The hoard from 1992 (Fig. 1-2) was found in a pitcher and consisted of ingots, rings, a cup, a pin and some scrap, in all 210 items with a weight of 1804 g (Öztan 1997).

From Kültepe stem several stone moulds and silver and gold rings and silver bracelets. The *litum* of silver may perhaps be compared to one of the two types of mould discussed here. The first type of mould, discussed by Müller-Karpe (1994, 141-142), is marked with a cross-shaped symbol (+, to divide the ingot into halves or quarters) in which circular ingots were cast. Five moulds with such a mark are known from Kültepe, four of which were found in Lower Town Level II (Tab. 1).

Tab. 1. Moulds containing a mark for casting silver.

No. in Müller-Karpe 1994, 141 tab. 1	Marked	Estimated weight in silver	Interpretation
9 (Kültepe Lower Town II)	+	39.9 g	5 shekels (Assyrian)
10 (Kültepe Lower Town II)	+	39.9 g	5 shekels (Assyrian)
14 (Troja)	+	168 g	20 shekels (Assyrian)
[25 (Malatya, Arslantepe VI)	+	525 g	1 mina (Assyrian)]
26 (Kültepe Lower Town II)	+	252 g	½ mina (Assyrian)
27 (Tarsus)	+	--	
28 (Kültepe Lower Town II)*	+	--	
29 (Kültepe "Lower Town")	+	798 g	

* Photo in Özgüç 1986, pl. 86 no. 3; description on page 43: Kt 82/k 157 from a Level II workshop, Room 1, length 9.9 cm, width 3.3 cm.

The interpretations in the last column correspond to those of Müller-Karpe, who regarded no. 29 as a mould for a silver ingot with a mass of 1 ½ minas. If the estimated weights are correct, the marked moulds hardly represent units based on the Anatolian weight (shekel of *c.* 11 g, mina of *c.* 450 g), but instead are based on the Mesopotamian shekel of 8.3 g used by the Assyrian merchants. The mould from Malatya stems from the early 3rd millennium BC, which makes it doubtful whether it really belongs to the same standard as the ones from early 2nd millennium Kültepe.

The second type is represented by at least two moulds for multiple bars marked with nipples. From Level Ib stems Kt f/k 78 with room for five bars (Fig. 3), each with six or seven nipples

(Özgüç 1986, 47, pl. 92 no. 4 with modern ingots; Kulakoğlu/Kangal 2010, 278 no. 258). Müller-Karpe (1994, 138-139, drawing on pl. 37,3) measured the volume of each bar as about 4.8 ml, and concluded that only when filled with silver, the weight of a bar (about 50 g) equals that of 6 Assyrian shekels *and* the number of nipples on the bars (the bar with seven nipples is at the sprue and slightly longer): "Somit dienten diese 'Warzen' als einfache Zahlzeichen, als Markierungen für den Wert und wohl auch als Anhaltspunkte zum Teilen eines solchen Stabes in Stücke zu je 3, 2 oder 1 Seqel." A second mould, observed on the surface of the Lower Town by the author in 2013, has four bar negatives the largest of which contains ten nipples (Fig. 4). Use of this type of mould seems to be limited to the Level Ib period. No bars marked with such nipples or fragments thereof have been found.

A small number of silver bracelets have been excavated at Kültepe, all in tombs (Özgüç 1986, 30; Kulakoğlu/Kangal 2010, 312-313 no. 354-355, 359-361). A bracelet of irregular shape with grooved ends is marked as Kt 84/k 93 (Fig. 5) (Özgüç 1986, 30; Kulakoğlu/Kangal 2010, 313 no. 361). Lead isotope analyses of a silver bracelet from Grave 20 in Assur and items from a silver hoard excavated at Acemhöyük point to an origin in the Central Taurus (Yener 2007; 2015).

2 Money in Kanesh and other towns in Anatolia

2.1.1 Money in the trade

Kanesh was the capital city of a kingdom of the same name. In its territory lay an unknown number of villages and hamlets (Barjamovic 2014). The economy was based on agriculture and animal husbandry (Dercksen 2008), with barley and wheat being its most important products, as well as wool and the textiles manufactured from it. Kanesh profited from being the hub of the Assyrian trading network in Anatolia. The Assyrian merchants lived in the Lower Town where they acquired houses (Hertel 2014). As most of them lacked land to grow barley or vegetables for own consumption, they depended on the purchase of food.

The availability of money was essential for trade. Supply of silver was cut off or severely reduced in the absence of foreign traders, during *sikkātum*, harvest, and warfare.[19] So, for example in Kt n/k 1689: "My ware has been sold and copper is available. The *sikkātum* went out and there is no silver or gold on the marketplace". Merchants obtained information about markets through their agents and partners; communication across Anatolia and between Anatolia and Assur was possible due to high level of literacy and a seasonally dependent lively network of envoys and travellers who could convey letters.

The range of goods a merchant could receive as a means of (indirect) exchange emerges from AKT 6C, 617, according to which an Assyrian "sold five textiles out of the twenty textiles available for 5 talents 50 minas of *šikkum* copper and one textile for 3 ⅓ shekels of gold. Amur-Ištar sold two textiles for 1 talent 10 minas of washed copper. We sold six textiles for 2 ⅓ minas 4 shekels of silver." The copper would be sold for silver subsequently. Often merchandise was entrusted to a retailer for a fixed price and term, this being the origin of many of the debt-notes with an Assyrian trader listed as debtor. In these debt-notes, the price was expressed in refined (*ṣarrupum*) silver; when copper is stipulated, it signifies that the owner of the goods wanted copper. In both cases, the refined silver and copper are a means of deferred payment.

▲*Fig. 3. Stone mould for marked bars from the Lower Town (Level Ib) at Kültepe, Anatolia. Material: steatite, length 9.4 cm, width 6.7 cm (Kulakoğlu/Kangal 2010, 278 no. 258; © Directorate of Kültepe-Kanesh Excavations).*

▼*Fig. 4. Stone mould for marked bars from the Lower Town (Level Ib?) at Kültepe, Anatolia (photo by the author, reproduced by courtesy of F. Kulakoğlu).*

19 The meaning of *sikkātum* is uncertain. It refers to an event whose beginning and end are more or less predictable; it has been interpreted as "war", "army", "conflict", as a festival, and as a fair held outside the city wall, see Barjamovic *et al.* 2012, 43.

▲*Fig. 5. Silver bracelet from the Lower Town (Level Ib tomb) at Kültepe, Anatolia. Length 8.5 cm, diameter 5.8 cm, thickness 0.8 cm (Kulakoğlu/Kangal 2010, 313 no. 361; © Directorate of Kültepe-Kanesh Excavations).*

The chain copper → silver and copper → gold → silver is exemplified by KTS 1, 18: "The goods entered the palace and the palace pre-empted 17 *makuḫum* textiles of Puzur-Aššur and three of your textiles for 20 minas (of copper) a piece. The palace took 420 minas of refined copper at 2:1 and we will collect the copper at the Office of the Colony. Today, the palace paid us in full the copper as proceeds of textiles and the good quality copper, but it did not give us any for that of the majority. Do not be angry. All textiles that could be sold have been sold. We will sell tin and copper and acquire at least 10 minas of silver and send Adu as soon as possible. Do you not hear that silver is hard to obtain here? You wrote in your tablet: Sell my merchandise at any price and then leave! There is gold as proceeds; let us obtain gold for you. We will stay for one or two months and obtain silver for you. We refused to accept gold (until now) because you had not instructed us to do so."[20]

The standard silver quality that the Assyrians used to record financial obligations during the Level II period was *ṣarrupum*. This may well refer to the silver value of the debt, and payment in silver was expected, but could also be realised in a different form. A good example of the use of the word "silver" forms TC 3, 2: "The remainder of your tin is 6 talents 55 ½ minas. At a rate of 8 ⅚, its silver (value) is 46 minas 50 shekels. Four fine *kutānum* textiles have been sold for 1 mina 45 shekels. The total of your silver is 48 minas 33(!) shekels. From this Al-beli is bringing you 42 minas of silver under our seal. The rest of your silver is (in the form of) gold. We will sell the gold."[21] Silver as a standard of value is used twice: first for the proceeds of the sale of tin, which turns out to consist of silver and partly of gold; the second time to indicate the remaining silver, which consists of gold yet to be sold. Real silver is sent with Al-beli.

Remelting of silver was done by smiths (*nappāḫum*). Refining (*masā'um*) and casting of silver seems to have been the standard procedure before it was sent to Assur; this involved losses in metal and the payment of a wage to the smith.[22] Smiths were instrumental in the exchange of metal at a local level. This is implied by AKT 2, 26, according to which 10 minas of good copper from Taritar is sent to a woman, presumably in Kanesh, and the sender of the copper is anxious that expert people assist her in case the smiths should deprive her of 1 or 2 shekels (of silver).

Silver was the standard of value in Assyrian contracts: the price of the goods was expressed in silver as was the financial penalty in the case of breach of contract. Also divorce money was expressed in silver. All kinds of daily commodities were purchased and their prices were usually given in silver. This results in documents recording how, for example, ¼ of a shekel of silver was spent on onions – which immediately raises the question of whether silver had been used or not.

At times, large quantities of barley are mentioned in the records of the merchants. It functioned as a means of (indirect) exchange[23] and the merchants sought to sell it at a profitable price.[24]

20 KTS 1, 18: (3) ... *ú-nu-tum* (4) *a-na* é-gal-*lim e-ru-ub-ma* (5) *17* túg *ma-ku-ḫi ša puzur*$_4$*-a-šur* (6) *3* túg *ku-a-ú-tim* é-gal-*lúm* (7) *20* ma-na-ta *a-na ší-mì-im* (8) *il*$_5$*-qé 4 me-at 20* ma-na urudu (9) *ma-as-am* é-gal-*lúm a-na* (10) *ší-mì-im ša-na-um il*$_5$*-qé-ma* (11) urudu *i-na* é *kà-ri-im ni-lá-qé-ma* (12) urudu *ší-im* túg-ḫi-a *ù* urudu sig$_5$ *u*$_4$*-ma-ma* (13) é-gal-*lúm ú-ša-bi-ni-a-ti-ma* (14) *mì-ma a-na ša na-am-e-dim* (15) *lá i-dí-ni-a-tí li-ba-kà* (16) *lá i-ma-ra-aṣ i-na* (17) túg-ḫi-a *ša ta-da-nim ta-ad-nu* (18) *lu* an-na *lu* urudu *ni-da-ma* (19) kù-babbar *10* ma-na *né-pá-áš-ma* (20) *iš-tí wa-ar-ki-ú-tim a-du-ú* (21) *ni-ṭá-ra-dam lá ta-áš-ta-na-me-e* (22) *ki-ma* kù-babbar-*pu da-nu-ni* (23) *ù a-na* túg *ší-mu-um lá i-ba-šú* (24) kù-babbar-*pu a-na-kam da-nu i-na* (25) *ṭup-pì-kà um-ma a-ta-ma ší-mì* (26) *ba-tí-iq ù wa-tur*$_4$ *dí-na-ma a-tal-kà-nim* (27) *a-na ší-mì-im* kù-gi *i-za-az* (28) kù-gi *lu né-pu-ša-kum* itu-*1*-kam (29) *iš-té-en*$_6$ *ù 2* itu-kam *ni-sà-ḫu-ur-ma* (30) kù-babbar *né-pá-ša-kum ki-ma lá té-er-ta-kà* (31) kù-gi *lá-qá-am lá ni-mu-a.*

21 TC 3, 2: (9) ... *ší-tí* (10) an-na-*ki-kà 6* gú *55* ½ ma-/na (11) *8* ⅚ gín-ta kù-babbar-bi-*šu* (12) *46* ⅚ ma-na *4* túg *ku-ta-nu* (13) sig$_5$ *a-na 1* ⅔ ma-na *5* gín (14) *ta-ad-nu* šunigin kù-babbar-*pí-kà* (15) *48* ½ ma-na *3* gín (16) šà-ba *42* ma-na kù-babbar (17) *ku-nu-ki-ni al-be-lí* (18) *na-áš-a-ku-um ší-tí* kù-babbar-*pí-kà* (19) kù-ki *i-ba-šú* kù-ki *ni-da-an-ma.*

22 For losses, see Dercksen 2005, 24; Veenhof 2014. Small payments to a smith such as that of ¼ shekel of silver in AKT 8, 344:7' may well be the costs for refining and casting silver or other metal.

23 BIN 4, 45: (24) ... *a-na a-mu-tim* (25) *ša il*$_5$*-we-da-ku ša a-na a-lá-ḫi-nim* (26) *i-dí-nu-ni a-ma-lá i-mì-ig-ru-ni* (27) *lá i-de*$_8$ *áš-ta-na-me i-ba-tí* (28) *wa-aḫ-šu-ša-na* še *i-da-šu-nu-tí* "I do not know what they agreed on (as payment) for the *amutum* iron that Il-wedaku sold to the *alaḫḫinum*. I hear rumors that he (wants) to give them barley outside of Waḫšušana".

24 The prices for wheat and barley show considerable fluctuation: 1 pot of wheat costs between 1 shekel 15 še and 4 ½ shekels of silver; 1 pot of barley costs between ¾ shekel and 2 ⅔ shekels. Two texts have an Assyrian buy barley at ¾ shekels of silver per pot (AKT 8, 343:3.11) and 1 ⅙ shekels (AKT 8, 345:17) and 1 shekel 75 še (AKT 8, 345) and wheat at 1 ¼ shekels (AKT 8, 343:1.14) and 1 ⅙ shekels per pot (AKT 8, 345:20.27). The sale of 600 (pots) of wheat for 28 minas of silver (a little over 2 ⅔ shekels per pot) is reported in BIN 4, 41:23-24. But the price of 40 sacks (= 160 pots) of wheat is given as 12 minas of silver at 4 ½ shekels per pot in ATHE 12:22-25 (among Assyrians in Kanesh).

Audience gifts presented to kings of Anatolian towns usually consisted of textiles and gold, but other objects occur as well, such as carnelian.[25]

2.1.2 Shapes and qualifications of money in Anatolia

The shape of metal used as money is rarely indicated. In exceptional cases a reference is duplicated in another text where the shape or quality is added. This occurs with the only mention of scrap silver attested so far in CCT 4, 2a, and the same silver is simply called kù-babbar "silver" in the parallel text Pa. 10 (L29-563).[26] This is only one case, but it suggests that scrap silver was used on a much larger scale for consignments to Assur. Apart from its availability, the reason might be that metal worked into an object generally had a higher purity than complete or broken ingots.[27]

Beads (*ḫiddum*) of silver and gold were accepted as a means of (indirect) exchange and seem only attested in texts from Level II.[28] Their weight is never mentioned and suggests a more or less standardised mass. One gold bead is the price of a *kutānum* textile (normal price 20-30 shekels of silver) in AKT 11A, 51.[29] An unknown number of textiles is sold for 13 beads to a palace according to Kt a/k 405:10-13. Silver beads with an average weight of 3 shekels (*c.* 25 g) are obtained in exchange for copper in Kt u/k 3.[30] Gold beads with an average weight of about 3 shekels apiece constitute 2 ½ minas of *pašallum* gold that cost 58 minas of copper per bead according to Kt c/k 263.[31] Prices in copper are difficult to evaluate without any indication of the copper quality. 40 minas of copper is the price of a gold bead in AKT 8, 258:20-21.[32] Other prices in copper can be found in AKT 11A, 46: 28 minas for a gold bead and 5 minas for a silver bead.[33] The shape of the beads made it possible to use beads cut in half.[34] Beads of silver and gold were a common feature in Anatolia, as payments by palaces and various Anatolians demonstrate.[35] It is therefore possible that moulds to cast such beads were used in Kültepe during the Level II period.

Tin beads occur as an audience gift (one bead to the *alaḫḫinum* of Taedizina, see below).[36] A quantity of "2 minas 3 tin beads", meaning 2 minas of tin and 3 beads of tin is attested in broken context in Sadberk Hanım 16:7.

Merchants obtained beads, but also had gold worked into beads.[37] Although worked metal generally was considered to be of good quality, and at times preferred over unworked metal, sometimes poor quality beads turn up.[38]

Pašallum gold circulated in the shape of beads (see above) and bracelets (*annaqum*), which makes the translation "nugget" impossible here.[39]

25 AKT 8, 221: (23) *a-ma* kù-gi *15* gín *ù 1* ma-na (24) *sà-am-tum ma-lá ta-le-a-ni* (25) é-gal-*lam ṭá-i-ba* "Here are gold, 15 shekels, and 1 mina of carnelian, appease the palace as well as you can" (transl. Veenhof 2017a, 323).

26 CCT 4, 2a: (3) *i-na* kù-babbar *ša ik-ri-bi$_4$-a* (4) *ša 1* ma-na kù-gi *ša-am-ša-am* (5) *a-na a-šur e-ep-ša-am* (6) *ni-is-ḫa-sà a-ḫa-ma* (7) *ku-un-kà-am 6* ma-na (8) kù-babbar *ḫu-ša-e* <<e>> sig$_5$ (9) *ù ni-is-ḫa-sú a-na* (10) ^{d}*ištar ku-un-kà-am* "Of the silver from my votive offerings you should make me a sun-disk for divine Aššur, weighing 1 mina of gold. Seal the import duty separately. Place 6 minas of good quality scrap silver plus its import duty, for divine Ištar, under seal." Pa. 10: (13) *ša-am-ša-am ša* (14) *1* ma-na kù-gi (15) *a-na a-šúr ḫa-bu-lá-ku* (16) *i-na ik-ri-bi$_4$-a* (17) *ep-ša-am 6* ma-na (18) kù-babbar *a-na* ^{d}*ištar* (19) *i-na li-bi$_4$ ik-ri-bi$_4$-a* (20) *bi$_4$-lam* "I owe divine Aššur a sun-disk of 1 mina of gold. Make it (with money) from my votive offerings. Bring me 6 minas of silver for divine Ištar out of my votive offerings." Translations taken from the edition in Larsen 2002, 31, 33.

27 This could be expressed in the price of the metal, as in the Laws of Eshnunna, where 1 shekel of silver equals 180 shekels of copper, but only 120 shekels of worked copper (urudu *ep-šum*), see Reiter 1997, 194. See also the price of 40 for zi-ir copper in JCS 41 (1989) text 3, but 90 and 97 for "copper" in Assur, section 3.1.

28 For *ḫiddum*, see Arkhipov 2012, 45 (Mari); 2018, 61.

29 AKT 11A, 51: (9) *10* túg *ku-ta-nu ḫi-dá* (10) *a-na* kù-ki *ta-*[*ad-nu*] (...) (20) *1* ma-na *5 ½* gín kù-babbar (21) *ù 10 ḫi-dim* kù-ki (22) *i-dí-ni-a-tí* "Ten *kutānum* textiles were sold at one bead of gold each (...) He gave us 1 mina 5 ½ shekels of silver and ten gold beads".

30 Kt u/k 3: (16) ... *7 me-at 60* ma-na (17) *12* ma-na-ta *a-na ḫi-dim* kù-babbar i-*na áb-na-tí-ni* (18) *ù* urudu *i-na áb-na-tí-ni* šunigin kù-babbar-*šu* (19) *3* ma-na *10* gín kù-babbar "760 minas (of copper) at 12 minas per silver bead according to our weight stones and the copper according to our weight stones, in all its silver is 3 minas 10 shekels". This results in 63 ⅓ beads (if all complete beads are of same weight, which is uncertain).

31 Kt c/k 263: (29) *2 ½* ma-na kù-ki *pá-ša-lam* (30) *a-lu-lá-a ù ta-ki-lá-a a-ṣé-er* (31) *a-šur*-dùg *a-kà-ni-iš ub-lu-nim* (32) *ší-im* kù-ki *58* ma-na-ta (33) *ší-im-šu 53* gú *10* ma-na "Alulaya and Takilaya brought 2 ½ minas of *pašallum* gold to Aššur-ṭab in Kanesh; the price of the gold was 58 minas (of copper) each (bead), its price 53 talents 10 minas (of copper)".

32 AKT 8, 258: (20) *um-ma šu-nu-ma 40* ma-na-*e-ma* (21) *šî-im ḫi-dim* kù-ki *a-bu-ni* (22) *ḫa-bu-ul um-ma a-na-ku-ma* (23) *40* ma-na *šî-im ḫi-dim* kù-ki (24) *ù 23* ma-na *šî-im* an-na (25) *iš-té-ni-iš 1* gú *3* ma-na (26) *a-bu-ku-nu ḫa-bu-ul* "They said: Our father owes only 40 minas as the price of the gold bead. I replied: 40 minas as price of the gold bead and 23 minas price of the tin, in all your father owes 63 minas (of copper)."

33 AKT 11A, 46: (19) *ma-ḫi-ra-am lá ta-dá-ga-al* (20) *ki-ma a-na ḫi-dim* (21) kù-ki *28* ma-na-ta (22) *i-za-zu a-na ḫi-dim* (23) kù-babbar *5* ma-na-ta *i-za-zu* "Do you not observe the market (situation) that for one gold bead 28 minas (of copper) stand and for one silver bead 5 minas (of copper)?"

34 AKT 6B, 512: (3) *14 ḫi-dim* (4) *sú-sà-a-a* (5) dumu *na-ápra-kà* (6) [*2*$^{?}$] ma-na *2 ½ ḫi-dim* (7) *i-zi-iz:me-šar* "14 beads: Susaya son of Napraka, 2 minas 2 ½ beads: Izziz-Mešar." AKT 9A, 94: (44) *2 ½* ma-[na] [*ú*$^{?}$] *1 ½ ḫi-dim* kù-babbar (45) *iš-tí* [*ḫa-li*]*-iš-kà* "Ḫališka owes 2 ½ minas (of silver) and 1 ½ beads of silver".

35 See also the debts of quantities of silver plus a number of silver or gold beads listed in AKT 6A, 151.

36 AKT 8, 146: (20) ... *ḫi-dam* an-na *a-na* (21) *a-lá-ḫi-nim ša ta-e-dí-zi-na* (22) *a-dí-in* "I gave one tin bead to the *alaḫḫinum* of Taedizina" (in Anatolia).

37 Pušu-ken's wife Lamassi writes him from Assur in VS 26, 42: (19) ... kù-gi (20) *ša bu-za-zu ša té-zi-bu* (21) *ḫi-dí a-na a-ḫa-ḫa e-pu-uš* "Make beads for Aḫaḫa (with) the gold of Buzazu that you left behind".

38 AKT 6B, 348: (34) ... *ḫi-dam* kù-gi *ša a-na* (35) *ṣú-ḫa-ar-tim tù-šé-bi$_4$-lá-ni ma-sú-úḫ-ma ú* (36) *lá-qá-am la ta-mu-a* "The bead of gold you sent to the girl was impure and therefore she refused to accept it".

39 AKT 8, 268: (6) *1 ⅓* ma-na *3* gín kù-ki (7) *pá-šál-lam* sig$_5$ *a-ni-qí* "83 shekels (about 690 g) of good *pašallum* gold (in the shape of) bracelets".

Copper was cast in ingots of distinctive shape identifying the place of origin; good quality copper and presumably also other types of copper were often broken up into smaller pieces (Dercksen 1996, 40-41).

2.1.3 Wages

Assyrian documents regularly refer to copper or silver paid for a service, in which the money functioned as a means of payment. Engagements that lasted for some time involved caravan personnel and attorneys. The men hired to assist in the caravan trade as harnessers (*kaṣṣārum*) were contracted in Assur or Kanesh and received a "working capital" (*be'ulātum*), usually expressed in silver, which functioned as an interest-free loan.[40] Someone hired in Kuburnat, a copper-rich region in Anatolia, received it in copper (AKT 6C, 686:6).

The *rābiṣum* or "attorney" was hired in Assur to assist relatives of a deceased merchant in Anatolia in recovering as much of the still outstanding claims at the time of his death as possible. The attorney received half of the agreed salary in Assur and the other half upon completion of his mission; food and travel expenses were covered by the client. The full hire (*igrū*) of an attorney ranged from 30 to 55 shekels of silver.[41]

People involved in smuggling merchandise (*mupazzirum*) were also paid a wage in silver according to distance and the number of goods to be smuggled.[42]

Envoys, often carrying letters and other tablets, received compensation in silver: 5 shekels (BIN 4, 83:52); 2 shekels (BIN 4, 202:4-5). It was possible to hire Anatolian porters in Kanesh and elsewhere to carry or accompany merchandise; their pay was in copper and silver.[43] The distance is rarely mentioned and an exception to this is AKT 8, 147 (Kt 92/k 3):21-24 "From Karaḫna until Kuburnat the costs of porters amounted to 3 shekels of silver." (Veenhof 2006, 780). Wagons were also rented (Dercksen 1996, 65).

Artisans and other specialists, such as builders in Anatolia,[44] were paid for their work.

2.1.4 Travel expenses in Anatolia

Payments to inns (*bēt wabrim*), toll, and rent of wagons and boats were made with copper, silver and even with tin (Barjamovic *et al.* 2012, 36-37 tab. 5). The variety in the use of metal will be illustrated by two texts published by Veenhof (2006) (Tab. 2).

Other documents contain more occasions of payments in copper. However, the many payments in tin and the few in copper in these two texts apparently depend on the geographical location of the trading journey: in the first text, the merchant is heading for the copper market at Durḫumit. Until he comes to that town, he pays with tin, but from Durḫumit onwards, he uses copper. The second text refers to a journey from the south-east of Kanesh to the north-east of it, when apparently no merchandise had as yet been sold for copper.

2.1.5 Money in the Office of the Colony in Kanesh

The Assyrian merchants settled at Kanesh fell under the jurisdiction of the organisation of merchants called *kārum* (lit. 'the Port'), which in turn received its instructions from Assur. This organisation had the Office of the Colony (*bēt kārim*) as its centre, where the merchants would hold meetings convened by the Colony's secretary (Larsen 1976, 283-307). Representatives were elected from among the merchants. Through an as yet unclear mechanism deferred payments by the palace of Kanesh were made through the Office of the Colony; this involved large quantities of copper. This institution influenced the use of money in several ways, by keeping standard balance weights and (although undocumented) facilitating weighing procedures, and by fixing a (non-mandatory) rate of interest of 30 % per year. A special group of registered merchants, some of whom lived in Assur, made large annual contributions to the Colony, the so-called *dātum*, known amounts of which vary from 12 to 37 minas of silver. This was paid on various occasions by making deposits of textiles and silver (Dercksen 2004, 119-147). The political and commercial activities of the Office of the Colony necessitated expenditure and the organisation did at times borrow silver from its constituency and paid interest on it.[45] The colony of Kanesh received

40 Veenhof 1994, 181-184; Dercksen 2014, 99-101. For a list of *be'ulātum* hire in the archive of Elamma, see Veenhof 2017a, 83-85.

41 Veenhof 1994, 182-183; Dercksen 2014, 103-104. Recently published data: 40 shekels, AKT 6A, 235:35-37 (20 in Assur, 20 shekels in Kanesh); 48, AKT 6A, 244:30ff. (28 already given, 20 yet to receive; 8 shekels travel expenses).

42 "Zupa and Adad-bani are smugglers, give them 10 shekels of silver as their hire", AKT 6C, 661:9; "2 shekels smuggling of *kutānum* textiles", Kt n/k 723:15; 7 ½ shekels of silver, AKT 6C, 633; "10 and 23 shekels of silver I gave to smugglers for P.", Kt c/k 1463.

43 Dercksen 1996, 61-63; 2014, 101-103; people from Kanesh receiving silver for their service occur in, for example, CCT 2, 40 and AKT 11A, 106 (Gürkan Gükçek 2006, 188 Kt 92/k 313): 21 shekels of silver. KTS 1, 10: *1 ⅓* gín-ta (11) kù-babbar *ig-ri-šu-nu* (12) *dí-na* "Give each man 1⅓ shekels of silver as their hire" (to Pitḫala and Watkan bringing 21 garments). AKT 9A, 122: "They gave 55 shekels of copper to the boys who brought the copper".

44 AKT 6A, 273:36': "When they built a house in front of the grave where our father is buried, my expense was 2 talents of copper, and 15 minas of copper was the wages of the builder (*ig-ri e-tí-nim*)"; AKT 6A, 274: "10 ½ shekels of silver for *aluranum*, 3 shekels for thin boughs, 3 shekels for stone, 2 shekels hire of the builder (*ig-ri i-tí-ni-im*)".

45 See Dercksen 2004, 107-110. CCT 2, 25: (5) kù-babbar *lu i-na* é *kà-ri-im* (6) *i-ḫa-šu-ḫu lu a-na um-me-a-nim* (7) *ke-nim ša ki-ma ku-nu-tí* (8) *ša lá ša-ḫa-tim* kù-babbar *pu-uṭ-ra-ma* (9) *a-na ṣí-ib-tim dí-na-ma* (10) kù-babbar *1* gín *šé-li-a-nim* "Whether they need silver in the Office of the

copper and silver that was levied by other Assyrian settlements in Anatolia (Dercksen 2004, 110-113).

2.1.6 Money in households: Budgets, dowries, gifts, and the division of property

Letters, marriage and divorce contracts, and private notes inform us about the marriage of Assyrian merchants to Assyrian or Anatolian women and how the households in Kanesh (or other towns) were organised.[46] Many Assyrians married a local woman, who was called *amtum* (lit. female slave) to differentiate her from a wife (*aššatum*) in Assur. When the merchant was away for business, the *amtum* wife took care of the household and like other women in a similar situation received copper[47] or silver[48] to purchase food and firewood from her husband or his representatives. Instead of money, the women often were given grain and additional food supplies by other Assyrians at the request of the absent husband;[49] these deliveries in kind were part of the men's business and therefore carefully recorded in preparation for a future settling of accounts. Some of the Anatolian wives of merchants had access to money which allowed them to become economically active themselves, *e. g.* by purchasing slaves, providing loans to others (see below), and in some cases even participating in the trade of their husband. For example, Laqep asked his *amtum* wife Ḫuatala to collect 9 shekels of silver owed by the wife of another Assyrian and to pay this to an Anatolian creditor (ICK 1, 69); according to a different text Ḫuatala gave 6 shekels of silver to a man to make purchases (ICK 1, 67). Nakilwišwe, the wife (*aššatum*) of Aššur-mutappil, bought a female slave for 17 shekels of silver (ICK 1, 123). Female creditors bearing an Anatolian name seem always to be local wives of an Assyrian merchant; for that reason, the transactions are often witnessed by one or more Assyrians, and Assyrian elements are employed in the formulary of the debt-note, such as dating by Assyrian month and eponym. Examples of such women are Anana, Madawada, Šuppialka and Walawala.[50] The dossier about Madawada will be discussed below, but the three debt-notes of Walawala deserve some comment here. Two were drawn up in the same *ḫamuštum* week and have the same witnesses: one (Kt c/k 181) is a loan of grain due in autumn and contains the clause "according to the decree of Kanesh" (see 2.3 below). The other (Kt c/k 201) is a loan of silver (15 shekels) due at the festival of the sun-god; the interest rate is 50 % per year and already included in the sum to be paid back. The third is a loan of silver (45 shekels) to an Assyrian (Kt c/k 644) mentioning the usual default interest "according to the decree of the Colony" (30 % per year).

	Copper	Tin	Silver
AKT 8, 146 (Kt 91/k 437)			
inn in Al-Buṭnatim		1 ½ shekels	
inn near Ḫanaknak		6 shekels	
inn in Ḫanikka		3 shekels	
inn in Wazida		3 shekels	
tax on textiles in Ḫanaknak		6 shekels	
inn in Ḫanaknak		3 shekels	
in Al-Kupilšan		3 shekels	
in Tapaggaš		1 ½ shekels (tin)	
to the *alaḫḫinum* in Taḫadizina		1 bead of tin	
river crossing in Durḫumit	30 shekels		
tax in Durḫumit	180 shekels (sig_5)		
payment to an Assyrian	300 shekels (sig_5)		
inn and costs in Waḫšušana	600 shekels		
AKT 8, 147 (Kt 92/k 3)			
inn in Ḫurama			1 shekel
inn		3 shekels	
inn in Šamuḫa		[broken]	
porter until Šamuḫa			1 ½ shekels
paid in Ḫatikaitra		3 shekels	
given to Ḫasanum in Kutiya		1 ½ shekels	
given to commander in Karaḫna		12 shekels	
porters Karaḫna-Kuburnat			3 shekels
tax			6 shekels
inn		2 shekels	

▲ *Tab. 2. The use of copper, tin and silver to pay travel expenses.*

Colony or whether to a trustworthy merchant who is like yourselves and whom you do not have to fear, unpack the silver and give it at interest, make every shekel of silver available to me!" (similarly, in VS 26, 69, same sender). See also AKT 7A, 184: (1) *17* ma-na lá *17* gín (2) kù-babbar *ša i*. (3) *1* ma-na *17* gín (4) kù-babbar *ša a*. (5) *nu-ra-dí-ma* (6) *18* ma-na (7) kù-babbar *ṣa-ru-pá-am* (8) *a-na ṣí-ib-tim* (9) *a-na kà-ri-im* (10) *ni-dí-in* (11) *1* ½ gín-ta i-itu-*1*-kam (12) *a-na 1* ma-na-*im* (13) *ú-ṣú-bu* "(To) 17 minas minus 17 shekels of silver belonging to I. we added 1 mina 17 shekels belonging to A. and then gave 18 minas of refined silver at interest to the Colony. They will add 1 ½ shekels per month to each mina" (30 % per year).

46 On Old Assyrian marriage contracts, see Kienast 2015; Veenhof 2018.

47 A mother is promised 5 or 6 minas of copper, while 1 ½ minas had already been sent to her according to LB 1209 (Dercksen 2009). A man who was staying in Kanesh was ordered by the Colony of Waḫšušana to provide his wife with 8 minas of *šikkum* copper per month for food, oil, firewood, Kt 88/k 269 (Dercksen 2014, 98-99).

48 Aššur-nada sent 21 shekels of silver to Šišaḫšušar with the order to buy wood and reeds with it (VS 26, 20); Šu-Ištar writes in CCT 4, 16b: (22) *10* gín kù-babbar *a-na am-tim* (23) *dí-in lá ta-kà-lá* "Give 10 shekels of silver to the *amtum*, do not withhold it." According to VS 26, 127, an *amtum* wife received 2, 1, and 3 shekels of silver "since I left Kanesh". See Michel 1997 and the letters translated in Michel 2020, chap. 6.

49 Asanum writing to Buzazu in CCT 3, 39a: (22) *šu-ma* géme-*tum* (23) *ú-ṭá-tám : té-ri-iš-/kà* (24) *dí-ší-im* "If the *amtum* asks you for grain, give (it) to her."

50 Anana: 47 ¼ shekels of silver, debtors Ḫulšan and his wife Azue, ICK 1, 16; 11 shekels of silver, deb. Šadaḫšušar, ICK 1, 24.
Šuppialka: 7 ½ shekels of silver, 1 sack of wheat and 1 sack of barley from Kua, Kt c/k 1417b.
Walawala: 11 sacks of grain, debtors Lurmea and Walwala, Kt c/k 181 (see Dercksen 2013, 54); 15 shekels of silver, debtors Lurmea and Walwala, kt c/k 201; 45 shekels of silver, debtor Amur-Ištar, Kt c/k 644.
The position of Ana (wr. *a-na-a*) is unclear to me: 12 shekels of silver and 3 sacks of wheat as interest, debtors Kapitaḫšu, Perwa, Iatalka, Kt c/k 1440.

The money that Anatolian wives spent, not on domestic consumption, but to buy slaves and other goods, may have been given to them by their husbands. But they also personally owned their dowry and gifts. Details about the dowries of Assyrian and Anatolian wives have been collected by Veenhof (2018, 28-30). The Old Assyrian term for this gift is *idinnum* and its nature and value varied considerably according to the wealth of the bride's father (or, in his absence, her brothers). It could consist of silver, gold and slaves. Kt 88/k 651 mentions "1 mina of silver and 10 shekels of silver, her rings and her bracelets".[51] When a husband divorced his wife, she would receive the divorce money stated by the marriage contract and keep her *idinnum*. The divorce money varied between 1 mina (AKT 10, 48) and 5 minas (I 490) of silver. A comparable amount occurs in a divorce contract from Level II: 1 mina of silver (TuM 1, 21; Assyrian); smaller amounts are attested in Level Ib texts: 6 ½ shekels (Kt j/k 625) and 15 shekels of silver (Kt k/k 1).

It was customary in Old Assyrian society to give a woman a present of silver on her marriage. Among the documents excavated in 1988 there are several texts recording a gift (*qīštum*) of 1 ½ shekels of silver to someone's *amtum* or *aššatum* wife on the occasion of her marriage (Bayram/Kuzuoğlu 2015). Another document listing in all 36 ½ shekels (of silver) as "all this they presented as a gift to my *amtum* wife" (*mimma annîm ana amtīa iqīšū*) may well reflect the gifts received when she married an Assyrian merchant, as suggested by Ulshöfer.[52]

The custom of presenting silver as a gift seems to have been a common feature among the Old Assyrian merchants. There appear to have been many such occasions; apart from at weddings, small donations of silver were linked to various religious acts, such as when sheep were offered prior to making a journey, or a deity's festival (Dercksen 2011).[53]

Last wills (Veenhof 2012) and documents about the division of property mention the possessions of a household. From Level Ib, contracts of brotherhood are known, which deal with the adoption of several men (often married and with children) by a childless couple to care for them in their old age (Veenhof 1998).

Men and women of means made arrangements for the division of their property. The last will of Ištar-lamassi (AKT 8, 179 = Veenhof 2008b, text A) comprises the division of 65 shekels of silver, 2 ¼ shekels of gold and a cylinder seal. A related text reads: "while she was still alive, she opened her (sealed) coffers and they saw every single shekel of silver, her cash assets that were available. And she gave 2 ¼ shekels of gold and 8 shekels of silver to you, 37 shekels of silver to my nephew Iliya, 20 shekels of silver she gave to Ilabrat-bani." (Veenhof 2008b, 107). Funerary ceremonies cost money (see Veenhof 2008b; Dercksen 2014, 99).

The data on the amount of money mentioned in last wills and some other documents can be summarised in this table (Tab. 3; all texts are from Level II).

It appears from these texts that the average merchant family did not keep much silver or gold in cash to be divided (about 1 ½ minas for Ištar-lamassi, 15 shekels for Zanatin); the case of Elamma's father is exceptional. This is not surprising, as practically all funds would be invested in the trade, to which letters from wives in Assur complaining bitterly about being left in an empty house testify. Silver value was available in outstanding claims and slaves. Selling the house generally was not an option as long as the widow wished to remain in it. The debt-notes were, of course, an uncertain asset, as the claims first had to be collected. Moreover, two of the last wills make it clear that any debt owed by the father had to be settled by his sons, and it remained to be seen whether the result of this settlement would produce a positive balance. It emerges from these cases that there did not exist such a thing as a firm with its own capital; all funds were individually owned. Some of the last wills add to the corpus of evidence about how much money a person needed to survive on a daily basis. This amounted to a few shekels of silver per month (Dercksen 2014, 96-99).

Stock-taking of the contents of a household was completed after the death of its main occupant. Often this concerned the amount of barley stored in the house; otherwise the bronze utensils, which in two instances constituted amounts of 77 and 100 minas of bronze (Dercksen 1996, 76-78; Larsen 2015, 196). In a letter written to his representatives, the wealthy merchant Pušu-ken enumerates all the consignments that he sent to his late wife Lamassi in Assur:

"(3-4) Alas! my wife died. (...) (7-8) 1300 units of barley are stored in the silos. (8-10) Enter the house and place sealings on the doors and windows. (10-16) Š. the brother of I. brought her 1 mina of silver, rings of the girl, 18 shekels of gold, her bracelets, 2 decorations of precious stone, beads and toggle pins worth 1 mina of silver, its excise added; (16-17) Z. son of P. (brought) 2 shekels of silver; (17-19) M. and Š. (brought) 70 shekels (of silver); (19-20) the son of

51 Kt 88/k 651: (10) *mì-nam i-dí-<<na>>-ni-ša ni-da-šī-im* (11) *um-ma m.* (12) *ù š.* (13) *a-na p.-ma* (14) *a-li* kù-babbar *i-na pi-ni* (15) *1* ma-na kù-babbar *i-na pi-ni* (16) *ù 10* gín kù-babbar *ša-wi-ri-ša* (17) *a-ni-qí-ša i-dí-ni-ša* (18) *qí-bi$_4$-šī-im* "What shall we give her as her dowry? M. and Š. replied to P.: where there is silver as we promised, (then) tell her that her dowry is 1 mina of silver as we promised and 10 shekels of silver, her rings and her bracelets."

52 TC 3, 179 edited as Ulshöfer 1995, 313 no. 367. More examples can be found in Veenhof 2018, 54.

53 The word *niqium* "offering" (*e. g.* in BIN 4, 176: *3* gín kù-babbar *ana š. ana niqīšu addin 1* gín kù-babbar *ana d. ana niqīšu addinšum* "I gave 3 shekels of silver to Š. for his offering; I gave 1 shekels of silver to D. for his offering") can be taken literally in many cases and seems the same as gifts for sheep, in for instance CCT 5, 37a:14: *7* gín kù-babbar *a-na* udu-ḫi-a *ša* é dingir *áš-qúl* "I paid 7 shekels of silver for sheep of the temple"; and ICK 1, 4: 1-2,5: *1 ½* gín kù-babbar *ana e-me-ri-šu ana p. ... 2* gín *ana e-me-re-šu* "1 ½ shekels of silver for his sheep to P. ... 2 shekels for his sheep".

The father of Elamma and Ali-aḫum, merchant in Assur (AKT 8, 1; Veenhof 2012, 179-188; 2017a, 1-3)	To be divided among the two brothers: 160 minas of silver, 5,000 measures of barley, 30 and 40 pots as outstanding claims in Assur, a plot of land, a built-on house, the house of Dilaya?, 60 textiles, rugs, cauldrons, bronze objects, male slaves.
Lammasatum, widow of Elamma in Kanesh (AKT 8, 164; Veenhof 2012, 196-200; 2017a, 226-229)	Left behind by Lamassatum and to be brought to Assur: 1 mina of silver (3 cups and toggle-pins, perhaps her dowry), 26 shekels of silver votive offering of Elamma, 7 debt-notes of in all 7 minas 15 shekels of silver; proceeds of 10 textiles; 5 male slaves, 5 female slaves.
Agua, merchant in Kanesh (Kt o/k 196; Albayrak 2000; Michel 2000; Hecker 2001, 28; Veenhof 2012, 185)	-Wife: house in Assur and her share in the silver; her estate is for Šu-Belum. -Šu-Belum: house in Kanesh. -Sons: will pay all debts owed by Agua. If any assets remain, Ab-šalim may take 20 shekels of gold, 1 mina of silver, 1 female slave. Sons who do not receive a house get 4 talents of copper each. Remaining silver and slaves to be divided between wife and sons. If no silver remains, no copper. Son Abi-ili first has to repay a debt of 10 minas of silver, otherwise he will forfeit his inheritance.
Ili-bani, merchant in Kanesh (ICK 1, 12; von Soden 1976).	-Wife: house in Kanesh. -Sons: debt-notes in Assur or Anatolia. Responsible for father's debts; 1 mina of silver votive offering. -Daughter (*gubabtum*-priestess): 3 debt-notes (of 72 minas of tin, of 1 ½ talents of copper, of 1 ½ minas of silver); two sons have to provide 6 minas of copper to her each year as well as meat from their offerings.
Ištar-lamassi, widow in Kanesh (AKT 8, 179; Veenhof 2008b, 103; 2017a, 253-255)	- Iliya and Ilabrat-bani: 57 shekels of silver, 2 debt-notes of 45 shekels of silver, their father's 'merchandise', 3 bronze objects. - Daughter (*gubabtum*-priestess): 2 ¼ shekels of gold, 7 ½ shekels of silver and a cylinder seal.
Zanatin, Anatolian in Kanesh (Kt c/k 843)	-Wife (Walawa): house, debt of 75 shekels of silver of Lamassi, 3 slaves, utensils of the house. -Enna-Aššur: 15 shekels of silver, 1 female slave.
Ḫuraṣanum, merchant in Kanesh (RA 88, 121 Brieux; Michel 1994; Dercksen 1999, 89)	Report on financial situation: creditors in Kanesh have been fully paid. About 60 minas of silver is lost. Has a claim of 40 talents of copper (about 40 minas of silver). Has a claim of 92 minas of silver in several joint-stock partnerships (*naruqqum*).

◀*Tab. 3. Money and other possessions mentioned in last wills and related texts.*

E. (brought) 3 shekels of gold; (20-21) E. son of Š. (brought) 1 shekel of gold; (22-23) K. (brought) 4 shekels of gold, the divine figurines were sealed in a tablet; (24) Ḫ. (brought) 5 shekels of silver; (25-26) A. (brought) 15 shekels of silver for fire-wood (and) 5 shekels as her consignment. (...) (32-34) From this silver half a mina is for the eponym Ibni-Adad (held office in REL 78, *c.* 1895 BC). (35-38) I sent word to our daughter-in-law: Sell 500 or 600 units of barley and let them buy [...]."[54]

According to this text, Pušu-ken sent a total of 3 minas 27 shekels of silver and 26 shekels of gold to his wife. 1 mina of silver and 18 shekels of gold were in the form of jewellery for their daughter, and an amount of 15 shekels of silver was meant for the purchase of wood. Not all of this silver was to be consumed; ½ mina of silver was for the repayment of a debt to a former eponym.

But the flow of money during a merchant's lifetime could theoretically also be made visible by the volume of outstanding claims and references to transports of silver and gold to Assur – if all the documentation had been preserved, which was never the case. Tablets with transcripts of several debt-notes, called *Sammelmemoranda*, provide some insight into the volume of trade and the length of time some debts were running (Dercksen 2014, 92-93). The archive partly published in AKT 7A, for instance, contained several such memoranda; AKT 7A, 213 lists in all 319 minas 26 ⅓ shekels of silver; and AKT 7A, 233 is about 430 minas 10 shekels of silver and 2 minas of gold. Among the debts yet to be collected in the last text is one of 120 minas of silver (lines 1-2). The quantities of silver sent to Assur vary per transport, but amounts of 60 minas were not exceptional (60 minas of silver in VS 26, 13:5; 74 minas of silver and 12 minas of gold in CCT 5, 2a).[55] In an attempt to quantify the

54 TC 1, 30: 3-38: (3) ... *la li-bi* (4) dingir-*ma a-šˇ-ti me-ta-at* (...) (7) *1 li-im 3 me-at* še-*um i-na* (8) *ḫa-ri-a-tim ša-pí-ik er-ba-ma* (9) *i-na ba-a-bi ù a-pá-tim* (10) *šˇ-pá-sú id-a 1* ma-na kù-babbar (11) *ša-wi-ru ša ṣú-ḫa-ar-tim* (12) *18* gín kù-gi *a-nu-qú-ša* (13) *2 mi-iḫ-ṣú ḫi-du ù tù-dí-na-ti*[*m*] *ša* (14) *1* ma-na kù-babbar *ni-is-ḫa-sú* diri (15) *šu-ma-a a-ḫu ir-bi-*^{d}im (16) *ub-lá-šˇ-im 2* gín kù-babbar *zu-pá* (17) [du]mu *puzur*$_4$*-ištar 1* ma-na *10* gín (18) *ma-nu-um-ba-lúm-a-šur* (19) *ù šu-mi-a-bi-a 3* gín kù-ki (20) dumu *èr-ra-a 1* gín kù-gi (21) *en-um-a-šur* dumu *šu-a-šur* (22) *4* gín kù-gi *i-lu i-na ṭup-pí-im* (23) *ká-an-ku ká-as-lu-*[*um*] (24) *5* gín kù-babbar *ḫu-ra-ṣa-num* (25) *15* gín kù-babbar *a-na e-ṣí 5* gín (26) *šé-bu-ul-ta-ša a-šur*-dùg (...) (32) ... šà-ba kù-babbar *a-nim* (33) ½ ma-na kù-babbar *a-na li-mi-im* (34) *ša ib-ni-*^{d}im *i-lá-ak* (35) *a-na ká-li-tí-ni áš-pu-ra-am* (36) *um-ma a-na-ku-ma* še-*am* (37) *5 me-at ù 6 me-at* <še>-*um* (38) *dí-ni-ma* [x x ḫi]-a [*li*]-*iš-ú-mu-nim.*

55 For an overview of the data on shipments of silver and gold within Anatolia and those sent to Assur and the purchases made in Assur all belonging to the merchant Elamma, see Veenhof 2017a, 79-83, where Veenhof concludes that the total amount sent to Assur was 6-7 talents of silver over "not too many" years.

Old Assyrian trade, Larsen (2015, 190) calculated that during the well-documented period at least 600 kg (*ca.* 1,200 minas) of silver was sent to Assur every year.

2.2.1 Money circulating among Anatolians

Details about the use of money among the Anatolian population stem from Assyrian documents referring to Anatolians receiving wages, acting as debtors, or (rarely), business partners, as well as from loan contracts and legal texts drawn up on behalf of an Anatolian creditor or buyer of property and slaves.[56] These cases demonstrate that money in the form of copper or silver, or even gold, circulated among Anatolians, but it is uncertain whether ordinary inhabitants of Kanesh had much use for money. They lived from the produce of their land and will have used their crops, if sufficient, to pay taxes and for other goods. Any money could, in principle, have been spent on goods that were useful: cattle or tools. There was no use in merely keeping money in any considerable quantity. This is illustrated by the brotherhood contracts from Level Ib, in which adult men were adopted by childless elderly couples to ensure their care when they grew old (Veenhof 1998). The contracts oblige the "brothers" to work for the benefit of the household (*ana bētim ištēn ukaššú*), but rarely contain a mention to silver or copper as money, apart from fines valued in silver. What these contracts list are the goods that those wishing to leave the household may take with them; Kt 89/k 369 lists among the possessions of the household oxen, sheep, wool, oil, bronze tools (knives, ladles, axes) and a bronze cauldron, female slaves and textiles and saddle-cloths; the wives of the "brothers" are entitled to their dowry (*idinnum*).

But silver occurs in some inheritance clauses. The Level Ib adoption record Kt 99/k 138 (Donbaz 2004) states that after the death of the parents, the father's natural child will receive ½ mina of silver after which the house and all therein will be equally divided between all children. An unpublished text from Level II, Kt f/k 96, mentions 18 shekels of silver as a share in the inheritance. Also in these documents, it remains unclear whether silver was handed over, or whether goods to the value of that amount of silver are meant.

The availability of money in Kanesh is understood in punishment clauses of contracts, where it is said that the person breaking the agreement will be sold (as a slave); the place to buy slaves in Kanesh was the market (*maḫīrum*), and among potential buyers were foreign merchants (Hecker 1997, 167).

Going through Assyrian archival records gives the impression that many of the local leaders were eager to buy textiles and other expensive imported goods (iron, lapis lazuli), but usually were slow in paying for these, leading in extreme cases to the Assyrian authorities imposing a commercial boycott.[57] The Assyrian claims were recorded on a special document called an *išurtum* (Veenhof 1995b). These claims were valued in copper and grain, but rarely in silver, which indicates the level of access to silver these persons had.

A fine example of this is the case of an Anatolian called Ḫuḫarimataku who expected to rise considerably on the social ladder as his king had offered him two functions, and who happened to be the friend of an Assyrian merchant by the name of Innaya. He is going to participate in the *sikkātum* soon and desires to ride there on a fitting mount, a *perdum* (perhaps a mule). These animals were very expensive and therefore a symbol of high status. Assyrians were able to procure these animals from another country in Anatolia. According to one letter, Ḫuḫarimataku asks Innaya to sell him a *perdum* (published and discussed in Veenhof 1989). He has 4 minas of *tirum* silver, while expecting the *perdum* to cost 2 minas, but he is willing to pay 3 minas. However, he is unable to pay silver in cash and proposes to send textiles, sheep and wool as payment. If Innaya disagrees, servants of Ḫuḫarimataku could sell these items for silver at the place where Innaya is staying and pay him the silver. This letter demonstrates that Ḫuḫarimataku does not possess sufficient silver, and his wealth is based on sheep, *i. e.* the animals themselves and the wool and garments (possibly *pirikannus*) made from it. While he has sheep and wool, other Anatolians have access to grain and prefer to use that as a means of (indirect) exchange. At the same time, it nevertheless demonstrates that mechanisms existed to convert the finished product into 'metal' cash.

Another mode of payment is described in Kt a/k 488 (Dercksen 1996, 167): An Assyrian writes to the *alaḫḫinum* of Ninašša that he has sent him some expensive items at his request. The merchant gets paid as follows: his colleague has been credited on his *išurtum* in Ninašša (*ana išurtīšu uṭaḫḫi*) and he has taken the price of the goods 'here' out of his colleague's "silver". He now asks the *alaḫḫinum* to give the colleague his silver there. It appears that by doing so, the claim recorded on the *išurtum* will be settled.

The ruler of a town called Tešama owed an Assyrian merchant the following: "6 minas 3 shekels of silver mentioned in his debt-note; I clothed him and his wife in two fine garments; he promised me 1 pot (about 30 l) for a spoon; 15 sacks of grain (about 1,800 l); 10 fine *ṣuppum* sheep; 2 pots of Šatea. All this outstanding debt of the king of Tešama."[58] We may expect that the first amount repre-

56 For Anatolian archives, see the overview in Michel 2011.

57 The House of the *alaḫḫinim* has to pay the silver they owe, but until that happens nobody is allowed to sell them merchandise, Kt a/k 606b (Dercksen 1996, 167). See also AKT 8, 266 and the commentary in Veenhof 2017a, 380.

58 RHA 66 Ashm. 1933.1053: (13) *6* ma-na *3* gín kù-babbar (14) *ša i-ṣú-ur-tí-šu* (15) *2* túg sig$_5$ *a-ša-sú ù šu-a-tí* (16) *ú-lá-bi-iš 1* dug (17) *a-na it-qú-ri-im* (18) *iq-bi-am 15 na-ru-uq* (19) *ú-ṭù-tum 10 ṣú-pu* sig$_5$ (20) *2* dug *ša ša-té-a* (21) *mi-ma a-nim iš-tí* (22) *té-šī-ma-i-im ru-ba-im*.

sents the silver value of the claim; the second post is not given a value (would be about 1 mina of silver).

2.2.2 Anatolian creditors and debtors

It has already been noticed that Anatolian customers of Assyrian merchants who belonged to the local elite often accumulated debts (see the list in Veenhof 2008a, 220-224). There are many debt-notes involving ordinary Anatolians, usually husband and wife, sometimes with their children or village (Shi 2015), and their local creditors. Typically in Anatolian debt-notes is that silver is never qualified as refined (*ṣarrupum*). Due dates are normally expressed in terms of religious festivals or agricultural events (Veenhof 2008a, 234-245).

I will start the discussion of Anatolian debt-notes with the dossier about the female creditor Madawada, probably married to an Assyrian merchant. The Kt o/k texts of Madawada were published in Albayrak 1998 (Tab. 4).

The debtors are often husband and wife, and both are fully responsible for repayment and liable with regard to all their possessions. The only time refined silver is mentioned is in a debt with an Assyrian as debtor. All debts of Anatolians in this dossier are due at harvest (*ṣibit niggallim*) or early autumn (*ḫarpū*), that is, after the debtors had obtained grain and grapes to repay in kind or to sell it first for silver (see the discussion in Veenhof 2008a, 243-244). Although the due dates for silver usually fall after the grain harvest and grape harvest, there are a few exceptions, for example in the dossier of Šarabunuwa edited in AKT 10: at the melting of snow (no. 2) and in spring (no. 3, 4, 11). This does not correspond to the agricultural year, but rather to the reopening of trade routes allowing silver to reach the market.

Some debts are exclusively valued in either silver or in grain, others in silver and grain, such as ICK 1, 13. These "mixed" loans were discussed by Veenhof (1978, 285-288) who concluded that in some of these "silver (and) grain" may denote alternatives, allowing the price of the grain to be calculated. Grain is charged as interest on loans in silver by various Anatolian and Assyrian creditors.[59]

Text	Debt	Due date	Debtors
Kt o/k 40	1 mina of silver, 30 sacks (barley/wheat), 60 breads	grain: harvest; silver: autumn	Tamuria, Talia and his wife Iatalka
Kt o/k 44	22 ½ shekels of silver	silver: autumn	Lulu and Kammaliya
Kt o/k 46	[x] silver, 4 ½ sacks of barley	silver and barley: autumn	Aba
Kt o/k 64	4 minas of silver, 20 sacks (barley/wheat)	autumn	Kubidaḫšu and his wife Azulša
Kt o/k 81**	6 ¾ sacks (barley/wheat)	autumn	Perua
Kt o/k 106	10 ½ shekels of silver, 2 sacks of *qištum*	festival of Parka	Šarnikan and his wife Ḫašušra
CCT 1, 9b	1 mina 46 shekels of refined silver	30 shekels upon arrival in Purušḫattum, rest in 7 months	Imlikaya

** Co-creditor is Iddin-Aššur.

▲ *Tab. 4. The claims of Madawada.*

The debt-notes rarely record the time when the debt began; in the case of grain loans, this presumably happened in many cases when the debtors experienced a shortage in grain. It is not known whether the silver loans mean that the debtor actually obtained real silver or whether the silver represents the silver value of the grain received; in the latter case, he had to borrow it when its price in silver was high. By stating the silver value of the grain received as a loan in the contract, the creditor was assured of receiving more grain back since grain would be cheaper in silver after harvest. As such, part of the interest on the loan was built into its principal. A debt-note in the archive of Peruwa explicitly mentions the possibility of repaying a debt valued in silver with barley.[60] Debt-note Kt 91/k 518 (Veenhof 2017b, 674 no. 7) mentions a debt in silver and the grain could be interpreted as the amount of interest to be added, or, as Veenhof did, as an alternative to payment in silver; if the debtors repay silver, they have to use the Assyrian creditor's weight stone, a very rare expression to find with Anatolian creditors and likely inspired by the common sentence that the creditor's pot (*karpatum*) has to be used.

The archive of Peruwa (Albayrak 2005; Günbatti 2016; Çayir/Albayrak 2018) is important for understanding the financial situation of a wealthy Anatolian in Kanesh. The house in which his tablets were excavated is with its estimated surface area of at least 224 m² and 14 rooms (ground floor) the largest complex in the Lower Town of the Level II period (Hertel 2014, 50 no. 102). Peruwa was Chief Shepherd (*rabi rē'ē*) in Kanesh, but the texts lack any details about what this function entailed. Instead, they show him extending loans of barley and silver to many local families, including some Assyrian, and purchasing land (perhaps after insolvency of the debtor).

59 Kt 91/k 128B (Veenhof 2017b, 670 no. 4): debt of 15 shekels of silver owed by Taliuman, Peruwahšu and Nakialka, creditor Talwana; "they will add 6 sacks of barley per year". Kt 92/k 168 (Veenhof 2017b, 669 no. 3): debt of 15 shekels of silver owed by Barimea, his wife Kunanili and his son Ašead, creditor Išpunuman; "at autumn they will give the silver, 1 sack of barley, 2 pots of wheat and 2 pots of malt". Kt c/k 1440 (Çayir/Albayrak 2018, 3 no. 1): debt of 12 shekels of silver and 3 sacks of wheat, its interest, owed by Kabitaḫšu, Perwa and Iatalka, creditor Ana. Implied in Kt c/k 1362 (Çayir/Albayrak 2018, 7 no. 4): debt of 1 mina of good *litum* silver, 10 sacks of wheat and 10 sacks of barley owed by Kuzuruba and Kammaliya, creditor Ḫanu; "at autumn they will pay the silver and its interest". Also in the Level Ib text Kt 77/k 136 (Günbatti 2014, 139-140 no. 11): debt of 15 shekels of silver owed by Bulina, his wife Lamassi and their son Hali, creditor Abu-šalim, (7) *5 naru-uq* še-*am* (8) *ṣí-ba-at* kù-babbar "5 sacks of barley is the interest of the silver".

60 AKT 10, 32A: (13) *šu-ma* še-*am i-du-nu* (14) *ki-ma i-za-zu : i-na* (15) *ni-kà-sí-šu : i*-kù-babbar (16) *i-ṣa-ḫe-er* "If they want to give barley it will be deducted from the silver (value) when settling his accounts according to its exchange rate" (debt of 45 shekels of silver).

Like some other wealthy Anatolians acting as moneylenders, with the "house of the Anatolian" (*bēt nuāim*) as the local equivalent of the "house of the merchant" (*bēt tamkārim*) in Assur,[61] Peruwa loaned silver to Assyrians and he treated them like Anatolians by making their wives co-debtors.[62] Another peculiarity is that Peruwa often stipulated repayment in instalments over several years.[63]

There was some form of state involvement in the circulation of money in Kanesh. The expression "silver *litus* of Kanesh" points to silver in a form typical of Kanesh, although the degree of royal influence must remain unclear. Royal intervention in Kanesh concerns the abolishment of debts; two documents from the archive of Peruwa explicitly state that if the king cancels all debt, these particular debts will not be subject to that measure.[64]

2.3 "Borrowing costs money": Interest and additional payments with Assyrian and Anatolian debts

Assyrian merchants charged interest on real loans and on credit sales (Veenhof 2017c; Zaccagnini 2020). The default interest on credit sales amounted to 30 % per year and was referred to as *kīma awât kārim* "according to the rule of the Colony" (Dercksen 2014, 95). Despite this official rate, other rates were charged. Even the Office of the Colony was charged interest over money that it borrowed from its merchants (15 % and 20 % charged by Enlil-bani; Dercksen 2004, 109) and it paid 20 % interest over the withdrawal fee (Dercksen 2004, 213).

According to the law stele in Assur, a guarantor who borrowed money to meet his obligation (and thus had to pay interest at the moneylender's office) was allowed to charge his debtor an additional price, the *ṣibat ṣibtim* (Veenhof 1995a, 1722-1724) which literally means "interest of interest" and is often rendered as 'compound interest' in translations, which may be confusing. The City Hall (*bēt ālim*, *bēt limmim*) in Assur also charged interest from merchants indebted to this institution. In debts to former year-eponyms a rate of 10 % is used (Dercksen 2004, 46-47, 60).

Within the variety of forms and rates of interest charged by Assyrian and Anatolian creditors to Anatolians (Garelli 1963, 384-385, 389-390), there is also one that could be used as a standard – but apparently only by Assyrians and those affiliated with them. This is the rate *kīma awât Kaneš* "according to the rule of Kanesh", which is attested in several debt-notes, with grain as object of the loan (Kt c/k 181; TC 3, 239), silver (Kt n/k 1716), and silver and grain (ICK 1, 13).[65] The key text is ICK 1, 13, from which the pertinent lines read in translation:

"(5-7) Ḫappuala, the queen's shepherd, owes me 12 ½ minas of silver and/or 100 sacks (12,000 l) of barley. (8-9) I possess his certified tablet bearing his sealings. (10-12) Since four years it runs at his cost at interest according to the decree of Kanesh. (12-19) My fathers, my lords are you! make him give the silver, the capital, and/or the grain as well as you can and charge him with the silver as interest and/or the grain as interest, and he should give it annually. (20) My fathers, my lords are you! (21-23) Take care to take the silver of my fixed amount and/or the grain of my fixed amount, (24-26) and draw up an *išurtum*-document for him for the interest on the silver and/or the interest on the grain."[66]

This phrase resembles the Assyrian Colony decree, which applies to silver loans but is not used for barley. Moreover, it would be presumptuous for the Assyrians to use "Kanesh" for a measure taken by their Colony in Kanesh. The rule of Kanesh is then more likely a measure taken by the rulers of Kanesh and valid in their realm, already existing or possibly taken after the example of the Assyrian Colony decree, but not necessarily at the same rate.

One of the debt-notes in which Madawada figures as the creditor (Kt o/k 64) stipulates the payment of interest in a peculiar way: the original debt amounts to 3 minas of silver. There will be an interest of 50 % on two-thirds of this sum, resulting in 3 minas. The interest on the remaining

61 CUSAS 34, 30 mentions a loan of ½ mina of silver and 3 sacks of wheat against interest, taken at the house of an Anatolian. According to AKT 2, 53, the Assyrian Mannu-ki-Aššur writes to Azuwa: "If Šumma-abiya refuses to give (the silver), you should say: I will take it at the house of an Anatolian at interest".

62 AKT 10, 27: 2 minas of Kanesh silver to Pilaḫ-Ištar and Šu-Ištar and their wives; AKT 10, 29: 3 ½ minas to Alaḫum, his wife Ilališkan and his mother Ennum-Ištar.

63 Examples: AKT 10, 18: debt 70 shekels of silver, debtor "gives" each year 12 shekels; 20: debt 31 ½ shekels, Assyrian debtor pays 10 ½ shekels per year.

64 AKT 10, 22A: (22) *šu-ma ru-ba-um* (23) *ḫu-bu-lam i-ma-sí* (24) *a-ta ú-ṭí-tí ta-da-nam* "(Even) if the king washes off the debt, you shall give me my grain"; AKT 10, 31A: (17) *šu-ma ḫu-bu-lam* (18) *i-ma-sí-ú* (19) *ù šu-nu* (21) *ḫu-bu-lá-áš-nu* (21) *lá i-ma-sí-ú* "If they wash off the debt(s) then they will not wash off their debt." Balkan (1974, 37) mentions a third attestation in broken context in Kt e/k 164: (5') [*š*]*u-ma ru-b*[*a-um ḫu-bu-lam*] (6) *i-ma-s*[*í* ...] (rest broken).

65 Kt c/k 181 (unp. Ankara): (10) *šumma lā imdud* (11) *ki-ma a-wa-at* (12) *kà-ni-eš ṣí-ib-tám* (13) *ú-ṣú-bu* (creditor Walawala); Kt n/k 1716 tablet (Çeçen 1998, 120): (11) ... *šum-ma* (12) *lā išqulū ki-ma* (13) *a-wa-at kà-ni-iš* (14) *ṣí-ib-tám ú-ṣú-bu* (creditors Buzazu and Mannu-ki-Aššur, debtors Bulina and his wife Walawala); TC 3, 239: (10) *ki-ma a-wa-at kà-ni-iš* (11) *ṣí-ib-tám tù-ṣa-áb* (creditor Aššur-nada, debtor Nini).

66 ICK 1, 13: (5) *12 ½* ma-na kù-babbar *ù 1 me-at na-ru-uq* (6) še-*am ḫa-pu-a-lá re-i-um* (7) *ša ru-ba-tim ḫa-bu-lam* (8) *ṭup-pu-šu ḫa-ar-ma-am* (9) *ša ku-nu-ki-šu ú-kà-al* (10) *iš-tù* mu-*4*-šè *ki-ma a-wa-at* (11) *kà-ni-iš a-na ṣí-ib-tim* (12) *i-lá-ak-šu-um a-ba-ú-a* (13) *be-lu-a a-tù-nu ma-lá* (14) *ta-le-e-a-ni* kù-babbar (15) *ší-im-tám ù ú-ṭá-tám* (16) *ša-dí-na-šu-ma* kù-babbar *ṣí-ib-tám* (17) *ù ú-ṭá-tám ṣí-ib-tám* (18) *i-li-bi-šu id-a-ma* (19) *ša-ti-ša-ma li-ta-dí-in* (20) *a-ba-ú-a be-lu-a a-tù-nu* (21) *iḫ-da-ma ki-ma lá-qá-a* (22) kù-babbar *ší-im-tí-a ù ú-ṭá-tim* (23) *ší-im-tí-a ep-ša-ma* (24) *ù a-na sí-ba-at* kù-babbar (25) *ù ṣí-ba-at ú-tí-tim* (26) *i-ṣú-ur-tù-šu eṣ-ra*. Note that the amounts of silver and grain can be regarded as alternatives or even as equivalents of each other (Veenhof 1978, 287).

1 mina consists of 10 sacks of barley, 10 sacks of wheat, 1 fattened ox and 60 loaves of bread. The total is then given as 4 minas of silver and 20 sacks, half barley, half wheat. The background to this arrangement is not known. The occasional addition of grain (see above), bread and animals as interest is typical of Anatolian debt-notes, and even footwear can be demanded.[67]

2.4 Money uses in Kanesh and other towns in Anatolia

Money occurs in the Assyrian trade as a means of (indirect) exchange (copper, silver, gold) which can be shipped to Assur (silver and gold). It is also a means of payment: wages and rent are paid in silver or copper; inns are paid in copper, tin or silver; local and Assyrian taxes are paid in copper and silver; and silver is deposited as part of the *dātum* contributions. Money functions as a means of deferred payment with debts of silver, copper, or gold; silver and gold, but also copper and barley as inheritances; the final half of the attorney's wages is paid in silver; and when the palace of Kanesh pays copper to the Office of the Colony and merchants borrow silver to the latter. Finally, money is used as a standard of value (silver).

Money used by Anatolians functions as a means of deferred payment in debts (silver, barley and wheat) and inheritances (silver). It is a means of (indirect) exchange (silver, copper, barley and wheat) and a standard of value in contracts (prices and penalties expressed in silver).

3 Money in Assur

3.1 Money in commercial and domestic contexts

The city of Assur on the western bank of the river Tigris in North Iraq was the hometown of the traders who operated in Central Anatolia. Caravans from the south brought high-quality textiles while other caravans brought tin, presumably from the city of Susa in West Iran, which acted as a transit place. The Old Assyrian texts lack any detail about the identity of these foreign merchants, how they sold their wares in Assur and in what form they were paid. All that is known is that these foreign caravans occasionally suffered from disruptions due to political unrest. The state of knowledge about the Assyrian role is much better. Many texts excavated in Kanesh contain information about shipments of silver and gold to Assur: transport contracts and memoranda, notifying messages addressed to the representatives in Assur. In Assur these metals were primarily used to purchase merchandise – the tin and textiles and some other coveted goods such as carnelian, lapis lazuli and iron. Dozens of caravan accounts have been found which were written by the representatives in Assur who received the silver and gold and subsequently made the purchases of merchandise and caravan equipment; the aim of those letters was to inform the sender of the money of the safe arrival and how it had been spent, ending with information about the person bringing the merchandise just bought to Kanesh. As an example of such a letter I quote from AKT 6D, 773 (lines 3-17):

"Of the 30 minas of silver that B. brought to A.'s house: additions 42 ½ shekels (and) 20 shekels. Four talents less 5 minas of tin at 17 to 1, its price in silver was 17 minas 21 ⅓ shekels. One hundred *kutānum* textiles including those for wrapping cost 8 minas 38 shekels. Five black donkeys cost 1 mina 33 ½ shekels. The export duty was 15 shekels. 14 shekels for harness and fodder for the donkeys. 3 shekels: of the *sa'utum* fund. We gave 31 shekels as the working capital of Ḫani to him."

The procedure followed seems straightforward: after the shipment of silver had been brought into the house of the merchant's main banker, an excise (called *nisḫātum*) was levied there and purchases were made. If any gold had been sent, it was first exchanged for silver. The letters either state the rate of exchange followed by *kasapšu* (kù-(babbar)-bi) "its silver" and the amount of silver, or a form of the verb "to give" is used, which demonstrates that the gold had been sold. See, for example, this passage: "Ela brought 17 minas of silver and 2 minas of gold. From this, we sold 1 ½ minas of gold at a rate of 8 ¼ shekels of silver per shekel of gold; its value in silver is 12 minas 22 ½ shekels. Half a mina of *kuburšinnum* gold: at 6 ⅔ shekels each, its value in silver is 3 ⅓ minas. The total of your silver and your gold is 32 minas 42 ½ shekels."[68] The person or institution buying this gold is never mentioned in these letters, but from other evidence it is known that the City Hall assessed the quality of gold and also bought it.[69]

The prices for the goods and services bought in Assur are normally expressed in silver. This has been interpreted as meaning that only silver could be used to make the purchases, whereas gold was not to be used for commercial purposes but was bought by the city authorities. The silver would be a means of (indirect) exchange for the foreign traders.

Now there is some evidence that is at odds with this. The conversion of the gold is not mentioned in CCT 2, 32a: "To Ili-šadu, Anina, Aḫaḫa and Asanum, from Buzazu. 1 mina 35 shekels of gold,

67 Kt c/k 1635 (Albayrak 2005, 100): debt of 2 minas of silver, each year 13 shekels and a pair of shoes worth ¾ shekel.

68 TC 3, 2: (4) *17* ma-na kù-babbar *ù 2* ma-na (5) kù-gi *e-lá ub-lam* šà-ba (6) *1 ½* ma-na kù-gi *8 ¼* gín-ta *ni-dí-in* (7) kù-bi *12 ⅓* ma-na *2 ½* gín (8) *½* ma-na kù-gi *ku-bu-ur-ší-num* (9) *6 ⅔* gín-ta kù-bi *3 ⅓* ma-na (10) šunigin kù-babbar-*pí-kà lu ša* kù-gi-*ṣí-kà* (11) *32 ⅔* ma-na *2 ½* gín.

69 Kt 92/k 347 (Erol 2019, 786): (4) kù-gi *ša a-ni-iš-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) *ḫu-up-šum* (14) *ma-ma-an ša* kù-gi (15) *i-lá-qé-ú* (16) *lá i-ba-ší* "We showed the gold that I brought to the eponym and they are offering a rate of 4 to 1; we will sell the gold and make purchases and then I will prepare to leave. There is not any *ḫupšum* (a class of people) who takes gold."

its excise added, satisfied with his transport fee, and another half mina of gold, excise added, satisfied with the transport fee, of my votive offering, all this Asanum is bringing to you under my seal. For the 1 mina 35 shekels of gold buy me 50 textiles of ordinary quality, and for a value of 1 mina of silver white *lubūšum* cloths and a good thin textile; for the rest of the gold buy me good *kutānum* textiles. For the gold of my votive offerings buy me tin and transport my wares with Asanum." The gold may have been exchanged nevertheless and the amounts of gold then denote their equivalents in silver. That real silver was (indirectly) used in these transactions is evident from unsystematic references to the refining of the incoming silver.

A few texts describe how, not silver, but copper was used to buy some of the goods. According to KTS 2, 36+Bursa 3776, the *kutānum* textiles, the bags, donkey harness and the *sa'udum* fund were all paid for with copper, although silver was available. Another text, VS 26, 21, tells us that 15 *kutānum* textiles were bought with copper and that even the export-tax was paid in copper. Similarly, the price of textiles is expressed in copper in CCT 1, 39b: (1) 34 túg-ḫi-a (2) *ša šé-ep iš-me-sú-en* (3) *ša a-na a-šùr-ma-lik* (4) *ub-lu 6* gú *4* ma-na (5) urudu *it-bu-lu* "The 34 textiles transported by Išme-Suen which he brought to Aššur-malik cost 6 talents 4 minas of copper". Such payments in copper may result from the willingness of some sellers to accept copper as payment, whereas others would insist on the use of silver. But I do not exclude the possibility that in some of the instances the "silver" used to indicate the price of merchandise and services was in fact the silver value of copper that was actually handed over. This presupposes an exchange of the silver and gold into copper. The possibility of such a transaction is documented in Kt a/k 913, according to which the representatives of a merchant brought 20 minas of silver, "half of good quality (*dammuqum*) and half checked (*ammurum*)", into the City Hall to buy good quality copper (Dercksen 2004, 37). This passage informs us that copper could be and was purchased at the City Hall; such purchases happened because some payments preferably were made with copper and not with silver.

Silver or copper were also borrowed from moneylenders to purchase merchandise ahead of the arrival of money from Kanesh, to fulfil obligations as a guarantor (see 2.3), and for other purposes. The amounts of silver borrowed at the "house of a merchant" could be as high as 13 minas (AKT 7A, 88), 16 minas (AKT 9A, 61) or even 30 minas (AKT 8, 27).

The City Hall played a prominent role in Assur's economy (Dercksen 2004, 14-25). It was the place where not only goods were bought for the export trade, but also copper and barley. Moreover, the gold arriving from Kanesh was assessed and bought there. Debts towards the City Hall are usually expressed as financial obligations to the eponym who presided over this institution at the time the debt arose. Payments normally were expressed and made in silver; the same applies also to fines (*arnum*) imposed by the city (*e. g.* in AKT 6C, 690:14). The export tax (1/120 of the silver value of a caravan) was paid in silver to the City Hall, but payment in copper is also attested.

Female relatives possessed rings, bracelets, and toggle pins of silver and gold, some of which they had received as part of their dowries and some from their husbands and brothers staying in Kanesh (see n. 54 above). These objects functioned as money when silver was lacking but debts had to be paid or food and wool had to be purchased.[70]

The few cases in which goods relative to the export trade with Anatolia were paid with copper have been mentioned above. I now want to look at the use of copper in Assur for domestic payments. In some cases, the copper was used to purchase land (TC 3, 173, see n. 74 below) or houses.[71] The small dossier of letters sent from Assur by Iliya and Laqep to Iddin-Ištar contains a reference to the purchase of a house for 4 talents of copper; 3 talents were obtained by selling barley and some commercial assets, while 1 talent was borrowed at 20 % interest (Athenaeum 47; KTH 9). Iddin-Ištar's representatives in another instance sold copper he had left with them to buy barley, see BIN 4, 95: (3) ... urudu zi-ir (4) *ša té-zi-bu i-na* (5) kù-babbar-*pí-kà ša a-na-kam* (6) *ni-il*$_5$*-qé 1 me-at 60* baneš (7) še-am *ni-iš-am* "We took the copper *scrap* that you left behind from your silver that is here (and) we bought 160 pots (= 4,800 l) of barley". The same purchase is related in JCS 41 (1989) text 3: (14) urudu zi-ir ⅔ ma-na-ta (15) *ù* urudu *ša té-zi-bu* (16) *ni-dí-in-ma* še-am (17) *ni-iš-a-ma-kum* "We sold the copper scrap at a rate of 40 and the copper you left behind and bought barley for you". The intended purchase of barley is referred to in a letter sent by Iddin-Ištar: "You (pl.) wrote to me as follows: Now is the season (to buy grain)! Send 12 shekels of silver for the storeroom. Puzur-Aššur son of Irišum brought you 2 shekels of silver, Ili-bani son of Amur-Aššur brought you 5 minas of copper, our Amur-Ištar brought you 3 ⅓ minas, Iddin-Suen son of Daya brought you 2 minas, in all they brought you 10 ⅓ minas of copper and 2 shekels of silver, its excise added."[72] The passage from BIN 4, 95 contains the

70 Kt c/k 43: (35) ... *mi-nam* (36) *té-zi-ba-am-ma lá i-na* é *bé-tim* (37) *e-ri-im té-zi-ba-ni* (38) *i-na pí-im ù li-ša-nim* (39) *ta-li-ik-ma a-ni-qí-a* (40) *ta-ta-ba-al ù a-ni a-na* (41) *li-mi-im ša-wi-ri-a áš-ta-qal* (42) *tù-dí-tí a-na ší-pá-tim* (43) *a-tí-dí-ma* "What did you leave to me, did you not leave me in an empty house? You walked around with slanderous gossip and took away my bracelets. Now, I just paid my rings to the eponym. I sold my toggle pin for wool."

71 Houses in Assur were often bought with silver, see Veenhof 2011. TC 2, 14 mentions how 30 minas of copper were added as interest to 6 talents of copper "of the price of Abum-il's house" and a rate of 90 is mentioned.

72 ATHE 65: (14) *ta-áš-pu-ra-nim um-ma a-tù-nu-/ma* (15) *ša-tum ša'-na-at* (16) *12* gín kù-babbar *a-na ḫu-ur-ší-im* (17) *šé-bi*$_4$*-lam 2* gín kù-babbar (18) *puzur*$_4$*-a-šùr* dumu *i-ri-ší-*[*im*] (19) *ub-la-ku-nu-ti 5* ma-na urudu (20) *i-lí-ba-ni* dumu

phrase "from your silver" (*ina kaspīka*), but the context makes it clear that the commodity taken out was copper; "silver" is here used as a standard of value. This is also the case in another text where good copper to a value of 2 minas of silver is sent from Assur (RA 58 Schaeffer 2).

The sending of small amounts of copper among similar shipments of silver is noteworthy. Here it clearly was meant to be used for the purchase of food. It appears that copper was the preferred means of (indirect) exchange for barley and consignments of silver and especially those of gold are likely to have been exchanged into copper before being used.[73] This insight into the use of copper makes it likely that the role of that metal as a means of (indirect) exchange in Assur was considerable.[74]

Although about a century older than the evidence from Kanesh, King Ilušuma's claim to have "washed the copper of the Akkadians" may well refer to the sale of goods brought to Assur by Babylonian merchants for copper – various interpretations of this statement have been suggested (see Veenhof 2008a, 126). Note the small amounts of copper (in all 22 minas 53 shekels) listed as "outstanding claims in Assur" in TIM 7, 190 excavated in the Babylonian city Sippar. In another Sippar text dating to about 1749 BC, receipts of *ṣarpum* silver weighed at the City Hall in Assur are mentioned (Walker 1980).

The consignments referred to in the lines above are listed in notifying messages, transport contracts and memoranda. Characteristically they consist of modest quantities of silver and are destined for relatives, business partners and others. Some can be regarded as gifts or support to run a household, others have a commercial background and constitute payment for tin and textiles sold on behalf of the addressee. The last category includes not only wives and other female relatives who had sent home-woven textiles (for which see Michel 2016a; 2016b), but also priests and high officials, all of whom in this way derived some profit from the trade in Anatolia without having to engage personally.[75] The kings of Assur invested in the trade as well; according to AKT 2, 22, three donkeys carrying 6 talents of tin (value about 60 minas of silver) were on their way to Kanesh, and in Kt n/k 1389, a shipment of 28 minas of silver belonged to the king (Erol 2018).

3.2 Shapes and qualifications of money in Assur

The shape in which all this silver, gold and copper arrived in Assur is practically never mentioned. Ring silver (*kaspum šawirū*) seems typical for women and occurs a few times in quantities of 1 mina.[76] Its use as money is evident from CCT 3, 24: (4) *ša-wi-ru-ú ù a-nu-qú-ú* (5) *ša i-ba-ší-ú-ni ša-ṣí-ri* (6) *a-na a-kà-li-ki li-ib-ší-ú*, "Guard the rings and bracelets that are there! They may serve for your food." The rare mention of rings is surprising in view of the use of silver and gold (sometimes even copper or bronze) rings or spirals (ḫar, the Sumerian equivalent of *šawirum*) as a gift in Ur III texts, where they have a standard weight of 5-10 shekels and most often of 8 or 10 shekels.[77] The palace archives of Old Babylonian Mari also contain many references to this object of silver or gold, where it has a weight of 1-10 shekels (Arkhipov 2012, 96-99). Silver and gold rings (ḫar) and *ḫullum* and silver *kaniktum* (of 1, 2, or 3 shekels) were distributed by King Hammurabi of Babylon to an army corps sent to his aid from Mari; some texts list the nominal and the real value (weight) of these objects (Joannès 1989, 150; *cf.* Powell 1978). Against the background of this wide-spread use of rings/spirals it is likely

a-mur-a-šur (21) *ub-lá-ku-nu-ti 3 ⅓* ma-na (22) *a-mur-ištar ni-a-um ub-lá-ku-nu-ti* (23) *2* ma-na *i-dí-sú-en* dumu *da-a-a* (24) šunigin *10 ⅓* ma-na urudu *2* gín kù-babbar (26) *ni-iš-ḫa-sú wa-at-ra* (27) *ub-lu-ni-ku-nu-ti*.

73 AKT 6A: (44) ... kù-babbar (45) *1* ma-na *ú 2* ma-na *šé-bi$_4$-lá-nim* (46) <<šé-bi$_4$-lá-nim-ma>> *ú-ṭá-tám 10* baneš *a-pá-ni-ku-nu* (47) *lu ni-iš-pu-uk* "Send at least 1 or 2 minas of silver here so that we can store 300 litres of grain before you come". TC 3, 35: (3) ... *10* gín (4) kù-gi *ša a-na ú-ṭá-tim* (5) *ša-pá-ki-im tù-šé-bi-lá-ni* "The 10 shekels of gold which you sent to store grain".

74 One of the rare documents dealing exclusively with copper in Assur is TC 3, 173: (1) [*11* gú?] *30* ma-na urudu (2) [*a*]*s-ni-iq-ma* [(x)] (3) [x] *ku-nu-ki i-ba-ší* (4) *1* gú *31 ½* ma-na urudu (5) *iš-tí* dùg-*ṣi-lá-a-šùr* (6) *2* gú urudu *iš-tí me-er-e* (7) *i-lí-áš-ra-ni ga-sú-ri-im* (8) šunigin *14* gú *31 ½* ma-na (9) urudu šà-ba *4* gú *51* ma-na (10) urudu *ša 3* ma-na kù-babbar (11) *a-na um-ma-tí-a* (12) *i-ša-qal* (13) *2* gú *9 ⅓* ma-na urudu (14) *ša 1 ⅓* ma-na kù-babbar *ší-im* (15) *qá-qí-ri i-ša-qal* (16) *ší-tí* urudu *4* gú *17* ma-na (17) urudu *i-ší-tám* "I checked [11 talents] 30 minas of copper and it is under seal. Ṭab-ṣilla-Aššur owes 1 talent 31 ½ minas of copper; the son of Ili-ašranni, the man from Gasur [the old name of Nuzi], owes 2 talents of copper. In all: 14 talents 31 ½ minas of copper. From this he will pay 4 talents 51 minas of copper, for a value of 3 minas of silver, to my mother; he will (also) pay 2 talents 9 ⅓ minas of copper, for a value of 1 ⅓ minas of silver, as the price of a plot of land. The rest of the copper, 4 talents 17 minas of copper, remains at my disposal." For the reading of line 15, see Veenhof 2011, 215. The exchange rate of the copper is 97.

75 See, for example, CCT 1, 15b: (16) *12* gín *a-na i-ku-nim* (17) nu-bànda "12 shekels for Ikunum, the *laputtāum* officer"; CCT 5, 41a: (6-12) "One bundle with 1 mina of silver proceeds of the tin of Elali, *laputtāum* officer, another bundle with 5 shekels of silver proceeds of the textile of Aššur-malik, *laputtāum* officer, 1 shekel of gold, consignment for the king; CCT 6, 27b: (3') *1 ri-ik-sú 15* gín kù-babbar (4') *ší-im* túg *ša ma-nu-ba* aḫ-me *ša a-šur* ... (13') *1 né-pí-šum 15* ma-na kù-babbar (14') *ku-nu-ku-a ú ku-nu-uk ás-qú-dim* (15') *a-ru-ba-im 1 né-pí-šu-um* (16') *5* ma-na kù *ku-nu-ki-a ší-im* (17') an-na *ša a-bi$_4$-šu a-ru-ba-im* "A bundle containing 15 shekels of silver, proceeds of a textile of Mannuba, priest of Aššur ... One packet containing 15 minas of silver under my seal and the seal of Asqudum for the king. One packet containing 5 minas of silver under my seal, proceeds of his father's tin, for the king."

76 Sadberk 24: (7) *1* ma-na kù-babbar *ša-wi-re-e* (8) *a-na ta-ra-am-ku-bi* (9) *ù ší-ma-at-a-šùr tù-bi-il$_5$* "One mina of ring silver you brought to Taram-Kubi and Šimat-Aššur"; TC 1, 30:10-11: *1 ma-na* kù-babbar *ša-wi-ru ša ṣú-ḫa-ar-tim* "One mina of ring silver of the girl".

77 Michalowski 1978; Powell 1978; Paoletti 2012, 139 ("Handelsform für Metalle"), 307-310.

that the silver in some of the references to 1 shekel (or multiples of it) of silver being gifted in Anatolia or sent to somebody in Assur (often) was in the form of rings.

The normal quality of silver sent from Kanesh was "refined" (*ṣarrupum*). This was real silver, as is evident from AKT 6A, 74 according to which an amount of 58 ½ minas of "refined silver" remained to be sent to Assur; the instruction reads: "Let him refine (*luṣarrip*) the silver and check (*lusanniq*) it with the balance weights of the merchant, let him seal it and give it to you." Before being sent from Kanesh, (most?) silver was remelted to increase its purity (the merchants obtained the metal in different forms and qualities) and subsequently cast into moulds (see §1.5 above). Caravan accounts sent from Assur often include a reference to the remelting of the silver received to fully account for the use of the silver (Veenhof 2014), as apparently, the degree of purity could still be insufficient to be used in Assur (possibly by command of the City Hall).

3.3 Facilitating the calculation of costs for caravans

The Assyrian donkey caravans were charged a road-tax (*dātum*) based on the value of the merchandise they carried and related to distance (Veenhof 1972, 219-244). To facilitate this calculation, the Assyrian authorities resorted to a system that had proven very effective in institutional book-keeping during the Ur III period. During the Ur III period, goods and services were given a value in a common denominator, such as silver in the so-called balanced accounts of merchants with temples in Umma or days in the calculation of available labour force and output (Englund 2012). Whether or not the Assyrians were directly influenced by this bureaucratic tool is impossible to say. Donkeys and merchandise of a caravan were given a "declared value" (*awītum*) in which tin functioned as a standard of value between Assur and Kanesh and silver as a standard of value for return caravans from Kanesh to Assur (Dercksen 2004, 148-162). Tin was chosen because it constituted the main commodity of the caravans; 1 mina of sealed tin and hand-tin had a value of 1 mina, textiles irrespective of their quality of 2 minas each (corresponding to about usual prices in Kanesh) and donkeys (depending on their quality) between 1 ⅓ and 2 minas each. This simplified the calculation of the road-tax which was expressed as an amount of tin per talent of declared value, and charged to the respective owners of merchandise transported in the caravan. As an example of a document enumerating travel expenses I quote from Kt g/k 199 (Günbatti 2002, 82-83):

"Buzutaya and Aššur-imitti to Ali-ahum: 2 talents 10 minas of sealed tin, 16 textiles, 20 minas of hand-tin, one donkey: Šu-Kubum brought it out (of Assur). The total of your declared value is 3 talents 4 minas.

From Assur until Ḫamisanum at 88 shekels per (talent) the road-tax amounted for you to 4 ½ minas. The remainder of your declared value: 5 talents 17 minas.

From Ḫamisanum until Šimala at 42 shekels per (talent) the road-tax amounted for you to 4 minas 35 shekels. The remainder of your declared value: 5 talents 12 minas.

From Šimala until Zalpa the road-tax amounted to 2 minas 4 ¾ shekels per (talent), (that is) 10 minas 49 shekels. Head-tax (for one person): 10 shekels; transportation of two top-packs: 6 ½ shekels.

From Assur until Qaṭṭara, from Burullum until Šimala: 39 shekels rent for a donkey; one donkey died in Ḫaḫḫum.

From Ḫaḫḫum until Zalpa: 40 shekels rent of a donkey; 20 shekels losses; 2 minas fodder; 2 minas hire of a harnasser – owed by Aššur-taklaku. The donkey is strong. If he works for him he will pay 2 minas of tin at a rate of 7. He paid 45 shekels for the price of the donkey.

We settled accounts with Šu-Kubum and after the 20 minas of his hand-tin had been spent we paid him 6 minas 45 ½ shekels out of Ili-Alum's tin. 3 ½ minas is the road-tax for half a donkey (loaded with) tin which was ... in Ḫamisanum. Your share in the lost goods is 12 minas 20 ½ shekels.

In all we paid 22 minas 36 shekels out of Ili-alum's tin. Take care to send the silver with the first opportunity."

3.4 Gold in Assur

Gold was hoarded by the city and does not appear to have been used as a means of (direct) exchange in Assur; any reference to quantities of gold being sent for commercial or domestic purposes will mean that it was converted into silver or copper and thus functioned as a means of indirect exchange. Apart from the obvious use of gold for jewellery (beads, rings, earrings), it was also a preferred material for "sun-disks" (*šamšum*) presented to deities as a votive offering (Michel 2016c). In both cases, gold is here a means of storing wealth. The reluctance of some merchants to comply with their promises made to a god led in one specific instance to the merchant's wife, living in Assur, rebuking her husband and declaring "you love silver and detest your life".[78] Gold was, however, circulating among Assyrian merchants, but its use to non-Assyrians (Akkadians, Syrians and Hurrians) was strictly forbidden according to Kt 79/k 101.[79] The reason may have been that

78 TC 1, 5: (8) kù-babbar *ta-ra-am* (9) *na-pá-áš-ta-kà* (10) *ta-zi-ar*.

79 Kt 79/k 101 (Sever 1990, 262): (1) *um-ma wa-ak-lúm-ma* (2) *a-na kà-ri-im* (3) *kà-ni-iš*^{ki} (4) *qí-bi-ma ṭup-pá-am* (5) *ša dì-in a-lim*^{ki} (6) *ša a-šu-mì* kù-gi (7) *ša ni-iš-pu-ra-ku-nu-tí-ni* (8) *ṭup-pu-um šu-ut a-ku-uš* (9) *a-šu-mì* kù-gi *i-ṣú-ur-tám* (10) *ù-la né-ṣú-ur* (11) *a-wa-tum ša* kù-gi (12) *pá-ni-a-tum -ma* (13) *a-ḫu-um a-na a-ḫi-im* (14) *a-na šì-mì-im* (15) *i-da-an* (16) *ki-ma a-wa-at na-ru-a-im* (18) dumu *a-šùr šu-um-šu* (19) kù-gi *a-na a-kí-dí-im* (20) *a-mu-ri-im* (21) *ù*

gold was used to pay for the import of tin in Assur (Dercksen 2004, 88-91; Veenhof 2008a, 89).

Gold is used as a standard of value in the long-term joint-stock partnerships called *naruqqum* (lit. "sack"; Larsen 1999; Dercksen 2004, 83-89). This important, and for the Bronze Age unique, financial instrument is imperfectly understood. It successfully functioned for some decades and was then abandoned. A joint-stock partnership was established when a junior trader had obtained sufficient trust from other merchants for them to invest in a fund managed by him. Only few copies of joint-stock partnership contracts have been found in Kanesh (the originals were kept in Assur) and they contain the same stipulations but varying terms and amounts of investments. The contract of Amur-Ištar (Hecker 1999) amounted to 30 minas of "gold" and lasted for twelve years (from REL 65); Amur-Ištar himself is booked for 4 minas. That of Elamma (AKT 8, 2) contained in all 27 minas 51 shekels of "gold" and lasted for ten years (from REL 78) and also, he contributed a share (3 minas 45 shekels; Veenhof 2017a, 3-6). Shares in a joint-stock partnership were made with silver or with a claim expressed in silver at the rate of exchange of 4 minas of silver for 1 mina of gold – an artificial rate.[80] In return for promising not to withdraw the share before the end of the term, the shareholder received a part of the profit. If a shareholder withdrew his (or her) share prematurely, the "gold" would be returned at the initial rate of 4 to 1 and he would forfeit a share in the profits. The merchant "carrying the sack" at the end of the term had to present the accounting, but unfortunately no information has survived about this phase of the contract. An investor, or the heirs if he had died, could withdraw their share from a joint-stock partnership and sell it. Somehow at the dissolution of the contract real gold was paid out and rates of 6 ¼, 5 ⅓ and 5 to 1 are attested for instances where shares were sold (Dercksen 2004, 84-85).

The joint-stock partnerships, however, were only part of a merchant's capital based on investments and loans. Another form of long-term investment was called *ebuttum*. It appears from AKT 7A, 117 that silver (or rather the silver value of goods) given as an *ebuttum* could be integrated into one's joint-stock partnership.[81]

At the end of the joint-stock partnership contract of Elamma his own assets are enumerated: "1500 measures of barley, 2 slaves, the share (in the inheritance) and (what is in) the various 'pots' – all this is my available capital."[82]

3.5 Money uses in Assur

Money is used in Assur as a means of payment when silver and occasionally copper are paid as export tax or as a fine; as wages to caravan personnel and in payment of debts. It is a means of (indirect) exchange when silver, copper and gold are used to purchase merchandise, caravan equipment, food, slaves, plots of land and houses. Silver is used as a standard of value in caravan accounts. Gold is a standard of value in joint-stock partnerships. In the system of declared value, tin is a means of (deferred) payment for toll and a standard of value; moreover, it is used as a means of (indirect) exchange. Barley and bronze utensils are used as a means of (indirect) exchange. Money is a store of wealth when used as an investment in joint-stock partnerships and similar financial instruments (*ebuttum*) or hoarded by the city (gold).

4 Money between Assur and Anatolia

4.1 Treaties, kings and caravans

Epigraphic data from Upper Mesopotamia demonstrate the use of silver and copper as money in that region, but cannot be analysed in this article. Data about the use of money by Assyrian merchants when travelling between Assur and Kanesh stems from records of accountability describing costs incurred during a caravan journey, letters, and treaties. The routes followed by caravans from Assur included several towns where an Assyrian colony (*kārum*) existed. The city-state of Assur concluded treaties with all rulers whose territory was crossed by Assyrian caravans or where an Assyrian trading settlement was located. These treaties listed the duties of the local ruler (mainly the protection of Assyrian life and goods) and the Assyrian commitment to pay toll and other fees and in some towns to grant the palace the right to purchase a fixed number of goods at discount-

šu-bi-ri-im (22) *ma-ma-an* (23) *la i-da-an* (24) *ša i-du-nu* (25) *ú-lá i-ba-lá-aṭ* "The ruler (of Assur) to the Kanesh colony: The tablet with the verdict of the city, which concerns gold, which we sent to you, that tablet has been cancelled. We have not fixed any (new) rule concerning gold. The earlier rule concerning gold still prevails: Assyrians may sell gold among each other, (but) in accordance with the words of the stele, no Assyrian whatever shall give gold to any Akkadian, Amorite, or Subarean. Whoever does so shall not remain alive."

80 Conversion of debts into a share occur in, for example, AKT 6A, 18 (20 minas of silver → share of 5 minas); AKT 6A, 22 (24 minas of silver → share of 6 minas); AKT 6A, 23 (8 minas of silver → share of 2 minas). A more complex conversion is attested in Kt c/k 672 (unp. Ankara), 1-10: "Ali-ahum has a claim on Aššur-ṭab son of Šu-Ištar of 40 minas of silver. He will pay within 3 years. When he pays this silver Ali-ahum shall invest 11 minas of gold into the joint-stock partnership of Aššur-ṭab."

81 AKT 7A, 117: (4) *ša 30* ma-na kù-babbar (5) *ṣa-ru-pá-am a-šur*-sipa (6) *a-na puzur*$_4$-sa-tu (7) *a-na e-bu-tim* (8) *i-dí-nu* kù-babbar (9) *ú mì-qí-sú a-na* (10) *na-ru-qí-šu i-lá-ak* "Aššur-re'i gave 30 minas of refined silver to Puzur-šadue as an *ebuttum*. The silver and its profit goes to (Puzur-šadue)'s joint-stock partnership".

82 AKT 8, 2: (27) *1 li-im 5 me-at* še (28) *2 sú-ub-ru-um* (29) *zi-tum lu ku-ur-sí-na-tum* (30) *mì-ma a-nim ša-al-ṭí*; transl. Veenhof 2017a, 4. On *šalṭum*, see Dercksen 1999, 88-90.

	AKT 6A, 144/145	AKT 6B, 483	Kt c/k 863	Kt c/k 866
number of donkeys	34	13	11	21
hand-tin	(not quantified)	30 minas	40 minas	50 minas
(bronze) nails	600 (86 yellow)***	30 minas	520	> 1030
(bronze) sickles	--	40 minas	30 minas	--
scrap	60 minas	--	--	78 minas
silver	2 minas	3 ½ minas	1 mina	2 ½ minas
fine oil (ì-sag)	15 l (*rēštum*)	--	5 l	15 l (?)
sweet oil (ì-giš dùg-ga)	30 l (*tābum*)	--	5 l	15 l
saffron (*azapurum*)	60 l	--	--	30 l
(beads of) carnelian	22 shekels	--	--	--
(beads of) *ziqanšarrum*	100	--	--	--

*** See Dercksen 2013, 361.

▲ *Tab. 5. Goods provided to selected caravans to cover travel expenses.*

ed prices. It was due to these international treaties that the Assyrian trade network was able to operate. The site of Tell Leilan, ancient Šeḫna, was the capital of Apum and housed an Assyrian colony. A treaty between the king of Apum and Assur dating to the mid-18th century was excavated there and although the text is badly damaged, the payment of a tax in copper is mentioned.[83] Further to the west was the kingdom of a ruler with whom Assur agreed that he would levy the same toll as his late father had done according to a treaty text (Kt n/k 794) found in Kanesh (Çeçen/Hecker 1995): 12 shekels of tin per donkey from a caravan travelling to Kanesh, and 1 ¼ shekels of silver per donkey from the return caravan to Assur. Also excavated in Kültepe are two treaty texts from the Level Ib period, one with a king of Kanesh and the other with the rulers of Ḫaḫḫum (Kt 00/k 10: Günbatti 2004; see Veenhof 2008a, 194-200; 2013). The three men then governing Ḫaḫḫum, a city strategically located on the Euphrates and one of the crossing points for caravans, were given the right to pre-empt textiles from upcoming caravans and gold from return caravans; the price they had to pay is expressed in silver. From caravans travelling to Kanesh, the highest-ranking officer buys at most five *kutānum* textiles at 6 ⅔ shekels of silver each, the second one two textiles at 9 ⅓ shekels of silver each, and the third one textile at 12 (amount restored) shekels. From return caravans, they can buy gold; only the price to be paid by the third officer is preserved, 6 shekels of silver per shekel of gold.

4.2 Shapes and qualifications of money between Assur and Anatolia

The documents directly emanating from the men travelling with the caravan are far more informative, and show the existence of an infrastructure for caravans consisting of resting places with inns (*bēt wabrim*) and the possibility of buying fodder or replacing donkeys (for such texts see Nashef 1987; Barjamovic 2011, 19-37; Dercksen 2015b). To pay for such expenses, goods were provided to the caravan leader in Assur, and the purchase of hand-tin has already been mentioned – it appears that the amount of hand-tin provided frequently fell short of what was actually needed (Dercksen 2014, 85). Instead of merely hand-tin (at least mentioned in the texts), some caravans received a more varied supply of goods (Tab. 5).

'Nails' (*zamrutum*) and sickles are copper or bronze objects.[84] The use of (old) sickles (*niggallum*) as a means of (indirect) exchange is known from Anatolia (Dercksen 1996, 223). The scrap (*ḫušā'ū*) and sickles do not occur together in the same text which suggests that the sickles were considered a form of scrap. The scrap in Kt c/k 866:16 was broken up (*1 gú 18 ma-na ḫu-ša-ú ša-bu-ru-tù*). The 'nails' seem to have only been used in Upper Mesopotamia. In his analysis of metal objects mentioned in the royal archives of Mari, Arkhipov (2012, 129-130) argued that they should be interpreted as a weapon, which led me to suggest that the Old Assyrian evidence is about "objects of a standard weight shaped like the head of a javelin" (Dercksen 2013, 361).

Semi-precious stones, oil, and items of food (not listed here) figure among audience gifts to local rulers. A (probably) isolated reference to the use of carnelian as a means of (indirect) exchange in a town called Šunukam is attested in Kt c/k 441,[85] although other expenses in the same text are paid for with tin and copper. From the perspective of a local palace (Tell Leilan-Šeḫna) we have a record of the delivery of 1 l of fine oil as an audience gift by the merchant Innaya coming from Mama (Vincente 1992, no. 153; dating to about 1749 BC).

4.3 Money Uses

Caravans were provided with different currencies: for those heading for Anatolia, tin served as a means of payment for taxes, toll and inns, but tin could also be used as a means of (indirect) exchange. Copper, bronze and silver were used as a means of (indirect) exchange. In the system of declared value (*awītum*), the standard of value was tin for caravans to Anatolia, but silver for return caravans to Assur.

5 Concluding remarks

The outcome of the investigation into money uses in Old Assyrian and Anatolian society is summarised in this section.

83 Publication: Eidem 1991; 2011, 417-426; discussion: Veenhof 2008a, 184-185; 2013. For some details about the economy of Apum, see Eidem 2008, 331.

84 RA 59, no. 17 (MAH 16158) reads (8) ... *3* gín an-na (9) *za-am-ru-ta-am ú sà-he-er-tám* (10) *a-na* é ub-ri *a-dí-in* "I gave 3 shekels of tin, (one) nail and *saḫertum* to the inn".

85 Kt c/k 441 (Dercksen 2015b, 54): (6) ... *5 sá-ma-tim 2 zi-qá-ša-/ri* (7) *a-na e-ṣí i-na šu-nu-kam* "Five beads of carnelian and two of *ziqanšarrum* stone for wood in Šunukam".

The money uses in Kanesh and other towns in Anatolia can be differentiated between those practised by a) Assyrian merchants (including Anatolian members of the family and household) and b) Anatolians.

a) Assyrian merchants: silver and copper were used as a means of (indirect) exchange for commodities, food, travel expenses, slaves and property. As a means of payment, copper and tin were used for tolls and for inns; copper and silver were paid for Assyrian levies; silver was paid instead of cutting up a textile to pay the levy of the palace. As a means of deferred payment, silver and to a smaller degree copper and gold, were used for debts, and silver for fines imposed by the colony. For travel expenses, the choice of metal was determined by the phase of the trade, principally whether the traveller carried tin or had already acquired copper or silver.

Silver is used as a standard of value for debts and to express the value of other goods; in the latter case the word for silver can be translated "money". The answer to the question of whether or not silver or instead some other good (copper or grain) was used often has to remain open. The purchase of food and other household necessities frequently involved small quantities of silver (fractions of the shekel) and we do not know if such sums were really paid out or, for example, were added up and paid later, or were paid in a different currency such as copper. Copper appears to be the common means of (indirect) exchange in Kanesh and other towns in Anatolia.

b) Anatolians: evidence for the payment of taxes is lacking, but copper, grain and silver are likely currencies to have been used. Grain and silver occur as a means of deferred payment in debts, and silver as divorce money and in inheritances. The means of (indirect) exchange were copper, barley and silver; silver for slaves, land and houses in sale documents, unless it was used as a standard of value. As a standard of value, silver is used for prices and in penalty clauses in contracts.

The money uses in Assur are the following: as a means of (indirect) exchange silver and copper were used to buy merchandise and grain, but also slaves, land and houses. The City Hall received silver in exchange for trade goods, and as payment for export tax and fines, but instances of the use of copper are also known. Silver was the general standard of value. Money was a store of wealth for investors (silver) and the city (gold). The practical use of gold was restricted; it functioned as an indirect means of exchange as it was first sold for silver or copper before commodities were bought. Gold was a means of value in the Assyrian joint-stock partnerships.

The money uses in Upper Mesopotamia, as far as documented by Assyrian merchants and their caravans, are these: copper, tin and silver were used as a means of (indirect) exchange to obtain food and animals. Copper and probably also bronze were in the shape of scrap (*ḫušā'ū*, including sickles) and, only used here, 'nails' (*zamrutum*). Occasionally, luxury items, such as semi-precious stones were used, although these isolated cases may rather represent forms of barter. It seems that semi-precious stones and oil were predominantly meant to be presented to local rulers as audience gifts. Apart from its use as a means of (indirect) exchange, tin functioned as a means of value and as a means of (deferred) payment in the Assyrian system of declared value (*awītum*) for caravans travelling to Anatolia, and silver fulfilled this function for the returning caravans.

Compared to contemporary Babylonian evidence, the amount of silver and gold circulating in Assur was enormous. However, silver did not drive out the use of copper as a means of (indirect) exchange in Assur.

Information on Assyrian weights and measures of volume

The basic unit of the Mesopotamian weight system used by the Assyrian merchants was the *shekel* (Akkadian: *šiqlum*, logogram: gín) of about 8.3 g; 60 shekels make 1 *mina* (wr. ma-na) of about 500 g. The highest denomination is the talent (Akkadian: *biltum*, logogram: gú) of 60 minas, about 30 kg.

Grain is measured (*madādum*) in pots (*karpatu*) of about 30 l, for which also the logogram baneš (Akkadian: *ṣimid*) is used; four such pots make 1 sack (*naruqqum*) of about 120 l.

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